PROCEEDING

SUSTAINABLE BUSINESS AND INNOVATION: NEW NORMAL GOING FORWARD

THE 6TH INTERNATIONAL CONFERENCE ON ACCOUNTING, BUSINESS AND ECONOMICS (ICABEC 2020)

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Organised by:
Faculty of Business, Economics and Social Development
UNIVERSITI MALAYSIA TERENGGANU
21030 Kuala Nerus, Terengganu, Malaysia

In collaboration with:
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WELCOME MESSAGE
by
VICE CHANCELLOR OF UNIVERSITI MALAYSIA TERENGGANU

Assalamualaikum Warahmatollahi Wabarakatuh and Selamat Datang

A very warm Malaysian welcome to all participants of the 6th International Conference on Accounting, Business and Economics (ICABEC) 2020 organised by the Faculty of Business, Economics and Social Development.

I am delighted for the continuance of this conference despite the COVID-19 pandemic that has profoundly affected life around the globe and posed clear threats to economic sustainability. In taking on new challenges during this pandemic, it is imperative to find new ways to work and to communicate with our colleagues and partners while taking care of our mental health and physical well-being.

Thus, the dissemination of our research findings should be continued by leveraging advanced technologies such as the digitalisation of online applications to conduct conferences. The online conference will be our new normal going forward.

In response to the COVID-19 pandemic, digital technologies have proven to be practical solutions. We have been discussing the adoption and utilisation of digital technologies for many years now and due to COVID-19, the adoption is somewhat accelerated. Thus, I foresee an upsurge in the use of digital technologies among consumers in the near future. The COVID-19 pandemic has motivated the government to stay committed to providing effective and inclusive connectivity in Malaysia. By applying online purchases and digital marketing, businesses are able to sustain their operations during this crucial period. Besides, government assistance through the ePenjana programme and compulsory check-ins through the MySejahtera contact-tracing application has also improved familiarity with digital platforms, especially for the older generation. As digital literacy programmes are still highly needed, the pandemic has brought us together in shifting towards greater digitalisation. Furthermore, the government must introduce digital literacy programmes among communities to prepare the public for the new normal. We are witnessing the future arriving at a more rapid pace. We must accept that there will be no snapback to normal ways. We must be more open to avoid future tragedies. Where we are now is not our forever. Thus, it is time for us to accept digitalisation to guarantee an equitable and sustainable recovery.
In the end, it is all about realising our management policies to continually enhance and provide sufficient facilities to improve the welfare of the related university’s stakeholders. Hence, I look forward to receiving valuable inputs and insights from the more recent academic research findings from this conference, so that we can also incorporate the findings into our current management activities in the UMT. Therefore, as we traverse this futuristic world over the coming days, we should also pause to consider what the underlying foundation needs to be, in order to support this new normal in our education service sector. Our main stakeholder, our students, will definitely be affected in their journey to earn a scroll and it is a hefty task to us to minimise the effect.

I know that, in this difficult and complex time, nations around the globe are tasked with serious challenges ahead. It is important to ensure that the global economy continues to move towards a greener, smarter, and fairer path of recovery through strengthening fundamentals, increasing financial productivity by innovative methods, and digitalisation of products and process. I also look forward to some fruitful discussions and the active engagement of the researchers and conference participants. I would like to wish you all a lively and productive conference on how we can promote an innovative society for a sustainable future in a truly responsible way!

Finally, I would also like to take this opportunity to express my gratitude to sponsor, collaborators, keynote and industry speakers, paper presenters, participants, mass media and my special congratulations to the organising committee for making this conference a success.

Thank you.

Prof. Dato’ Dr. Nor Aieni Haji Mokhtar
Vice Chancellor
Universiti Malaysia Terengganu
Praise to Allah for His mercy that we can gather here today for the opening ceremony of the 6th International Conference on Accounting, Business and Economics (ICABEC) 2020. I would like to extend a very warm welcome to all our invited guests, keynote speakers, paper presenters, and participants. I am certain that your presence will surely enlighten us and thus ensure that the opening ceremony of the conference will be a memorable one.

I am confident that this conference would provide the much-needed inputs from academic points of view in supporting the nation during this challenging health crisis and to fulfil the vision of Malaysia becoming a developed country. I am excited by the chosen conference theme, which is very close and relevant to us: “Sustainable Business and Innovation: New Normal Going Forward”. The disruptions caused by COVID-19 to businesses is unparalleled. Of course, we can see that some sectors suffer more than others, and the impact is felt in the day-to-day lives and most importantly, people’s earnings and businesses. For example, global travel restrictions have caused hundreds of billions of dollars in losses for the tourism and travel industries. Many stock markets have been affected with negative returns due to the outbreak. Entertainment as well as food and beverages industries similarly experienced losses with staffs facing pay cut, unpaid leave or getting dismissed. Overall, we can see how COVID-19 has severely affected businesses globally.

To contain the pandemic, lockdowns and movement control orders must be implemented wherever and whenever needed. To some extent, these restrict business activities and consequently household incomes. While recent developments in COVID-19 vaccine candidates certainly brings some good news, it is expected that the pandemic will continue for the foreseeable future, and businesses will remain tested. Innovation is therefore needed as one of the ways for businesses to sustain themselves, and we can see some businesses have managed to thrive even during this pandemic.

Some of the key considerations that businesses and corporations can employ include adapting business core areas to address changes in customer needs, finding and acting upon new opportunities quickly given the new normal landscape, reassessing initiatives and allocating resources optimally, and developing a strong base to ensure they remain competitive during the crisis and post-crisis periods. In addition, the significance of technology is even more pronounced during this time of crisis. As such,
to survive and thrive in this new market environment, organisations must learn to be agile and quickly adapt to innovations in time of crisis.

All journeys start with the first step, no matter how small. Thus, it is hoped that this conference can serve as a platform to discuss the issues and suggest potential solutions to take these organisations forward. Ideas from both academicians and practitioners may thus help businesses to stimulate recovery and sustainability, and ensure a more prosperous future. On that note, I have the great pleasure of officially opening the 6th International Conference on Accounting Business and Economics (ICABEC) 2020.

Thank you.

Tan Sri Abdul Wahid Omar
Chairman
Bursa Malaysia Bhd
TRACK 1A
AUDITING
ANALYSIS OF THE IMPLEMENTATION OF JOINT AUDIT IN THE 
UPSTREAM OIL AND GAS INDUSTRY

Moh. Firdaus Alditama & Ludovicus Sensi W.
1,2 University of Indonesia
(firdaus.alditama@gmail.com)

ABSTRACT
The study aims to analyze the implementation of a joint audit by the Joint Auditor (“Satgas Pemeriksaan Bersama”) in Indonesia’s upstream oil and gas industry under the Minister of Finance Regulation No. 34/PMK.03/2018 (“MoF 34/2018”) and the impact on investors’ level of confidence to invest in upstream oil and gas industry. A joint audit is an innovation carried out by the Government to increase efficiency and provide legal certainty for Contractors where previously audits were carried out by Badan Pengawasan Keuangan dan Pembangunan, Direktorat Jenderal Pajak and Satuan Kerja Khusus Pelaksana Kegiatan Usaha Hula Minyak dan Gas Bumi separately with a different approach and basis for an audit, thus potentially causing a dispute. The research was a case study conducted using descriptive qualitative methods. The research concludes that a joint audit can reduce disputes in the taxation sector. However, a joint audit has less time than a separate audit, even worse with pandemic COVID-19 social distancing policy. Thus it can create time pressure, which impacts audit quality. The joint audit also can create free-rider problems due to the intersection of interests between agencies in conducting the audit. This study attempts to provide recommendations in the form of a risk-based audit scheme that can be applied in joint audits, so the limited audit time and pandemic COVID-19 situation can still maintain audit quality.

KEYWORDS: joint audit, time pressure, free-rider problem.

1. INTRODUCTION
Production Sharing Contracts (PSC) in the upstream oil and gas industry have a portion of production sharing in general 85% for the Government and 15% for investors, namely Contractors (KKKS). In addition to the 15% profit sharing, KKKS also receives reimbursement for operating costs (cost recovery), taking from 85% of the Government's share (SKK Migas, 2014). Considering that cost recovery will reduce the Government's share, it is necessary to carry out an inspection or audit to ensure that the proposed cost recovery follows the PSC and the relevant applicable regulations. The audit will carry out through a joint audit mechanism, according to MoF 34/2018.

A joint audit is an audit to inspect Production Sharing and Oil and Gas Income Tax on the Contractor, which is carried out by the Joint Auditor (Satgas Pemeriksaan Bersama). Joint Auditor consists of the Badan Pengawasan Keuangan dan Pembangunan (BPKP), the Directorate General of Taxes (DGT) and the Satuan Kerja Khusus Pelaksana Kegiatan Usaha Hula Minyak dan Gas Bumi (SKK Migas) based on MoF 34/2018. Before the joint audit, audits were carried out separately by BPKP, DGT and SKK Migas with different approaches which provide different audit results for one object in the same period. The different audit results are the beginning of disputes, especially in the taxation sector. If there is a correction in cost recovery, the DGT will issue an Underpayment Tax Assessment (SKPKB) then filed for objections and appeals by the KKKS. The Director-General of Taxes said that the joint audit by BPKP, DGT and SKK Migas merging into the Joint Auditor under MoF 34/2018 is expected to accelerate the audit process and provide legal certainty for Contractors (Alika, 2018; Manurung, 2018; Muthmainah, 2018). Legal uncertainty causes the decline of confidence Investors in investing in the upstream oil and gas industry as confirmed by Contractors Management.

Time pressure can occur in the joint audit implementation because there are a significant reduction in testing time from 6 (six) to 24 (twenty-four) months if the DGT is conducting a separate audit under Minister of Finance Regulation No. 17/PMK.03/2013 (MoF 17/2013) to become only 60 (sixty) working days or around 2 (two) months for the joint audit according to MoF 34/2018. Time pressure can result in the audit being focused only on the main task and has the potential to override comprehensive examinations so that it can cause material misstatements and affect audit quality (Bowrin & King, 2010; Braun, 2000; Solomon & Brown, 1992).
The free-rider problem is that one team of auditors can take opinions or findings from another auditor team without deepening the audit material as a result of their work (Deng, Lu, Simunic & Ye, 2014). Free rider problems can occur in implementing joint audits according to MoF 34/2018 because there are intersections of interests or duties between an institution in conducting audits on cost recovery.

Joint audit standards have been stipulated in MoF 34/2018 to achieve audit quality stipulated in the Joint audit technical guidelines where the audit plan is made by considering the KKKS profile and risk analysis. Audit standards are an essential step to improve auditors' effectiveness and efficiency (Knechel, 2013; Knechel, Krishnan, Pevzner, Shefchik, & Velury, 2013). However, MoF 34/2018 does not explain the risk assessment procedure and audit priority scale based on risk assessment so that the joint audit can develop widely depending on the competence and subjectivity of the Joint Auditor. It can result overlooked in high-risk items or overly-detailed in low-risk items due to a lack of clear guidance on the risk assessment and response process.

The coronavirus disease (COVID-19) pandemic began to enter Indonesia on March 2, 2020, with 2 (two) confirmed positive patients and the trend increased sharply to 404,048 people confirmed positive for COVID-19 as of October 29 2020 (BNPB, 2020). Several policies were taken by the Government, including social distancing and working from home (WFH) for State Civil Servants as listed in several related Ministerial regulations (Tariyah, 2020). Social distancing policies can impact audit quality (Albitar, Gerged, Kikhia and Hussainey, 2020). The Joint Auditor consists of civil servants from BPKP, DGT and workers from SKK Migas who are affected by the social distancing policy implementing WFH, so it is necessary to adjust the audit strategy has determined according to MoF 34/2018.

The research objective is to analyze the implementation of a joint audit to legal certainty and the impact on investors' level of confidence to invest in the upstream oil and gas industry. Also, to assess potential time pressure and free-rider problem impact on audit quality.

Research in the form of a case study conducted with descriptive qualitative methods. The qualitative method is an approach to explore and deeply understand social problems through questions and procedures, inductive analysis and draw meaningful interpretations of the data obtained (Creswell, 2014). Qualitative methods are appropriate to use if they are excavating and investigating research objects that are rarely researched (Morse, 1991). The selected resource persons were the Joint Auditor team from BPKP, DGT and SKK Migas to dig deeper into each institution's problems and perspectives. The questions will focus on implementing the joint audit, legal certainty and its impact on investor confidence, time pressure, free-rider problems and the impact on audit quality. To represent investors, we choose one of the management of one of the largest KKKS in Indonesia. The research expected to provide recommendations for alternative solutions in the form of a risk-based audit scheme so limited audit time and the conditions of the COVID-19 pandemic can still maintain audit quality.

2. LITERATURE REVIEW

2.1 Agency Theory

There is a potential conflict of interest between the owner, the Government of Indonesia and the Management, namely the Contractors (KKKS). Agency theory can occur when the owner (the Principal) and management (the Agent) have different interests in decision making (Ross, 2015). It will create agency cost in the form of an agency problem.

2.2 Time Pressure

Auditors are often faced with a specific period in carrying out the audit process, depending on the objectives, whether to fulfil regulatory obligations or at the request of stakeholders, while still demanding audit quality (Esplin, Jamal and Sunder, 2018). For audit quality to be maintained, the audit process requires sufficient time for the auditors to freely assess the financial statements so that they can issue opinions appropriately. However, auditors have limited audit budgets that cause auditors to be efficient by adjusting audit time, which affected audit quality (Svanberg and Ohman, 2013). Time pressure causes auditors to override the examination entirely and comprehensively, only focusing on the main task. There is a risk of material misstatement and affect audit quality (Bowrin & King, 2010; Braun, 2000; Solomon & Brown, 1992).

According to MoF 34/2018, the duration of the joint audit is set for 60 (sixty) days of testing. The duration of the joint audit has decreased when compared to audits conducted separately by the DGT under MoF 17/2013 which can be up to 24 (twenty-four) months so that it can create time pressure which can have an impact on audit quality.
2.3 Free-rider Problem

A team will observe each other with the other teams, while the Principal will observe the group's whole team. Joint audits can allow a team of auditors to wait or observe the results of audits of other auditors' teams without the need to make extra efforts or deepen the material in conducting an audit and acknowledge as a result of their work because the same duties and objectives between the auditor team (Deng et al. 2014). Previous research of joint audit carried out by Independent Auditor from a Large Audit Firm with a Small Audit Firm (Deng et al. 2014). The joint audit by the Joint Auditor was carried out by 3 (three) institutions, namely BPKP, SKK Migas, and DGT, merged into the Joint Auditor to carry out an audit for the Production Sharing and the Oil and Gas Income Tax so that it could potentially create a free-rider problem.

2.4 Audit quality

Audit quality is a combination of the possibility of auditors finding and reporting violations of the accounting system by technology, capabilities, audit procedures performed, sampling rates and other approaches required (DeAngelo, 1981). Auditor competence underlies the ability to find misstatements, while auditor independence underlies the act of reporting misstatements (Kurniawansyah, 2017). Social distancing policies in the form of WFH can, among other things, affect resource allocation, audit procedures and efforts to carry out audits so that they have an impact on audit quality (Albitar et al. 2020).

2.5 Risk-based Audit

The implementation of risk-based audits requires fewer resources to allocate, but the possibility of audit errors tends to be less (Bowlin, 2011). Risk-based audit benefits include more flexibility in time, audit efforts and procedures can focus on significant key areas/risks, understanding and testing internal control effectiveness, more directed and timely communication (Tuanakotta, 2013). Joint audits have a certain number of resources that have been determined and need to be optimized for high-risk and strategic areas and not spend time in low-risk areas and administrative so that audit quality can be maintained.

3. RESEARCH METHOD

This research is a case study with a descriptive qualitative method. Qualitative methods are appropriate when research is an excavation and investigation of research objects rarely researched (Morse, 1991). The qualitative methods approach aims to be able to explore and understand in depth the problem through questions and procedures, inductive analysis and draw meaningful interpretations of the data obtained (Creswell, 2014). The data sources used are primary and secondary data.

Primary data comes from interviews with selected sources, namely the Joint Auditor team from BPKP, DGT and SKK Migas. They naturally carry out joint audit processes and tasks to dig deeper into each institution's problems and perspectives and obstacles that may arise. The questions asked will focus on time pressure, free-rider problems, the impact of social distancing due to COVID-19 on audit procedures and the impact on audit quality. Questions in the form of open-ended questions, giving several questions in the form of discussion points objectives to the speakers, providing appropriate responses, and digging deeper into the problems that arise (Creswell, 2014). Other primary data can be in the form of audit documents, e-mails, training materials, and other related data that are not generally available.

Management, one of the largest KKKS in Indonesia, chosen to represent investors. Management is one of the largest oil and gas income tax payer in Indonesia year 2018 (Esdm.go.id, 2019). Furthermore, the Joint Auditor team consists of a Technical Controller, a Team Leader and Team Members from 3 (three) different institution. There were 7 (seven) selected sources, but 1 (one) resource person did not want to be interviewed, so there were only 6 (six) sources left. Thus, the resource structure is as follows:

Tabel 1. Resource Personnel Structure

<table>
<thead>
<tr>
<th>Institution</th>
<th>DGT</th>
<th>BPKP</th>
<th>SKK Migas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Technical Controller</td>
<td></td>
<td></td>
<td>6. Team Member</td>
</tr>
<tr>
<td>2. Team Leader</td>
<td></td>
<td>5. Team Member</td>
<td></td>
</tr>
<tr>
<td>3. Team Member</td>
<td></td>
<td>7. Team Member</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Resource person did not want to be interviewed
Interviews through online media such as zoom meetings, telephone, WhatsApp applications and other relevant online media due to conducted during the COVID-19 pandemic so that social distancing policies were implemented. Open questions are arranged in a structured manner according to the discussion points and research objectives, then submitted to the speakers before conducting interviews. During the interview, the interviewee's answers will be responded to and explored in more depth regarding audit procedures, time pressure, free-rider problems, social distancing due to COVID-19 and its impact on investors' perceptions of the upstream oil and gas industry. Each interview will be documented in accordance with the agreement with the source through recording media or making written notes. Recording can be one of the quality data in conducting research (Malsch & Salterio, 2016).

The interview results will be summarized, and answers relevant to the research question will be taken. If there is an unclear answer, it will be reconfirmed to the resource person. Interviews and summaries were conducted from October to December 2020. Secondary data comes from related and relevant data publicly available or shared by government agencies or institutions, applicable laws and regulations, production sharing contracts, materials related to the upstream oil and gas industry, articles, reputable online newspapers and other credible sources. Data are collected, processed, analyzed and interpreted to draw a conclusion.

4. FINDINGS

The condition when the Owner (the Principal) and the Management (the Agent) have different interests in decision making, it can result in agency cost (Ross, 2015). The Government cannot readily accept the cost recovery proposed by the KKKS as oil and gas management. The Government (the Principal) wants effective and efficient operating costs so that the reimbursement of operating costs (cost recovery) to the KKKS can be minimized as much as possible. On the other hand, the KKKS (the Agent) can create operating costs that are not following business principles properly, resulting in higher operating costs than they should have been spent and submit them for reimbursement to the Government. The difference in interests between the Principal and the Agent in managing the oil and gas block can cause agency costs. In obtain certainty and reduce the distortion of differences in interests due to asymmetry information between the Principal and Agent, agency costs are manifest in the form of an audit.

The Indonesian Government has the right to inspect and conduct audits to KKKS to ensure the reliability of financial reports for each calendar year (EITI, 2015). Considering that cost recovery will reduce the Government's share, it is necessary to carry out an inspection or audit to ensure that the proposed cost recovery follows the PSC and the relevant applicable regulations.

It is a heavy burden for the KKKS as an investor to obtain their rights according to the production sharing contract, especially cost recovery. In one financial period, it is necessary to pass 3 (three) pillars of the Government auditor from SKK Migas, BPKP and DJP to get the cost recovery. The auditors conduct audits to obtain the reliability of financial reports prepared by KKKS. Before implementation of the joint audit, the audit was carried out separately by SKK Migas, BPKP and DGT using different audit approaches that created legal uncertainty, which resulted in the emergence dispute. Since 2018, KKKS audit will carry out using a joint audit mechanism under MoF 34/2018.

4.1 Legal Certainty

Before implementing the joint audit, DGT can issue an Underpayment Tax Assessment (SKPKB) if there are corrections or audit findings. In connection to SKPKB, KKKS can seek justice through a very long process starting with submitting an Objection to the Regional Office of the DGT with an objection decision period of about 1 (one) year then an appeal to the tax court with a decision period of about 1 (one) year. If the result is not favourable, the last legal remedy, KKKS can file reconsideration to the Supreme Court which does not have a time limit for issuing a decision. KKKS must pay the SKPKB before submitting the Objection process if KKKS does not want to be faced with the risk of a 100% fine if they lose in the appeal process. It contrasts to BPKP and SKK Migas which do not issue any Decision that must be paid by the KKKS, but in the form of an Audit Report, followed up and recorded in the current year if there are audit findings approved by the KKKS.

Each institution's legal basis is the reason for the different approaches taken when there are audit findings. DGT uses the basis of Taxation Law which mandates the time limit for issuing the SKPKB on the audit findings is 5 (five) years from the taxable period, while BPKP and SKK Migas use the basis of Production Sharing Contract (PSC) with dispute resolution approach on audit findings in the current year until the end of the production sharing contract.

Implementing a joint audit can provide legal certainty. It is confirmed by all resources persons. The audit basis between institutions in the Joint Audit has become uniform under MoF 34/2018. After a joint audit is carried out, a single Joint Audit Report (LHPB) will be issued, which if there are pending items in it, a
settlement will be carried out within 2 (two) years. If the pending items cannot be resolved within 2 (two) years, it will be resolved using the PSC method, consultation and arbitration.

4.2 Level of Confident Investor in Upstream O&G Industry

One of the main challenges in upstream oil and gas investment is overlapping regulations (Bisnis.com, 2018; Bumi, 2019). The Director-General of Taxes said that the KKKS audit carried out by the DJP, BPKP and SKK Migas separately would create legal uncertainty (Bisnis.tempo.co, 2018; Cmindonesia.com, 2018; Katadata.com, 2018). Audit of cost recovery carried out by the Government auditors separately indicated that it was overlapping, causing legal uncertainty. It will increase investors' burden in demanding their rights to cost recovery according to the production sharing contract and reduce the level of investor confidence in investing in the upstream oil and gas industry.

In investing in the oil and gas industry, a business plan will be carefully prepared to obtain an adequate economic level, including considering all related factors, including legal certainty. Legal uncertainty can increase compliance costs to resolve any potential disputes, which is a negative factor before investing in Indonesia. It is confirmed by a Management one of the largest KKKS in Indonesia. Production Sharing Contracts in the upstream oil and gas industry have a portion of production sharing in general 85% for the Government and 15% for investors, namely Contractors (KKKS). In addition to the 15% profit sharing, KKKS also receive reimbursement for operating costs (cost recovery) which will be taken from 85% of the Government's share (SKK Migas, 2014).

Cost recovery is operating costs that can be returned in crude oil if the KKKS is already in the production stage as promised in the production sharing contract (EITI, 2015). Investors will calculate cost recovery as one of the main factors in investing. With the promise that the Government will return all operating costs under the production sharing contract, investors are interested in investing in Indonesia. However, it turns out that the Indonesian Government's sweet promise to return operating costs is not as easy as investors have hoped. To obtain cost recovery, KKKS must pass 3 (three) pillars of Government auditors, namely DGT, BPKP and SKK Migas who will audit the proposed cost recovery for reimbursement. With legal certainty through the implementation of a joint audit, it can increase investor confidence in investing in the upstream oil and gas industry as confirmed by a Management of one of the KKKS.

4.3 Time Pressure

The period of audit testing used by each institution before the joint audit was different between DGT, BPKP and SKK Migas. SKK Migas and BPKP use a period basis under the Production Sharing Contract with no testing limit. According to the resource information from SKK Migas, the audit best practice period is around 60 (sixty) days, although there is no limitation in the Production Sharing Contract. It contrasts with the DGT which has a 6 - 24 months testing period according to the needs as regulated by MoF 17/PMK.03/2013.

Auditors often face a specific period in carrying out the audit process but are still required to maintain audit quality (Esplin et al. 2018). With the joint audit implementation, the testing period determines as much as 60 (sixty) days. A significant reduction in time, especially for DGT, provides time pressure to carry out the audit. A resource person from the DGT confirms it. The audit process requires sufficient time for the auditor to assess the financial statements comprehensively so that they can issue opinions and reports appropriately, so that audit quality is maintained.

Audit standards are an essential step to improve audits' effectiveness and efficiency (Knechel, 2013; Knechel, Krishnan, Pevzner, Shefchik, & Velury, 2013). The audit standards for joint audits have been established in MoF 34/2018 as the minimum quality standards that must be achieved by the joint auditor. During the COVID-19 pandemic, a joint auditor carried out the audit on a working from home (WFH) basis. Social distancing policies can impact audit quality because there are audit procedures that could potentially not be executed (Albitar, Gerged, Kikhia and Hussainey, 2020). The condition of the COVID-19 pandemic force majeure resulted in some audit procedures could not be executed, such as field visits to check assets. The joint auditor makes mitigation efforts to adjust the necessary procedures or replace them with other comparable testing alternatives so that the minimum audit quality that must be met can still be achieved. Audit quality is carefully designed and comprehensive audits by trained and motivated auditors who understand the inherent risk of uncertainty inherent in auditing and make necessary adjustments according to audit targets' uniqueness (Knechel et al., 2013). Audit standards have been established in MoF 34/2018 to maintain the minimum quality of joint audits. However, in a pandemic condition, necessary adjustments are made to the uniqueness of the KKKS and the COVID-19 pandemic conditions, limiting the auditors in conducting joint audits.

With time pressure plus the COVID-19 pandemic social distancing policy, joint audits need to be carried out using a risk-based audit method to optimize resources for areas with high potential for non-compliance. In line with Bowlin's (2011) research, the implementation of risk-based auditing requires fewer resources to be
allocated. However, the possibility of audit errors tends to be less. Joint audits under MoF 34/2018 have a certain number of resources that have been determined and need to optimize for high risk and strategic areas. The joint auditor needs to identify the highest risk and provide an appropriate response to the risk according to the occurrence level and the resulting monetary impact. The joint auditor needs to avoid spending time examining low-risk and administrative areas to maintain audit quality.

4.4 Free-rider Problem

Each institution's audit objectives that are part of the joint audit have been equated in the MoF 34/2018 framework. However, the object of the audit is the same, cost recovery. In this case, there is a duplication of duties and interests between institutions in cost recovery to cause free-rider problems. In a joint audit, one team of auditors can take the results of an audit from other teams without carrying out the audit process as a result of their work, which has an impact on audit quality (Deng et al., 2014).

The joint audit cannot avoid the potential of free-rider problems. The Joint Auditor has mitigated in the form of specific task between an institution to avoid intersection of functions among team members. DGT, BPKP and SKK Migas have also been united and merged under an organization, namely the Joint Auditor (Satuan Tugas Pemeriksaan Bersama), to erode sectoral egos between the institution and reduce the potential free-rider problems to the lowest acceptable level. It is confirmed by sources from the DGT and SKK Migas.

This study's results are different from the research conducted by Deng et al. (2014) where the previous joint audit carried out by Independent Auditor from a Large Audit Firm with a Small Audit Firm. In contrast, this research was a joint audit conducted by a government auditor. Moreover, the joint auditor needs to make adjustments to the audit plan and procedures with the uniqueness of the KKKS considering the COVID-19 pandemic conditions which can limit the auditor's discretion in conducting joint audits so that audit quality can be maintained.

Time pressure has the potential to arise because the time limit for audit testing has decreased significantly. Time pressure impacts the Joint Auditor, especially the DGT because the standard time limit for testing if the DGT carries out a separate audit is about minimum 6 (six) months of testing under MoF 17/PMK.03/2013. A resource person from the DGT confirms it. However, the time pressure did not affect the Joint Auditor members from BPKP and SKK Migas. Although production sharing contracts do not limit testing time, in best practices, BPKP and SKK Migas have implemented a fair time limit for testing of around 60 (sixty) working days. It is confirmed by sources from BPKP and SKK Migas. Audit standards have been established in MoF 34/2018 to maintain the minimum quality of joint audits. The joint auditor needs to implement risk-based audit by identify the highest risk and provide an appropriate response to the risk according to the occurrence level and the resulting monetary impact. A certain number of resources that have been determined need to optimize for high risk and strategic areas. The joint auditor needs to avoid spending time examining low-risk and administrative areas to maintain audit quality. Furthermore, the joint auditor needs to make adjustments to the audit plan and procedures with the uniqueness of the KKKS considering the COVID-19 pandemic conditions which can limit the auditor's discretion in conducting joint audits so that audit quality can be maintained.

Free rider problems in a joint audit carried out by the Joint Auditor can be reduced to the lowest acceptable level. Thus, it does not significantly impact audit quality. This research result is different from the research conducted by Deng et al. (2014) because previous joint audit carried out by Independent Auditor from a Large Audit Firm with a Small Audit Firm. In contrast, this research was a joint audit conducted by a government institution that united into a new organization, namely the Joint Auditor (Satgas Pemeriksaan Bersama). Thus, the sectoral interests or egos of each institution can be eliminated so that it does not impact on audit quality.

5. CONCLUSION

The government, represented by the Joint Auditor, only conducts a one-time audit in form of joint audit to the KKKS. After conduct joint audit, the joint auditor only issuing a single audit report to provide legal certainty for the KKKS. With provide legal certainty, it can increase the level of confidence and interest of investors to invest, especially in the upstream oil and gas industry.

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6. LIMITATION AND RECOMMENDATION

The research limitation is research scope only from the Joint Auditor point of view on the audit process. It only involves Contractors regarding an investor's confidence level to invest in upstream oil and gas industry.
Therefore, a recommendation for further research is to broaden the scope to involve Contractors point of view in the audit process.

REFERENCES


FAIR VALUE ACCOUNTING AND AUDIT FEES: THE MODERATING EFFECT OF THE GLOBAL FINANCIAL CRISIS IN JORDAN

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ABSTRACT

This paper introduces new empirical evidence exploring the link between the introduction of Fair Value Disclosure (FVD) and the Global Financial Crisis (GFC). This research study’s primary motivation is driven by the limited and inconclusive research on the monitoring costs resulting from FVD. The Ordinary Least Squares (OLS) method using a sample of 222 Jordanian firms during 2005–2018 is applied. The analysis finds that a greater level of FVD is the major driver of high audit fees. Results are more pronounced for firms with larger proportions of subjective FVDs (Level 3 assets). A significant negative (positive) impact of the pre-crisis (post-crisis) period on the association between the proportion of fair-valued assets and audit fees is confirmed. The regression results confirm the negative effect of pre-crisis period on moderating the association between the all-fair value input levels (Levels 1, 2 & 3 assets) and audit fees. Interestingly, the post-crisis period has significant positive effect only on the moderation of the relationship between only Level 1 assets and audit fees. In comparison, the moderating post-crisis was never significant in relation to level 2 and level 3 assets. The findings of this study provide policymakers and standards setters with updated empirical evidence originating from a non-Western setting about the post-implementation costs of FVD. Furthermore, the results of this investigation provide insights to regulatory authorities on monitoring and regulating the audit by unveiling challenges of auditing for less verifiable fair values. It would be advantageous for future research to extend the current evidence for other proxies of fair value model on audit fees, such as investment properties and intangible assets accounts. Extending the tested period of this examination is also preferred to capture the effect of economic volatility during the devastating COVID-19 pandemic.

KEYWORDS: Fair Value Accounting, Audit Fees, Global Financial Crisis, Developing Countries, Jordan.

1. INTRODUCTION

Fair Value Accounting (FVA) was introduced and included in the International Accounting Standards Board (IASB) agenda since 2005 after releasing amended version of IAS 39 — fair value option, as Fair Value Measurements (FVM) reflect the current economic conditions and thus provide up-to-date assumptions about future events (IAS Plus, 2005, 2019). The ever-increasing use of FVA is preferable in promoting such benefits as relevant financial information on the financial position of corporations and improved the transparency of financial reporting compared to traditional accounting methods (Barth & Landsman, 2018). At the same time, the passage of FVA introduces substantial difficulties from the audit perspective in obtaining and confirming fair value inputs (Griffith et al., 2015).

The GFC brought many abuses and FVA fraud in firms’ financial performance (de Jager, 2014). FVA has been accused of being the main contributor to price bubbles in financial statements (Penman, 2007). The GFC led to greater market volatility which endangered the reliability of FVMs (Allen & Carletti, 2008b; Magnan, 2009). The risk became higher, particularly for Level 2 and Level 3 fair value inputs (Bratten et al., 2013) which resulted in increasing auditors’ burden and eventually driving audit prices up (Xu et al., 2013; Alharasis et al., 2020).

The aim of the current study is to bring into focus factors affecting audit fees, and to investigate the potential influence of FVD on audit fees in Jordan. The current study is motivated by growing use of uncertain Fair Value Estimates (FVE), and their potential role in the worldwide credit crisis of 2008 (Haswell & Evans, 2018; Joe et al., 2017). The current examination is also motivated by the call of the IASB for further analysis on understanding the influences of post-IFRS 13 – Fair Value Measurement on accounting and auditing practices (IFRS, 2018). Therefore, the current evidence complements this examination in documenting the missing link between FVD and monitoring costs following the introduction of FVD requirements through the International Financial Reporting Standards (IFRS) since 2005 and more importantly the recent hierarchy disclosure requirements since 2009 and 2013 as requested by IFRS 7 - Financial Instruments: Disclosures and IFRS 13, respectively (Sangchan et al., 2020).
At the time of writing, five empirical studies have examined the relationship between FVD and audit fees conducted by Ettredge et al. (2014), Goncharov et al. (2014), Yao et al. (2015), Alexeyeva and Mejia-Likosova (2016) and Sangchan et al. (2020). The prior evidence on the audit costs resulting from FVMs, which is characterised by valuation risks, is limited and inconclusive. For example, in the US, Ettredge et al.’s (2014) study concludes that the proportions of fair-valued financial assets are positively associated with audit fees. Moreover, the relationship between the proportions of fair-valued assets and audit fees is higher with greater ratios of Level 2 and Level 3 fair value inputs. Meanwhile, in the EU, Alexeyeva and Mejia-Likosova (2016) failed to find a significant association between the proportion of fair-valued assets and audit fees. However, the amount of Level 3 FVEs was positively associated with audit fees. In the context of UK and US, Goncharov et al. (2014) confirm that lower audit costs were documented for real estate firms that apply the fair value model to prepare property assets (UK firms) compared to those firms using the historical cost (HC) method (US firms). The authors also assert that the wider use of fair-valued assets, especially for Level 2 and Level 3 assets, leads to larger audit fees since fair value reporting leads to extensive discretion in management evaluations. In the context of Australia, Yao et al. (2015) examined the relationship between asset revaluations of non-current assets and audit fees over the period 2003–2007. The study finds a significant positive association between non-financial assets that are fair-valued and audit fees. In general, the study suggests that agency costs following the adoption of FVEs exceed its benefits. Likewise, Sangchan et al.’s (2020) study, recently, analysed the relationship between audit fees and fair value exposure in a sample from Australian real estate corporates. The study concludes that there is a significant negative association between the proportion of fair-valued investment properties and audit fees. Collectively, the contradictory conclusions of previous empirical studies further motivate this study to broaden the understanding on the impact of FVA application on audit profession. This paper provides updated evidence from one developing country, Jordan, by investigating the association between FVD and audit fees for the first time. Overall, this empirical effort on the post-implementation of FVA is still in its infancy (Sangchan et al., 2020), and nothing yet is known about the Middle Eastern (ME) region, for example Jordan (Abdullatif, 2016).

The context of Jordan as a case scenario for this examination is selected for the purposes of generalising the analysed results to the whole ME. The growing interest in accounting research on ME nations is boosted by common heritage, language, religion, beliefs, traditions and geography that reinforce their cultural, social and economic lives (Tahat et al., 2018). A combination of political, financial and technological improvements channel critical changes in accounting in the region, such as the adoption of IFRS/FVA, which have a reciprocal effect across all areas of life (Alhtaybat et al., 2012). Jordan enjoys a sense of political stability in a historically turbulent region. These cultural and political factors have led to several improvements in the behaviour of Jordanian corporations and how they communicate their financial information (Al-Huwaybat, 2018). With limited information available about the ME accounting environment and Jordan in particular, the study reflects an increasing interest in the area as a channel for foreign investments and economic development (Tahat et al., 2018; Tahat et al., 2016). Unlike other Arab-Gulf countries, Jordan was one of the first Middle Eastern countries to implement IFRS and the International Standards on Auditing (ISA) (Al-Huwaybat, 2018). The increasing use of financial instruments by Jordanian companies as well as the publicity about financial instruments losses reported in the media further encourage this examination to concentrate on FVA of financial assets in Jordan (Siam & Abdullatif, 2011; Tahat et al., 2016). Jordan is the only Arab country which requires listed firms to disclose the amounts of audit fees in their annual reports as a legal requirement since 2001 (ALshbiel & Tahat, 2014).

This paper distinguishes itself from previous published efforts in which it fills the gap in the existing knowledge by investigating the impact of FVD on audit fees in a developing country, Jordan, over a relatively long period of time, 14 years (2005–2018), as requested by Abdullatif (2016). Since the eruption of the GFC in 2008, there is now much more emphasis on the need for detailed clarification about how FVMs have been acquired (Xu et al., 2013). The current paper extends, for the first time, the scant and inconclusive empirical evidence on the impact of the GFC on audit fees, specifically its far-reaching influence on the association between FVD and audit fees.

The OLS regression technique helped to test the developed hypotheses using hand-collected data from 222 (3108 firm-year observation) Jordanian listed firms for the period 2005–2018. The analysis concludes that audit fees are positively influenced by the presence of the FVD and the proportion of fair-valued assets. The analysis also confirms that audit fees are positively linked with the use of highly uncertain and subjective fair-valued assets (Level 3 assets). Application of FVA poses challenges to auditors, such as complex estimates and adjustments during the evaluation of assets. Auditors act as a monitoring tool for stakeholders to minimise the problem of asymmetric information caused by the agency conflict between owners and managers (Ettredge et al., 2014; Sangchan et al., 2020). In this respect, auditors spend more time and effort in evaluating the fair-valued assets in order to protect stakeholders’ rights. Moreover, the results confirm the negative (positive) impact of the GFC on the relationship between fair-valued assets and audit fees. The findings further, support
the negative impact of the pre-crisis period on the whole FVA hierarchy level inputs (Levels 1, 2 & 3 assets); meanwhile the impact of post-crisis was found to be significant for only Level 1 assets.

The overall results of this study have implications for various policymakers and standards setters by providing updated empirical evidence on the application of the FVA. The major implications are to attract the interest of both auditors and clients by updating the current audit pricing models which can be used in determining auditing costs. This analysis assists Jordan’s government in providing more specific guidelines and legislations that simplify and guaranteed best practices of FVA.

The remainder of this paper is organised as follows. Section 2 provides the theoretical perspective and hypotheses development. Section 3 describes the research data and methodology. Section 4 addresses the results and accompanying discussion. Section 5 outlines the sensitivity analysis, whereas Section 6 concludes the paper.

2. THEORETICAL PERSPECTIVE AND HYPOTHESES DEVELOPMENT

2.1. Theoretical perspective

The application of FVA prescribed in IFRS can be investigated through the lens of the agency, stakeholder and signalling theories since the ideologies it embodies operate as principles that prevail in the current organisational environment (i.e., signalling and stakeholder theories). The organisational environment makes this adaptation more problematic given the fair valuation’s complex and uncertain estimates (i.e., agency theory) (Alharasis et al., 2020). Agency and signalling theories are commonly employed to explain the choice of accounting methods (Khlif & Achek, 2016; Samaha & Khlif, 2016). Unlike agency theory, from stakeholder theory view, the firm is seen in its wider social fabric and the managers are accountable to a wider range of stakeholders (Huang et al., 2020). Therefore, this study employs the triangulation among the agency theory and signalling theory as well as drawing on stakeholder theory (see Figure 1). Agency theory is consistent with signalling theory in terms of considering information asymmetry and seeks to explain how shareholders are affected (Leventis & Caramanis, 2005). In addition, agency theory expresses the conflict between shareholders and managers which is also reviewed in stakeholder groups (Guay et al., 1996). Unlike prior literature on FVD and audit fees (Ettredge et al., 2014; Goncharov et al., 2014; Alexeyeva & Mejia-Likosova, 2016; Sangchan et al., 2020), this study introduces signalling theory and stakeholder theory in relation to Jordan to complement agency theory in examining this issue. In the theoretical framework, corporate disclosure is defined using agency theory (Samkin & Schneider, 2010). Signalling and stakeholder theories are used to explain the communication aspect of the FVD and interaction between users. While the overall aim of disclosure is captured by the stakeholder theory, signalling theory suggests a motivation for subjective judgements in fair value assessment.

![Figure 1: The adapted theoretical framework](source: Alharasis et al. (2020))
2.2. Hypotheses development

Unlike the HC approach, FVA was introduced by the IASB in order to enhance the quality of financial reporting. HC accounting is irrelevant for the purpose of decision-making and replaced with more relevant accounting methods, such as FVA (Beisland, 2009; Deegan & Unerman, 2006). However, the fair valuation of financial assets provides the market values of the assets which expresses the true economic position (Penman, 2007). As a consequence, FVA does contribute to providing better quality of financial information and accounting harmonisation (Boolaky et al., 2018). The presence of fair values increases the information load which eventually leads to a more complex auditing process (Glover et al., 2019). This is due to the risks of inherent uncertainties caused by management bias (Griffith et al., 2015). For this reason, auditors act on this greater complexity in auditing fair values by offering more time, effort and using their own valuation specialists, ultimately producing higher audit fees (Bratten et al., 2013). In other words, fair value reporting leads to extensive discretion in preparing management evaluations. This leads to rising the agency costs, resulting in auditors making more effort to assess reputation risk, litigation risk, and consequently, increase their time spent confirming FVEs (Sangchan et al., 2020). Implementing FVA is even more challenging in the context of developing countries (He et al., 2012; Nguyen, 2019). The presence of fair value of financial assets causes serious problems in the Jordanian capital market due to the lack of efficient markets (Abdullatif, 2016).

The recognition of unrealised gains/losses of the fair value of financial assets raised share prices to the highest levels during the economic downturn years. Consequently, the share prices fell dramatically later on (Abdullatif & Al-Khadash, 2010; Ahmad & Aladwan, 2015). The main cause of this situation was fair value fraud and abuse by managers due to the agency problem (Siam & Abdullatif, 2011). The need for independent assurance regarding FVEs has been increased to avoid earnings management practices and ultimately led to higher audit prices (Abu Risheh & Al-Saeed, 2014). Therefore, higher audit fees paid by Jordanian firms become a signal of high-quality financial information provided to stakeholders (Alhababsah, 2019). Based on the theoretical evidence discussed above, the following hypothesis is developed:

**Hypothesis 1:** There is a positive relationship between the presence of fair-valued assets and audit fees among Jordanian listed firms.

Auditors spend more time and effort in evaluating the fair-valued assets due to the complexity and risk they face while conducting the audits (Sangchan et al., 2020). The greater use of uncertain fair-valued assets leads to higher audit fees (Ettredge et al., 2014). The risk became higher, particularly for Level 2 and Level 3 fair value inputs which resulted in increasing auditors’ burden and eventually driving audit prices up (Bratten et al., 2013; Xu et al., 2013). In the case of Jordan, fair value is aggressively used by firms to serve managers’ interests due to the agency conflict. Consequently, this abuse has caused significant problems in the Jordanian capital market and increased volatility in share prices traded (Abdullatif, 2016). The reason behind fraud and abuse is the lack of Jordanian active markets, weak corporate governance systems and the non-availability of single guidelines on how fair value is to be measured and audited (Siam & Abdullatif, 2011). Therefore, Jordanian auditors do expect to spend more time and effort in detecting management fraud and misstatement because they have to resolve the information asymmetry problem. Consequently, increasing the credibility of a firm’s financial reporting quality is considered a positive signal for stakeholders. Based on the theoretical evidence discussed above, the following hypotheses are developed:

**Hypothesis 2.a:** There is a positive relationship between the proportion of fair-valued assets and audit fees among Jordanian listed firms.

**Hypothesis 2.b:** The relationship between fair-valued assets and audit fees is stronger for firms with greater ratios of the subjective and complex fair-valued assets (Level 2 and Level 3) among Jordanian listed firms.

A fresh concern about FVMs emerged in the aftermath of the GFC 2008–2009 due to higher managerial assumptions being utilised to prepare fair values especially in the case of absent active markets (Alexeyeva & Svanström, 2015; Demartini & Trucco, 2017; Huang et al., 2020; Zaman et al., 2017). Two controversial views regarding the alleged role of FVA in the GFC were provided by previous research (Alharasis et al., 2020). Some commentators summarised that fair value implementation was not responsible for the crisis and there is no solid evidence which supports this claim against FVA (Barth & Landsman, 2010; Laux & Leuz, 2010; Plantin & Tirole, 2018; Pozen, 2009). On the other hand, due to the agency problem, a group of scholars (Cathey et al., 2012; Plantin et al., 2008; Ryan, 2008) blamed FVA as the main cause of the failure for many financial institutions throughout the world. Accordingly, external auditing has been questioned and stressed especially in regard to the use of FVEs to meet users’ needs for high-quality financial information (Sikka, 2009). Therefore, the role of FVA in the GFC has been linked to the damage it did to institutions’ capital due to the recognition of unrealised profits (Magnan, 2009; Ryan, 2008). Using fair valuation model during the
GFC is highly sensitive to managerial assumptions, thus leading to substantially doubtful amounts being reported. Such metrics would require massive effort, time and professional judgments from external auditors to confirm the accuracy of clients’ FVMs (Alexeyeva & Svanström, 2015). As a consequence of this business turmoil, the demand for high-quality financial reports increased dramatically, since financial reports are the primary means of communication to bridge the gap between managers and stakeholders (Amel-Zadeh & Meeks, 2015). In addition, verifying the reliability of fair values is increased for the purpose of improving the confidence on the capital markets and increasing investors’ trust (Shaw, 2003). Thus, highly qualified supervision of manager’s practices and lower agency problem translated by high audit fees are all factors which lead to superior financial disclosure (Gaynor et al., 2016).

The GFC led to greater market volatility in the Jordanian market and questioned the reliability of FVMs (Siam & Abdullah, 2011). The risk became higher, particularly for less reliable fair value inputs (Level 2 and Level 3) which resulted in increasing auditors’ workload and ultimately drove audit costs up (Abdullatif, 2016). A number of reforms were implemented to overcome the damage (Alexeyeva & Svanström, 2015; Abdullah, 2016). Jordan’s government enacted recovery plans through the Jordan Securities Commission (JSC) and the Central Bank of Jordan (CBJ) to overcome the crisis devastating the country’s economy and improve the quality of audit (Abdullatif, 2016). Given the contradictory conclusions reported by empirical literature, the hypotheses developed in null form:

Hypothesis 3.a: There is no significant relationship between the proportion of fair-valued assets and audit fees before the GFC among Jordanian listed firms.

Hypothesis 3.b: There is no significant relationship between the proportion of fair-valued assets and audit fees after the GFC among Jordanian listed firms.

Hypothesis 4.a: There is no significant relationship between the proportion of fair-valued assets through hierarchy levels and audit fees before the GFC among Jordanian listed firms.

Hypothesis 4.b: There is no significant relationship between the proportion of fair-valued assets through hierarchy levels and audit fees after the GFC among Jordanian listed firms.

3. RESEARCH DATA AND METHODOLOGY

3.1. Data selection

The research data were hand-collected from corporations’ annual reports disclosed on the Amman Stock Exchange (ASE) website. As shown in Table 1, the initial sample comprised 3290 firm-year observations (235 unique firm). However, all firms with missing fair value, audit fees or financial ratios data were excluded (13 firms). Therefore, the final sample consisted of 3108 firm-year observations (222 unique firm) for the period 2005 to 2018.

<table>
<thead>
<tr>
<th>Table 1: Sample selection procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial sample</td>
</tr>
<tr>
<td>(-) Firms with missing data</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

3.2. Research design and variables measurement

This analysis extends the previous audit pricing models arising from the application of FVA by Ettredge et al. (2014), Goncharov et al. (2014), Yao et al. (2015), Alexeyeva and Mejia-Likosova (2016) and Sangchan et al. (2020) (see Table 2). It introduces new experimental independent variables as proxies for FVD in Jordanian firms’ annual reports, such as the presence of fair value (FVA). The presence of the fair-valued assets variable FVA is incorporated into the study’s model following Goncharov et al. (2014). To test research Hypothesis 1, FVA was used in Equation (1) as an experimental independent dummy variable coded as 1 if the firm’s assets are reported in fair values, 0 otherwise.

The proportion of fair-valued assets variable FVA_TA was used and presented in Equation (2) to test Hypothesis 2.a. FVA_TA is borrowed from Ettredge et al. (2014) and Goncharov et al. (2014) and was employed later by Alexeyeva and Mejia-Likosova (2016) and Sangchan et al. (2020). FVA_TA represents the proportion of fair-valued assets measured by the total fair-valued assets deflated by total assets.

Hypothesis 2.b sets out to test the relationship between the proportion of fair-valued assets variable through fair value hierarchy levels (Level 1, Level 2, Level 3) and audit fees. Therefore, Hypothesis 2.b is tested through breaking the proportion of fair-valued assets variable (FVA_TA) into: (FVA1_TA), (FVA2_TA) and (FVA3_TA) variables, where FVA1_TA, FVA2_TA, and FVA3_TA are firms’ total fair-valued assets using Level 1, Level
2, and Level 3 fair value inputs deflated by total assets. The hierarchy level inputs variables were also borrowed from Ettredge et al. (2014), Goncharov et al. (2014), Alexeyeva and Mejia-Likosova (2016) and Sangchan (2020) and incorporated into the study’s model as shown in Equation (3).

The GFC variables PRECRISIS and POSTCRISIS were used and presented in Equations (4 – 5) below. These variables are borrowed from Alexeyeva and Svanström (2015) where the PRECRISIS variable refers to the pre-crisis period (2005-2007) while POSTCRISIS refers to the post-crisis period (2010-2018). To test Hypothesis 3.a and Hypothesis 3.b, Equation (2) was modified by adding the two GFC variables (PRECRISIS) and (POSTCRISIS) and the interaction term of the proportion of fair-valued assets with each GFC variable (FVA_TA * PRECRISIS) and (FVA_TA * POSTCRISIS) and tested separately as shown in Equation (4) below.

To test Hypothesis 4.a and Hypothesis 4.b, Equation (3) was also modified by adding the two GFC variables (PRECRISIS) and (POSTCRISIS) and the interaction term of the proportion of fair-valued assets through the hierarchy level inputs with each GFC variable (FVA1_TA * PRECRISIS, FVA2_TA * PRECRISIS, FVA3_TA * PRECRISIS) and (FVA1_TA * POSTCRISIS, FVA2_TA * POSTCRISIS, FVA3_TA * POSTCRISIS) and tested separately as shown in Equation (5) below.

A number of control variables have been incorporated into the current study model based on the setting characteristics and the study’s main aim and objectives. The traditional control variables in the auditing literature have been selected to ensure the model’s suitability for the study (i.e., LnASSET, ROI, LOSS, LEV, GROWTH, SUBS, Big4, CHANGE, UNQUALIFIED).

### Table 2: the study’s developed equations

<table>
<thead>
<tr>
<th>#</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equation (1)</td>
<td>[ \text{LnAFEES} = \delta_0 + \delta_1 \text{FVA} + \delta_2 \text{LnASSET} + \delta_3 \text{SUBS} + \delta_4 \text{LOSS} + \delta_5 \text{ROI} + \delta_6 \text{LEV} + \delta_7 \text{GROWTH} + \delta_8 \text{BIG4} + \delta_9 \text{CHANGE} + \delta_{10} \text{UNQUALIFIED} + \text{IndFE} + \text{YearFE} + \varepsilon. ]</td>
</tr>
<tr>
<td>Equation (2)</td>
<td>[ \text{LnAFEES} = \delta_0 + \delta_1 \text{FVA} + \delta_2 \text{LnASSET} + \delta_3 \text{SUBS} + \delta_4 \text{LOSS} + \delta_5 \text{ROI} + \delta_6 \text{LEV} + \delta_7 \text{GROWTH} + \delta_8 \text{BIG4} + \delta_9 \text{CHANGE} + \delta_{10} \text{UNQUALIFIED} + \text{IndFE} + \text{YearFE} + \varepsilon. ]</td>
</tr>
<tr>
<td>Equation (3)</td>
<td>[ \text{LnAFEES} = \delta_0 + \delta_1 \text{FVA1_TA} + \delta_2 \text{FVA2_TA} + \delta_3 \text{FVA3_TA} + \delta_4 \text{LnASSET} + \delta_5 \text{SUBS} + \delta_6 \text{LOSS} + \delta_7 \text{ROI} + \delta_8 \text{LEV} + \delta_9 \text{GROWTH} + \delta_{10} \text{BIG4} + \delta_{11} \text{CHANGE} + \delta_{12} \text{UNQUALIFIED} + \text{IndFE} + \text{YearFE} + \varepsilon. ]</td>
</tr>
<tr>
<td>Equation (4)</td>
<td>[ \text{LnAFEES} = \delta_0 + \delta_1 \text{FVA} + \delta_2 \text{PRECRISIS} + \delta_3 \text{FVA_TA*PRECRISIS} + \delta_4 \text{LnASSET} + \delta_5 \text{SUBS} + \delta_6 \text{LOSS} + \delta_7 \text{ROI} + \delta_8 \text{LEV} + \delta_9 \text{GROWTH} + \delta_{10} \text{BIG4} + \delta_{11} \text{CHANGE} + \delta_{12} \text{UNQUALIFIED} + \text{IndFE} + \text{YearFE} + \varepsilon. ]</td>
</tr>
<tr>
<td>Equation (5)</td>
<td>[ \text{LnAFEES} = \delta_0 + \delta_1 \text{FVA1_TA} + \delta_2 \text{FVA2_TA} + \delta_3 \text{FVA3_TA} + \delta_4 \text{PRECRISIS} + \delta_5 \text{FVA1_TA<em>PRECRISIS} + \delta_6 \text{FVA2_TA</em>PRECRISIS} + \delta_{7} \text{FVA3_TA*PRECRISIS} + \delta_{8} \text{LnASSET} + \delta_{9} \text{SUBS} + \delta_{10} \text{LOSS} + \delta_{11} \text{ROI} + \delta_{12} \text{LEV} + \delta_{13} \text{GROWTH} + \delta_{14} \text{BIG4} + \delta_{15} \text{CHANGE} + \delta_{16} \text{UNQUALIFIED} + \text{IndFE} + \text{YearFE} + \varepsilon. ]</td>
</tr>
</tbody>
</table>

Where: LnAFEES: the natural Log of audit fees. LnASSET: the natural Log of a firm’s total assets. SUBS: the number of firm’s subsidiaries. LOSS: dummy variable coded as 1 for firms with a net income less than 0, 0 otherwise. ROI: the net income by total assets. LEV: the total debt divided by the total assets. GROWTH: the current year sales to last year sales. BIG4: dummy variable coded as 1 if the audit firm is one of the Big 4 audit firms (PwC, KPMG, Deloitte, and E&Y), 0 otherwise. CHANGE: auditor tenure of three years, coded 1 if the audit firm did not change, 0 otherwise. UNQUALIFIED: dummy variable coded 1 if the firm receives an unqualified opinion, 0 otherwise.

### 4. RESULTS AND DISCUSSION

#### 4.1. Descriptive statistics

Table 3 summarises the descriptive statistics of all variables used in the empirical analysis (pooled for years 2005–2018). The dependent variable is audit fees (LnAFEES). LnAFEES has a mean (median) value of 9.127 (9.048) with a low standard deviation of 1.009. In average, audit fees ranged from 12.412 to 6.908, suggesting that any variation in audit fees amongst Jordanian listed firms is in fact modest. With respect to the independent experimental variables, the presence of FVD, FVA has a mean (median) value of 0.775 (1.00) with a relatively low standard deviation of 0.418. The result for FVA descriptive statistics shows that almost 78% of Jordanian firms are fair value-oriented. The proportion of total fair-valued assets, FVA_TA has a mean (median) value of 0.096 (0.024) whereas the average values ranged from 0.804 to 0.00. The outcomes suggest that the magnitude of fair-valued assets in Jordanian firms is almost 10% of total assets, which is lower than those reported by Ettredge et al. (2014) at 17% in the US and Alexeyeva and Mejia-Likosova (2016) who reported 31% in the EU. These nations’ capital market is substantially different than the small and developing countries’ markets
like Jordan. In regard to the proportion of total fair-valued assets through the three level hierarchy inputs $FVA_1_TA$, $FVA_2_TA$, and $FVA_3_TA$, the variables have mean (median) values of 0.072 (0.006), 0.008 (0.000), and 0.002 (0.000), respectively. The analysis results confirm that Level 1 assets constitute the overwhelming type of fair-valued assets held by Jordanian firms in 7% of the total proportion of fair-valued assets, followed by Level 2 and lastly Level 3 which do not constitute more than 1%. Hierarchy average values are close to the values reported in Alexeyeva and Mejia-Likosova (2016), Lin et al. (2017) and Huang et al. (2020). The statistics also reveal that 1.2% of Jordanian firms in the current study sample do not fully comply with the fair value hierarchy disclosure requirements which is quite similar to Alexeyeva and Mejia-Likosova (2016). The GFC variable, that is, pre-crisis ($PRECRISIS$) has a mean (median) value of 0.214 (0.00). Conversely, post-crisis ($POSTCRISIS$) has a mean (median) value of 0.643 (1).

### Table 3: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVA</td>
<td>3,108</td>
<td>0.775</td>
<td>1.000</td>
<td>0.418</td>
<td>0.000</td>
<td>1.000</td>
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<tr>
<td>FVA1_TA</td>
<td>3,108</td>
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<td>0.024</td>
<td>0.136</td>
<td>0.000</td>
<td>0.804</td>
</tr>
<tr>
<td>FVA2_TA</td>
<td>3,108</td>
<td>0.002</td>
<td>0.000</td>
<td>0.033</td>
<td>0.000</td>
<td>0.220</td>
</tr>
<tr>
<td>FVA3_TA</td>
<td>3,108</td>
<td>0.214</td>
<td>0.000</td>
<td>0.410</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>PRECRISIS</td>
<td>3,108</td>
<td>0.643</td>
<td>1.000</td>
<td>0.479</td>
<td>0.000</td>
<td>1.000</td>
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<tr>
<td>POSTCRISIS</td>
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<td>16.918</td>
<td>1.724</td>
<td>13.185</td>
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</tr>
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<td>LnASSET</td>
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<td>1319</td>
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<td>29.000</td>
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<tr>
<td>ROI</td>
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<td>1358</td>
<td>811.801</td>
<td>32.000</td>
<td>2763</td>
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<tr>
<td>LEV</td>
<td>3,108</td>
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<td>1.002</td>
<td>0.926</td>
<td>-2.865</td>
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<td>LOSS</td>
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<td>0.482</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>SUBS</td>
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<td>Big4</td>
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<tr>
<td>UNQUALIFIED</td>
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<td>0.000</td>
<td>0.482</td>
<td>0.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

All continuous variables are winsorized at the 1% and 99% levels each year to remove the potential influence of outliers.

### 4.2. Univariate analysis

The t-test analysis presented in Panel A of Table 4 is conducted by splitting the sample into two sub-samples: fair value sample and cost model sample using the presence of FVD variable $FVA$. Based on the analysis results, in the current sample, the total fair value-oriented firms is 172 compared to 50 firms that follow the HC model. The mean difference of audit fees between the two sub-samples is highly significant ($t$– value = -20.31). Based on the agency theory, this result confirms the fact that higher risks of inherent uncertainties emerged following the application of the FVA caused by management bias. Therefore, auditors respond on this greater complexity and risk in auditing fair values by spending extra time and effort, ultimately demanding higher audit fees (Sangchan et al., 2020; Goncharov et al., 2014). Panel B presents the significance of mean difference of audit fees with reference to fair value hierarchy disclosure amongst the sample using $HIERARCHY$ variable. Clearly, 139 out of 222 firms fully comply with fair value hierarchy disclosure requirements. Statistically, the mean difference between the two sub-samples is found to be significant ($t$– value = -19.10). Clearly, the results of the t–test indicate that companies with fair value hierarchy disclosures are more likely to bear expensive audit fees relative to firms that do not. The further expansion of fair value application leads to greater audit fees being paid as auditors, who in this case, are more cautious when auditing the controversial fair values to provide accurate financial information for stakeholders and maintain their reputation (Alexeyeva & Mejia-Likosova, 2016; Ettredge et al., 2014).
Table 4: Univariate analysis

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Mean</th>
<th>t – value (sig)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: fair value model vs cost model</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FVA = 1</strong>&lt;br&gt;N = 172 firm</td>
<td><strong>FVA = 0</strong>&lt;br&gt;N = 50 firm</td>
<td></td>
</tr>
<tr>
<td>LnAFEES</td>
<td>9.33</td>
<td>8.47</td>
</tr>
<tr>
<td><strong>Panel B: hierarchy disclosure vs non-hierarchy disclosure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HIERARCHY = 1</strong>&lt;br&gt;N = 139 firm</td>
<td><strong>HIERARCHY = 0</strong>&lt;br&gt;N = 83 firm</td>
<td></td>
</tr>
<tr>
<td>LnAFEES</td>
<td>9.40</td>
<td>8.70</td>
</tr>
</tbody>
</table>

*, ** and *** denote 0.10, 0.05 and 0.01 significance, respectively.

Where:
FVA: dummy variable coded as 1 if firm’s assets are reported in fair values, 0 otherwise.
HIERARCHY: dummy variable coded as 1 if firm has fair value hierarchy levels disclosure, 0 otherwise.

4.3. Correlation analysis

Table 5 below presents the Pearson and Spearman correlation matrix results amongst the dependent and independent variables in order to examine the bivariate association between the sample variables. The test for multicollinearity ensures there is no correlation problem between the independent variables used in each model. As shown in Table 5 below, the bivariate analysis confirms that the correlation coefficients of LnAFEES with all fair value variables (FVA, FVA_TA, FVA1_TA, FVA2_TA, FVA3_TA) are significant and positive. The analysis also confirms that both crisis proxies employed in this study are significantly associated with the magnitude of audit fees. The correlation coefficient between the independent variables used in each model confirms that the independent variables are generally not correlated. Moreover, the mean of the VIF test does not show any potentially serious multicollinearity problem, where the mean of VIF of each model is below 3.

4.4. Regression analysis

Table 6 below presents the OLS regression results for the tested models where the dependent variable is the natural log of audit fees (LnAFEES). The independent variables of interest are the presence of FVD (FVA), the proportion of fair-valued assets (FVA_TA) and fair value inputs (FVA1_TA, FVA2_TA, FVA3_TA). The moderating variables are the GFC variables; pre-crisis (PRECRISIS) and post-crisis (POSTCRISIS). As shown in the table below the P – value of the tested models (1 – 7) is highly significant at the 0.01 level (Prob. > F = 0.000) with reasonable explanatory power of each model ranging from 59% to 63%.
Table 5: Correlation matrix

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<tr>
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<th>4</th>
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<tbody>
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<td>.012</td>
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<td>.115**</td>
<td>.074**</td>
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<td>.215”</td>
<td>-.110”</td>
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<td>.014’</td>
<td>-.120”</td>
<td>-.149”</td>
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<td>.224”</td>
<td>-.017’</td>
<td>-.013’</td>
<td>1</td>
</tr>
</tbody>
</table>

This table presents both Pearson (upper catercorner) and Spearman (lower catercorner) correlation matrix results amongst the dependent and independent variables. All continuous variables are winsorized at the 1% and 99% levels each year to reduce the potential influence of outliers. **, * Correlation is significant at the 0.01, 0.05 level (2-tailed), respectively.
As expected, the regression results shown in Model (1) of Table 6 confirm that FVA has a significant positive coefficient at the 0.01 level (Coeff. = 0.485, t = 18.79) which confirms the fact that the presence of FVD by Jordanian firms’ is positively significantly associated with audit fees. This result is in line with Sangchan et al. (2020) who came to the same conclusion. However, this finding is inconsistent with Goncharov et al. (2014). The inconsistent findings, in this respect, could be caused by the difference in the nature of fair valued accounts examined by the current study (financial assets) and by previous studies (non-current assets). Furthermore, the results also may be driven by the nature of the real estate industry in the developed economies where most operating firms there are fair value oriented. In this case, auditors are prepared well to audit fair value accounts for a long time; thus, higher audit fees in such contexts might not be driven by the fact of auditing complexity and risk of fair values. In the real estate industry, the major audit risk is driven by the complex depression and impairment tests, obligated by HC model, which require additional time, effort and experience from auditors, ultimately leading to more expensive audit fees (Goncharov et al., 2014). In relation to theory, the regression outcome is aligned with the integration of both agency and signalling theories, suggesting that the adoption of FVD results in raised agency costs since audit fees are considered to be an agency cost. Auditors came under additional burden to provide an assurance of fair values prepared by managers to eliminate the information asymmetry problem. Thus, they are acting as a monitoring tool that sends signals to stakeholders for the purpose of decision making. Consequently, auditors ask for expensive audit fees to compensate for their extra effort to assess reputational risks, and the time spent confirming FVEs. Hence, Hypothesis 1 is accepted.

Model (2) of Table 6 confirms that the association between the proportion of fair-valued assets and audit fees is highly significant at the 0.01 level (Coeff. = 0.219, t = 3.28). This result is in line with other studies (Ettredge et al., 2014; Yao et al., 2015). With the passage of FVA, greater disclosures are required; thus, further time and effort to consider this inherent risks and complexity is correspondingly required from the auditors. The result supports the agency theory notion in that auditors in the context of applying FVDs are the main party responsible for diminishing the risk of assets overestimated caused by the agency conflict. In contrast, this result is inconsistent with Alexeyeva and Mejia-Likosova (2016), Sangchan et al. (2020) and Goncharov et al. (2014). Specifically, Alexeyeva and Mejia-Likosova (2016) failed to find a significant relationship between the proportions of fair-valued assets on audit fees. In the meantime, Sangchan et al. (2020) and Goncharov et al. (2014) confirmed a significant association with a negative sign. The main cause of the ambiguous results is that such analyses used differently structured fair-valued assets from those employed in the current study. The regression result indicates that auditors in Jordan expend more time and effort in evaluating fair-valued assets due to the complexity and risks they face. Furthermore, the result supports Abdullahi’s (2016) argument who asserted that fair value is aggressively used by Jordanian firms to serve managers’ interests due to the agency problem. Since the most controversial aspect of IFRSs is FVA (Ball, 2016; Khlıf & Achek, 2016), this finding similarly consistent with Abu Risheh and Al-Saeed’s (2014) conclusion who confirmed that the audit fees paid by Jordanian firms are significantly associated with the application of IFRS. Thus, H2.a is accepted.

With respect to the nature of the relationship between reporting different levels of fair-valued assets and audit fees, the analysis results presented in Model (3) of Table 6 confirm that fair value Level 1 input is highly significant with a positive sign at the 0.01 level (Coeff. = 1.400, t = 3.31), and fair value Level 3 inputs are also highly significant with a positive sign at the 0.05 level (Coeff. = 0.639, t = 7.87). However, the analysis failed to find a significant relationship between the proportion of total fair-valued assets using Level 2 and audit fees with a positive coefficient (Coeff. = 0.024, t = 0.07). These results are highly aligned with the recent evidence by Huang et al. (2020) who confirmed the significant role of both Level 1 and Level 3 assets on accounting restatement. Likewise, Lin et al. (2017) concluded that reporting the less reliable fair value levels (Level 3) of financial assets causes significant risks of managerial manipulation and errors which subsequently leads to accounting restatement. Contrary to the US banking industry evidence provided by Ettredge et al. (2014) where most complex and risky fair-valued asset input level is Level 2, the current study finds that the total portfolio of fair-valued assets is dominated by Level 1 which is in line with Alexeyeva and Mejia-Likosova (2016). Following Ettredge et al. (2014), fair value input level with a higher mean is more likely to have a strong explanatory power regarding audit fee. Consistently, the result means that Jordanian firms using Level 1 increases audit fees and the descriptive statistics above demonstrates that the mean of Level 1 is higher than both Level 2 and Level 3 (see Table 3 above). Consistent with (Alexeyeva & Mejia-Likosova, 2016; Ettredge et al., 2014; Goncharov et al., 2014; Sangchan et al., 2020), fair-valued assets Level 3 are found to be significant with a positive sign. However, the finding in relation to Level 2 fair-valued assets is quite similar to (Alexeyeva & Mejia-Likosova, 2016).

In order to identify whether there is a significant difference in the three fair value levels coefficients, F – test has been undertaken following Alexeyeva and Mejia-Likosova (2016) and Ettredge et al. (2014). As shown in Table 6 below, the F – test confirms the highly significant difference between the coefficients of the three levels of fair value (p-value = 0.000). This result is in line with (Alexeyeva & Mejia-Likosova 2016; Ettredge...
et al., 2014). It means that low and highly uncertain fair-valued assets exert a different impact on audit fees. Similar to Alexeyeva and Mejia-Likosova (2016) and Ettredge et al. (2014), F-test below confirms that the coefficients on $\text{FVA1\_TA}$ and $\text{FVA2\_TA}$ are not distinguishable from each other’s ($p$-value = 0.4290); however, the coefficient on $\text{FVA3\_TA}$ is greater than either of the other two coefficients Level 1 (Level 2) $p$-value = 0.046 ($p$-value = 0.000).

Overall, it can be concluded that the regression results are in line with the agency theory where using highly uncertain and subjective fair values, such as Level 3 leads to rising agency costs, resulting in greater auditor effort and time spend in auditing FVEs. This situation leads to auditors bearing additional costs and litigation risks (Bratten et al., 2013; Sangchan et al., 2020). In Jordan, the risk of auditing fair values is becoming higher, particularly for Level 3 fair value inputs which results in increasing auditors’ burden and eventually drives audit prices up (Abdullatif, 2016). Hence, $H_{2.b}$ is accepted.

As shown in models (4 – 5) of Table 6 below the significant negative (positive) effect of the pre-crisis (post-crisis) period on the relationship between the proportion of fair-valued assets and audit fees is confirmed at the 0.01 (0.10) level $\text{Coeff.} = -0.405, t = -2.84$ ($\text{Coeff.} = 0.229, t = 1.77$). Specifically, this means that the relationship between fair value and audit fees weakens at the time before the crisis begins (pre-crisis); however, the relationship strengthens following the crisis period (post-crisis) due to high criticism of the FVA model. In this respect, some commentators stated that most of the GFC-related problems were caused by the sheer complexity and ambiguity of financial instruments following the adoption of IAS 39 (Allen & Carletti, 2008a; Plantin et al., 2008). This in addition weakened supervision of auditors and managers following the application of this controversial model (Huang et al., 2016). The result confirms the arguments that using the mark-to-market accounting practices resulted in escalating the effect of the credit crisis through increasing market earnings volatility (Haswell & Evans, 2018). This was due to assets whose values had fallen dramatically. The regression analysis result may be driven by the fact that following the GFC the global accounting institutions and regulatory authorities’ rules continued to include FVA projects. For the purpose of reducing the information asymmetry problem and as a response to the crisis, new accounting and auditing standards were developed by the IASB and FASB. For example, in 2009, the ISA 540 – Auditing Accounting Estimates and Related Disclosures was enacted by International Auditing and Assurance Standards Board (IAASB) (IAASB, 2009). ISA 540 increased the responsibilities of external auditors and underlines the typical audit approach for auditing FVEs. Later, releasing IFRS 13 has been issued to improve fair value application and emphasise the hierarchy disclosures (IAS Plus, 2020). The effort in updating IFRS 13 and the continuous emphasis of IFRS over the development of FVA with important related issues of FVM in the absence of an active market has not ended the debate against fair value model (Huang et al., 2020). Therefore, the requirements regarding ‘fair value hierarchy’ multiplied the complexity of FVEs which also continue to raise concerns and correspondingly increase the audit prices. More time and effort are needed to ensure the validity of fair value figures to diminish the agency problem (Alexeyeva & Mejia-Likosova, 2016). Hence, the analysis rejects the null Hypotheses 3.a and 3.b.

Models (6 – 7) of Table 6 present the regression results of the moderating role of the two crisis periods on the association between fair value hierarchy inputs and audit fees. Model (6) confirms the significant negative effect of the pre-crisis period on the relationship between the proportion of fair-valued assets through Level 1, Level 2 and Level 3 and audit fees where Level 1 has $\text{Coeff.} = -0.471, t = -2.81$, Level 2 has $\text{Coeff.} = -1.303, t = -1.64$, and Level 3 has $\text{Coeff.} = -2.516, t = -0.89$. Therefore, there is a weak association between fair value inputs and audit fees during the period preceding the GFC. The F-test confirms that the coefficient of the interaction of the pre-crisis period with each hierarchy level is not equal ($p$-value = 0.0512). The test also finds that the coefficients on the interaction of the pre-crisis period with FVA2_TA cannot be differentiated from the interaction with Level 1 (Level 3) where: $p$-value = 0.1615 ($p$-value = 0.1754). The coefficient on FVA3_TA is significantly greater than the coefficients of Level 1 where $p$-value = 0.0442. Collectively, F-test confirms that the association between the low and high uncertainty fair-valued assets and audit fees are affected in different ways by the pre-crisis period. Model (7) confirms the significant positive effect of the post-crisis period on the relationship between the proportion of fair-valued assets through Level 1 and audit fees at the 0.01 level with $\text{Coeff.} = 0.309, t = 1.96$, whereas failed to find any significant effect of the post-crisis with a positive sign in relation to Level 2 where $\text{Coeff.} = 0.662, t = 0.99$ and Level 3 where $\text{Coeff.} = 0.758, t = 0.360$. The F-test also confirms that the coefficient of the interaction term of the post-crisis period with each hierarchy level is not equal ($p$-value = 0.0032). The test also confirms that the coefficients on the interaction of the post-crisis period with FVA2_TA are not distinguishable from the interaction with Level 1 (Level 3) where: $p$-value = 0.4200 ($p$-value = 0.1075). The coefficient on FVA3_TA is greater than the coefficients of Level 1 $p$-value = 0.0106. This result is in line with several scholars (Alexeyeva & Svanström, 2015; Xu et al., 2013; Zhang & Huang, 2013) that the GFC led to greater market volatility which endangered the reliability of FVMs. The belief is consistent with Bratten et al. (2013) who stated that fair value audit risk became higher, particularly for Level 3 fair value inputs. Consequently, the auditors’ burdens increased and eventually drove audit prices.
up (Xu et al., 2013). Hence, the analysis rejects the null hypotheses 4.a and 4.b. The coefficients of the control variables have the expected magnitude and signs consistent with prior literature.

In general these conclusions are in line with the triangulation of the agency, signalling and stakeholder theories as auditing profession was further emphasised by accounting bodies universally due to their triggered contibution to the crisis. Expensive audit fees are linked with the further reforms released following the crisis to deal with the huge market volatility. Such reforms have increased the individual auditor’s burdens and therefore, additional time and effort is needed to ensure the validity of fair value figures to diminish the information asymmetric problem caused by the agency conflict (Alexeyeva & Mejia-Likosova 2016).

Table 6: OLS regression results of the association between FVD and audit fees

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model (1) (Huber-White’s S. estimator)</th>
<th>Model (2) (Huber-White’s S. estimator)</th>
<th>Model (3) (Huber-White’s S. estimator)</th>
<th>Model (4) (Huber-White’s S. estimator)</th>
<th>Model (5) (Huber-White’s S. estimator)</th>
<th>Model (6) (Huber-White’s S. estimator)</th>
<th>Model (7) (Huber-White’s S. estimator)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.746 (20.55)***</td>
<td>2.882 (20.65)***</td>
<td>2.798 (20.51)***</td>
<td>2.853 (20.47)***</td>
<td>2.896 (20.69)***</td>
<td>2.794 (19.86)***</td>
<td>2.754 (19.33)***</td>
</tr>
<tr>
<td>FVA TA</td>
<td>0.485 (18.79)***</td>
<td>0.219 (3.28)***</td>
<td>0.346 (4.41)***</td>
<td>0.092 (0.920)*</td>
<td>(-2.81)***</td>
<td>(-2.81)***</td>
<td>(-2.81)***</td>
</tr>
<tr>
<td>FVA1 TA</td>
<td>1.40 (1.310)***</td>
<td>0.024 (0.070)</td>
<td>0.639 (7.87)**</td>
<td>0.026 (0.060)</td>
<td>1.266 (1.260)*</td>
<td>0.244 (0.150)</td>
<td>(-0.160)***</td>
</tr>
<tr>
<td>FVA2 TA</td>
<td>-0.032 (0.540)</td>
<td>0.351 (4.41)***</td>
<td>0.101 (3.70)**</td>
<td>-0.092 (0.980)*</td>
<td></td>
<td></td>
<td>(-0.980)*****</td>
</tr>
<tr>
<td>FVA3 TA</td>
<td>0.229 (1.770)***</td>
<td>-0.256 (2.59)**</td>
<td>0.096 (3.70)**</td>
<td>-0.101 (2.59)**</td>
<td></td>
<td></td>
<td>(-0.980)*****</td>
</tr>
<tr>
<td>POSTCRISIS FVA TA</td>
<td>-0.045 (2.84)***</td>
<td>0.016 (0.000)</td>
<td>-0.045 (0.270)</td>
<td>0.016 (0.270)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSTCRISIS FVA1 TA</td>
<td>-0.405 (1.31)***</td>
<td>0.016 (0.000)</td>
<td>-0.045 (0.270)</td>
<td>0.016 (0.270)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSTCRISIS FVA2 TA</td>
<td>-1.301 (1.640)***</td>
<td>-2.516 (1.960)**</td>
<td>0.662 (0.990)</td>
<td>0.662 (0.990)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSTCRISIS FVA3 TA</td>
<td>0.758 (3.60)***</td>
<td>0.309 (1.960)**</td>
<td>0.662 (0.990)</td>
<td>0.662 (0.990)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnASSET</td>
<td>0.327 (41.16)***</td>
<td>0.335 (40.85)***</td>
<td>0.335 (40.07)**</td>
<td>0.329 (39.82)**</td>
<td>0.335 (40.77)**</td>
<td>0.342 (40.97)**</td>
<td>0.342 (40.94)**</td>
</tr>
<tr>
<td>ROI</td>
<td>0.000 (2.42)**</td>
<td>0.000 (4.66)**</td>
<td>0.000 (3.70)**</td>
<td>0.000 (3.86)**</td>
<td>0.000 (4.76)**</td>
<td>0.000 (4.36)**</td>
<td>0.000 (4.33)**</td>
</tr>
<tr>
<td>LOSS</td>
<td>0.049 (1.450)</td>
<td>0.090 (2.59)**</td>
<td>0.096 (2.74)**</td>
<td>0.101 (2.89)**</td>
<td>0.101 (2.63)**</td>
<td>0.092 (2.64)**</td>
<td>0.092 (2.61)**</td>
</tr>
<tr>
<td>LEV</td>
<td>0.000 (10.08)**</td>
<td>0.000 (10.53)**</td>
<td>0.000 (11.74)**</td>
<td>0.000 (10.87)**</td>
<td>0.000 (10.87)**</td>
<td>0.000 (10.73)**</td>
<td>0.000 (10.65)**</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-0.008 (-2.11)**</td>
<td>-0.008 (-2.13)**</td>
<td>-0.007 (-1.930)**</td>
<td>-0.009 (-2.23)**</td>
<td>-0.008 (-2.10)**</td>
<td>-0.008 (-2.08)**</td>
<td>-0.008 (-2.11)**</td>
</tr>
<tr>
<td>SUBS</td>
<td>0.015 (3.96)**</td>
<td>0.018 (4.71)**</td>
<td>0.020 (5.12)**</td>
<td>0.018 (4.60)**</td>
<td>0.018 (4.72)**</td>
<td>0.017 (4.49)**</td>
<td>0.017 (4.47)**</td>
</tr>
<tr>
<td>Big4</td>
<td>0.401 (4.41)**</td>
<td>0.415 (4.42)**</td>
<td>0.418 (4.46)**</td>
<td>0.416 (4.46)**</td>
<td>0.416 (4.46)**</td>
<td>0.411 (4.47)**</td>
<td>0.414 (4.47)**</td>
</tr>
</tbody>
</table>
5. Sensitivity analysis

5.1. Alternative measure of the subjective fair values using (FVA23_TA) variable

Following Alexeyeva and Mejia-Likosova (2016) and Goncharov et al. (2014), H2.b has been re-tested using the aggregate Level 2 and Level 3 assets variable (FVA23_TA). FVA23_TA is the sum of firm’s total fair-valued assets using Level 2 and Level 3 inputs deflated by total assets. Untabulated results support the primary analysis outcome which documented a significant positive association between less verifiable fair-valued assets (and by input Levels) controlled by year and industry fixed effects with Huber-White t-statistics to adjust for hetroscedasticity.

5.2. Re-testing using the presence of fair value disclosure (FVA) variable

Models (4 – 5) were retested using FVA variable to ensure the regression analysis results regarding the moderating role of the GFC variables are robust. Untabulated regression results confirm the primary analysis results that PRECRISIS interaction term is found highly significant with negative sign, while POSTCRISIS interaction term is found highly significant with positive sign. Overall, the results support the fact that the effect of the GFC vary across fair value-oriented versus the non-fair value-oriented firms.

5.3. Dealing with Endogeneity in relation to auditor type

To account for the potential self-selection bias of Big 4 in the primary audit fees models, Heckman two-stage estimator is performed (Heckman, 1979). The Big4 variable was included separately as the dependent variable in the probit regression model. Then, Models (1 – 3) are modified in the second stage of the Heckman test by adding the Inverse Mills Ratio variable (INVMILLS) computed from the probit regression. Untabulated findings of the second stage estimation confirm that the sign and coefficients of the presence and the proportion of fair-valued assets and hierarchy disclosure variables remain unchanged after controlling for self-selection bias.

5.4. Excluding the financial crisis year of 2008

Following Alexeyeva and Mejia-Likosova (2016) and Goncharov et al. (2014), the hypotheses were re-tested after excluding the firm-year observations for the crisis year of 2008. Untabulated results remain consistent with the primary analyses.

---

<table>
<thead>
<tr>
<th>CHANGE</th>
<th>Coefficient comparisons for Model (3)</th>
<th>F-stat</th>
<th>P-value</th>
</tr>
</thead>
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<tr>
<td></td>
<td>FVA1_TA = FVA2_TA = FVA3_TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(29.31)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FVA1_TA = FVA2_TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(00.63)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FVA2_TA = FVA3_TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(03.11)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FVA1_TA = FVA3_TA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(38.60)***</td>
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</tr>
</tbody>
</table>

### Coefficient comparisons for Models (6 – 7), respectively

<table>
<thead>
<tr>
<th>FSTAT</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVA1_TA * PRE/POSTCRISIS= FVA2_TA * PRE/POSTCRISIS</td>
<td></td>
</tr>
<tr>
<td>FVA2_TA * PRE/POSTCRISIS= FVA3_TA * PRE/POSTCRISIS</td>
<td></td>
</tr>
<tr>
<td>FVA1_TA * PRE/POSTCRISIS= FVA3_TA * PRE/POSTCRISIS</td>
<td></td>
</tr>
</tbody>
</table>

### Industry dummies

<table>
<thead>
<tr>
<th>N</th>
<th>Year dummies</th>
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<tr>
<td>3108</td>
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<tr>
<td>3108</td>
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</tr>
<tr>
<td>3108</td>
<td>Yes</td>
</tr>
<tr>
<td>3108</td>
<td>Yes</td>
</tr>
<tr>
<td>3108</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### F – Test

<table>
<thead>
<tr>
<th>Prob&gt;F</th>
<th>R²</th>
<th>Mean VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>65.9%</td>
<td>1.76</td>
</tr>
</tbody>
</table>

---

**Note:** ***, **, * indicate statistical significance at the 0.01, 0.05, and 0.10 percent levels, respectively, using a two-tailed test. This table presents the OLS regressions of log of audit fees (LnAFEES) paid by Jordanian firms over the period (2005-2018) on FVD and the interaction of pre-crisis and post-crisis variables with the proportions of fair-valued assets (and by input Levels) controlled by year and industry fixed effects with Huber-White t-statistics to adjust for heteroscedasticity.
6. CONCLUSION

Using hand-collected data of 3108 firm-year observations from 222 Jordanian firms from 2005 to 2018, this paper investigates the link between FVD and audit fees, and the effect of the GFC on this relationship. The findings confirmed the positive impact of the presence of FVD, and the proportion of fair-valued assets on audit fees. The analysis findings are consistent with the hypothesised scenario in which audit fees are higher for firms with larger ratios of less verifiable fair values (Level 3). The analysis, further, confirmed the significant negative (positive) effect of the pre-crisis (post-crisis) period on the association between fair-valued assets and audit fees. When the regression results were controlled by the potential endogeneity problem of auditor self-selection, the regression results still reveal the positive effects of FVD proxies and audit fees. Furthermore, the regression confirmed a negative impact of the moderating pre-crisis over the hierarchy levels, whereas a positive impact of post-crisis is documented and significant only for Level 1. Overall, the results support that fair value-oriented firms are more likely to have higher levels of audit complexity and risk which ultimately increases the amount of the charged audit fees. The findings are valuable to academics, the audit profession, government agencies and regulatory authorities that monitor and regulate the external audit profession in Jordan. The findings of the study are generalizable to wider settings, such as ME countries with similar cultural and institutional characteristics and following the same accounting and auditing practices. It is worth extending the current FVA empirical evidence and considering the impact of further proxies of fair value accounts, corporate governance and ownership structure mechanisms on the auditing profession. Such considerations contribute to a comprehensive understanding of the post-implementation effects of FVA. It will also be interesting to extend this examination to wider time frame to capture the potential effect of economic volatility during the devastating COVID-19 pandemic.

REFERENCES


Authors' Biography

Esraa Esam Alharasis, final year PhD Candidate in the area of International Accounting at Victoria University, Melbourne, Australia. She has Master Degree in Financial Accounting with honours from Al- al-Bayt University, Mafraq, Jordan. She has a Bachelor degree in Accounting with honours from Tafila Technical University, Tafila, Jordan. She has received two awards for work from her PhD thesis from the VU HDR conference 2020 and the 6th International Conference on Accounting, Business and Economics 2020. Esraa is a qualitative researcher. She has one article on Fair Value Accounting, in addition to her forthcoming empirical publications. Her areas of interest are: International Accounting Standards (IAS), International...
Financial Reporting Standards (IFRS), Fair Value Accounting, Financial Accounting, International Standard on Auditing (ISA) and Auditing.

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VISUAL ANALYTICS FOR DETECTING AVOIDANCE OF UNDERLYING IN FX TRANSACTIONS

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ABSTRACT

Forex Banks in Indonesia, actively participate in forex market by providing forex services to their customers. To participate, supporting the domestic forex market, and still considers the principle of prudence in transactions, Bank Central of Indonesia as a regulator issued a policy that mandatory of completeness underlying transactions for a certain amount (threshold). Internal Auditors are required to detect and provide assurance that Forex Banks has run the forex transactions without irregularities. Detection strategy is needed to streamline the identification process of irregularities. In continuous auditing, data analytics are used for analytical procedures. This study explores the use of visual analytics methods that may assist auditors in detecting avoidance of underlying in forex transactions. Additional validation is achieved by requesting an independent review from the audit practitioner of Forex Banks. This study demonstrates how visual analytics methods through link analysis can assist internal auditors in early detection of underlying avoidance in forex transactions and streamline the identification process of potential irregularities.

KEYWORDS: Continuous Auditing; Data Analytics, FX Transactions; Link Analysis; Visual Analytics.

1. INTRODUCTION

The forex (FX) market is the most liquid market in the world with daily turnover often reaching trillions of dollar (Mc Leod in Juszczuk & Krus, 2017). The acceleration of high exchange rate movements and the concept of convertibility make the FX market have a high risk, such as an open gap for individuals to conduct FX speculation in order to prioritize personal gain. To anticipate the risks, Bank Central of Indonesia and the Financial Services Authority of Indonesia have conducted strict and intensive supervision and monitoring by making regulations to ensure that FX transactions are carried out based on the needs according to the underlying documents of transactions, by issuing the Regulation of Members of the Board of Governors of Bank Central of Indonesia No. 20/16/PADG/2018 regarding Forex Transactions against Rupiah between Banks and Domestic Parties, which contains the requirement to submit underlying documents for transactions that exceed the threshold.

Compliance with regulations is required by the Bank to avoid the inherent risk in FX transactions. Compliance risk arises when the Bank does not comply with and / or does not implement the prevailing laws and regulations (Ikatan Bankir Indonesia, 2014). It arises when Bank does not comply with regulatory and legal demands set by regulators (Institute of Compliance Professional Indonesia, 2019). FX bank required to comply with the regulations stipulated by Central Bank of Indonesia in order to avoid compliance risks. Pasierias and Zopounidis (2009) reveal that there is an impact on the regulatory and supervisory framework on bank efficiency, banking regulations that require each bank to exercise market discipline and supervision will increase the costs and profitability of the bank itself. Asenov (2015) defines risks that associated with legal and regulatory sanctions, are significant financial losses or loss of reputation, as a result of failure to comply with laws, regulations, internal rules and standards, as well as the code of business conduct for the banking sector. Koczisky et al., (2017) revealed that compliance risk can cause financial institutions to lose their reputation. The regulation have an impact on the potential for regulatory fines experienced by FX bank, and also can affect the profit achievement, compliance risk and reputation risk. Moreover, because that regulation, there is issue about avoidance of underlying in forex transactions that perform by bank customers through transactions splits using other customer accounts.

Forex bank through the concept of three line of defense, with an internal auditor as the third layer of defense, carries out supervision activities using good audit method such a continuous auditing. Institute of Internal Auditors (IIA) defines risk management as a process of identifying, assessing, managing and monitoring a situation to ensure that organizational goals have been achieved. Internal Auditor as an independence assurance provider expected to provide assurance through monitoring and inspection activities using the method continuous auditing. Chan and Vasarhelyi (2018) revealed that the paradigm of the traditional audit has been outdated for current conditions so we need innovation to support assurance that real-time by
using the audit sustainable approach that can streamline the process of auditing. With continuous auditing, auditor can streamline the process of auditing and increase the quality of audit results, for example the identification and analysis of anomalies from large and complex of business data transactions.

Even though the exhaustive analysis has been carried out, the audit quality resulting from each individual Internal Auditor will be different. This is because the audit quality is influenced by many factors, such as the professional skepticism of auditors which describes the auditor's critical thinking (Ningsih & Nadirsyah, 2017). Hurtt et al., (2010) stated that professional skepticism is an important concept in auditing practice, which is formed from several characteristics, one of which is interpersonal understanding or auditors' interpersonal understanding. From this explanation, it can be said that the interpersonal understanding of each Internal Auditor will affect the quality of the audit results on the analysis and identification of avoiding in foreign transactions.

Additional methods or techniques are needed in the analysis process to reduce or minimize gaps or differences in the audit results of each individual Internal Auditor, namely by visualizing information. More sophisticated analytical tools have the potential to drastically change the audit process and can facilitate audit quality (Brown-Liburd et al.; Cao et al.; PwC in Walker & Brown-Liburd, 2019).

This study tries to give overview of the implementation of visual analytics through link analysis that can improve the surveillance and identification activities on avoidance of underlying in foreign transactions that perform by bank customers. With the implementation of visual analytics methods and techniques, hopefully the risk identification process will be more efficient, effective, improve the quality of audit results, and mitigate compliance risk and reputation risk.

2. LITERATURE REVIEW

2.1 Regulations

In order to regulate the development of the domestic foreign exchange market which still takes into the principle of prudence in transactions, Bank Central of Indonesia issued Regulation No. 20/16/PADG/2018 regarding Foreign Exchange Transactions against Rupiah between Banks and Domestic Parties. The regulation explains that the underlying transaction is an activity that underlies the purchase or sale of foreign currency to rupiah. Furthermore, it was also explained that the types of transactions with domestic parties include spot, forward, swap, option, and cross currency swap.

In article 7 regulation No. 20/16/PADG/2018 explained that spot transactions conducted by Banks with Customers above a certain amount (threshold) must have underlying of transactions. It is further explained in Article 9 that the purchase of foreign currency to rupiah that perform by a Customer without an underlying transaction can only be made at a maximum of USD 25,000.00 or the equivalent per month per Customer. Furthermore, article 16 explains that the purchase of foreign currency to rupiah by Customers to Banks through spot transactions above a certain amount or a predetermined threshold is prohibited from exceeding the nominal value of the underlying transaction. The settlement of spot transactions must be carried out by full movement of funds, where the transfer of funds is carried out in real terms of the principal value of each sale or purchase transaction that has been agreed at the beginning of the transaction. This transfer of funds is supported by the availability of a sufficient amount of real funds to finance transactions or in other words, the funds must be good funds as evidenced by the time sequence of transaction settlement. Article 25 explains that for forex transactions against rupiah above a certain amount or a predetermined threshold, the Bank is obliged to ensure that the Customer has an underlying transaction as evidenced by submitting the underlying document for the foreign currency transaction to rupiah and other supporting documents. In addition, Banks must also ensure the fairness of the underlying documents for foreign currency transactions to rupiah. Banks must apply procedures and control systems in the underlying documents for foreign currency transactions to rupiah.

An effective control system is an important element of the management of a bank and the foundation for managing a safe and sound banking operation (Salehi et al., 2013). Salehi et al. (2013) added that the strong internal control system provides assurance that bank has complied with laws and regulations, policies, plans and internal rules and procedures; and reduce the risk of unexpected loss or damage to the bank's reputation. Banking internal control is regulated by existing regulations, as stated in the Financial Services Authority No.35/SEOJK.03/2017 concerning Guidelines for Standard Internal Control Systems for Commercial Banks. It is explained that internal control is a supervisory mechanism that determined by the Bank's management on an ongoing basis. Furthermore, it is explained that an effective internal control system has benefits that can help the Board of Directors and the Board of Commissioners in improving the Bank's compliance with laws and regulations, as well as reducing the risk of loss, irregularities and violations of prudential aspects. The internal audit component is very important in the effectiveness of internal audit and its consequences in business survival and success (Karagiorgos et al., 2010). Changes in information technology and managerial practices in many organizations force efficient risk management as an important means of reducing total
business risk, where internal audit will be a key player using modern audit techniques and specific audit risk models (Karagiorgos et al., 2009). Internal auditor is required to be able to evaluate and participate actively in efforts to increase the effectiveness of the continuous operation of the internal control system that related to the implementation of the Bank's operations that have the potential to lose. The control activities carried out by internal auditor are in the form of reassessments to identify the causes of significant irregularities.

2.2 Penalty for Banks for Negligence in Implementing Procedures and Control Systems on Underlying Documents

Singh and Best (2019) explain that an undesirable consequence is that when criminals adjust their actions or behavior to avoid existing controls, such as by depositing a smaller amount, which is below a predetermined threshold. From the explanation, it can be said that there is a gap in the foreign currency buying activity, when the bank customers make a deviation to avoid in enclose of underlying documents by splitting the transaction into several smaller transactions below the threshold in forex transactions.

Through the Regulation of Members of the Board of Governors of Bank Central of Indonesia No. 20/16/PADG/ 2018 states that a Bank may be got penalty such as warning or an obligation to pay. Bank Central of Indonesia shall impose penalty for negligence in procedures and control systems applied to a Bank, with the amount of the penalty is 1% (one percent) of the nominal value of the violated transaction for each violation with a total penalty of at least Rp10.000.000.00 (ten million rupiah) and a maximum of Rp1.000.000.000.00 (one billion rupiah). Bank Central of Indonesia will impose penalty on the obligation to pay fines by debiting the Rupiah demand deposit account of the Bank at Bank Central of Indonesia.

Strict regulations require Banks to make every effort to find and report irregular transactions, or face a significant amount of fines (Chang et al., 2008). In the regulation No. 20/16/PADG/2018, Bank Central of Indonesia implicitly emphasized that there is a need for effective analysis in implementing compliance to identify the suspicious transactions. Compliance in complying with the regulatory is required to Bank to avoid the penalty as the compliance risk in forex transactions. To avoid the penalty, Bank have to mitigate the risks that may arise.

2.3 Irregularities or Avoidance of Underlying in Forex Transactions

Another regulation from Bank Central of Indonesia No. 16/16/PBI/2014 & No. 16/14/DPM explained that foreign exchange transactions are expected to be in accordance with the implementation of Know Your Customer (KYC). One of the several implementation of KYC that become a focus in this study that branches are required to avoid forex transactions that do not comply with Bank Indonesia regulations, including purchases above the threshold equivalent to USD per month per customer made that run by several names but the source of the funds comes from one account/one customer. This mode is similar to money laundering irregularities patterns.

Unger (2007), Sullivan (2015) and PPATK (2020) describe that in general there are three main stages or phases in the money laundering process, namely placement, layering, and integration. The pattern of avoidance of underlying in forex transactions begins with a placement technique in the form of structuring, then uses several other parties in making fictitious transactions or purchases by other people who have a related relationship (smurfing). Chadha and Kaur (2018) explained that smurfing is an activity carried out to avoid verification of the source of money which is often carried out by money launderers by dividing one large amount into a small number of transactions so that the Bank authorities cannot see that the transaction is a suspicious transaction. The separation or layering technique is used to hide and disguise the true origin of funds by separating the funds into several stages of financial transactions (PPATK, 2020). Layering requires perpetrators of irregularities to carry out multiple transactions, which aims to make it difficult for the authorities to track down because it appears that the money is increasingly unrelated to the perpetrators of the irregularities (Sullivan, 2015). Irwin et al., (2012) explain that the integration phase is the final stage carried out by perpetrators of irregularities so that the existing money appears to have been obtained legally. The integration phase carried out is an effort to combine and use funds solely to make it visible or appear legitimate (PPATK, 2020). So it can be said that the integration phase is a process of pooling funds that is endeavored to do as well as possible, so that it looks legitimate and does not appear to violate existing provisions.

2.4 International Standards for the Professional Practice of Internal Auditing

The Institute of Internal Auditors (2016) in the International Standards for the Professional Practice of Internal Auditing explains that the purpose of the standard is as a guide in an effort to fulfill the required elements in the International Professional Practice Framework that to provide a framework for implementing and developing various value-added internal audit services; setting the basis for the evaluation of internal audit
performance; as well as encouraging better organizational processes and operations. Based on the existing problems, it is necessary to add methods or techniques in carrying out assignments, identifying information, and analyzing and evaluating according to the International Standards for the Professional Practice of Internal Auditing, which can help improve the quality of audit results.

This study attempts to describe the utilization of visual analytics through link analysis to detect avoidance of underlying in forex transaction, as a form of Internal Auditor to comply the existing standards that related to Internal Auditor skills in the implementation of the engagement which identifies, analyzes, evaluates, and documents sufficient information to achieve the assigned engagement objectives. Identification is carried out on adequate, reliable, relevant and useful information. In addition, the conclusion and results of the Internal Auditor engagement must be based on appropriate analysis and evaluation.

2.5 Continuous Auditing, CAAT, Data Analytics, Visual Analytics, Link Analysis, Visualization Tools

The continuous auditing process is similar to traditional auditing, except that it is more detective than preventive because it runs automatically both daily and weekly and produces reports for internal auditors to follow up on (Moeller, 2016). Kuhn and Sutton (2010) explain that the purpose of continuous auditing is to provide constant or continuous monitoring of existing transaction data, whether it is in accordance with predetermined rules. Two objectives of continuous auditing are to implement internal audit and limited management resources so that they can be used more efficiently to find the problematic activities and transactions, and also aims to identify risky transactions as soon as possible so as to minimize the risk (Murdock, 2017). Based on these explanations, it can be said that continuous auditing is an innovation in detective internal auditing as a refinement of traditional auditing that carried out by a supervisory method that automates the identification of data, constantly or continuously. With continuous auditing, hopefully the audit team can take advantage so that monitoring and identification activities will run more efficiently, effectively, and experience an increase in the quality of audit results, for example the identification and analysis of anomalies or deviations from existing data in large and complex business transactions.

CAAT (Computer Assisted Audit Techniques) is a tool and technique in the audit profession that is used to extract, analyze, and review the logic of the data being processed, to achieve audit tests of controls and substantive testing tasks (Shamsuddin et al., 2015). Shamsuddin et al. (2015) explained that CAAT can reduce audit costs incurred and improve audit quality and productivity. CAAT is a computer program that is controlled and used by internal auditors to test or analyze data on computer files, and can improve the audit process and the independence of the internal auditors (Moeller, 2016). Murdock (2017) explains that CAAT recommends a way to avoid the need for ineffective time when performing traditional internal audits and helps improve risk identification by leveraging the power of metrics. In line with Murdock, Temesgen (2004) and Serpeninova et al., (2020) explain that the use of CAAT has the potential to increase the productivity, effectiveness and efficiency of audits. Based on these explanations, it can be said that CAAT is an audit technique used in analyzing computer-assisted data through software (both commonly available ones such as spreadsheets, word processors and text editors, as well as specialized software such as for statistical analysis and business intelligence tools). CAAT can be useful in facilitating the Internal Auditor to search for deviations from the collected data so that it can maintain independence, work more efficiently and productively, and improve the internal audit process. Tools commonly used for CAAT include generalized audit software (GAS), spreadsheet applications, database management systems (DBMS), and query and reporting applications.

Technology through data analytics can help the internal control team to carry out continuous monitoring, identify anomalies, and prevent potential fraud on large data volumes (Banarescu, 2015). Balina et al., (2016) explained that to support data analytics and allow data users to access large volumes of data, a software and analytics platform is needed, which looks for relationships between data, and this ensures more reasoned decision making. There are many intelligence software available to support data analytics, Balina et al., (2016) explained that Microsoft provides various Business Intelligence (BI) and analytics, including SQL and Microsoft Power BI. Based on these explanations, it can be concluded that data analytics is a method that can be used by the internal control team or the Internal Auditor to evaluate cases, identify, analyze and visualize important information contained in large data volumes.

The Association of Certified Fraud Examiners (2019) explains that some data has a character that is so broad or complex that it remains difficult to analyze using traditional methods, to facilitate analysis, data can be displayed visually through graphs, heat maps, link diagrams, time-series charts, word clouds, or other illustrative representations that may provide clarity on examination. Visual analysis is built on the natural ability of humans to absorb more information in visual form (patterns, shapes, certain patterns) than numerical (ACFE, 2019).

Visual analytics is the science of analytic reasoning with an interactive visual interface, which is used by many people to combine information and gain insights from large-scale, dynamic, ambiguous, and often conflicting data (Thomas and Cook, 2016). Singh and Best (2016) explain that visualization is a form of
describing technology that aims to make information users see and be helped to better understand and contextualize existing information. The quality of the resulting visualization representation depends on the quality of the data source, visualization (which is good) will provide users with greater insight and understanding of large data volumes (Singh and Best, 2019). The large financial institutions are required to monitor hundreds of thousands of transactions per day, then investigate in depth possible suspicious transactions at a considerable cost (and risk, if monitoring is ineffective), this can be overcome by using visual analytics that effectively lead to visualization and interactive exploration, by integrating various methods from various disciplines such as information visualization, human computer interaction, and statistics (Chang et al., 2008). Data visualization has been widely applied and is often done, even in various fields and types of transactions. The interactive visual interface can help provide clarity in the examination inspection activity, this is based on the natural ability of humans to absorb more information in visual than numerical form. Visual analytics through link analysis that is displayed interactively will help the auditor reveal relationships and patterns between transactions.

Link analysis is commonly used to create a visual representation of data, it may compare some data such as name, telephone number, and address to identify direct and indirect relationships and relationships with some degree of separation (ACFE, 2019). Ai and Tang (2011) also revealed that link analysis is designed to identify hidden relationships between transactions, accounts, customers, and even related organizations. Chen et al., (2018) revealed that link analysis is usually used to analyze the nature of the relationship or connection between bank accounts, which is based on transaction activities carried out by each customer account so that the behavior of certain groups can be analyzed as a whole. Based on that explanations link analysis can be used to detect links or connections between customers based on customer account transaction activity, name, address, place of work or other information that can make the relationship clearer.

Thomas and Cook (2006) stated that visualization tools or visual analytic tools must convert data into representations that are suitable for analytical tasks and accurately capture important content from large, complex, and dynamic collections, this is done so that the purpose of visual analytics is achieved, namely get insight before taking the appropriate action. There have been many software programs used to perform data analysis that used as visualization tools, to help reveal relationships, patterns, and concepts or the main purpose of an event flow, including Microsoft Power BI, Tableau, Plotly, Datawrapper, Orange, and many others. The use of visualization tools software that can be downloaded for free, is not only beneficial for the time effectiveness of data analysis but also benefits the cost efficiency used.

2.6 Conceptual Framework

![Conceptual Framework Diagram]

Source: Global Technology Audit Guide (GTAG) 3, Continuous Auditing: Implication for Assurance, Monitoring, and Risk Assessment dan Ikatan Auditor Intern Bank (IAIB)

**Figure 1: Continuous Auditing, Monitoring, Assurance (Conceptual Framework)**

The framework in Figure 1 is the first step in the way of thinking in obtaining research results, namely developing continuous auditing by utilizing visual analytics through link analysis. Based on Figure 1, it is known that continuous assurance will be achieved through the implementation of the internal audit activity.
Continuous auditing that carried out with the help of technology allows for continuous risk assessment and control. Continuous risk means that the Internal Auditor through continuous auditing can carry out risk assessments such as reviewing and analyzing trends, detecting abnormal conditions and control weaknesses, and predicting future risks (Ikatan Auditor Intern Bank, 2016). Continuous control means that the Internal Auditor through continuous auditing can conduct control assessments such as reviewing limit violations set by management and duplicate customers (Ikatan Auditor Intern Bank, 2016). This research tries to provide an overview of the continuous auditing development techniques with adding the other technologies by utilizing visual analytics through link analysis. With that effort, hopefully the risk and continuous control assessment would be run more optimal.

2.7 Technology Acceptance Model

![Technology Acceptance Model](image)


**Figure 2: Technology Acceptance Model**

TAM (Technology Acceptance Model) aims to explain the external factors of information technology users' behavior towards the acceptance or rejection of information technology itself by the user (Lucyanda, 2010). Widianto (2020) adds that the TAM can not only predict and explain, but also to provide fundamental progress from the effects of external factors on beliefs, frameworks of thought, and goals. With the explanation regarding TAM, hopefully the intention of using additional audit methods or techniques will be known with the help of visualization tools. Before drawing conclusions on the intended use, we will first look at the usefulness of additional audit methods or techniques with the help of visualization tools and their ease of use.

2.8 Previous Studies

Previous researchers have applied visual analytics or data visualization techniques. Improved data and analytics are key in helping investigators to focus on suspicious activity (Singh and Best, 2016). By focusing on suspicious activity, it is hoped that identification activities will be effective. Singh and Best (2016) explained that the use of techniques that can reduce the burden of excess information will have a positive impact in the form of effectiveness on the overall audit process. Chang, et al. (2008) in collaboration with the Anti-Money Laundering division at Bank of America, conducted a study on the application of visual analysis techniques to assist investigators in detecting suspicious accounts and transactions in wire transactions. This study combines several visual analysis techniques, namely heat maps, string and beads, keyword networks, and introduces the search by example technique. The results of study by Chang, et al. (2008) prove that the combination of interactive visualization techniques coupled with hierarchical analysis in looking for suspicious financial transactions can significantly improve analysts' ability to spot global trends and narrow down individual activities. Other study was conducted by Singh and Best (2016) by applying the visualization method to assist auditors in detecting anomalous and potentially fraudulent payable transactions. This study explained that the visualization technique can show the relationship between users and the types of transactions by them. The results prove that combining interactive visualization techniques and traditional analysis can improve auditors' ability to identify suspicious activity and narrow down individual activities. Singh and Best (2019) conducted another research, namely by exploring the use of visualization techniques to help identify patterns of money laundering activities in banking transactions. This study utilizes visual analysis techniques in the form of link analysis provided by free software. Singh and Best's (2019) results prove that interactive visualization techniques improve the ability of investigators to see suspicious patterns efficiently.

Previous research on the application or use of visual analytics in general is in the practice of identifying anti-money laundering. In contrast to previous studies, this study will focus on the application or use of visual analytics on more specific financial transactions, forex transactions, about avoidance of underlying by bank customers. The use of visual analytics in this study is expected to illustrate the other benefits of visual analytics in the scope of other financial transactions.

3. RESEARCH METHODOLOGY

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3.1 Research Strategy

This research was applied by conducting a case study on one unit of analysis at one of forex bank di Indonesia, well namely by ABC Bank. This study explore the phenomena or issues that occur at ABC Bank regarding the implementation of continuous auditing in identifying avoidance of underlying in forex transactions. This research will provide an overview of utilization of visual analytics through link analysis in the monitoring and identification process in identifying avoidance of underlying in forex transactions that perform by ABC Banks customers. The data analysis method used in this research is content analysis method.

3.2 Research Methods

The research method used is a case study using a qualitative method approach with descriptive analysis. The consideration of qualitative approach is for the impact analysis, use for evaluation of designs characterized by simple case studies, and it is recommended especially in relation to other evaluative functions such as implementation analysis, process analysis, community self-analysis, staff empowerment, and also interpretation and understanding of experience (Mohr, 1999). Qualitative research methods prioritize the emic perspective (informant opinion rather than the opinion of the researcher), highlight contextual details, prioritize direct data by prioritizing participatory observation, interviews and documentation and conclusions presented in descriptive form of the research object guided by research studies (Gunawan, 2013).

Based on that explanations, it can be said that the qualitative method is suitable for use in this study because it is in accordance with the research objectives, namely to overview or describe the implementation of visual analytics techniques through link analysis that can help the detection of avoidance of underlying in forex transactions that perform by Banks customers, which is carried out by conducting questionnaires and literature or documentation studies, as well as providing recommendations and conclusions. Qualitative research methods that will be carried out are in the form of collecting and analyzing data from questionnaires given to the internal audit practitioners and literature or documentation studies from audit findings and previous studies of visual analytics or link analysis.

3.3 Source of Data

Sources of data that obtained in this study are sourced from primary data and secondary data. The primary data sourced from questionnaires and the secondary data sourced from literature study or documentation such as audit findings and previous studies of visual analytics or link analysis.

Before the questionnaire is given to audit practitioners, an initial pre-test questionnaire will be given to selected respondents. The pre-test on the questionnaire was conducted on 2 respondents. The purpose of conducting the pre-test questionnaire is to find out the understanding of the respondents to the questions given in the questionnaire. The results of the pre-test questionnaire will show that the respondent can or can successfully understand the question and can provide relevant answers.

4. RESULT AND ANALYSIS

Based on the questionnaire given to audit practitioners, it is known that the development in the concept of continuous auditing can be carried out by IT Auditor so that support for audit assignments can run better and reduce the obstacles faced by audit practitioners. IT Auditor can provide data related to customer pairing that suspected avoiding the underlying of transactions, based on customer connection or relationship (mother's name, place of business, residential address, office name), so as to reduce the time the Internal Auditor in determining the customer that suspected to avoid the underlying of forex transactions. The development of continuous auditing concept by IT Auditor can also be carried out together with the audit practitioners and other units, it can be done regularly so that information gaps can be reduced. If possible, the audit practitioner can asks for synchronization of anomalies and current account data that can be obtained simultaneously so that the time needed to validate anomaly data is more effective. Development in the concept of continuous auditing by IT Auditor can also be done by using a special software that can make anomaly data more focused on the relationship between customers.

The bank continues to grow and has a large volume of transactions. These large financial institutions are required to monitor hundreds of thousands of transactions per day, then investigate in depth possible suspicious transactions at a considerable cost (and risk, if monitoring is ineffective), this can be overcome by using visual analytics that effectively lead to visualization and interactive exploration, by integrating various methods from various disciplines such as information visualization, human computer interaction, and statistics (Chang et al., 2008). The interactive visual interface can help provide clarity in the examination inspection activity, this is
based on the natural ability of humans to absorb more information in visual than numerical form. Visual analytics through link analysis that is displayed interactively will help the auditor reveal relationships and patterns between transactions. Wong et al. (2006) explained that link analysis is a popular form of analysis carried out by analysts by attracting and connecting various types of information such as events, people, places, locations, facts, weapons, money, and contraband. In other research, Wong et al. (2006) added that link analysis was carried out in the hope of identifying patterns and concepts or main objectives. Chen et al. (2018) revealed that link analysis is usually used to analyze the nature of the relationship or connection between bank accounts, which is based on transaction activities carried out by each customer account so that the behavior of certain groups can be analyzed as a whole.

Figure 3 shows the data support providing process with additional visual software that can be implemented to improve the existing continuous auditing concept. Figures 4 and 5 show the results of utilization of visual software that can show the relationship between banks customers that related to family relationships and residential addresses.

Source: IT Auditor ABC Bank (2020)
There is a review to audit practitioners to know the effectiveness of the use of visual analytics through link analysis. The reviews conducted through Technology Acceptance Model by Davis’s in Lucyanda (2010) in accordance with Figure 3. By regarding the Technology Acceptance Model, hopefully the intention of use of additional audit methods or techniques with the help of visualization tools will be known. Before drawing conclusions on the intended use, we will first look at the perceived usefulness of additional audit methods or techniques with the help of visualization tools and their perceived ease of use.

4.1 Perceived Usefulness

Link analysis can be useful or can help streamline the data analysis process time and identify the avoidance of underlying in forex transaction that perform by banks customers. It also can illustrate the relationship between customer accounts. Link analysis helps the audit practitioner so that the examination method is more focused on transactions that should be suspected and also describe the flow of customer transactions with an indication of the purpose of the transaction to avoid the underlying in forex transactions.

4.2 Perceived Ease of Use

Power BI is easy to use and can be adopted as a platform used for analyzing data derived from (Krishnan et.al, 2017). Krishnan et.al (2017) also explained that by uploading data sets to Power BI, with one click button can be used to run the feature automatically, Power BI can also help reduce errors that occur from humans or human errors.

4.3 Intention of Use

There is an intention to use the link analysis platform. Respondents stated that if indeed the link analysis platform can provide information on the relationship between banks customers according to the existing irregularities pattern, in the future it is possible to conduct data analysis with the help of the link analysis platform in order to streamline identification time.

5. CONCLUSION

Based on the results and analysis of the utilizations of visual analytics through link analysis, it is known that link analysis can use as appropriate techniques that can help optimization of continuous auditing, auditing process, analysis, and risk identification of avoidance of underlying in forex transactions. The enhance can be done by adding visual analytics techniques through link analysis that provides visualization feature of the relationship between accounts, such as business intelligence software or another link analysis platform, by still considering the Technology Acceptance Model (TAM) to reinforce that the platform can be implemented internally. The use of link analysis that useful and easy to use will lead the desire of audit practitioners to use it so that the constraints of identification process of each audit practitioner can be reduced or minimized. By reduced these constraints, it is indicated that the identification process of the irregularities, activity of avoidance of underlying in forex transactions that perform by banks customer can be better monitored.

This study has limitations in choosing the research scope, because it only uses a single unit analysis from one forex bank in Indonesia which cannot represent all forex banks in Indonesia. This study also only uses a forex spot transactions that only provided in branch office of that banks. It is recommended that future studies may be carried out in other forex banks, or more forex banks analyzed, or even using other financial institutions that also provide forex trading services. Future research can also be carried out by taking other types of forex transactions. Future studies can also use other methods or techniques to identification the irregularities.

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**Author’s Biography**

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REDUCED AUDIT QUALITY PRACTICES IN MALAYSIA: A REVIEW OF THE PAST 10 YEARS

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ABSTRACT

This study examines the trend of reduced audit quality practices (RAQP) for the past 10 years. The premise for this investigation is that for a decade, regulators in the auditing profession have played an active role to promote high quality of audit work. Thus, it is believed that RAQP will reduce significantly. The data from the study come from 150 survey instruments completed by auditors working at the public accounting firms ranging from small to big audit firms in Malaysia. The results suggest RAQP still represents a significant problem for the auditing profession that may impair audit quality.

KEYWORDS: audit quality, reduced audit quality practices, dysfunctional behavior.
TRACK 1B
HUMAN RESOURCE MANAGEMENT
PROCEDURAL JUSTICE AND TURNOVER INTENTION AMONG ACADEMIC STAFF IN HIGHER EDUCATION

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ABSTRACT:
Several scholars in environmental psychology, human resource management and organizational behavior performed the study of organizational justice. Studies have shown that when an employee perceives unfair rules and procedural, the greatest response to organizational justice takes place. Employees who feel unfairly treated tend to leave the organization. Several researches have shown that the turnover intention has to do with procedural justice. This study aims to investigate the relationship between procedural justice and the turnover intention academic staff of public universities in Malaysia. Samples were obtained via questionnaires from university personnel of five public research universities. A total of 277 university staff completed the surveys. The result showed that the purpose of turnover between the lectures was negatively affected by procedural justice. It was also concluded that the procedural justice was an even better predictor of turnover. This means that the University of Research in Malaysia would understand that their decision to leave will be motivated by lack of justice.

KEYWORDS: Turnover Intention, Procedural Justice, Higher Education
FACTORS THAT AFFECT JOB TURNOVER INTENTION AMONG EMPLOYEES IN EDUCATION INDUSTRY: A STUDY OF PRIVATE HIGHER EDUCATION INSTITUTION IN PERAK, MALAYSIA

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ABSTRACT:

This study examined the factors that determine turnover intention among lecturers in private higher education institutions in Perak. 278 lecturers from five institutions answered the questionnaires. The conceptual framework consists of four constructs – job satisfaction, organizational commitment, organizational culture and career development – developed based on Herzberg’s two factor theory. The primary data is then analysed using descriptive statistics and multiple linear regression. The result indicates that all four constructs have significant relationship towards turnover intention. Thus, in order to reduce turnover intention, improvements can be made on aspects of job satisfaction, organizational commitment, organizational culture and career development.
THE IMPACT OF MANAGEMENT INFORMATION SYSTEMS (MIS) ON THE EMPLOYEE PERFORMANCE

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ABSTRACT

With the transition and the great shift in modern management to the use of management information systems, this paper discusses the impact of management information systems (MIS) on the performance of employees and the role of these systems in enhancing employee participation in decision-making, as there is a significant impact of networks, individuals and procedures, and the management information system as a whole. On the performance in general and the performance of the employees in particular, the data used were collected from books and research published in an Islamic and traditional perspective. Discover a gap in the literature and use a structured approach to carefully review the literature as both decision-making and employee performance. Employee participation and management information systems are crucial and vital to the organization's vision and mission in achieving its goals. Therefore, employee participation through management information systems remained important and it was suggested that it play an important role in raising the level of the organization through constructive decision-making. This review concluded on the role of management information systems management and its positive impact on the performance of employees and indicated the need for continuous modernization of the management information system, employee involvement and the development of management information systems for the institution.

KEYWORDS: Management information systems (MIS), Employee Participation in Decision-Making, Islamic management & Employee Performance.

1. INTRODUCTION

In view of the continuous development in the fields of workers at both the public and private sector levels, the corporation must consider the global production capabilities and outstanding performance instead of coordinating local internal facilities. This change necessitated the focus on the use of management information systems as a solution to the development of production as well as coordination between the sectors of the institution (Hirsch, Kuhlmann, Marciniak, & Maßow, 1995), as well as coordination between the sectors of the institution and with the intensification of competition and burdens, the importance of management information systems for public and private sector organizations increases, as it needs access to accurate information, available at the right time, that affects decisions, Competent managers are those whose decisions are effective. To do so, managers must have insights and insights into today’s global information systems. Management information system is an important weapon for business managers in the world to know the success of their organizations, as it forms a vital role in the organization to take the right decision in a short time. (Arif & Rahaman, 2012), and thus can affect the effectiveness of the organization And computers are ubiquitous to manage information, which is a technically advanced tool that continues to face rapid, continuous technical change (Berisha-Shaqiri, 2014).

1.1 Management Information Systems (MIS)

Management information system is one of the modern and important methods in organizations aiming to provide reliable, accessible and understandable information in a timely manner to the users of the system, and management information systems helped in automating tasks. Automation can save time, money, resources, reduce employees, and enhance organizational workflow (Al-Mamary, Shamsuddin, & Abdul Hamid, 2014a), management Information Systems (MIS) is now in its fifth decade as a system, whereas, in 1966, Professor John Durden and his student F. Warren MacFarlane is the author of the book "Management Information Systems: The book is considered a milestone in the teaching of computerized information systems. It theoretically explained this science and these new systems (Power, Hadidi, & Scheibe, 2016).

Management information systems are a useful tool in providing structured and summarized information in a timely manner to decision makers and enabling accurate decision-making in organizations (Ada & Ghaffarzadeh, 2015), the management information system is a computerized data flow processing procedure
that works in an integrated manner with other procedures and in an effective way to support decision-making and other administrative functions. Business decisions can only be made efficiently if the information is complete, clear, fast, accurate, and qualitative and managed by qualified personnel to work on these systems (Bretschneider, 1990). Management information systems were known by researchers in more than one sense according to their functions, tools and methods of use, as it dealt with the definitions of management information systems in relation to their functions, such as data collection, recording, storage and rearrangement, as well as in terms of their ability to provide information with good characteristics that organizations rely on to improve its performance (Al-Tit, 2016).

1.2. MIS Model

The techniques and theories on which the work systems were created, the administrative systems, and various methods were used to create and improve the management systems (Medaković & Marić, 2018), the management information system model has been developed even in the health sectors to manage operations there (Andersson, Hallberg, Eriksson, & Timpka, 2004).

Over the past 20 years, different types of information systems have been developed for different purposes, depending on the business need. In today's business world, there are various types of information systems such as Transaction Processing Systems (TPS), Office Automation Systems (OAS), Management Information Systems (MIS), Decision Support System (DSS), Executive Information Systems (EIS), Expert System (ES) etc. Each plays a different role in the organizational hierarchy and management processes. And it differs in many types of information systems in business organizations according to the functions and needs (Al-Mamary, Shamsuddin, & Abdul Hamid, 2014c). The business world lives today, various types of information systems such as TPS, DAS, KWS, MIS, DSS, ES, CSCWS, GDSS and ESS. Each plays a different role in the decision-making process and the tasks of the organizations (Asemi, Safari, & Zavareh, 2011).

1.3 Employee Performance

Many organizations have begun to use the concept of performance, as this concept focuses on the most important element, which is the employees in the organization, usually the employee’s performance is viewed in terms of results, and there are a number of measures that can be taken into account when measuring performance (Diamantidis & Chatzoglou, 2019), for example using standards Productivity, efficiency, effectiveness, quality and profitability (Pradhan & Jena, 2017), evaluation systems must contain some standard criteria that can be relied upon.

Efficiency and Effectiveness Efficiency is defined as the ability to achieve specified results using the least amount of available resources, while effectiveness is the ability to achieve the goals of the organization (Nassazi, 2013), the concept of performance comes from actual and job performance, and it is the achievement that the employee has achieved according to the tasks and powers granted to him, and it is the level of success of the person during a certain period (Utin & Yosepha, 2019). If employees know what is expected and realize that they control their success, and understand their role in the success of the organization, they will have the motivation, help them to enhance productivity and profitability. Research and analysis as well as the diversity of thought positions between researchers and writers. The management concept is very broad with various dimensions, with an overall limit. It is considered a major way to improve and increase performance (Muda, Rafiki, & Harahap, 2014), so that we can only measure and define performance management by clearly and clearly addressing performance in accordance with the standards that govern the performance of the results achieved by the individual to achieve specific goals or develop the competencies necessary to do the work effectively. He also defined it as a continuous process of joint work by managers and employees (Farhani, 2019), including: Determining performance expectations with linked goals at the level of the organization by the renewal of key standards, measure the performance of the individual and the organization. Identify fields that may enhance work efficiency; provide performance feedback and assign and approve ongoing reviews to measure the actual performance of individuals within the organization (bin Sulaiman Alhosni & Lehyeh, 2019).

Many organizations have moved towards using the concept of performance which is considered to be more efficient, with employees working in all locations from the lowest level to increasingly busy managers, who have more requirements, and thus the key to achieving success is working more efficiently From this point on, the performance management process is characterized by continuous development and improvement. It also deals with employee behaviors ensuring follow-up and professional behavior. Performance management also includes activities that enable objectives to be accomplished consistently and efficiently. In addition (Alhosni & Lehyeh, 2019), performance management is the process in which the organization undertakes to align its resources, systems, and people, along with objectives and strategy (bin Sulaiman Alhosni & Lehyeh, 2019).
1.4. Employee Participation in Decision-Making

Participatory decision making is a management strategy that affects performance, employee motivation and satisfaction, organization productivity, organizational commitment, employee turnover, and employee participation in decision making will have a positive relationship with their creativity. Employees are essential to generating useful unique ideas (Nayak, Sequiera, & Senapati, 2012). With the improvement and development of systems and technologies, the factors that affect the effectiveness of systems are support for senior management, decision-making structure, management style, and management knowledge of information technology (Al-Mamary, Shamsuddin, & Abdul Hamid, 2013).

Managing organizations in an effective manner especially in today's complex world needs to collect and process a vast amount of rapidly growing information (Obasan & Soyebo, 2012). The quality and quantity of information required by the managers to make decisions depends on various factors but the features of the information and the way it is processed are essential factors for decision making in this process (Hussein, Karim, Selamat, & Mamat, 2007).

Employee participation in decision-making, also known as participatory decision-making, has to do with joint decision-making in the workplace is the space in which employers encourage or allow their employees to participate in decision-making and has emerged since the 1940s (Alsughayir, 2016) and is considered a collective management system that includes processes, leadership and motivation. And interaction to provide employees with opportunities to participate in organizational decision-making. Research has indicated that worker participation is an effective way to increase employee satisfaction (Hakimpoor & Khairabadi, 2018), and that employee participation in organizational decision making plays a major role in the effective implementation of management strategies. The formal system requires clear guidance on who is allowed to participate, which decisions employees can participate in, and how participation should be implemented, the rules are less clear in the informal system, and participation enhances production efficiency, employee morale and job satisfaction (Aalipoor & Ahmadabadi, 2015), it also builds a better sense of control and confidence in the employees.

When the employees are given opportunities to contribute ideas and suggestions in the decision making, the performance of the company may increase because the deep participation of the employees in the decision making increases the diversity of viewpoints (Alsughayir, 2016). Also, employee participation is the path of engaging and empowering employees in the job in order to use their efforts to achieve goals, employee participation is also defined as direct participation to help the organization reach through experience and efforts made to solve problems and make decisions, and employee participation is defined as distribution Power between the employer and the employee in decision-making, whether through direct or indirect participation (Ijeoma, 2020). Where individuals in different organizations make daily, weekly, monthly or annual decisions, either directly or indirectly, and employee participation in decision-making has been recognized as a management tool for restoring organizational performance by striving to achieve the common goals of employees and employers (Zubair, Bashir, Abrar, Baig, & Hassan, 2015).

A complex and different concept in definition and has been defined as the degree to which employees participate in organizational decision-making through multiple approaches, and it is one of the most effective tools for employee motivation as employees who participate in decision-making can give them the opportunity to express their opinions when making organizational decisions. Which increases their motivation to work and be more faithful to the institution and to achieve its goals (Han, Chiang, & Chang, 2010).

It shows that management information systems and the conceptual dimensions of information quality have a positive impact on the quality of management decisions, and this effect is stronger when the conceptual dimensions of information quality are integrated (Galliers & Currie, 2011).

1.5 Islamic Management & Employee Performance

Islam is a complete law of life that directs Muslims to carry out each activity separately according to the instructions of the Qur’an and the Sunnah. The Qur’an often refers to honesty and justice in commerce, and calls for a fair and equitable distribution of wealth in society (Weir, 2004), the Qur’an encourages people to acquire skills and technology, and commends highly of those who strive hard in their work (Budhwar, Mellahi, Branine, & Pollard, 2010).

The Islamic system is impartial and fair without discrimination, and with regard to Islamic principles, it is taken from the principles of Islamic law (Fontaine, 2008). Islamic management emphasizes principles of human well-being, justice, as well as respect and appreciation for employees (Rahman, Alias, Shahid, Hamid, & Alam, 2013), it is a complete comprehensive system that covers every aspect of human activity and Islam not only focuses on the private life of individuals, or on the relationship in worship (Osman, Mahphoth, & Hashim, 2014), but also covers and directs the interaction of human beings and their activities in their daily
The accomplishment of works is the goal of the institutions, and in order for a Muslim to be good, the believer must maintain governance with will and honesty, and enhance mutual cooperation as the Islamic administration makes clear (Budhwar et al., 2010), which means that the work is performed in the best and most effective way, and in line with the views and standards of Islam and this means that Islamic values have become a standard for an excellent work culture for that, although it can be considered an excellent work from the point of view of the society in which the person lives (Fadol, 2011).

Employee performance is understood from the Islamic work ethic that work is worship, achievement is beautiful, and the work must include all kindness and blessing. The works include worship and that if a person does an act he must master it and conclude in its full execution as the influence of Islamic work ethics on improving organizational commitment encourages a highly strategic improvement of employee performance. Organizational commitment as an effective media to improve employee performance (Harinoto, Frisiantara, Sanusi, & Triatmanto, 2017).

1.6 Relationship between MIS and Employee Performance

Knowledge is a prominent element in the administrative process at present, which contributes to the growth and development of organizations. Knowledge exchange can be considered as a vital and important phenomenon in the organization's work. By sharing and sharing information as a key factor. Information sharing can lead to rapid information distribution, efficient and effective organizational processes, and improved internal and external performance of the organization (Mirzaee & Ghaffari, 2018).

The factors have contributed to changing the role of information systems in business in recent years. Where information systems are used to achieve a competitive advantage, and the role of information systems in companies has been widely integrated in the participation of these systems in the day-to-day operations of companies and the increase of inter-organizational systems (Kamariotou & Kitsios, 2019), information systems are considered influencing the success of workers in the organization, and that this success affects job satisfaction and job commitment, and through the latter, the organizational performance (Guzmán, Fóster, Ramírez-Correa, Grandón, & Alfaro-Perez, 2018). The impact of information technology is significantly increasing in today's business world, competition and constant changes, including technological innovations and pressures on the business environment. In order to gain a competitive advantage and business success, the use of information technology is an important factor in helping organizations. Therefore, adopting and implementing information technology efficiently can improve the overall performance of the organization (Dehgani & Navimipour, 2019).

The main purpose of management information systems (MIS) and its use was to improve the efficiency of operational activities in data entry and processing, not in its transmission and analysis, and then it developed into the integration of these systems (Shah, 2014), where there was a great positive relationship between MIS and the performance of organizations, this means that the more management information systems develop, the higher the performance of organizations, and that management information systems have a great impact on the performance of organizations (Al-Ahmad & Alnajjar, 2009).

The quality of the information system stands out in covering the areas that have the greatest impact on organizational performance and enhancing the participation of members of the organization through an information system, so that communication becomes easier and thus coordination is more effective and the result is improved performance. Organizations must always be prepared to adapt to their environment in order to survive and demonstrate the appropriate and timely response to emergency changes and information systems work on this response (Torkestani, Mazloomi, & Haghighb, 2014), management information system decision making has a positive impact on employee performance (Setiawan, Wakhymi, & Setiawan, 2019), indicators of management information systems, which are the quality of information and user satisfaction, are directly related to the performance of the organization, and they indicate the quality of the system, the quality of information and the efficiency of using the system (AZEEZ & YAAKUB, 2005).

A system that uses modern technologies can present information to users in an easy-to-understand format that enables them to use information systems effectively and improve performance, and that the high quality of the system leads to high quality of information (Abbugabah, Sanzogni, & Poropat, 2009), the high quality of information helps organizations in managing business processes, decision-making and improving organizational performance (Al-Mamary, Shamsuddin, & Abdul Hamid, 2014b).
2. RESEARCH OBJECTIVES AND HYPOTHESES

The objectives of this study are:
1. To Identify the factors affecting the employees' job performance.
2. To Identify the determinants of management information systems.
3. To Clarify the relationship between management information systems and employee.

In order to achieve the study objectives, these are research hypotheses:
H1: Management information systems have a great impact on participation in decision-making.
H2: Management information systems have a direct impact on employee performance.

3. METHODOLOGY

To capture the reality about the relationship between management information systems and employee performance (Hopla, Latvala, & Liimatainen, 2016). In more detail, an interpretive approach is used in all this study's procedure, the way through reaching the research objectives, by searching in the relevant reliable scientific sources (Van Rooyen, Stewart, & De Wet, 2018). Electronic resources and databases were used to find the necessary scientific background. Magazines and articles. To ensure the reliability and accuracy of the study, a lot of research was covered in multiple fields and different sectors, which is a good way to be sure of the correctness (Siddaway, Wood, & Hedges, 2019).

4. CONCLUSION

Here appeared clear effects of management information systems on the performance of employees in the various commercial, industrial, private and public sectors (Al-Gharaibeh & Malkawi, 2013) and even the medical sector, where it had a significant positive impact (Abualoush, Obeidat, Tarhini, & Al-Badi, 2018). The systems enhanced the employee performance through electronic applications (Luarn & Huang, 2009), it appears that there is a direct link between the information technology used and the work of administrators, and that these systems have enhanced employee participation and problem solving (Bhatti & Qureshi, 2007). One of the most important advantages of these systems is the rapid flow of reliable information that helps in making decisions (Boiko, Shendryk, & Boiko, 2019). These systems formed a competitive advantage and a point of strength for enterprises in terms of competition and high job performance (Sabherwal, Sabherwal, Havakhor, & Steelman, 2019). It plays a big role in mega and global projects (Ismagilova, Hughes, Dwivedi, & Raman, 2019), As well as implementing integration in occupational and public health and safety programs, which may enhance job performance (Sui, Ding, & Wang, 2018). In the environmental and natural fields, clear impacts have occurred in increasing biomass production, mitigating climate change, environmental quality, and preserving biodiversity, and thus human well-being, by supporting employees and raising performance across these systems (de Paul Obade, 2019). It is also indicated that governments have moved to use management information systems to raise performance using e-government (Melin & Wihlborg, 2018). And these systems have been applied in the operation of smart and digital cities (Królkowski & Susłow, 2018). Systems have also responded to the COVID-19 pandemic, and information systems applications have proliferated that track and analyze the phenomenon and raise public safety and staff performance in tracking and combating this epidemic (Agerfalk, Conboy, & Myers, 2020).

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**Books**


INVESTIGATING JOB PERFORMANCE AMONG FEMALE MANAGERS IN CHINA

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ABSTRACT

China has been experiencing development in a very fast speed and one of the contributing factors is the increase in number of females’ participation in all levels of the workforce and management. This phenomenon indicates that female managers are increasingly important to most organizations and proves that female managers can also perform as good as their counterparts. Hence, this study aims at investigating the relationships among workload, leadership skills, job stress, job satisfaction, and job performance among female managers in China. The data used in this study was obtained using quantitative approach, which is by distributing the questionnaires to 600 targeted respondents who were from five fundamental fields in manufacturing industry (new energy, food manufacturing, textiles, computer manufacturing and communications manufacturing). There were 538 questionnaires returned but only 489 responses were usable for further analysis. The data was analysed using SPSS 22 and Smart PLS 3. The results reveal that that workload, leadership skills, and job satisfaction have positive and significant relationships with job performance among female managers in China. The findings of this study are hoped to assist the organizations to better comprehend the factors that can impact job performance among female managers and at the same time organizations should give close consideration to issues related to female managers at work as they too are contributing to the organizational performance.

KEYWORDS: Job Performance, Leadership, Job satisfaction, Female workforce, Organizational Performance
TRACK 1C
ECONOMICS
CAN RENEWABLE ENERGY REPLACE FOSSIL FUEL CONSUMPTION IN MALAYSIA? AN ECONOMIC VALUATION ANALYSIS

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ABSTRACT

Reliance on non-renewable energy sources is increasing in line with the increase in population. This increase has led to enhance energy demand, especially electricity supply. Most of the electricity supply is from non-renewable energy sources such as fossil fuels where these sources are limited in use and related to climate change. Therefore, renewable energy is seen to be able to overcome the problem of lack of non-renewable energy due to its environmentally friendly and continuous resources. Meanwhile, the cost of developing renewable energy is a major challenge that needs to be supported by all sectors including consumers. Consequently, this study examines how consumers are willing to pay (WTP) to contribute to renewable energy funds and identify the factors that influence the willingness to pay. This study applied the Contingent Valuation Method (CVM) to measure the consumers’ willingness to pay and found the average willingness to pay is about RM 5.29 (USD 1.27) per month as an additional charge towards electricity bills. The variables of bid price, confidence level, years of education and employment are significant that can affect the willingness to pay. The results of this study can be employed as a useful framework for the government to look at from the perspective of consumers.

KEYWORDS: renewable energy, willingness to pay, contingent valuation method, climate change
WATER PIPES IN MALAYSIA: TECHNICAL AND CAPITAL COST COMPARISON

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ABSTRACT

As a developing country, Malaysia is not spared from the challenges of keeping non-revenue water (NRW) rates low. While the water authorities are dealing with leakage due to burst pipes and on-going pipe replacement projects, it is critical to make the right decisions for a better future. An overview of demographics and NRW reported in each state provided the motivation to compile technical and cost information for the different types of water pipes available in Malaysia. Technical characteristics of each type of pipe materials are discussed and presented. A basic breakdown of cost which includes material and installation works for Mild Steel, Ductile Iron, High-Density Polyethylene (HDPE) and Molecularly Oriented Polyvinyl Chloride (PVC-O) pipes is included based on quoted pricing by two leading homegrown construction conglomerates. A comparative summary for these 4 different types of water pipe materials are consolidated in this paper to assist water stakeholders in making informed and sustainable choices for future water pipe installation and replacement projects.

KEYWORDS: Non-revenue water, mild steel, ductile iron, HDPE, PVC-O, water pipes.

1. INTRODUCTION

Non-revenue water (NRW) may not directly affect water consumer experience on a day-to-day basis. However, the result is only noticeable when there is a water disruption due to burst pipes and followed by repair works. Water loss might be severe and undetectable, given that the recovery phase for any water disruption may be lengthened. The standard water pipes used in Malaysia are Mild Steel, Ductile Iron, High-Density Polyethylene (HDPE) pipes and Asbestos Cement water pipes. Recently, a new type of plastic pipe called PVC-O pipes was introduced in the market while Asbestos Cement pipes is being phased out. Interestingly, each of these water pipe materials has their own set of unique features. From the demographics and information related to Non-revenue Water (NRW) presented in the next section, the purpose of this study is derived, and the research methodology is described next. The subsequent section consolidates technical characteristics, followed by cost information of the different types of water pipes to provide water stakeholders a brief comparison between the available water pipes to enable them to make well-informed decisions for future new and replacement projects. The final section presents an overview on how technical characteristics and costing affect decision making in choosing the types of water pipes.

2. NON-REVENUE WATER AND DEMOGRAPHICS ACCORDING TO STATES IN MALAYSIA

Water piping systems are essential for modern-day living. A significant amount of long-term investment and work are being exhausted to ensure the sustainability of this infrastructure. Despite much effort, NRW is inevitable as leakage and water pipe failure issues occur due to aged pipes. Such leakage is not easy to detect nor repaired. Existing pipes are also susceptible to higher risks of damage during on-going construction, especially in urban areas due to fast-paced development. Lack of proper documentation or mapping information of the water piping system serves to make detecting of old pipes challenging. Moreover, laying pipes in rural areas that are sparsely populated can be more costly compared to urban areas. Figure 1 depicts the population of each state from the years 2013 to 2017. Selangor state (which includes the Federal Territories of Kuala Lumpur and Putrajaya) has the highest population count followed by Sabah and Johor. There is an overall trend of the population size increasing over the years in all states.
A normalized perspective of NRW can be calculated using NRW percentage (NRW%) as defined in (1) based on system input volume and billed authorized consumption in million liters per day (MLD).

\[
\text{NRW\%} = \frac{\text{System Input Volume (MLD)} - \text{Billed Authorised Consumption (MLD)}}{\text{System Input Volume (MLD)}}
\]  

Figure 2 shows the percentage of NRW by states from the years 2013-2017. Notably, the rate of NRW in states such as Sabah, Kedah, Kelantan, Pahang and Perlis are more than 40% across the years. However, states like Pulau Pinang and Melaka tend to show NRW less than 20% while other states, including Selangor, reside between 20-40%.

The type of different water pipes used in the water piping system is presented in Figure 3. Prior to the 1980's, there was a high usage of Asbestos Cement pipes, before steel and iron were more accessible through importation. These pipes have exceeded the predicted life span of 25 years and are still serving the nation in almost every state (Study on the Current Issues and Needs for Water Supply and Wastewater Management in Malaysia (Volume 2), 2014). They are no longer used for replacement pipes due to health risks in handling of asbestos in pipe manufacturing and on-site installation activities (Ab Razak et al., 2015; Ratnayaka et al., 2009; Safitri Zen et al., 2013). Most states in Malaysia have high usage of Asbestos Cement pipes, categorized as

**Figure 1: Population by states within Malaysia**  
Source: Jabatan Perangkaan Malaysia (2020)

**Figure 2: Percentage of NRW by states from 2013 – 2017**  

<table>
<thead>
<tr>
<th>States</th>
<th>Population in thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>6000.0</td>
</tr>
<tr>
<td>2014</td>
<td>6500.0</td>
</tr>
<tr>
<td>2015</td>
<td>7000.0</td>
</tr>
<tr>
<td>2016</td>
<td>7500.0</td>
</tr>
<tr>
<td>2017</td>
<td>8000.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>States</th>
<th>NRW (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>30.0</td>
</tr>
<tr>
<td>2014</td>
<td>35.0</td>
</tr>
<tr>
<td>2015</td>
<td>40.0</td>
</tr>
<tr>
<td>2016</td>
<td>45.0</td>
</tr>
<tr>
<td>2017</td>
<td>50.0</td>
</tr>
</tbody>
</table>
part of “Other” pipes as in Figure 3. The second most common pipes used in most states are Mild Steel and HDPE.

![Figure 3: Lengths of water pipe materials laid by state in 2017](image)

Despite Pulau Pinang and Melaka performing well with a lower NRW rate, both states are considerably small in land area but have very different spread in terms of their water pipe material choices. Sarawak seemed to have taken a unique and non-conventional approach especially with their strong preference for HDPE pipes, followed by Ductile Iron and considerably less Mild Steel. Their performance based on NRW rate is midrange, considering that they are sustaining a large population and spread over a large land area.

States all over Malaysia have very different approaches in selecting pipe materials for water supply. Some of these choices may be purely dependent on availability of certain types of pipes and labor skills in each locality, favoritism based on familiarity and the available budget to address the growing needs in the country. Therefore, this paper presents a comparison between the most common standard water pipes available today so that water authorities and stakeholders may find this study useful in their decision making to provide sustainable and preferably long-term solutions for each locality.

3. RESEARCH METHODOLOGY

A content analysis was carried out based on existing publications which includes the Malaysian Water Industry Guides, websites, online technical reports and catalogues which provides information such as properties of materials, installation processes and technical information for mild steel, ductile iron, HDPE and PVC-O pipes. Quotations were requested from several local construction conglomerates to include 4 different pipe materials for a simulated local project within Malaysia. Both technical data and cost information were compiled and presented in this paper.

3.1 Technical comparison of available water pipe materials

Most of the currently available literature provides a technical comparison between 2 types of water pipes. In this paper, four types of common water pipe materials are compared for the Malaysian context. Asbestos cement water pipes were not included as it is being phased out in Malaysia. Table 1 summarizes the first 8 characteristics of mild steel, ductile iron, HDPE and PVC-O listed above.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mild Steel</th>
<th>Ductile Iron</th>
<th>HDPE (PE100)</th>
<th>PVC-O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength [MPa]</td>
<td>500 – 650</td>
<td>420</td>
<td>23</td>
<td>48</td>
</tr>
<tr>
<td>Internal rated pressure [MPa] based on recommended classes for 300 mm nominal diameter</td>
<td>5.4</td>
<td>4</td>
<td>1.2</td>
<td>2.1</td>
</tr>
</tbody>
</table>
The technical characteristics of different water pipe materials are divided into two categories. The first set provides a brief description of quantifiable characteristics made available for the 4 types of materials including references of where these quantitative data was sourced. The second set discusses the remaining technical characteristic of these water pipe materials through a qualitative approach especially where steel and plastic have different characteristics which are not directly comparable in a quantitative manner.

3.2 Quantitative characteristics of water pipes

Measurable values such as tensile strength, internal pressure, water hammer resistance, weight, sizes, surface roughness and predicted life span are elaborated in this subsection for mild steel, ductile iron, HDPE and PVC-O water pipes based on a random selection of literature, industrial standards and catalogues available online.

**Tensile strength**

The tensile strength of mild steel pipe L355 ranges from 500MPa to 650MPa (Mitul, 2015). L355 is the highest carbon content steel tube compared to other steel tubes such as L235 and L275 in EN10224. It has the greatest tensile strength compared to other pipes material such as ductile iron pipe, HDPE and PVC-O pipe. A typical ductile iron pipe has 420MPa tensile strength (MS 1919:2013 Ductile Iron Pipes, Fittings, Accessories and Their Joints for Water Pipelines - Requirements and Test Method, 2013). HDPE has a 23MPa tensile strength at yield (PE100+ Association, 2018a) while PVC-O is at 48MPa (ISO 16422:2014 Pipes and Joints Made of Oriented Unplasticized Poly(Vinyl Chloride) (PVC-O) for the Conveyance of Water under Pressure - Specifications, 2014).

**Internal rated pressure**

Mild steel pipe has the highest internal rated pressure, which is 5.4MPa based on BS 534: 1990 / SPAN TS B.1.7 standards for a 300 mm diameter (Allpipes Technology Sdn. Bhd., n.d.) while ductile iron pipe is at 4MPa based on the recommended Class 40 (EDIP, n.d.). Both plastic pipes have lower-rated pressure compared to steel and iron pipes due to their inherent strength. PVC-O pipe has a rated pressure of 305psi which is equivalent to 2.1MPa (JM Eagle, 2018) while HDPE (PE100) has a rated pressure of 1.2MPa rated pressure at 20°C (Marley, 2013). The temperature will affect the strength of the plastics pipe and tend to reduce the ability to sustain higher rated pressure (Merah et al., 2006).

**Water Hammer Resistance**

Water hammer occurs when liquid flowing through a pipe stops suddenly when a valve is opened or closed, if a pump is stopped or started or by airlocks shifting within the pipe. This causes a shockwave to travel up the fluid. This shockwave would, in turn, lead to a sudden pressure rise.

A relationship can be deduced where the lower the Young’s Modulus of the pipe material, the lower the amount of celerity and the greater its resistance to water hammer (Bentley Hammer Connect Edition Help, n.d.; Molecor, 2018b). Mild steel pipe has greater celerity compared to ductile iron due to its Young’s modulus value. Young’s modulus of mild steel pipe is 200GPa while ductile iron pipe is 170GPa (EJ Prescott, n.d.; E-Z LOK, n.d.). Both plastic pipes have relatively low celerity leading to better resistance to water hammer referring to lower Young’s Modulus values.
**Weight per meter run**

Comparisons are made between pipes with 300mm diameter where this is a common size that are available for the 4 types of water pipes considered. Mild steel water pipe weighs 75.91kg/m (L. B. H. Brother Industries Sdn. Bhd., n.d.) while the ductile iron pipe weighs 64.28kg/m (EJ Prescott, n.d.). For PE100, an exact 300mm pipe diameter was not available. Therefore, comparisons are made between 280mm and 315mm pipe diameter and the corresponding weight is 13.70kg/m and 17.35kg/m (TechIndustries, 2013). PVC-O was also significantly lighter than the metals, ranging between 7.79kg/m to 12.28kg/m for sizes 250mm and 315mm respectively (Molecor, 2020). From the comparison above, mild steel with cement lining is the heaviest pipe while PVC-O is the lightest pipe. Besides already having a higher density than the plastic pipes, the metal pipes need that additional cement lining for corrosion resistance, which adds more to the overall weight, affecting the transportability of the metal pipes.

**Range of available sizes (diameter)**

Mild steel pipe with cement lining has the broadest range of diameter available in the market ranging from 100mm - 2200mm (Allpipes Technology Sdn. Bhd., n.d.). It is the largest pipe diameter among the four pipes while PE100 has the smallest size of pipe diameter of 32mm nominal diameter among the four pipes (PE100+ Association, 2018b). Larger sized HDPE pipes are not so common. However, they can be made available with the use of appropriate extrusion dies. PVC-O pipes from one manufacturer have nominal diameters ranging from 90-800mm and cover four pressures such as PN12.5, 16, 20 and 25 (Molecor, 2018a). Ductile iron pipe with cement lining has a diameter range of DN3” to DN54” which is equivalent to DN 76 to DN1320mm (EJ Prescott, n.d.). Figure 4 shows a graphical representation of the size ranges of the pipes.

![Figure 4: Range of available pipe sizes](image)

**Surface roughness**

Hazen-Williams coefficient is used in the Hazen-Williams equation to calculate friction loss in ducts and pipes. Ductile iron pipe has a coefficient of 120 when it is lined with cement mortar (Engineers Edge, 2020). Welded seamless mild steel pipe without cement lining has a coefficient of 100. On the other hand, both plastics pipes have a coefficient of 150, which can be categorized as smooth pipes (Molecor, 2018a; PE100+ Association, 2018a). This shows that plastic pipes have the lowest friction loss due to the pipe surface roughness and have higher efficiency in transporting water. Nevertheless, the sizes typically used for cement lined pipes are large and therefore wall roughness relative to diameter has only a small difference between all pipes. As a result, the difference in friction losses between plastic pipes and ductile iron pipes is close to negligible (DIPRA, 2016).

**Life Span**

In terms of lifespan, ductile iron is able to last more than 100 years (DIPRA, n.d.). Mild steel, HDPE and PVC-O can last at least 50 years, up to 100 years if they are installed correctly (DongPengBoDa Steel Pipe Group, n.d.; Hypro Company, 2014; The Plastics Pipe Institute, 2009). The physical properties of ductile iron pipe do not change with age unlike other pipe materials, which gives ductile iron pipe an edge to a longer life expectancy.
3.3 Qualitative characteristics of water pipes

Other characteristics that were not included in Table 1 are being discussed as there were either insufficient equivalent data to provide for all four pipes. In some cases, the following characteristics are not easily quantified based on existing literature.

Water quality

Permeation is a penetration of permeate (such as gas, liquid, vapor) through a solid. Permeation in pipes will affect the quality of water in the pipe and could lead to health risk. Both ductile iron with cement lining and mild steel with cement lining were shown to have greater resistance to permeation compared to plastic pipes. For ductile iron pipe, permeation may only happen at the gasketed joints. Due to the relatively small contact area between gasket and potable water, permeation through gasketed joints is not likely to be a significant source of contamination unless the gasket is exposed to neat organic chemicals for long periods of time (AWWA, 2002). On the other hand, plastics pipes have stricter requirements on the environment used and are not suitable to lay the pipes in contaminated land with hydrocarbons such as fuel oil, crude oil, gasoline, diesel and kerosene as they are subjected to permeation.

Disinfectants used in water treatment could also lead to pipe degradation. Both plastic pipes are subjected to different degrees of degradation due to disinfectants used in potable water distribution. HDPE pipe tends to experience higher impact by disinfectants as compared to PVC pipe material. This is because lower penetration of disinfectants (chlorine, chlorine dioxide, and chloramines) and loss of stabilizer is expected in PVC pipe material due to lower diffusion rates than PE pipe material based on their respective glass transition temperatures (Carollo Engineers, 2008).

Installation

Plastic pipes are easier to install on site as they are light in weight and do not require heavy equipment to handle the pipes. There are only certain pipes with large diameter that require heavy equipment to move the pipes to avoid operation risk. They support narrow trenching techniques and do not require excavation for a wide area (JDP, n.d.). PE100 also supports trenchless installation where some areas do not support open-cut installation (PE100+ Association, 2018c). PVC-O pipe uses a push-on joint which does not require any welding or screw to connect the pipe, HDPE uses butt fusion technique to connect the pipes. On the other hand, socket and spigot joints are used to connect ductile iron pipes while mild steel pipes are required to be welded (Interplant Standard - Steel Industry, n.d.). Gasket of elastomeric material is used together with socket and spigot joints to achieve a sealing effect by compressing the rubber gasket between the inside of the socket and the external surface of the spigot. This can be considered as a flexible joint and it is easier for installation than welded joints. In comparison, ductile iron consumes less time during installation due to its socket and spigot connections while mild steel pipe has the highest complexity during pipe installation. It needs a wider trench area in order to sit the pipes and machinery to handle the pipes.

Environmental factor

The existing literature (Hajibabaei et al., 2018) considers the environmental impact throughout these stages: pipe production, pipe transportation and pipe installation. The environmental impact was measured in a few categories such as global warming, ozone layer depletion, photochemical oxidation, acidification, eutrophication, cumulative energy and demand. However, these measurements need to be weighed against the lifespan of the selected pipes as materials with shorter lifespan may require replacement to be carried out which will significantly increase the environmental impact in the long run. Ductile iron was found to be more cost effective and environmentally sustainable compared to PVC pipes (Thomas et al., 2016).

Corrosion Resistance

Corrosion in the pipe causes a negative impact on the pipe functionality and quality of water distributed. Both plastic pipes have great resistance to corrosion due to their inherent characteristics while ductile iron pipe and mild steel pipe are subjected to different types of corrosion attacks with different extent such as pitting corrosion, galvanic corrosion, microbiologically influenced corrosion and corrosion due to dissimilar electrolytes (External Corrosion and Protection of Ductile Iron Pipe, n.d.). Both metal pipes are normally lined with cement-mortar coatings. Cement-mortar coatings are porous coatings that protect ferrous materials through chemical passivation. Unfortunately, some environments are aggressive to cement-mortar coatings.
Any damage or degradation of the coating that exposes the steel can set up a corrosion cell that utilizes the potentially large variance in pH between the exposed steel and the steel in contact with the cement as the driving force. This can result in accelerated local corrosion cells. Low pH environments or soils with sulfates can be detrimental to cement-mortar coated steel. Additionally, cement-mortar coatings do not offer resistance to potential stray current corrosion. Cement-mortar coatings also reduce the flexibility of the pipe. As a result, the pipe will lose its flexibility and cannot deflect as much under external load, nor can internal pressures be allowed to expand the pipe and cause cracking of the coating (Gregg Horn & Breslin, 1996). Therefore, additional corrosion controls are required for both metal pipes. In terms of currently available corrosion control for both metal pipes, polyethylene encasement for ductile iron pipe is more efficient and convenient compared to the traditional corrosion control for mild steel pipe. Ductile iron pipe also provides better resistance to corrosion because cast iron (ductile iron is one type of cast iron) will oxidize faster but rust will remain superficial. Therefore, the structural integrity of the ductile iron component will be less impaired (Fusium Group, n.d.).

4. CAPITAL COST ESTIMATES

The estimated costing information presented in Table 2 was quoted during the second quartile of 2020 for a simulated pipe replacement works in Negeri Sembilan based on Hydraulic Modeling and NRW reduction activities. The design specification was based on the latest British standards and associated Codes of Practice to comply with the Uniform Technical Guidelines (UTG) by the national Water Service Commission known as Suruhanjaya Perkhidmatan Air Negara (SPAN). Contractors were asked to quote the cost of pipe replacement works including machinery, equipment, labor and tools to carry out the works.

Table 2: Capital Cost Comparison for selected Mild Steel, Ductile Iron, HDPE and PVC-O water pipes

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum Cost (RM)</th>
<th>Maximum Cost (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Mapping</td>
<td>2020</td>
<td>3800</td>
</tr>
<tr>
<td>Trench Excavation (per meter run)</td>
<td>19</td>
<td>200</td>
</tr>
<tr>
<td>Extra over trench excavation (per meter run) through cutting of road pavement</td>
<td>82</td>
<td>300</td>
</tr>
<tr>
<td>Pipe Laying (per meter run) – Supply, deliver and lay/install excluding jointing/specials/fittings to complete installation of pipes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 400 mm</td>
<td>≥ 600 mm</td>
<td>≤ 400 mm</td>
</tr>
<tr>
<td>Mild Steel (DN 300 &amp; DN 650)</td>
<td>165</td>
<td>520</td>
</tr>
<tr>
<td>Ductile Iron (DN 300 &amp; DN 600)</td>
<td>278</td>
<td>776</td>
</tr>
<tr>
<td>HDPE class PE100 and PN16 (DN 355)</td>
<td>394</td>
<td>-N/A-</td>
</tr>
<tr>
<td>PVC-O class 500 PN16 (DN 315 &amp; DN 630)</td>
<td>400</td>
<td>1350</td>
</tr>
<tr>
<td>Filling (per meter run):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Sand filling</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>b. Approved selected excavated material or imported material filling</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>Surface Reinstatement of Road and Footpath (per meter square area)</td>
<td>68</td>
<td>80</td>
</tr>
<tr>
<td>Turfing (per meter square area) - include supply and spread 500 mm fertile soil to receive turf</td>
<td>12</td>
<td>50</td>
</tr>
<tr>
<td>Interconnection (Intercon.) &amp; Disconnection (Discon.) works to existing supply system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10000</td>
<td>4000</td>
<td>26000</td>
</tr>
<tr>
<td>Miscellaneous costs (per meter run):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Water Pressure testing and leakage</td>
<td>300-400 mm</td>
<td>400-600 mm</td>
</tr>
<tr>
<td>b. Sterilizing and flushing</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Traffic Management Plan and Control</td>
<td>2000</td>
<td>35000</td>
</tr>
</tbody>
</table>

The cost presented excludes design fees. Cost of pipe laying which includes supply, delivery and installation differs for each type of pipes considered. The cost structure between laying these 4 different pipes are consistent, with mild steel having the lowest range while PVC-O had the a very high maximum especially
for pipe sizes larger than 600 mm in diameter. However, other costs such as utility mapping, trench excavation, resurfacing, turfing, interconnecting, traffic management and other miscellaneous costs are the same regardless of the pipe materials chosen.

5. DISCUSSION

There are no direct and simple methods of determining the best type of material for each case except for the range of diameter and internal rated pressure based on the design of the piping network. For example, large diameter pipes are typically required at the outlet pipe of water reservoirs before they are distributed into reticulation pipes. In this case, mild steel may be the only option as the high tensile strength and Young’s Modulus allows for the water pipe size to go beyond 1320 mm diameter. Depending on soil condition and geographical conditions, the competition between ductile iron, HDPE and PVC-O becomes significant, for midrange sizes, while smaller pipe ranges of less than 76 mm diameter will be dominated by HDPE pipes. HDPE is still rather expensive, although its lightweight characteristics makes delivery and installation easier. In general, ductile iron would provide a better long-term reliable solution due to its reported predicted lifespan while mild steel seemed to be an attractive solution with the condition that the quality of welding and installation process are carried out with strict inspection. As for PVC-O, it has not penetrated the Malaysian market enough to the point that the manufacturing cost can be made competitive with other available pipes. On the other hand, ductile iron provides contractors higher accessibility with better familiarity in handling, especially since it has the widest range of diametral size, which streamlines the purchasing process when it comes to a water pipe network which requires multiple combination of pipe sizes.

6. CONCLUSION

Once pipes are installed, they will remain underground for many decades and unless a huge leakage is detected due to sudden drop in water pressure or breakage is detected above ground, minor leakage and cases often remain unrepaired. Other possibilities of pipe failures include severe corrosion or damage due to excavation for construction purposes. Therefore, the lifespan or durability becomes the most important factor for long term reduction of NRW from a technical perspective.

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MEASURING THE TECHNICAL EFFICIENCY OF FOOD MANUFACTURING INDUSTRY IN MALAYSIA

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ABSTRACT

This study identifies the level of technical efficiency (TE) and analyzing the factors that determine the technical inefficiency for food manufacturing in Malaysia involving a total of 1569 firms obtained from the Department of Statistics Malaysia in 2015 and analyzed by using Stochastic Frontier Analysis (SFA). The determining factors of food manufacturing in Malaysia are the capital–labor ratio, employee training expenditure, secondary and tertiary education standards, wage rates, information and communications technology (ICT) costs, and firm size. The results indicate that the TE level of food manufacturing firms is 0.779, which indicates a good level. Besides that, the capital–labor ratio, employee training expenditure, secondary and tertiary education standards, wage rates, and ICT costs are significant determining factors of the inefficiency of food manufacturing firms. However, firm size was found to be insignificant and did not contribute to the increased efficiency of food manufacturing firms. These results indicate that food manufacturing firms need to increase investment in human capital and ICT and increase motivation among employees by increasing wage rates and increasing the use of capital appropriate to the level of technology.

KEYWORDS: Manufacturing, Technical Efficiency, Technical Inefficiency, Food, Stochastic Frontier Analysis,

1. INTRODUCTION

Efficiency can be described as a value that indicates the technical efficiency (TE) between one to less than one (Porcelli, 2009). It also refers to the capability of a firm to produce maximum output rather than minimize input (Kumbhakar & Lovell, 2013). Moreover, efficiency indicates the effectiveness of input users, which is influenced by production techniques, technology innovation management skills, and labor skills (Fahmy-Abdullah, Ismail, & Sulaiman, 2017). Looking at the current Malaysian economy, TE is very important for the domestic industry as it can help achieve a more encouraging level of economic growth.

The growth of the Malaysian economy for half a century is attributed to the manufacturing industry (Ministry of Finance Malaysia, 2016). The importance of the manufacturing industry to the economy is proven by its contribution to the gross domestic product (GDP). Furthermore, the industrial production index in the manufacturing industry is higher than those in other industries (Ministry of Finance Malaysia, 2016). In fact, the value added for the manufacturing sector increased by 4.3% during the first 6 months of 2016 (January–June 2016) by 4.9%, whereas the output increased by 4%. According to the economic report released by the Ministry of Finance in 2017, the manufacturing industry is one of the main contributors to the national economy. In the 8th Malaysia Plan, the manufacturing industry recorded a growth of 4.1% on average. Conversely, in the 9th Malaysia Plan, it is expected to grow by 6.7%. By 2020, the country expects the manufacturing industry to contribute 22.1% to the GDP and 18.2% to the total employment in Malaysia. The manufacturing industry including the manufacture of food products, beverages, tobacco products, textiles, clothing, and so on.

This industry can provide great opportunities for the economic development of the country; thus, it requires high technical competence in order to remain competitive in the current economy. In this study, the TE in the food manufacturing industry in Malaysia in 2015 is evaluated in detail using firm-level data. Research on the determinants can help improve the TE in the food manufacturing industry itself (Roslina, 2005) and can also influence the results of the study. These determinants can help identify the factors further influencing the efficiency of techniques in the food manufacturing industry in Malaysia.

According to Malaysia’s Third Industrial Master Plan (IMP3) for the years 2006–2020, the food manufacturing industry is generally less prone to economic change. However, it is estimated that the global retail sales of food products are worth US$ 3.5 trillion, and this is expected to increase. Moreover, the employment in the food manufacturing industry has exhibited a high growth. In 2010, this industry had a total
of 169,084 employees, whereas in 2015, it had a total of 256,908 employees, indicating an increase of 10.8%—12.1% contribution to the manufacturing industry in Malaysia (Manufacturing Industry Economic Census 2016 – DOS). Furthermore, the number of establishments in the manufacturing sub-sector in 2010 and 2015 increased, demonstrating a contribution value of 14.9% in 2010 and 16.4% in 2015. However, there are no development recorded in this industry which only recorded a value of only 17.5% in 5 consecutive years. Therefore, the food manufacturing industry requires efficient techniques to increase productivity in order to help improve the country’s economy.

Previous studies on the food manufacturing industry in Malaysia have been conducted, such as that of Ismail (2009), which used sub-industry-level data. In this study, firm-level data were used, which enables a more accurate evaluation of the efficiency of the technique compared with previous studies. Moreover, the study conducted by Arnornkitivikai and Harvie (2011) focused only on Thailand. In this study, the level of technical competence in Malaysia will be investigated. Ismail and Mohd Noor (2007) stated that the level of efficiency of the food manufacturing industry is currently low. However, the time gap between the studies is significant. The latest data are used in this study to yield more accurate study results. In Malaysia, the food manufacturing industry has a great potential in improving the economy. The food manufacturing industry is one of the contributors to the economic development of a country. Thus, this industry needs to exhibit high efficiency, minimize operating costs, maintain the quality of production and skilled labor, and achieve high productivity in order to survive in the economy.

This study can contribute to a more realistic (existing) local literature and improve the existing information; moreover, it can be used as a reference for future studies. Even the use of firm-level data can provide more accurate results to mitigate the weaknesses in the food manufacturing industry. The research methodology used in the study, which is the stochastic frontier analysis (SFA), can not only measure the efficiency of the technique but also identify random shocks beyond the control of the manufacturer, which can significantly affect the production (Jarboui et al. 2015). This study will provide useful to all parties on behalf of the government, private sector, and investors or the society as a whole to improve TE and provide efficient economic resources. Improvements can be made in the food manufacturing industry itself because from the findings of this study will identify the determining factors to achieve maximum TE in the food manufacturing industry as a whole in Malaysia.

2. LITERATURE REVIEW

Charoenrat, Harvie, and Amornkitivikai (2013) stated that efficiency refers to the effectiveness of the use of inputs that influence the production techniques, technological innovation, management skills, and labor skills. TE can be defined as the effectiveness with which a given set of inputs is used to produce an output (Odeke and Brathen, 2012). According to Farrell (1957), TE is the amount of output when an organization can produce output at the maximum level. TE is important for the assessment of the level of competence of an industry or a firm. Efficiency in economic terms refers to the comparison between the observed input and output values, with the optimal input and output values used in the production process (Karlafis and Tambouslas, 2012). It is also the value of one indicating the level of TE; a score less than one indicates the level of technical inefficiency (Porcelli, 2009).

TE is the ability to reduce the use of input in producing maximum output (Kumbhakar & Lovell, 2000). It is important in obtaining the level of efficiency in an organization as well as in the industry. The identification of the level of efficiency in the food manufacturing industry is important to see the level of economic development. Among the studies conducted abroad, the study by Nishimizu and Page (2014) found that the TE level of the food manufacturing industry in Yugoslavia is low. In addition, a study conducted by Marcos and Galuez (2000) found that the level of food TE in Spain remains low. According to the results of the study by Destefanis and Sena (2007), the TE of the food manufacturing industry in Italy is at a moderate level. Similarly, a study conducted by Sun, Hone, and Doucouliago (1999) revealed that China has a moderate level of TE of the food manufacturing industry, as well as Bangladesh (Baten, Kami I & Fatama, 2009).

For the food manufacturing industry in Malaysia itself, efficiency is important because according to Ismail (2009), this industry should continue to be competitive. Furthermore, a study conducted by Nik Hashim and Basri (2004) found that the level of TE of the food manufacturing industry in Malaysia is low, a finding similar to that of Ismail (2009). Therefore, a study on the TE level is important to identify the latest TE level of the food manufacturing industry in Malaysia. According to a study conducted by Yakob and Isa (2008), a company is considered inefficient if given the input it owns, the firm is not able to achieve the proper output targets. A study on the efficiency of a company focuses on several key issues, such as inputs–output, such as capital–labor ratio or capital intensity, training expenditure, standard of education, firm size, wage rate, and information and telecommunications technology expenditure.

The capital–labor ratio or intensity is the first determining factor for SFA. It is the value of capital provided for employees for the production process. According to Katz (1969), capital is one of the major contributors to
economic growth. Gapinski (1996) states that the difference between developed and developing countries comes from the capital–labor ratio. The study by Haskel and Martin (1993) reported that the use or investment of capital in the production process helps improve labor efficiency. Moreover, a study conducted by Rahmah and Idris (2001) found that the ratio of capital–labor has a positive relationship with efficiency, a finding similar to that of a study conducted by Stevens and Kneller (2003), which demonstrates a positive relationship between the two variables. Nelson and Phelps (1996) stated that working capital is one of the sources of innovation.

The second determining factor is the training expenses of employees. As an incentive to the production of goods and services, training expenses are important to improve the skills of the employees (Fahmy-Abdullah, 2017). Skilled workers can create or innovate on the use of technology that can increase the level of TE in the firm. Furthermore, the results of the study by Bishop (1990) and Bosworth and Wilson (1993) indicated that organizations that provide training to their employees can provide a broad knowledge and motivate employees to learn something and innovate. This is further strengthened by a study conducted by Benhabib and Spiegel (1994), who stated that the level of human capital significantly affects the ability of a country to develop its own technological innovation. A study by Hall (1982) suggested that organizations look at their investments in the aspects of human capital, such as training as long-term assets that can provide positive returns throughout the period of employee service in the organization itself. The level of labor capital has a direct influence on efficiency but an indirect influence on the increase in the return of the physical and technological capital (Martin, 2000). The findings of a study by Almieda and Carneiro (2009), who conducted a study on the effect of training on organizational efficiency, demonstrate that the training provided by the organization to employees has positive and significant effects.

The third determining factor is the level of education. According to Chapman and Tan (1992), organizations with educated employees achieve better performance as they can maintain and operate existing technologies as well as adopt modern and new technologies. Furthermore, the benefits derived from higher and secondary education are greater in developing countries than in developed countries (Petrakis and Stamatakis, 2002). Educational factors are important in improving efficiency (Benhabib and Spiegel, 1994). The findings of the study conducted by Anderson et al. (2002) revealed that improving the education of employees can increase the production of an organization. The studies conducted by Rahmah and Noorasiah (2007) and Rahmah and Norlinda (2008) stated that labor capital, such as educational achievement among employees, is important in influencing organizational efficiency in Malaysia.

The fourth determining factor is firm size. According to Fahmy-Abdullah (2017), firm size plays a significant role in improving the technical competence of an organization. The effect of firm size on technical inefficiency varies according to the sub-industry, although it can increase the level of the TE firm (Seguino and Floro, 2003). The findings of Batra and Tan (2003) revealed that the level of TE increases with the increase in firm size. The studies conducted by Sainani et al. (2008), Amornkitvikai et al. (2014), and Charoenrat et al. (2013) also confirmed that firm size can affect the TE level of a firm. Meanwhile, the study by Noor Aini et al. (2008) found that only small firms can increase the level of TE.

The fifth determining factor is the wage rate. Elkin and Rosch (1989) stated that the interpersonal relationships in the organization will become more intense if there are issues on wage rates and unfair promotion opportunities. This can result in the failure of achieving technical competence in an organization. Furthermore, wage rates can motivate employees to improve their skills in order increase the efficiency and productivity of an organization. In China, wage rates are more influential on efficiency compared with human capital (Huang et al. 1998). Muhlau and Lindenberg (2003) theorized that in the United States and Japan, labor efficiency increases if the wage rates provided by the firm are higher than the market wage rate. High wage rates received by employees, including bonuses and allowance payments, can also encourage employees to work hard, thus indirectly increasing efficiency in the organization.

The last determining factor is information and communications technology (ICT) expenditure. Chowdhury (2006) found that excessive ICT capital investment or disagreement in the relationship between human capital and technology. However, some study findings indicated that the results obtained vary (Giuri et al. 2008). Liew et al. (2012) stated that organizational change to incorporate more ICT components in day-to-day operations, providing up-to-date ICT training and knowledge to employees and government support in the form of data, incentives, or subsidies to promote innovation development and ICT strategic plan formulation should be done to increase the efficiency of an organization. The study conducted by Rahmah and Shade (2015) reported that ICT improves the TE of a firm.

3. RESEARCH METHODOLOGY

3.1 SFA Model

The SFA approach was employed in this study to estimate the maximum output. This approach is capable of measuring TEs as well as identifying random shocks beyond the control of the manufacturer that can have an
The SFA approach has been employed in previous studies to obtain TE values. These studies include those by Aigner, Lovell, and Schmidt (1977), Meeusen and van Den Broeck (1977), Battese and Coelli (1995), and Fahmy-Abdullah et al. (2019), who suggested the use of the SFA approach to evaluate TE. This study uses the translog approach, which is expressed as follows:

\[
\ln Y_i = \beta_0 + \beta_1 \ln K_i + \beta_2 \ln L_i + \frac{1}{2} \beta_3 (\ln K_i)^2 + \frac{1}{2} \beta_4 (\ln L_i)^2 + \beta_5 (\ln K_i \times \ln L_i) + (v_i - u_i) \tag{1}
\]

where \(Y_i\) denotes the log for the amount of nominal output of the \(i\)-th firm; \(K_i\), the log for the amount of the nominal asset of the \(i\)-th firm; \(L_i\), the log for the amount of labor of the \(i\)-th firm; and \(v_i\), the random variable or random effect, identical and normally distributed (independent and identically distributed, i.i.d), normally distributed with \([0, \sigma^2_v]\). Meanwhile, \(u_i\) denotes the nonnegative random variable that can be assumed to explain the inefficiency in production, which is normally assumed to be IID as truncated at zero for distribution \([\mu, \sigma^2_u]\).

\[
u_i = \delta_0 + \delta_1 \ln(K/L)_i + \delta_2 \ln(TRL)_i + \delta_3 \ln(SEP)_i + \delta_4 \ln(PT)_i + \delta_5 \ln(W/L)_i + \delta_6 \ln(ICT)_i + \delta_7 \ln(DFSME)_i \tag{2}
\]

where \(u_i\) denotes the TE; \(K/L\), the capital–labor ratio of the \(i\)-th firm; \(TRL\), the amount of employee training expenditures of the \(i\)-th firm; \(SEP\), the ratio of employees trained at diploma level and STPM or equivalent for the \(i\)-th firm; \(PT\), the ratio of employees trained at a higher level, including advanced degree or equivalent for the \(i\)-th firm; and \(W/L\), the total wage rate of the \(i\)-th firm.

### 3.2 Data Sources and Analysis

This study uses firm data level obtained from IMS DOS. The data provided by DOS accounts for 30% of the total aggregate data and can be categorized into eight sub-industries at the three-digit level according to MSIC 2008. A total of 1740 firms of food manufacturing industry are involved in this study. This study aimed to measure the value of TE utilizing firm-level data using the Frontier 4.1 software. The SFA model has been chosen to denote the TE value. To obtain an accurate estimate of the TE value, each of the assumptions and rules listed must be followed. The translog production function is first tested. Overall, all approaches and budgeting are performed to meet the study objectives.

### 4. DATA ANALYSIS

Based on the data obtained from the Department of Statistics Malaysia (DOS), there are a total of 1562 food manufacturing firms in 2015 involved in this study. The firm-level data used in this study was the latest data released by the DOSM based on Economic Census 2015. The collection of data involves a long process as well as obtaining permission from DOS. Data selection was randomly performed in stages of simulated processes, such as firm size identification, big firms, small and medium firms, the number of outputs issued and the number of employees and capital spent.

The implementation of this study required the use of several variables in 2015, including capital, number of employees, capital–labor ratio, firm size, training expenses of employees, ratio of employees with high and secondary levels of education, employee wage rates, and ICT cost information.

As can be seen from Table 4.1, the output variable recorded an average of RM 72,292,000. With regard to the capital variable, an average of RM 10,596,000 for the entire food manufacturing industry was recorded. The average number of employees is 90 people. Moreover, the average of the intermediate input variable is RM6 6,427,000. For the next variable, the capital–employee ratio had an average of RM 22,000. In addition, the average variable of employee salary rate is as much as RM 20,000, whereas the average of the variable for the ICT expenditure is 62,000 for the year 2015. Table 4.1 presents a summary of the descriptive variables used in this study to determine the efficiency.
4.1 TE Decision Analysis

Figure 1: TE Reading Range

Figure 1 presents the frequency and distribution of the TE index of the food manufacturing industry in Malaysia in 2015. Based on the study results, the efficiency value of 0.60 recorded the number of firms of five firms only. A catering value of efficiency at the highest value of 1.00 is only four firms. Consequently, the firm below the 0.70 value must improve the TE level to produce an output or production at an optimal level. Table 4.3 presents in detail the frequency and distribution of the TE indices in the food manufacturing industry in Malaysia in 2015.

Figure 2: TE readings for Subindustries Food Manufacturing in Malaysia

Figure 2 presents the percentage of the TE according to the food manufacturing sub-industry in Malaysia in 2015. As can be seen from the table, the level of TE of each sub-industry is high, between 0.849 and 0.912. The sub-industry with a high level of TE is the MISC 108 sub-industry, animal feed-manufacturing sub-industry, which recorded a value of 0.912. The second highest is the MISC 105 sub-industry, dairy product manufacturing sub-industry, which recorded a value of 0.885. The MISC 101 sub-industry, a meat processing and preservation sub-industry, recorded a TE level of 0.861. The MISC 107 sub-industry recorded a TE value of only 0.868. The MISC 103 sub-industry, fruit and vegetable processing and preservation industry, demonstrated a TE value of 0.862. The MISC 104 sub-industry, manufacturing industry of oils and fats from vegetables and animals, recorded a TE value of 0.856. The MISC 102 sub-industry, crustacean and mollusk processing and preservation industry, demonstrated the lowest TE value, which was 0.849. Although the overall reading of the average value of TE for each sub-industry is at a moderate level, which is 0.779, it can be improved and further enhanced to produce output at the optimum level. It is important for the industry to determine its level of TE so that it can be further improved. It is important to study for each sub-industry for the economic development of the country indirectly.
4.2 Analysis of Technical Inefficiency Decisions

Table 1: Technical Inefficiency Variables Result for Food Industries in Malaysia, 2015.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Parameter</th>
<th>Coefficient Maximum Likelihood Estimation (MLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constants</td>
<td>δ0</td>
<td>0.869</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.113***</td>
</tr>
<tr>
<td>Ln Total Capital-labor ratio</td>
<td>δ1</td>
<td>(0.060)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3.502)***</td>
</tr>
<tr>
<td>Ln Total Employee Training Expenses</td>
<td>δ2</td>
<td>(0.009)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.783)*</td>
</tr>
<tr>
<td>Ln Total Level of Higher Education</td>
<td>δ3</td>
<td>(0.186)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.978)**</td>
</tr>
<tr>
<td>Ln Total Secondary Education Level</td>
<td>δ4</td>
<td>(0.129)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.824)***</td>
</tr>
<tr>
<td>Ln Total Wage Rate</td>
<td>δ5</td>
<td>(0.138)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(12.121)***</td>
</tr>
<tr>
<td>Ln Total ICT Expenditure</td>
<td>δ6</td>
<td>(0.010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.128)***</td>
</tr>
<tr>
<td>Ln Total DFSME</td>
<td>δ7</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.784</td>
</tr>
</tbody>
</table>

Note: *, ** and *** represent the significance at the level of significance 10%, 5% and 1%

In Table 1, the negative values obtained from the results of the analysis indicate that when there is an increase in the variables, there is also a reduction in the TE of the food manufacturing industry. Conversely, the positive values indicate an increase in the TE level of a firm. The findings of the study revealed that the factors that are not significantly correlated with TE in the food manufacturing industry in Malaysia are employee training expenditure, level of higher education, and total ICT expenditure.

The capital–labor ratio is negative and significant against TEs. This indicates that this factor has a positive impact on the level of TE in the food manufacturing industry in Malaysia. If the value of the capital–labor ratio is further enhanced, the food manufacturing industry in Malaysia will become more efficient. Moreover, the capital–labor ratio can further optimize production in the food manufacturing industry. This is further supported by a study conducted by Stevens and Kneller (2003), who stated that the capital–labor ratio is significantly correlated with TE.

The ratio of employees with higher and secondary levels of education was found to be significantly correlated with TE. This indicates that the higher the ratio of employees with secondary level of education, the higher the level of technical competence of the food manufacturing industry. The previous studies conducted by Rahmah and Norlinda (2008) and Ajibefun (2008) reported that school year and education have a positive correlation with the level of technical competence of an industry.

Conversely, wage rate was also found to be significantly correlated with TE. Based on the Economic Report 2017–2018 by GDP stated the Salary and Wage Survey Report 2016 by the Department of Statistics Malaysia showed that the average monthly salary and wages received by employees increased 6.5% to RM2,463 compared to 2015 which was RM 2,312 equivalent to 5.4%. This indicates that firms tend to increase the amount of wages to increase employee motivation and in turn increase TE.

Total ICT expenditure was also found to have a significant negative relationship with the TE of the food manufacturing industry in Malaysia. Liew, Mohd Noor, and Tee (2012) stated that the innovation and formulation of the ICT strategic plan need to be performed to improve the TE of an organization.

5. DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

This study aimed to examine the technical efficiency (TE) level and analyze the determining factors of technical inefficiency of the food manufacturing industry in Malaysia. This study involved 1740 firms, and the data used were obtained from the DOS in 2015. The translog production function was employed to determine the level of TE and the determining factors of firm inefficiency. Overall, the level of TE of the food manufacturing industry in Malaysia is high, which is 0.779. Subsequent results indicated that the determining factors of TE include the ratio of capital labor, ratio of employees with high and secondary levels of education, information and communications technology (ICT) expenditure, training expenses, and wage rates, which play
a significant role in reducing the inefficiencies of firm. In terms of policy implications, this finding emphasizes that the TE level of the food manufacturing industry still needs to be further improved, particularly the determining factors that can significantly increase the firm’s production. First, to produce trained and skilled employees, a sufficient level of education needs to be provided. Emphasis should be placed on the improvement of the skills and capabilities of the employees in several areas, such as leadership, engineering, quality, and cost management. This can help the industry reduce the dependency on low-skilled employees, thus creating a knowledgeable workforce. Second, the transfer of technology and the changes in the role of policy makers are required to control the innovation system of a firm to enhance its competency and enable it to grow. Hence, the increase in the investment in ICT expenditure should be continued as it helps the firm increase its business prospects as well as its efficiency and productivity. Third, training for employees is a long-term asset that can enhance the skills and capabilities of competitive employees. Finally, to motivate and improve efficiency and productivity in order to increase the amount of output, the firm should increase wage rates among workers.

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We are deeply indebted to the Department of Statistic Malaysia (DOSM) the necessary data and provide permission for this research. Authors acknowledge Ministry of Higher Education, Department of Statistic Malaysia, Universiti Tun Hussein Onn Malaysia (UTHM) and Universiti Kebangsaan Malaysia (UKM) for providing the necessary funding, facilities, and assistance. This research was supported by Registrar Universiti Tun Hussein Onn Malaysia and Contract Grant UTHM-H517 by Research Management Centre Universiti Tun Hussein Onn Malaysia.

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EXPLORING THE AWARENESS, INTENTION, AND BEHAVIORAL DETERMINANTS OF WATER CONSERVATION AMONG DOMESTIC CONSUMPTION IN MALAYSIA

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² Centre for Environmental Sustainability and Water Security (IPASA), University Technology Malaysia (UTM)

ABSTRACT

This research attempt to understanding household awareness, intention, and behavior towards water conservation in Malaysia. Next, it is to examine the attitudes towards water-efficient appliances and water-saving practices among domestic consumption. A fieldwork survey has been conducted consist of 571 from the head of households in February and March 2020. The descriptive analysis and multiple regression have been employed. The findings revealed that the households aware of their water usage to improving water conservation. The majority of respondents, 74% in Johor and 72.7% in Terengganu heard about water conservation. The sources of information about water conservation from the internet are estimated at 71.6% and 50.5%, respectively. They also intend to install the water-efficient installation for curtailment behavior to conserve water. The determinants of water conservation comprised of gender, age, income, and numbers of households. These findings are useful to the policymaker to develop the policy and to fit the appropriate program for educating the community to conserve water in their daily activities.

KEYWORDS: awareness, intention, behavioral, water conservation
TRACK 1D ACCOUNTING
MANAGING WASTE SUSTAINABLY: THE CASE OF FRESHAIR

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ABSTRACT

Waste management related issues, mostly due to the insufficient dumping sites, and the inefficient collection and disposals, have been considered as one of the most serious problems confronting developing countries, including Malaysia. The increasing population is putting much pressure on the waste management system, with regards to collection and disposals of waste which, if not properly managed, would result in environmental and health issues. Hence, this study seeks to understand the practice of waste management strategies of FreshAir, one of the concessionaires appointed by the Federal Government of Malaysia to manage solid waste. Public survey was conducted to investigate the awareness and challenges faced by FreshAir. Further, in-depth interviews were held with key people of FreshAir to gather primary data. Through this study, the researchers gain more insights on the processes and operations of FreshAir in managing solid waste. The findings provide empirical evidence on strategies that would best work for, or that would optimize the effectiveness of a waste management system. Among the strategies adopted by FreshAir include being more costs efficient, for example in transporting waste to landfill and the use of temporary hub to reduce transportation costs. The challenges faced by FreshAir in efficiently managing solid waste mainly comes from the increased operating costs and the lack of awareness and cooperation among the households, especially with regard to waste minimization and waste separation. The findings would help policy makers to set out, especially on waste minimization and waste separation strategies, for sustainable development goals, which in turn helps to prevent diseases, to improve public wellbeing, and to ensure clean and attractive Malaysia.

KEYWORDS: Sustainability, solid waste management, strategy, case study.
ANALYSIS OF RAPID EXPANSION-COMPANY VALUE BY VARIOUS VALUATION METHODS: A CASE STUDY

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ABSTRACT

This study aims to determine the value of rapid expansion-company. Rapid expansion is the next stage after startup, yet still struggle with their future condition. Information that is required in most used valuation methods is hard to find in these kinds of companies. The rapid expansion company for this case study is PT ASP, established ten years ago but just record their revenue in the last two years. Even in this current condition, PT ASP already gets some acquisition offers. To considering this offer, firstly PT ASP needs to know their valuation. Currently, PT ASP only uses revenue forecasts to determine the company value. This method is less accurate due to PT ASP’s problem in determining the suitable price of their service (mispricing). This study using various valuation methods that suitable for a rapid expansion company. Various valuation methods that used in this study consists of not only valuation method which generally used such as Discounted Cash Flow, but also alternative valuation methods such as Venture Capitalist and First Chicago. This study also did analyze of company’s activities using content analysis. These analyze for knowing any variables which affect the company's growth (source of value). The result of this study is all these valuation methods that are used are compatible for a rapid expansion company. The analysis is also shown that Discounted Cash Flow’s value is lowest than the other two alternative methods. Furthermore, this study shows software product, service of cloud, human capital, and portfolio of the client affect company’s growth.

KEYWORDS: Rapid Expansion, Source of Value, Valuation Method.

1. INTRODUCTION

Company valuation analysis can vary depending on the phase of the company. Valuation issue is grouped based on perspective and characteristic of the company's phase, consisting of the start-up, rapid expansion, high growth, mature growth to the decline (Damodaran, 2012). Achleitner (in Reinfeld, 2018, p. 05) defines the start-up as the initial stage of a business cycle with a high level of innovation and extraordinary growth potential, differentiating it from other companies. Managing Director Google Indonesia predicts Indonesia’s digital economy will reach 100 billion US dollars, a four-fold growth in 2025 (Nurfadilah, 2018). The company with digital-based usually already have a valuation based on their prospects, even though they have not earned real income yet. Company value based on prospects applies to a determination of the start-ups and the still-developing companies or rapid expansion.

PT ASIA SURYA PERSADA (ASP), as the rapid expansion company, is considering an acquisition offer. As with other finance processes, valuation has a vital role in these acquisition processes too (Damodaran, 2012). Currently, PT ASP only determines valuations based on estimated future earnings. However, PT ASP has problems in determining the value of their service (mispricing). PT ASP’s operating activities are related to the ERP system’s application based on the system user's need. Companies with a wide variety of activities (in terms of product differences and service quality) have the potential for a large “error” margin (Singh, Shelor, Jiang, & Klein, 2004). Based on rapid expansion-company's condition, internal and external information is still very limited (Damodaran, 2012). The discussion in this research is related to the alternative method to determine the value of PT ASP. As an alternative method, firstly PT ASP is asked how companies’ decisions and conditions related to valuation analysis along with any acquisition offers. The following is what the PT ASPs’ director and manager said:

“... we can’t determine the valuation properly for some reasons. Such as assets and intangible assets that we use still not generate revenue nor Return on Asset optimally. Although our goal in 2019 can be reached, there is some big project that must be delayed and need improvement continuously. Not only cause of the pandemic, but our capacity also still not reach 50%. For example, the working hour that fail to develop in the last three years.” – PT ASPs’ director.

“.... Well even in one or two last year, we ever get the acquisition offer from a big company with two-digit billions offer…” – PT ASPs’ manager.
The interview quotation above shows how PT ASP struggle with their limitation, yet they already get the acquisition offer even in that current condition. To determine the company’s valuation properly, this research using various valuation methods relevant to these company’s condition. Rescher (1969) states that "Valuation as of a comparative assessment or measurement of something concerning its embodiment of a certain value" (Andriessen, 2004, p. 10). Valuation is the process of determining the fair market value of a company in the national context, which includes 1) time-specific, 2) no negotiation, and 3) not exposure to the open market (Divestopedia, 2016). Undeveloped companies may not generate significant income, but these companies have sometimes generated high valuations for their activities (Damodaran, 2012). Differences in the characteristic such as information and source of values company can affect the result of the company's value analysis.

Each valuation method uses a unique approach in its analysis (Reinfeld, 2018). (Pekař, 2017) mentions the reasons why traditional valuation methods cannot correctly determine a company's value and find the alternative variables that should be included in the valuation method. The traditional valuation methods mention in the past result include The Discounted Cash Flow and The Relative Valuation. The Relative Valuation determines a company's value by utilizing similar companies as a comparison, which is selected based on size, growth, margin, asset intensity, and risk (Kumar, 2016). The basis of this method is not following the conditions of rapid expansion-company. Meanwhile, The Discounted Cash Flow utilized the basic assumptions of the cash flow projection, which is also the source of value of the rapid expansion company. The Discounted Cash Flow method uses the Present Value of the expected cash flow in the future (Damodaran, 2012).

Several previous studies have adapted the basic analysis of The Discounted Cash Flow into various scenarios. This analysis method is known as The First Chicago, an alternative in determining a certain company's value like a start-up (Catty, 2012: Reinfeld, 2018: Subroto & Sukarno, 2019). Although, PT ASP is not a start-up company, as a rapid expansion-company, its condition cannot be predicted with precision, such as a company with a stable condition. In addition to The First Chicago, Reinfeld (2018) also provides another alternative method, i.e., The Venture Capital. The Venture Capital determines a young venture's value based on the company's venture capital (Damodaran, 2012). This method follows PT ASP's condition, which only uses internal sources of funding, consisting of capital and retained earnings. The alternative method like The Venture Capital is the most suitable substitute for obtaining the relevant output of valuation (CFA Institute (in Reinfeld, 2018)).

Not only identifying the valuation of a company but identifying the source of the company's value is also sufficient for success in investing and managing the company's assets (Damodaran, 2012). Various previous studies have also explained how various factors can affect a company’s performance and value. Knott, Bryce, & Posen (2003) discovered that the accumulation of stock assets (including intangible assets like reputation and R&D) contributed significantly to its performance. Branding strategies show a positive impact on the correlation between corporate value strategy and the intangible value for industry companies (Rao, Agarwal, & Dahloff, 2004). Investors and analysis spent countless time and effort to determine the company's value which owned large amounts of intangible assets (Brynjolfsson, Hitt, & Yang, 2007). Innovative services such as internet-enabled services innovativeness (e-innovativeness) and people-enabled service innovativeness (p-innovativeness) provide value to services companies rather than non-service companies (Dotzel, Shankar, & Berry, 2013). Human capital (Devkota, 2014) and intellectual property along with intangible assets (Karius, 2016) are also known to influence determining a company's value. Each company has a different source of value from other companies, depending on their needs and circumstances. Companies with high intangible assets, like 'dot-coms' companies, will have flawed valuation if it uses an inappropriate valuation method (Lie et al., 2018).

2. METHOD

This study reveals a phenomenon that is associated with various related literature. The research was conducted using case studies to explore the phenomenon thoroughly. Case studies are particularity and complexity techniques that aim to understand each occurrence of a significant pattern (Stake, 1995). The case method is the initiation along with the comparison of opinions for studies of the differences and similarities in an event (Ellet, 2007). Referred to Ellet (2007), the case is a verbal representation of reality by including significant problems within it. The case study is a direct observation of an event being studied, along with interviewers of the parties involved (Yin, 2014).

This study focuses on the phenomenon of start-up and similar companies like rapid expansion-company that are currently developing in Indonesia. PT ASIA SURYA PERSADA (ASP) is one of the rapid expansion companies in Indonesia. This company which operated in Kepulauan Riau, Batam, one of Indonesia's largest industrial business development sites, gets tax allowance such as free Value-Added Tax (Peraturan Menteri Keuangan Republik Indonesia Nomor 171/PMK.03/2017, 2017). The research request is submitted to the research PT ASP along with the research proposal which is conveyed through the social media contact of PT
ASP's Director. The research is carried out after the company's confirmation is granted. The confirmation which is given related to the data that can be provided for research and interviewees who are PT ASP's Director and Manager.

In the process of data collection and research analysis, mixed methods are employed with several kinds of the research approach. Johnson & Onwuegbuzie (2004) defines "Mixed Methods Research" as a study that combining quantitative and qualitative research techniques, methods, approaches, concepts, even language. Meanwhile, Yin (2014) defines Mixed Methods Research for the same research question, collects complementary data, and produces counterpart analysis. Due to the company's condition which is rapid expansion and confidential (private), this research uses primary data and secondary data. Primary data is the form of information that directly obtained from the company's management which not available to the public like the financial statements and the information of business process. Meanwhile, secondary data is the form of general information is used in the valuation method analysis.

The required data is obtained by various approaches such as interviewing, content analysis, and internet-based. Content analysis is a research technique that converts an article into a specific context to produce valid conclusions (Krippendorff, 2004). After the data has been collected, the data will be processed for valuation analysis as determined the factors that affect the company's growth. Valuation analysis will use various valuation methods such as the traditional valuation method that is commonly used which is The Discounted Cash Flow Method and the alternative valuation methods from some previous research which is Venture Capital Method and First Chicago Method. Meanwhile, the company's growth factors are traced based on the company's activities by using a content analysis approach.

3. RESULT AND DISCUSSION

PT ASIA SURYA PERSADA (ASP) is a rapid expansion-company with business activities in consulting services to implement ERP system (as ERP Consultant). Currently, the company only determines the valuation based on the estimated income in the future. Meanwhile, the company's financial statement is also limited to income statements and statements of financial reports for the last two years. The company's funding sources only come from capital and retained earnings. Even though the company has recorded a profit for the current year, this amount has not yet returned the financial statement's balance and still record loss from the previous years (Table 1).

<table>
<thead>
<tr>
<th>Equity</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Stock</td>
<td>750</td>
<td>750</td>
<td>750</td>
</tr>
<tr>
<td>Retained Earnings from Current Year</td>
<td>(13)</td>
<td>15</td>
<td>135</td>
</tr>
<tr>
<td>Retained Earnings from Previous Year</td>
<td>(150)</td>
<td>(164)</td>
<td>(149)</td>
</tr>
<tr>
<td>Total Shareholder's Equity</td>
<td>586</td>
<td>601</td>
<td>736</td>
</tr>
</tbody>
</table>

Source: Financial Statement of PT ASP

From the current financial statement, the projected growth for the next five years (2020 – 2024) is made based on an assumption from management decisions that are adjusted to industry information and revenue information from the last two years until current revenue (Table 2). Since industry report is difficult to find in Indonesia, companies use The Industry of Information and Technology Report for the year 2020 that issued by Panorama Consulting Group (2020). The industry report is adjusted with information on market conditions from various communities like professional and MSMEs communities as a reference for estimates. Other information needed for valuation analysis was obtained from various company sources and the public website (Table 3).

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q1</td>
</tr>
<tr>
<td>Revenue</td>
<td>977</td>
<td>1,169</td>
<td>240</td>
</tr>
<tr>
<td>Growth Rate</td>
<td>20%</td>
<td>25%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Financial Statement of PT ASP
Table 3: Basic Assumptions Used in The Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>Basic Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT's Growth</td>
<td>300%, 100% - 25%, 21%</td>
<td>Based on the company management decision based on a growth from the previous year, which is still increasing until current data (Table 2) and The Industry of Information and Technology Report for the Year 2020 (Panorama Consulting Group, 2020). Expense growth is analyzed based on its effect on revenue.</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>7% along 3%</td>
<td>Based on the company's financial statement histories.</td>
</tr>
<tr>
<td>Depreciation</td>
<td>4.49%</td>
<td>Based on the company's financial statement histories.</td>
</tr>
<tr>
<td>Tax</td>
<td>22%</td>
<td>It's assumed that the company has been subject of income tax (Peraturan Pemerintah Pengganti Undang-Undang Republik Indonesia Nomor 1 Tahun 2020, 2020).</td>
</tr>
<tr>
<td>Cost of Debt</td>
<td>0%</td>
<td>There is no funding from third party</td>
</tr>
<tr>
<td>Cost of Equity</td>
<td>6.94%</td>
<td>CAPM</td>
</tr>
<tr>
<td>β</td>
<td>0.0402849</td>
<td>A similar company listed on The Indonesia Stock Exchange, IDX</td>
</tr>
<tr>
<td>Rm – Rf</td>
<td>Rm = 9.67% Rf = 6.83%</td>
<td>Market-Risk-Premia.com (2020)</td>
</tr>
<tr>
<td>Stable Growth</td>
<td>5.74%</td>
<td>Government yield (5Y) (Trading Economics, 2020)</td>
</tr>
<tr>
<td>Rate beyond Forecast</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data processed from multiple sources

3.1 Valuation Analysis

The various valuation method in this study uses the same revenue growth that is adjusted with each method's process. The determination of the growth rate follows the basic principles, which is:

1. Growth at the early projection year was not much different from the growth at the previous years.
2. The rate of revenue growth will decrease following the number of revenues that increase (Damodaran, 2012).

Common size analysis to determine the projected expense growth that will be adjusted based on variable costs and fixed costs. Project costs, employee salaries & wages, google cloud costs, and income tax costs are components of costs directly related to company revenue (known as variable costs). Apart from these costs, other costs are assumed to be fixed for the following years (known as fixed costs).

PT ASP's income is classified as MSMEs with the small business category, particularly an annual sales turnover of IDR 300,000,000 to IDR 2,500,000,000. A company's income that is below IDR 4,800,000,000 for one year is subject to an income tax rate of 0.5% for three years (Peraturan Pemerintah Republik Indonesia Nomor 23 Tahun 2018, 2018) followed by an income tax rate of 25% for the following period (Undang-Undang Republik Indonesia Nomor 36 Tahun 2008, n.d.). PT ASP has been operating for more than three years; thus, an income tax rate of 25% is applied to the company's income. These rates are adjusted to the latest regulations, which reduce the tax rate to 22% in effect from 2020 (Peraturan Pemerintah Pengganti Undang-Undang Republik Indonesia Nomor 1 Tahun 2020, 2020).

3.1.1 The Discounted Cash Flow Method

The Discounted Cash Flow method uses the projection of FCFF for the next five years as the basis for analysis. FCFF is EAT added by depreciation and subtracted by the amount of capital expenditure and changes in networking capital (Damodaran, 2012). This valuation method assumes that the five-year revenue growth will double from the previous year, based on the increase in revenue project for 2019 which will continue in the next few years. Revenue growth in 2019 was recorded at eight times higher than in 2018. This growth projection is estimated by some adjustments mention before with the research assumptions to estimate the FCFF projection for the next five years. The company’s valuation is the total discount of FCFF projection with a rate of 6.94%, which is IDR 54,957,577,591.

3.1.2 The Venture Capital Method

Similar to The Discounted Cash Flow method, The Venture Capital method uses the basis of the company's growth with double growth compared to the previous year. This study uses a general framework of the Venture
Capital method (Damodaran, 2012) which is adjusted to the PT ASP’s condition. In the step for determining sustainable operating margin in stable growth, this study did some adjustment. PT ASP’s revenue has increased more than in the previous year, which makes the operating margin larger than some last year. This condition is totally different from similar companies that have been listed on the stock market. The company has gone through a rapid expansion phase; thus, the operating margin has increased steadily. Therefore, to determine the EBIT projection, rather than use rate operating margin, this study prefers to use revenue and expense projection for the next five years.

The estimated reinvestment is obtained from the estimated revenue growth compared to the sales/capital ratio of 81.51% in 2019. Besides, this method uses the same assumption from Discounted Cash Flow to determine Rwacc dan growth rate stable. Meanwhile for expected investment rate is adjusted with the amount of reinvestment in last year. This condition is totally different from similar companies that have been listed on the stock market. The company has gone through a rapid expansion phase; thus, the operating margin has increased steadily. Therefore, to determine the EBIT projection, rather than use rate operating margin, this study prefers to use revenue and expense projection for the next five years.

In addition to the FCFF determination, the determination of terminal value and valuation analysis uses the same basis as The Discounted Cash Flow method. With this estimated FCFF projection, it is recognized that the valuation of PT ASP is IDR 161,873,722,026.

3.1.3 The First Chicago Method

The last alternative valuation method is The First Chicago Method. This method uses the basis of The Discounted Cash Flow methods which is varied into various conditions, i.e., worst, normal, and best. Variations in these three conditions consist of a different basis for growth projections. The difference in rate growth is in the worst and best conditions. Meanwhile, normal conditions use the same rate growth projections as the Discounted Cash Flow method and Venture Capital method, particularly double growth from the previous year. The worst condition’s rate growth is based on the condition of current revenue in 2020 which is 27%. The best condition’s rate is assumed to being a four-fold growth from the previous year. This rate growth is based on market growth in The Industry of Information and Technology Report for the year 2020 (Panorama Consulting Group, 2020). It is assumed that market growth is in line with the company’s demand; thus, company growth will also increase.

From the difference in the basic rate growth, valuation for each condition has various results from IDR 1,514,343,075 in the worst condition (Table 4) to IDR 204,219,413,083 in the best condition (Table 6). The valuation of these three conditions will be averaged based on the percentage probability of occurrence to determine the company’s value. The amount of revenue in 2020 could still increase, therefore the possibility of the worst condition occurring will be lower than the other two conditions, with the assumption of 20%. Normal growth conditions are closer to the company’s current condition than the best conditions. Therefore, it is assumed that the probability of normal condition is higher than the best condition with a probability of 50% along 30%. From the average percentage value of the three conditions, it is known that the PT ASP’s value is IDR 89,047,481,336.

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020E</th>
<th>2021E</th>
<th>2022E</th>
<th>2023E</th>
<th>2024E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>152</td>
<td>149</td>
<td>226</td>
<td>316</td>
<td>418</td>
<td>531</td>
</tr>
<tr>
<td>Tax (22%)</td>
<td>116</td>
<td>176</td>
<td>247</td>
<td>326</td>
<td>414</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>50</td>
<td>62</td>
<td>77</td>
<td>96</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>(102)</td>
<td>(54)</td>
<td>(67)</td>
<td>(82)</td>
<td>(99)</td>
<td></td>
</tr>
<tr>
<td>Change in NWC</td>
<td>96</td>
<td>157</td>
<td>232</td>
<td>315</td>
<td>409</td>
<td></td>
</tr>
<tr>
<td>FCFF</td>
<td>(32)</td>
<td>27</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Terminal Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,028</td>
</tr>
<tr>
<td>6.94%</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>PV FCFF</td>
<td>(30)</td>
<td>24</td>
<td>21</td>
<td>19</td>
<td>1,467</td>
<td></td>
</tr>
<tr>
<td>Value of Firm</td>
<td>1,501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 5: Normal Condition Valuation (IDR Million)

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020E</th>
<th>2021E</th>
<th>2022E</th>
<th>2023E</th>
<th>2024E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>152</td>
<td>388</td>
<td>872</td>
<td>1,508</td>
<td>2,147</td>
<td>2,652</td>
</tr>
<tr>
<td>Tax (22%)</td>
<td>302</td>
<td>680</td>
<td>1,176</td>
<td>1,675</td>
<td>2,068</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>50</td>
<td>76</td>
<td>118</td>
<td>185</td>
<td>275</td>
<td></td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>(163)</td>
<td>(126)</td>
<td>(202)</td>
<td>(283)</td>
<td>(354)</td>
<td></td>
</tr>
<tr>
<td>Change in NWC</td>
<td>182</td>
<td>496</td>
<td>913</td>
<td>1,380</td>
<td>1,811</td>
<td></td>
</tr>
<tr>
<td>FCFF</td>
<td>7</td>
<td>386</td>
<td>583</td>
<td>762</td>
<td>885</td>
<td></td>
</tr>
<tr>
<td>Terminal Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>74,004</td>
<td></td>
</tr>
<tr>
<td>6.94%</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>PV FCFF</td>
<td>6</td>
<td>338</td>
<td>477</td>
<td>583</td>
<td>53,554</td>
<td></td>
</tr>
<tr>
<td>Value of Firm</td>
<td>54,958</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 6: Best Condition Valuation (IDR Million)

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020E</th>
<th>2021E</th>
<th>2022E</th>
<th>2023E</th>
<th>2024E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>152</td>
<td>1,991</td>
<td>4,346</td>
<td>6,546</td>
<td>8,589</td>
<td>10,483</td>
</tr>
<tr>
<td>Tax (22%)</td>
<td>1,553</td>
<td>3,390</td>
<td>5,106</td>
<td>6,700</td>
<td>8,177</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>50</td>
<td>114</td>
<td>220</td>
<td>366</td>
<td>544</td>
<td></td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>(326)</td>
<td>(281)</td>
<td>(421)</td>
<td>(561)</td>
<td>(702)</td>
<td></td>
</tr>
<tr>
<td>Change in NWC</td>
<td>996</td>
<td>2,188</td>
<td>3,324</td>
<td>4,400</td>
<td>5,419</td>
<td></td>
</tr>
<tr>
<td>FCFF</td>
<td>607</td>
<td>1,316</td>
<td>2,001</td>
<td>2,665</td>
<td>3,301</td>
<td></td>
</tr>
<tr>
<td>Terminal Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.94%</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>PV FCFF</td>
<td>568</td>
<td>1,151</td>
<td>1,636</td>
<td>2,038</td>
<td>198,827</td>
<td></td>
</tr>
<tr>
<td>Value of Firm</td>
<td>204,219</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 3.2 Source of Value

The determinants of a company's growth can be observed from activities related to revenue. PT ASP offers services as an ERP consultant and ERP system in one package (ERP consultant & system) or separately (ERP consultant / ERP system). The services offered also include cloud data storage based on client needs. Clients can use PT ASP's services in the various period project such as short-term, long-term, and sustainable projects. From these activities, the determinants of a company's growth are classified into four factors, which are (1) ERP software, (2) cloud, (3) human capital, and (4) portfolio of a loyal customer.

Improvements in ERP software must accompany increased company activities; so that the services offered can adjust with client needs. The target of the client's number of PT ASP is not limited to a large client, but it prefers to the middle to lower clients (MSMEs) more. An ERP system to support any various of MSMEs type that has an affordable price is one of PT ASP's strategy to increase the company's revenue. The differences of client needs require a different approach to the ERP system that can support their activities. The increase in ERP software will be followed by an increase in cloud needs as a data storage. PT ASP generates revenue from leaseback cloud which is obtained from a cloud provider company as a third party. Under the MoU agreement, PT ASP has the responsibility to control the use of cloud which is leaseback as part of the service. The lease of cloud in client perception is limited according to each storage of client access. This restriction access gives PT ASP control over the economic benefit of leasing the cloud. From the information in Income Statement for Year Ended 2018 and 2019, the cost of the cloud as part of operation costs increased from IDR 30,238,374 to IDR 68,733,756.

The development of ERP software comes along with ERP consultant's improvement and human resources who are responsible for the system development. PT ASP's relation with their human capital can be noticed from the employment contract, which is valid for two years per contract. However, PT ASP reporting their ERP system which includes human capital responsible for system development into separate another company report, separate from the report that shows in this research. The company's human capital is classified as development, marketing, and outsourcing. The cost related to these activities is recorded as training costs, salaries, commissions, bonuses, and consultant accommodation in the company's income statement.

Aside from its correlation with human resources, PT ASP also needs to maintain good relationships with their current clients. As an ERP consultant, PT ASP interacts directly with the client so that they know every diversity of the client's needs and activities well. Every project that is carried out has a chance of being
sustainable as long PT ASP's resources are adequate. This sustainable opportunity influences the portfolio of a loyal customer. These portfolios and customer satisfaction are one of the sources for the company's marketing. The number of clients that being PT ASP's responsibility can attract new potential clients. PT ASP also gets the opportunity to get the new client from the current client's partners. It is assumed that long-term relationships with sustainable and profitable clients can generate more cash flows than from short-term relationships (Stahl, Matzler, & Hinterhuber, 2003).

4. CONCLUSION

This study aims to determine the valuation of PT ASP by using various valuation methods that relevant to the rapid expansion phase. Due to this phase, only three valuation methods can be used in the research analysis such as The Discounted Cash Flow method, Venture Capital method, and First Chicago method. From the analysis of these three methods, it was discovered that the range of company's valuation is IDR 50 Billion to IDR 160 Billion. The valuation method commonly used is Discounted Cash Flow, which shows a lower estimate of the valuation than the two alternative valuation methods. Analysis for company activities is also recognized that several determinants that affect the company growth. The amount of company's revenue is strongly influenced by these four factors like ERP system, human capital, cloud storage and portfolio of loyal customer. Currently, the company only records the cost of these factors as project and operating expenses. Apart from being an expense, companies have a choice to record these factors as intangible assets following PSAK 19: Aset Takberwujud (Ikatan Akuntan Indonesia, 2020) or other accounts along it fulfill the required criteria. Management's decisions on intangible assets are voluntary, although restrictions on recording intangible assets can reduce the quality of financial statements and any information for the investor (Wyatt, 2005).

ACKNOWLEDGMENTS

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REFERENCES


Management (EIKV). Luxemburg.

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Edward Tanujaya is a lecture at the Department of Accounting, Faculty of Economics, Universitas Indonesia. His teaching areas include several subjects, as Financial Accounting, Management Accounting, Finance & Investment, and International Business. Edward obtains his undergraduate in Accounting from the Faculty of Economics and Business of Universitas Indonesia and his master's in International Business from Rijkuniversitet Groningen in 2001. In terms of professional experience, Edward is also Director of Member and Partner Service Division of Institute of Indonesia Chartered Accountant (Ikatan Akuntan Indonesia – IAI). He also holds Chartered Accountant Indonesia (CA IAI), ASEAN Chartered Professional Accountant (ASEAN CPA), Associate Chartered in Management Accountants – Chartered Global Management Accountants (ACMA – CGMA) from CIMA (UK). His research interests involve Corporate Valuation, Accounting Competencies and Education, and Financial Accounting Implementations.
ANALYSIS OF QUALITY COST COMPOSITION CALCULATION IN MANAGEMENT STRATEGY: A CASE STUDY IN ELECTRICAL EQUIPMENT COMPANY

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ABSTRACT

The purpose of this research is to analyze quality cost management in an electrical equipment company. The root of the problem in this research is there are lots of costs incurred due to poor quality products which will affect all aspects of the organization. This research will explain how to identify the quality costs in the correct way, how to calculate the proportion of the quality cost, profit trend during the implementation of quality cost management, and how to make a good quality cost management strategy for the next few years. This is qualitative research with a case study strategy. This research is using interviews and documentation as to its research instruments. The result of this research is quality cost management on an electrical equipment company is not as effective as expected. Although the quality costs have been decreased in the last 5 years, yet the appraisal cost has a bigger composition compare to the prevention costs. The electrical equipment company also has not able to identify and categorize quality costs and the profit trend during quality cost management is not good either. This electrical equipment company also wants to reduce its internal failure cost for the next few years. The results of this research are expected to provide benefits for PT T and other companies in evaluating quality cost management.

KEYWORDS: Quality, Quality Cost Management, Management Strategy, Profit.

1. INTRODUCTION

The reason why quality has been considered over the past decade is that the companies understood how high the cost would spend due to poor quality because of its dramatic cost implications and effects on all aspects of the organization (Neyestani, 2017). This statement is proven by some news in Indonesia. An insurance company says that the cost of repairing an electric car is 20 - 25 percent more expensive than conventional car repairs (CNN Indonesia, 2019). Besides, one of Indonesia’s cable associations said that the repair costs for submarine cables are Rp. 40 billion to Rp. 50 billion (Jatmiko, 2019). The amount of costs that must be spent to repair cables and electric cars is the reason why electrification equipment must have good quality. To be able to meet customer’s expectations, the company budgeted some costs to improving their product to a better level. This cost is called quality costs.

Quality Cost is associated with two subcategories of quality-related activities: control activities and failure activities (Hansen and Mowen, 2017). These activities will require some costs that cause the company’s expenses to increase. However, when companies spend more money on control activities and reduce failure costs gradually, they can reduce their quality costs in the future (Hansen and Mowen, 2017). Spending more cost on prevention activities is better because, in the appraisal stage, the company controls the tools and materials that they use so there will be no poor-quality product produced. Prevention costs, which initially increase then gradually decreased, explained that the quality of the product is good. So, the quality costs will no longer be needed. This is the reason why quality cost management is necessary.

Snieska et al. (2013), Prashar (2014) dan Malik et al (2016) stated that companies have to improve the quality of their products and services and simultaneously focus on the cost factor because they do not only have to satisfy the customers' needs and requirements concerning quality, but they also have to provide the products/services with the minimum cost (Psomas et al., 2018). Proper quality cost management will cause quality costs to be reduced to an acceptable level. If high-quality products are produced, then the company no longer needs to spend quality costs. The absence of quality costs will lead to an overall cost reduction. Cost reduction is an approach to improving the quality and controlling company spending (Neyestani, 2017). If the company’s expenses can be managed properly, it will have an impact on the profit received by the organization. The desire to improve the organization’s financial position is directly correlated with the quality improvement process (Sailaja, Basak, and Viswanadhan, 2015). The higher the quality of the products produced, the fewer quality costs are budgeted. The smaller quality cost budget will cause the organization's financial position to
increase. Therefore, an analysis of quality cost management is required to see whether the company’s quality cost management has been effective as well as the impact on their financial position. A well-planned quality cost management strategy will help the company increase its corporate value.

This research will conduct in one of the electrical equipment company in Indonesia. The reason why we choose this company is that this company has implemented quality control during the production process and also implemented quality cost management. Even though they implemented quality cost management, they still don’t know how to identify each cost and classified them into quality cost categories. They also do not calculate each of quality costs composition to see which cost should they spend less.

Not many studies have done some research about the calculation of quality costs’ composition and the planning of quality cost management strategy. So, this research aims to analyze the implementation of quality cost management on electrical equipment company by calculating the composition of each quality costs’ categories so it can be seen whether the quality cost management has been done well and as excepted as their plans. Another aim of this research is to plan its quality cost management strategy to a better strategy.

2. LITERATURE REVIEW

There are some definitions of quality. Quality is a thing that meets customer expectations (Hansen and Mowen, 2017). Quality is a subjective term for each sector where in general term, there are two meanings: 1) the characteristics of products or services that have the ability to meet or implied the needs and 2) a product or service free of deficiencies (American Society of Quality Control, 2013). According to Crosby (1979), quality is defined as “zero defects” and “conformance to specifications (Alzaydi et al., 2016). Quality is an assessment to see how fit the product or service to some standard and or criteria that have been specified to influence perceptions in the market (Prakash et al., 2017). Based on some definitions above, we can conclude that quality is an assessment for products or services to see whether they meet the specification so it can satisfy customer expectations.

The purpose of creating quality products or services is to fulfill customer expectations which will give an improvement to the organization’s performance. By putting quality into the organization’s management, it is expected to make some improvement in all aspects of the organization, to be better. To get quality improvements in all aspects, the company needs to implement new management. This management is called Total Quality Management (TQM).

Ross (1993) stated that TQM is an integrated management philosophy and set of practices that emphasize continuous improvement, customer fulfillment, reducing rework, long-term thinking, increased employee involvement and teamwork, process redesign, competitive benchmarking, team-based problem-solving, constant measurement of results, and closer relationships with suppliers (Powell, 1995). Kumar et al (2011) stated that TQM is a way for industrial management to improve the quality of their product or service and the efficiency of overall production and operation (Bouranta et al., 2019). The Total Quality approach refers to the “zero defect” standard (Hansen and Mowen, 2017). Based on some definitions above, we can conclude that TQM is a value that has been decreased into some practices that management keep to making continuous quality improvement, both improving on the quality of product/service or improving on overall organization’s operation.

It’s important to measure quality costs while implementing TQM (Agrawal, 2019). TQM implementation is aimed at improving the management quality, whether in product term or strategy term. A new product will have different phases, from the product development phase to the product refinement phase. During the product refinement phase, it’s necessary to monitor which activities are needed and not needed. Sower et al (2007) explained that for continuous improvement, it’s important for the organization to make a report on quality system activities and their effects on the organization’s finances to see their performances’ improvement and it’s also considered as a key to the Six Sigma approach to quality (Agrawal, 2019). Reports on quality activities and their costs must be applied during TQM implementation to monitoring value-added and non-value-added costs. These reports will help the organization to monitor and improving the product periodically as well as planning a good management strategy that will improve the organization’s financial performance. This will lead to the implementation of quality cost management.

Machowski and Dale (1998) stated that quality costs are the number of costs incurred to avoid and reduce defective product (Duarte, Low, and Schifauerova, 2017). Quality costs are costs that exist because poor quality may or does exist (Hansen and Mowen, 2017). Quality cost is the method used by the company to determine the extent to which resources will be used in the prevention of poor quality products (American Society for Quality Control, 2013). Based on the definitions above, we can conclude that quality costs are the cost incurred by organizations to create products that meet desired specifications.

The model that is often used in calculating quality costs is Prevention – Appraisal – Failure (PAF) model. Quality costs on the PAF model are divided into 4 categories. The first one is prevention costs. Prevention costs are costs incurred to prevent poor quality in the product or service being produced (Hansen and Mowen,
These costs are incurred in product planning and before production begins. Costs in this category are product or service requirements, quality planning, quality assurance, training, quality engineering, quality audits, field trials, and design review (American Society for Quality Control, 2013; Hansen and Mowen, 2017).

The second cost is appraisal costs. Appraisal costs are costs incurred to detect whether the quality of products is maintained and fulfill customer expectations (Hansen and Mowen, 2017). These costs are incurred during the production process so the product will meet the organization's standards. Costs in this category are the inspection of materials, supplier rating, packaging inspection, supervising appraisal activities, product acceptance, process acceptance, field testing, continuing supplier verification, and outside endorsements (American Society for Quality Control, 2013; Hansen and Mowen, 2017).

The third cost is internal failure costs. Internal failure costs are costs incurred because the product does not conform to specifications or customer needs. These costs incurred when a poor-quality product is detected but not yet sent to the customer. Costs included in this category are waste, scrap, rework, failure analysis, reinspection, retests, and design changes (American Society for Quality Control, 2013; Hansen and Mowen, 2017).

The last cost is external failure costs. External failure costs are costs incurred because the products do not satisfy customer needs or fulfill requirements after the products have been delivered to the customer (Hansen and Mowen, 2017). These costs can be devastating because it will damage future sales. Costs in this category are lost sales, returns, warranties, discounts due to defects, repairs, complaint adjustments, customer dissatisfaction, and lost market shares (American Society for Quality Control, 2013; Hansen and Mowen, 2017).

The general thumb for quality costs percentages is 15 to 20 percent of sales and 10 to 15 percent of production costs (American Society for Quality Control, 1990). According to the American Society for Quality Control (1990), quality costs can be reduced by increasing prevention costs, reducing appraisal costs, and take a direct attack on failure costs in an attempt to drive them to zero, as long there are root causes for each failure, causes are preventable, and prevention is always cheaper (Hansen and Mowen, 2017). This strategy is the reason why the organization needs quality cost management.

3. RESEARCH METHODOLOGY

3.1 Research Strategies

This research will use a case study strategy to analyze the phenomenon that wants to be written. The reason why researchers choose a case study is to analyze quality cost management more deeply and see whether the quality cost management is effective or not. This research will choose an electrical equipment company as the object because this object implementing quality control on their operational system.

3.2 Research Approach

This research is using a qualitative approach. The reason why researchers using the qualitative approach is because it can provide an accurate explanation about the quality cost management and want to get more accurate, precise, and detailed data.

3.3 Data Collection

Primary data will be the source of data in this research. The reason why researchers use primary data is that researchers want to see data that is not included in financial statements and want to see a direct response from the respondent.

This research will use the semi-structured interview and documentation as to its research instruments. Researchers will interview the production division to get an accurate and detailed image of their quality cost management. The number of interviewees involved in this research is one, which is the head of the production division. The interviews mostly through email and phone and we do some follow-up interviews to make sure the data we get is valid.

Researchers also requesting their sales report, production report, and quality costs report in the last 5 years to calculate their quality costs composition.

3.4 Data Analysis

This research will use descriptive analysis to analyze its data. The reason why researchers using descriptive analysis is because we want to explain how quality cost management is implemented on an electrical equipment company through the data that has been collected.
The researchers will analyze the interview to get the idea of quality cost management. Then, we calculate the document to see the composition of each quality costs category. Both of these analyses will interpret to see the accurate picture of quality cost management and also its strategy.

4. RESULT

The object has national and international certifications that implemented to their quality control. They make their product specifications based on customer needs and standards. They have a computerized system to maintain their quality control so the product making will fit the specifications and customer needs. They have work instruction placed in their place. At every stage of production, they have a supervisor to check employee’s performance during production and also checking if product quality is good and fitted with their standard. The supervisor must have 15 years of experience in manufacturing.

Although the object of research has implemented good quality control and has a well-computerized system and certifications that are following their product specifications, they have not yet identified their quality costs. They also do not calculate the composition of each quality costs category. In this research, we want to classify the quality costs and calculating them to see their quality cost management.

In the last 5 years, the costs incurred related to quality costs have the same components, namely auditing and evaluating supplier performance, quality training, design reviews, material inspection, product acceptance, field testing, scrap, rework, and customer claims. We will categorize them into 4 categories, based on Hansen and Mowen (2017).

<table>
<thead>
<tr>
<th>Table 1 : Quality Costs Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Categories</td>
</tr>
<tr>
<td>Prevention Costs</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Appraisal Costs</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Internal Failure Costs</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>External Failure Costs</td>
</tr>
</tbody>
</table>

Source: Author, has been processed (2020).

On prevention costs, the costs incurred are auditing and evaluating suppliers' performance, quality training, and design reviews. These three costs are suitable to be grouped into prevention costs because these costs are incurred when they have not started production to ensure the production plan will run smoothly.

For appraisal costs, the costs incurred are material inspection, product acceptance, and field testing. These costs are suitable to be grouped into this category because these costs are incurred to monitor the quality of the product so it meets the specifications, from the beginning of the production process to the end of the production process.

For internal failure costs, the costs incurred are scrap and rework. Scrap and rework are suitable for the category of internal failure costs because these costs are incurred when there are products that do not meet their specifications before they sent it to the customers so they can repair it and there are some leftovers from manufacturing.

For external failure costs, the costs incurred are customer claims. Customer claim costs are issued when there is a product that does not comply with specifications after the products have been delivered to the customer so the customer will complain to organizations.

Then, we will calculate the composition of quality costs.
Table 2: Quality costs composition (in Million Rupiah)

<table>
<thead>
<tr>
<th>Quality Costs Category</th>
<th>Quality Activities</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention Costs</td>
<td>Auditing and Evaluating Suppliers Performance</td>
<td>778</td>
<td>512</td>
<td>785</td>
<td>940</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Quality Training</td>
<td>265</td>
<td>174</td>
<td>263</td>
<td>309</td>
<td>327</td>
</tr>
<tr>
<td></td>
<td>Design Review</td>
<td>130</td>
<td>85</td>
<td>132</td>
<td>151</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>Total of Prevention Costs</td>
<td>1,173</td>
<td>771</td>
<td>1,180</td>
<td>1,400</td>
<td>1,485</td>
</tr>
<tr>
<td>Appraisal Costs</td>
<td>Material Inspecting</td>
<td>750</td>
<td>493</td>
<td>761</td>
<td>885</td>
<td>963</td>
</tr>
<tr>
<td></td>
<td>Product Acceptance</td>
<td>721</td>
<td>470</td>
<td>732</td>
<td>855</td>
<td>915</td>
</tr>
<tr>
<td></td>
<td>Field Testing</td>
<td>86</td>
<td>57</td>
<td>94</td>
<td>110</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Total of Appraisal Costs</td>
<td>1,557</td>
<td>1,020</td>
<td>1,587</td>
<td>1,850</td>
<td>1,992</td>
</tr>
<tr>
<td>Internal Failure Costs</td>
<td>Scrap</td>
<td>66</td>
<td>43</td>
<td>67</td>
<td>76</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Rework</td>
<td>87</td>
<td>61</td>
<td>94</td>
<td>106</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Total of Internal Failure Costs</td>
<td>153</td>
<td>104</td>
<td>161</td>
<td>182</td>
<td>199</td>
</tr>
<tr>
<td>External Failure Costs</td>
<td>Costumer Claim</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total of External Failure Costs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total of Quality Costs</td>
<td>2,883</td>
<td>1,895</td>
<td>2,928</td>
<td>3,432</td>
<td>3,676</td>
</tr>
</tbody>
</table>

Source: Author, has been processed (2020).

Then, the author makes the quality costs as a percentage of sales

Table 3: Quality costs as percentage of sales

<table>
<thead>
<tr>
<th>Quality Costs Categories</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention Costs</td>
<td>1.14%</td>
<td>1.02%</td>
<td>0.97%</td>
<td>0.90%</td>
<td>0.81%</td>
</tr>
<tr>
<td>Appraisal Costs</td>
<td>1.51%</td>
<td>1.35%</td>
<td>1.30%</td>
<td>1.19%</td>
<td>1.08%</td>
</tr>
<tr>
<td>Internal Failure Costs</td>
<td>0.15%</td>
<td>0.14%</td>
<td>0.13%</td>
<td>0.12%</td>
<td>0.11%</td>
</tr>
<tr>
<td>External Failure Costs</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Percentage of Quality Costs</td>
<td>2.80%</td>
<td>2.50%</td>
<td>2.40%</td>
<td>2.20%</td>
<td>2.00%</td>
</tr>
</tbody>
</table>

Source: Author, has been processed (2020).

Based on the table above, we can see the quality costs have been decreased every year. In 2015, the percentage of quality costs is 2.80 percent. In 2016, the percentage of quality costs is 2.50 percent. In 2017, the percentage of quality costs is 2.40 percent. In 2018, the percentage of quality costs is 2.20 percent. In 2019, the percentage of quality costs is 2.0 percent.

Electrical equipment company spent their money more on control activities (prevention and appraisal) rather than failure activities (internal and external failure). They spent much money on auditing and evaluation of suppliers' performance, material inspection, and process acceptance. They have reduced internal failure costs because their quality division always does some checking, whether on the finished product in the warehouse and the product during processing, for every 2 hours. This check is applied continuously so they can minimize these costs.

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The external failure cost is zero because there were no customer claims in these past 5 years. Electrical equipment can minimize these costs very well. The percentage of quality costs is below the general thumb that has been set by the American Society for Quality Control (2013), which is 15 to 20 percent of sales. With this analysis, we can conclude that the quality cost management that has been implemented by the electrical equipment company is operated well.

Even though quality cost management has a good implementation, but it still not perfect. An electrical equipment company investing more money on appraisal costs rather than prevention costs. Both of these costs are decreased as well. The electrical equipment company is focusing more on production rather than making a good production plan and preproduction. This is not in accordance with the American Society for Quality Control (1990) statement, where to reduce overall quality costs, the only way is increasing prevention costs, reducing appraisal costs, and take direct attack failure costs in an attempt to drive them to zero (Hansen and Mowen, 2017).

Profit trend during the implementation of quality cost management is not good either. The profit that has been received is always stable, which is around 12 billion Rupiah. This is because the electrical equipment company is still following sales in determining the value of production and quality costs. This proves that although the electrical quality equipment has implemented quality cost management, it does not guarantee that the profit received will be better.

The electrical company also making some strategies to reduce its overall quality costs. Their strategies are they want to do more quality training to their trainees and employees, do suppliers audit regularly to make sure their materials have good quality, and reducing their scrap and rework by do some check every 2 hours on their product, both in the warehouse and in the production period, to see if the product fits their standard and specification.

Based on these strategies, we want to make long-term quality cost management strategies so electrical equipment company can reduce their appraisal costs and increase their prevention costs in the next few years. For increasing prevention costs, it’s better to improve quality training for the interns and employees. The electrical equipment company also has to find new suppliers with better quality than old suppliers at the same price. The electrical equipment company should conduct the supplier's audit every 2 or 3 months. This will help to reduce the material inspection costs because the material has been checked and audited regularly to get superior quality material.

Electrical equipment company has to reduce its design review because most of their products are have a homogeneous design. Electrical equipment company can add other activities before start their production, such as quality reporting, creating quality circles, and quality planning before production.

For appraisal costs, the electrical equipment company has to reduce material inspection costs and product acceptance costs. These costs have the biggest composition in overall quality costs. If the electrical equipment company had invested expenses on searching higher quality material suppliers and suppliers audit, there is no need to inventing more costs on material inspection because the material quality was guaranteed.

If the electrical equipment company invested its costs on quality planning before production, the production will run smoothly as planned. The production will make a good quality product that has been planned during quality planning. There is no need to do sampling for finished goods to see whether the product meets their acceptable quality level. They can reduce their product acceptance costs by doing this.

Another reason why product acceptance costs have to reduce is that the electrical equipment company spending costs on field testing, resulting in double-checking on products that cause non-value-added activities during the production process.

Scrap and rework can be reduced for the next few years. The electrical equipment company has international and national certifications and they implemented them on their operational standard and work instruction. They also do some checking during the production process so the defective products and scrap should no longer be produced. Reducing scrap and rework will reduce the internal failure costs so, in the future, overall quality costs can be reduced because the product that has been produced is in perfect quality.

5. CONCLUSION

The conclusions of this research are: 1) quality costs on electrical equipment company have decreased in the last 5 years. Although the costs are decreased, the appraisal cost has a larger composition compare to prevention costs. This shows that quality cost management on electrical equipment company is not as perfect and efficient as expected; 2) Strategies that electrical equipment company want to do to reduce their quality costs are do more quality training to trainees and employees, do audit suppliers frequently, and do some checking on their product every 2 hours. These strategies will help them to maintain or reduce their overall quality costs in the next few years.

There are two recommendations for this research, which is the short-term recommendation and long-term recommendation. Short-term recommendations that can be given to the electrical equipment company are they
should review their production activities that are linked with quality, classify them accurately, and calculate the quality costs composition to see which composition is the big spender. This recommendation is expected to help the electrical equipment company in making decisions regarding which cost reduction is needed.

The long-term recommendation that can be given to the electrical equipment company is they should evaluate its quality cost management strategy to reduce overall quality costs. It is better if the electrical equipment company increase prevention costs through more quality training, changing suppliers, regularly supplier audits, and adding activities before the production period, reducing appraisal costs through reducing material inspecting and product acceptance costs, and reducing the internal failure costs through reducing scrap and rework costs. By doing this strategy, it is expected to help the electrical equipment company reducing their quality costs as increase the organizational profit for the next 5 years.

The limitation of this study is this research cannot be applied to other companies due to their nature of business differences. The next researcher can use other quality cost management calculation methods for their next research, such as the process cost model. This model has more detailed cost classification, which is men, machinery, materials, methods, middle environment, and metrics. This model is expected to get more precise and detailed data so the analysis can be more accurate.

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REFERENCES


Author’s Biography

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INTENSIFYING KNOWLEDGE AND PERSUASION ENDEAVOURS FOR DIFFUSION OF MATERIAL FLOW COST ACCOUNTING (MFCA) IN MALAYSIA

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\textsuperscript{1}Universiti Malaysia Terengganu, \textsuperscript{2,3}International Islamic University Malaysia (farizah.sulong@umt.edu.my, maliah@iium.edu.my, mhayati@iium.edu.my)

ABSTRACT

Environmental concerns in Malaysia are increasing as it has a great impact to the health and economy of the country. However, the diffusion of environmental initiatives typical encounter many challenges as the mindset of the people and thus businesses are mostly traditional. This paper examines the diffusion issues among Malaysian SMEs, using the diffusion of innovations (DOI) theory and new institutional sociology (NIS) by focusing on Material Flow Cost Accounting (MFCA), environmental management accounting (EMA) tool. A qualitative case study approach was employed examining the case of MFCA implementation in an automotive SME, Omega, involved in a pilot project with a government agency. Data were mainly collected through 42 sessions of in-depth interviews with a total of 30 interviewees comprising individuals from Omega, technical and academic consultants in the project as well as relevant government officials. A thematic analysis was conducted on their responses with the assistance of the ATLAS\textsuperscript{.ti} qualitative data analysis software. Findings from the study emphasized on the factors of pseudo-reinvention of MFCA, client orientation, communication campaigns, multiple change agencies and client targeting that may facilitate further diffusion of MFCA in Malaysia. In addition, anticipating and preventing discontinuance is also necessary and possible areas are highlighted. This study has explored the possible implementation of MFCA at a wider scale in Malaysia, where currently it is at an infancy stage, despite the growing practice of MFCA globally and the issuance of already two international standards specifically on MFCA, ISO14051 and ISO14052 and a third one, ISO14053 in progress.

KEYWORDS: Material Flow Cost Accounting (MFCA), Diffusion of Innovation, Malaysia, SME, Environmental Management Accounting (EMA).
TRACK 2A
FINANCE
CAPITAL STRUCTURE DETERMINANTS OF BURSA MALAYSIA’S FINANCIALLY DISTRESSED FIRMS

Izdihar Baharin @ Md Daud1 & Ilham Sentosa2
1Sultan Azlan Shah University, 2UniKL Business School (izdihar@usas.edu.my, ilham@unikl.edu.my)

ABSTRACT

The study on the determinants of capital structure had been done extensively both in Malaysia and globally. However, there seems to be a gap in this area of study for Malaysian financially distressed public firms. The intention of this study is to plug the gap, especially in the Malaysian capital market environment, both in terms of sample and data analysis. This study employed the PLS methodology as its main data analysis technique, using the WrapPLS software. The findings of this study supported the static trade-off pattern of capital structure theory among Bursa Malaysia financially distressed firms.

KEYWORDS: Determinants; Capital Structure; Financial Distress; Partial Least Square, WrapPLS.

1. INTRODUCTION

The Covid-19 pandemic which erupted in China in the late 2019 had spread throughout the world by the first quarter of 2020. Caught off-guard, the world economy which was already in bad shape, sputtered into the worst global economic and health crisis since the 1918-1920 Spanish flu influenza.

Malaysia was among the first nation in Southeast Asia that was hit by the pandemic and it was hit badly. To mitigate this, the government had taken bold steps by enforcing nationwide lockdown on 18 March 2020, and the movement control order continued amid with different variants until the gradual opening up of the economy on 4 May 2020. Even then, the new normal standard operating procedures of social distancing was put in place to counter the coming of second and third wave of Covid-19.

The 6 weeks lockdown had severely impacted the Malaysian economy. As per the second quarter 2020, the GDP had contracted by -17.1%, which was the worst among South East Asian nations while the unemployment rate had ticked upwards to 5.1% with labor force participation rate at a low 68.1% (DOSM, 2020), indicating industry wide serious business distress. If not because of the RM280 billion stimulus package that was announced by the government during the first and second quarter of 2020, the economy would have collapsed entirely, affecting the entire private sector workforce and micro businesses.

The effect of the movement control order was also severely experienced by the listed firms of Bursa Malaysia, especially for companies in the aviation, hospitality and manufacturing sectors. The Bursa on its part had freeze the inclusion of new firms into the PN17 classification from 17 April 2020 to 30 June 2021 (The Edge, 2020) to prevent domino effects of financially distress firms at the stock exchange. The PN17 classification is the place where financially distressed companies were given a time frame to restructure its capital and nurture back its operations into a viable business, failing which, the entity listing status will be revoke.

The emergence of the Covid-19 pandemic during the last quarter of 2019 had strengthened the importance of this study as it will enrich the literature on what to look for in order to either avoid healthy firms from falling into financial distress or getting the financially distressed firm on a healthy footing again.

2. OVERVIEW

The purpose of this paper is to identify the determinants of capital structure for financially distressed firms in Bursa Malaysia, under the PN17 classification, prior to the Covid-19 pandemic. The objectives of identifying the pre and post reorganizations determinants are for us to understand the indicators that proxied the financial health of the pre and post distressed firms. By monitoring the indicators, stakeholders will be able to evaluate the early signs of financial distress via its definitions (Altman, 2006) and to take remedial actions to avoid the firms from falling into the PN17 category, and for the firms that already in the PN17 restructuring exercise, to focus on the determinants that most significantly will carry the firms out from its financial quagmire.

This study chooses the same type of determinants as proposed by Soong (2005), Ramadan (2009) and Utami (2012), which are;

1. Tangibility
Tangibility is an un-encumbrance, non-current assets of the firm which acts as collateral to protect the interest of the lenders (Harris & Raviv, 1990)

ii. Profitability
Profitability is the annual earnings before interest and tax of the assets (Soong, 2005)

iii. Size
Following Soong (2005), this study opted to use firm’s total assets as the proxy to size

iv. Expected Growth
Again as Soong (2005), the proxy to expected growth for this study is percentage change in total assets

v. Non-Debt Tax Shield
Modigliani-Miller (1963) proposed depreciation over total assets as the proxy for non-debt tax shield in their celebrated, original paper on capital structure. This study opted to use the same.

In order to test which determinants correlates significantly to the financially distressed firm’s capital structure, we need a reliable model that not only will be able to provide a good fit for the data but also, in the case of post reorganizations firms, robust model as the number of sample firm is small. For that purposes, this study employed the Partial Least Square technique as to ensure the reliability and rigor of the analysis. The models employed by this study are the same as proposed by Soong (2005), which was derived from definitions given by Rajan and Zingales (1995). The three proxy models for capital structure in this study are;

i. Total Liabilities over Total Assets
ii. Total Debt over Total Assets
iii. Total Debt over Total Capital

The focus on liabilities and debt, especially debt, as part of the model components coincide with the current, main issue of the world economy where debt had become the most important financial instrument in financing growth. Prior to the Covid-19 pandemic, total debt to GDP ratio for the world stands at more than 300% (Sahin, 2020). Judging from the response of central banks all over the world in combating the Covid-19 related economic meltdown, the world debt to GDP ratio now should be worse than the pre Covid-19 level. As such the importance of the Capital Structure theory as an underpinning theory for this study, lend support to the Keynesian branch of microeconomics, that had prevailed since the Global Financial Crisis of 2008, as the main weapon of choice by the government all over the world in facing economic collapse.

3. METHODOLOGY

The data for this study are financially distressed firms classified under the PN17 classification of Bursa Malaysia. The sample data for this study was procured from Bloomberg Financial Service with the assistance from Bursa Malaysia Knowledge Centre. Since this study employed the formative construct via the WrapPLS software package, “the entire population was analyzed since the intention of formative construct is for the variable to explain the largest portion of variation in the formative construct itself” (Hair, 2010). Having said that, the total population sample for the pre and post restructuring data were 155 and 49 financially distressed firms, respectively.

For the pre restructuring analysis, five years data panel from the date each firm entered the PN17 classification was chosen. As for the post restructuring sample, only one year data after each firm graduated from the PN17 classification were collected, due to reliability issues of the models. Data analysis was then conducted on the three different models.

Prior to the hypothesis testing of the models, this study grouped the pre restructuring data into two different samples, the first is a five years average and the second, a five year time series. The data was then analyzed by the three different models. The purpose of this analysis is to gather evidence on which form of data would be more suitable and reliable for the models, either on individual yearly basis or time series.

The result of the above analysis as depicted by Table 4.1 and Table 4.2 indicated that the five years average data format is a better fit to the models. As such this study then proceeds with data analysis for each individual year, for the next five years, on every model for the pre restructuring sample. The same analysis was replicated for the post restructuring sample.

This study utilized the results given by the WrapPLS package in deriving its conclusion of the analysis. In deriving at the reliability of the models, the researcher look at both the p-value of the Average Path Coefficient (APC) and Average R² (ARS) of the capital structure model where p-value <0.05 for APC and R² >80% are considered significant. As for the relationship between the determinants and the model, again the researcher look at the p-value of the path coefficient for each determinants of each model, where p-value <0.05 is
considered as significant (Kock, 2015). The WrapPLS package also indicates whether the relationship of the determinants is positive or negative.

This study followed mostly the general ideas of Soong (2005) and Ramadan (2009) on investigating the relationship between determinants of capital structures. The gap for this study however was that, the focus is on financially distressed public firms. Another gap was that this study employed the PLS branch of the SEM in analyzing the data. It was among the first in this country that utilized WrapPLS software for this kind of analysis.

4. RESULTS

The data analysis result for the five years average and five years’ time series for the three models are presented in Table 4.1 and Table 4.2 respectively. The result in Table 4.1 clearly indicated that the five years average data format is a better fit to the models compared to the five years’ time series format. It further indicates that out of the three models, the five year average data format fits best with the Total Loan model compared with the other two. As such further analysis for the pre restructuring firms will be based on the five years average data format.

| Table 4.1: Summary of Results for Five Years Pre Restructuring Average Analysis |
|---------------------------------|-----------------|-----------------|
|                                  | Total Loan      | Total Debt      | Total Capital   |
| p-value                         | sig.            | not sig.        | not sig.        |
| $R^2$                           | sig.            | not sig.        | not sig.        |

For the Year 1 analysis of Hypothesis 1, which is $H1$: There are positive relationship between the determinants (tangibility, non-debt tax shield, profitability, size and expected growth) and the pre-reorganization capital structure of the PN17 firms. From Table 4.3, the study found that only the Total Loan model is found to be reliable for the analysis. As for the determinants, only tangibility and size was found to be positively correlated with the model while tax shield, even tough is a significant determinant, is found to be negatively correlated.

We attribute this finding to the behaviour of the determinants due to its closeness to Year 0, which is the year when the firms enter into the PN17 classification. During this period, tangibility and assets size should be the most significant determinants to the pre restructuring firms as they represent the tangible asset of the firms that can be used as the bargaining chip with the creditors for the restructuring exercise. As for tax shield, which represent interest on debt service expenses, the higher the amount, the worst it’s going to be for the firm during the negotiation exercise with the creditors since there would be not much profits to set off with, hence the negative, significant relationship.

| Table 4.2: Summary of Results for Five Years’ Pre Restructuring Time Series Analysis |
|---------------------------------|-----------------|-----------------|
|                                  | Total Loan      | Total Debt      | Total Capital   |
| p-value                         | not sig.        | not sig.        | not sig.        |
| $R^2$                           | not sig.        | not sig.        | not sig.        |

As depicted in Table 4.4 for Year 2, again only the Total Loan model provides reliability for Hypothesis 1 data analysis. As for the determinants, only growth correlates positively with the model while both tangibility and tax shield was in the opposite direction. This study believes that the reason why growth correlates positively was due to the fact that growth was still a factor that contributes to value creation to the firm before it contributing factor diminish in Year 1 and replaced by size. Tax shield remains negatively correlated due to
reason similar in Year 1 which indicates that the debt service interest factor was eating up the value contribution by the growth determinants, while tangibility is negative due to the fact that the assets were used as collateral to the creditors.

As for the models, the Total Loan model was significant for both Year 1 and Year 2. This reflect correctly the nature of liabilities for public firms in Bursa Malaysia that prefers the mixture of interest and non-interest bearing debt. Interestingly the Total Debt Model was also found to be significant for Year 1. This finding is justified as the nearer the distressed firms to the point of inclusion into the PN17 classification, the more the “interest tax shields” will come to play, as postulated by the static trade-off theory.

Table 4.4: Summary of Results for Year 2 Pre Restructuring Analysis

<table>
<thead>
<tr>
<th></th>
<th>Total Loan</th>
<th>Total Debt</th>
<th>Total Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-value</td>
<td>sig.</td>
<td>not sig.</td>
<td>not sig.</td>
</tr>
<tr>
<td>R²</td>
<td>sig.</td>
<td>not sig.</td>
<td>not sig.</td>
</tr>
<tr>
<td>P-values &amp; direction</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>sig. / -</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
</tr>
<tr>
<td>Size</td>
<td>not sig. / +</td>
<td>sig. / +</td>
<td>sig. / -</td>
</tr>
<tr>
<td>Growth</td>
<td>sig. / +</td>
<td>sig. / -</td>
<td>sig. / +</td>
</tr>
<tr>
<td>Tax shield</td>
<td>sig. / -</td>
<td>sig. / +</td>
<td>sig. / +</td>
</tr>
<tr>
<td>Profit</td>
<td>not sig. / -</td>
<td>sig. / +</td>
<td>not sig. / +</td>
</tr>
</tbody>
</table>

The result in Table 4.5 indicated that all three models was not a good fit for the data from Year 3 onwards where estimated collinearity between the variables exceed 0.85 indicating non stability of the models (Tabachnick, 2014). This shows that the determinants of capital structure for pre restructuring firms of Bursa Malaysia were only reliable as indicators to the firms, two years prior to their inclusion into the PN17 classification. As such no further testing was done from Year 3 onwards as the reliability of the models were in question.

Table 4.5: Summary of Results for Year 3, 4 and 5 Pre Restructuring of the Three Models

<table>
<thead>
<tr>
<th></th>
<th>AVIF</th>
<th>AFVIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 3</td>
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<td>Infinity</td>
</tr>
<tr>
<td>Year 4</td>
<td>Infinity</td>
<td>Infinity</td>
</tr>
<tr>
<td>Year 5</td>
<td>Infinity</td>
<td>Infinity</td>
</tr>
</tbody>
</table>

For the post restructuring firms of Hypothesis 2, H2: There are positive relationships between the determinants (tangibility, non-debt tax shield, profitability, size and expected growth) and the post reorganized capital structure and the value of the PN17 firms, as indicated in Table 4.6, the most reliable model is different from the pre restructuring firms, which is the Total Debt model.

The reliability of the Total Debt model, even though weak due to insignificant $R^2$ value, supported the purpose of PN17 restructuring exercise, where most of the non-interest bearing debt should have been taken out from the firms balance sheet due to the restructuring process, leaving only interest bearing debt that is beneficial to the firm from the debt tax shield point of view.

Interestingly however, none of the post restructuring firm’s determinants shows any significant correlation with Total Debt. This may be due to the timing factor where the sample firm had just graduated from the PN17 classification had have yet to show any positive signs of rehabilitation.

Table 4.6: Summary of Results for Year 1 Post Restructuring Analysis

<table>
<thead>
<tr>
<th></th>
<th>Total Loan</th>
<th>Total Debt</th>
<th>Total Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-value</td>
<td>not sig.</td>
<td>sig.</td>
<td>not sig.</td>
</tr>
<tr>
<td>R²</td>
<td>not sig.</td>
<td>not sig.</td>
<td>not sig.</td>
</tr>
<tr>
<td>P-values &amp; direction</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
</tr>
<tr>
<td>Size</td>
<td>not sig. / -</td>
<td>not sig. / -</td>
<td>not sig. / +</td>
</tr>
<tr>
<td>Growth</td>
<td>sig. / +</td>
<td>not sig. / -</td>
<td>not sig. / +</td>
</tr>
<tr>
<td>Tax shield</td>
<td>not sig. / -</td>
<td>not sig. / +</td>
<td>not sig. / -</td>
</tr>
<tr>
<td>Profit</td>
<td>sig. / -</td>
<td>not sig. / +</td>
<td>not sig. / +</td>
</tr>
</tbody>
</table>
5. CONCLUSION

The objective of this paper is to identify the capital structure determinants of pre and post restructuring PN17 firms of Bursa Malaysia and the models that is most reliable as the analysis framework. The summary of this study findings are listed in the Table 5.1 and depicted as per Figure 5.1 below. Table 5.1 only summarized significant relationship between the determinants, positive or negative, within the reliable model since any relationship derived from non-reliable model can be safely considered as void.

For pre-restructuring firms, only models for Year 1 and 2 is selected for the same reason mentioned earlier. Similarly for post-restructuring firms, only Year 1 models was considered by this study.

Table 5.1: Summary Results of this Study

<table>
<thead>
<tr>
<th>Model</th>
<th>Determinants</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-restructuring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>Total Loan</td>
<td>Tangibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tax shields</td>
</tr>
<tr>
<td>Year 2</td>
<td>Total Loan</td>
<td>Growth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tangibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tax shields</td>
</tr>
<tr>
<td>Post-re restructuring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>Total Debt</td>
<td>Nil</td>
</tr>
</tbody>
</table>

It was found that both tangibility and tax shield were significant determinants for the pre restructuring PN17 firms of Bursa Malaysia for both Year 1 and 2 but only tax shields exhibit consistent negative relationship, suggesting static trade-off theory behavior with entanglement of the pecking order theory for the firms (Hovakimian, Hovakimian & Tehranian, 2004). Interestingly, this finding runs contrary to the original intention of the static trade-off theory (Faff, 2016) of positive relationship. The most reliable model for the pre-restructuring firms was found to be the Total Loans, which is justified, in light of normal characteristics of financially distressed firms that heavily relies on both non-interest and interest bearing debt.

The findings of this study on the determinants of capital structure is quite similar with the findings of Ramadan (2009) on non-financial distress firm’s at the UK capital market where he found positive relationship between asset structure and firm’s size with firm’s debt level. He also found that growth, profitability and liquidity relates negatively to firm’s debt level.

As for the post restructuring firms, this study could not identify any significant capital structure determinants to the financially distressed firms. This may be due to the fact that the sample only looks at the first year performance after the firms graduate from the PN17 classification, but to do otherwise would not be prudent as it would have defeated the purpose of gauging immediate post restructuring performance of the PN17 exercise. Interestingly however, growth and profit indicated significant positive and negative relationship respectively towards the Total Loan model, inferring congruence in terms of model superiority with the pre restructuring sample.
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SYSTEMATIC AND UNSYSTEMATIC RISK: IMPACT TO THE STOCK RETURNS AND DIVIDENDS IN AMMAN STOCK EXCHANGE

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ABSTRACT

This study aimed to investigate the impact of systematic and unsystematic risk on the stock returns and dividends in Amman Stock Exchange during the period (2002-2018). To achieve the study goal, an annual data has been used for a sample consists 38 Jordanian industrial companies. The regression analysis revealed that both inflation and size have a negative statistical impact toward the stock returns in Jordanian Companies. It was found that profitability has a positive statistical impact toward the stock returns and dividends in Jordanian Companies. The study recommended the investors to take into their considerations the annual reports of the company that they invest in order to keep continues follow-up its performance, and thus, make their own judgments and decisions.

KEYWORDS: systematic risk, unsystematic risk, stock returns, dividend
THE EFFECT OF PERFORMANCES AND COMPANY SIZE ON STOCKS PRICES IN ENERGY AND MINING SECTOR COMPANIES IN INDONESIA PERIOD 2012-2019

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ABSTRACT

With the growing awareness of the importance of investing in Indonesian society, especially in recent years, the number of investors investing in the Indonesian stock market has grown rapidly. This study aims to examine whether there is an influence between company performance and company size on stock prices. This research is also to provide a financial assessment to attract investors to develop business in Indonesia, especially in the mining and energy sectors. The samples used were companies in the mining and energy sector, both listed and unlisted on the Indonesia Stock Exchange from 2012 to 2019 with a sample size of 39 companies. And according to previous research conducted in several other countries, stock prices can be influenced by various factors. Such as company profitability, company size, risk, dividends, interest rates, supply, demand, inflation, government policies and the economic situation. In this study, the data analysis technique used is the linear regression method which aims to test whether the dependent variable (company performance and company size) is related to the independent variable (stock price). In assessing the company's performance indicators, the factors used are Return on Assets (ROA), Return on Equity (ROE), Earning Per Share (EPS), Book Value per Share, Debt - Assets Ratio, Price Earnings Ratio and Market to Book Value Ratio / Price to Book Ratio.

The results of this study want to show that the performance and size of the company can affect stock prices, especially in Indonesia. By holding this research, it is hoped that it can help investors, companies and also for education in choosing what factors can influence stock prices so that they can improve performance in investment.

KEYWORDS: stock price; finance; company performance; ratios; SME.

1. INTRODUCTION

With the growing and growing awareness of the importance of investment in Indonesian society, especially in recent years, the number of investors investing in the Indonesian stock market has grown rapidly. However, the growing number of investors cannot guarantee that all investors in the stock market understand what factors investors should look for when they are going to choose which company they should choose to invest their funds in. This is in line with the statement of finance and investment academics Lukas Setia Atmaja at the 2019 Capital Market Summit and Expo at the Dyandra Convention Center Surabaya that of the large number of investors, 85% to 90% of investors failed.

According to Milanović et al., (2017) government policies, operations and performance of companies and various industries influence investor behavior, both in the primary and secondary capital markets. This shows why stock prices easily rise and fall because of many factors that can affect stock prices. And From this background, the researcher wants to test whether the performance and size of the company have an effect on stock prices in Indonesia. Particularly for mining and energy companies listed on the Indonesia Stock Exchange in 2012-2019.

2. LITERATURE REVIEW

Several similar studies have been conducted. Avdalović and Milenković (2017) conduct the research at Serbia, the research explain that there is a statistically significant relationship between company performance and stock prices. According to Sudana (2009), the size of the share price can be determined by the power between demand and supply, which is influenced by many factors. These factors can come from internal or external. Internal factors, in essence, company performance, company size, and so on can affect stock prices. Meanwhile, external factors that can affect stock prices are economic conditions, interest rates, inflation, exchange rates, political conditions and many others.

Based on the results of research by Özyesil (2019), it was found that the performance of the company's stock price was significantly influenced by the brand value and the size of the company's assets. Therefore, it
can be said that individual and institutional investors who are in the process of creating portfolios and making adjustments to their portfolios must also pay attention to the characteristics of these companies. On the other hand, it can be concluded that it would be beneficial for companies wishing to have a sustainable high share price performance on the domestic or international capital markets on foreign stock exchanges, by paying special attention to the subject of brand value.

While Lamuda (2017) research results show a positive and significant relationship between return on equity, book value per share, dividend ratio paid and number of shares outstanding, share price and earnings per share ratio and market capitalization, indicating that these factors play a role as determinants, active in the formation of shares. However, there is a significant negative relationship between dividend yield and share price. And the results of this study also show that partially company size has a significant effect on the Stock Price Index in the banking industry on the Indonesia Stock Exchange. Besides that, profitability also greatly affects the stock price. This can be proven based on the results of research by Ferrer and Tang (2016), it is known that asset turnover, price-income ratio, and dividend payout ratio all have a positive impact on changes in company stock prices from year to year.

Apart from profitability, return on assets and earnings per share are also proven to affect stock prices. This is in line with Mutiara and Ngatno's (2018) research. From the results of their research on Textile and Garment Sub Sector Companies listed on the Indonesia Stock Exchange for the 2013-2016 period, it was found that Return on Assets and Earning per Share had a significant effect on stock prices.

3. METHODOLOGY

In this study, the data analysis technique used is the ordinal regression method which aims to test whether the dependent variable (stock price) is related to the independent variable (profitability / company performance and company size). Data management process by coding, data collected at one time includes several variables and data processing by analyzing multiple logistic regression (Multiple) using statistical assistance program SPSS 25.

In this study, the data analysis technique used is the ordinal regression method which aims to test whether the dependent variable (stock price) is related to the independent variable (profitability / company performance and company size). Data management process by coding, data collected at one time includes several variables and data processing by analyzing multiple logistic regression (Multiple) using statistical assistance program SPSS 25.

Univariate, bivariate and multivariate analyzes were performed. Multiple regression analysis using the regression equation function is used as follows:

\[ y = \beta_0 + \beta_1 \cdot ROA + \beta_2 \cdot ROE + \beta_3 \cdot EPS + \beta_4 \cdot BV + \beta_5 \cdot TDTA + \beta_6 \cdot PE + \beta_7 \cdot PB + \beta_8 \cdot Besar + \beta_9 \cdot Menengah \]

Where:
- \( y \) = Stock price
- \( \beta_1 \cdot ROA \) = Return on Assets (ROA)
- \( \beta_2 \cdot ROE \) = Return on Equity (ROE)
- \( \beta_3 \cdot EPS \) = Earning per Share (EPS)
- \( \beta_4 \cdot BV \) = Book Value
- \( \beta_5 \cdot TDTA \) = Total Debt to Total Assets (TDTA)
- \( \beta_6 \cdot PE \) = Price Earning Ratio
- \( \beta_7 \cdot PB \) = Price to Book Value Ratio
- \( \beta_8 \cdot Besar \) = Big Company (Size)
- \( \beta_9 \cdot Menengah \) = Medium company (Size)

Meanwhile, based on the Minister of Energy and Mineral Resources Regulation No. 24 of 2012 companies engaged in the mining sector in Indonesia are divided into three sizes based on the classification of what mining companies are engaged in, and their size is separated based on the value of the company's assets.

The details of the large - small division of the mining company are in accordance with the table below:
Table 1: The Classification of Mining Companies Based on Total Assets

<table>
<thead>
<tr>
<th>No</th>
<th>Classification</th>
<th>Classification</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Consultants, planners, implementers, and equipment testers in the fields of</td>
<td>Small</td>
<td>IDR 50 - 300 million</td>
</tr>
<tr>
<td></td>
<td>(development): - General investigation; - exploration; - feasibility study;</td>
<td>Medium</td>
<td>IDR 300 million – 1 billion</td>
</tr>
<tr>
<td></td>
<td>- Mining environment; - Post-mining and reclamation; - Occupational Health</td>
<td>Large</td>
<td>&gt; IDR 1 Billion</td>
</tr>
<tr>
<td></td>
<td>and Safety; - Mining; - Transportation; - Processing and Purification; -</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alluvial Tin Excavation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Implementing Mining and Transportation Construction and stripping of covered</td>
<td>Small</td>
<td>IDR 1 – 20 Billion</td>
</tr>
<tr>
<td></td>
<td>rock / soil layers (main).</td>
<td>Medium</td>
<td>IDR 20 – 100 Billion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large</td>
<td>&gt;100 Billion</td>
</tr>
</tbody>
</table>

Source: Minister of Energy and Mineral Resources No. 24 of 2012

Based on the objectives of research, one the null and the alternative hypothesis can be defined:

H0 - there is significant effect of observed variables (company performances) on the market price for stocks of companies at the Indonesia Stock Exchange

H1 - the observed variables (company performance) do not contribute to changes in the stock price, that is, there is no significant correlation between the observed independent variables and the stock prices.

The units examined in this study are many units of analysis. The research object in question is the company entities listed on the IDX, totaling 39 companies and the coverage year taken is 2012-2019. This study uses data collection techniques in the form of data collection which is carried out through the Indonesia Stock Exchange (BEI) and the Thompson Reuters application. The data obtained from data retrieval are financial reports, and the company size collected is in the form of excel and pdf files.

4. EMPIRICAL RESEARCH

In this study, the sample of companies taken was 39 companies that met the criteria for the company's research to be divided into two parts, namely development with a total of 18 companies and main companies with a total of 21 companies. And each number of companies is multiplied by the total independent variable which is used as a benchmark for the company so that for mining company development, the total N or variable under study is 144 and for the main mining company the total N or the variable under study is 168.

After the data is entered into SPSS 25, it is processed whether company size affects company performance and company performance appraisals using 7 ratios, namely research Return on Assets (ROA), Return on Equity (ROE), Earning per Share (EPS), Book Value per Share, Debt - Equity Ratio, Price Earning Ratio and Market to Book Value Ratio / Price to Book Ratio and company size using ordinal logistic regression analysis. The results of ordinal logistic regression analysis can be seen in Tables 2 and 3 as follows:

Table 2: Description of the Influence of Development Classification Mining Research Variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Constant)</td>
<td>5.503</td>
<td>2.478</td>
<td>2.221</td>
</tr>
<tr>
<td>ROA</td>
<td>-.1905</td>
<td>.910</td>
<td>.278</td>
<td>-2.093</td>
</tr>
<tr>
<td>ROE</td>
<td>-.101</td>
<td>.359</td>
<td>-.034</td>
<td>.283</td>
</tr>
<tr>
<td>EPS</td>
<td>.163</td>
<td>.177</td>
<td>-.090</td>
<td>-.919</td>
</tr>
<tr>
<td>BV</td>
<td>.185</td>
<td>.141</td>
<td>-.108</td>
<td>-.310</td>
</tr>
<tr>
<td>TDTA</td>
<td>-.319</td>
<td>.539</td>
<td>-.207</td>
<td>-.449</td>
</tr>
<tr>
<td>PE</td>
<td>.152</td>
<td>.144</td>
<td>.083</td>
<td>.053</td>
</tr>
<tr>
<td>PB</td>
<td>398</td>
<td>.174</td>
<td>.180</td>
<td>2.287</td>
</tr>
</tbody>
</table>
And for main company classification as follows:

**Table 3: Description of the Influence of Main Classification Mining Research Variables**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>29.051</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>-6.525</td>
</tr>
<tr>
<td></td>
<td>ROE</td>
<td>-1.600</td>
</tr>
<tr>
<td></td>
<td>EPS</td>
<td>-1.471</td>
</tr>
<tr>
<td></td>
<td>BV</td>
<td>-1.182</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>0.091</td>
</tr>
<tr>
<td></td>
<td>PB</td>
<td>-2.042</td>
</tr>
<tr>
<td></td>
<td>Besar</td>
<td>999</td>
</tr>
<tr>
<td></td>
<td>Menengah</td>
<td>1.124</td>
</tr>
</tbody>
</table>

Source: Author’s calculations, SPSS output
and Market to Book Value Ratio / Price to Book. Ratio and Company Size. While the dependent variable is
the stock price.

The following is the Anova table for energy and mining companies for development and main
classifications:

**Table 4: Development Classification Anova Table (ANOVA)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Regression</td>
<td>35.748</td>
<td>9</td>
<td>3.972</td>
<td>3.841</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>138.573</td>
<td>134</td>
<td>1.034</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>174.321</td>
<td>143</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s calculations, SPSS output

And for main company classification as follows:

**Table 5: Main Classification Anova Table (ANOVA)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Regression</td>
<td>210.475</td>
<td>9</td>
<td>23.386</td>
<td>17.685</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>208.933</td>
<td>158</td>
<td>1.322</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>419.408</td>
<td>167</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s calculations, SPSS output

From the table above it can be seen that energy and mining companies are classified as development, both
Return on Assets (ROA), Return on Equity (ROE), Earning per Share (EPS), Book Value per Share, Debt -
Equity Ratio, Price Earning Ratio and Market to Book Value Ratio / Price to Book Ratio and Company Size
have a significance value of 0.00 which is smaller than 0.05. This means that performance and company size
simultaneously influence stock prices.

Likewise, in the main classification, it can be seen that energy and mining companies are classified as
development, both Return on Assets (ROA), Return on Equity (ROE), Earning per Share (EPS), Book Value
per Share, Debt - Equity Ratio, Price Earning Ratio, and Market to Book Value Ratio / Price to Book Ratio
and Company Size have a significance value of 0.00 which is less than 0.05. This means that performance and
company size simultaneously influence stock prices.

5. CONCLUSION

From this research it can be concluded that overall both the performance and size of the company have an
effect on stock prices. In particular, mining and energy companies listed on the Indonesia Stock Exchange in
2012 - 2019, both in the development and main classifications. Meanwhile, partially, almost all of the ratios
used to measure company performance have a significant effect on stock prices. In particular, Return on Assets,
Total Debt to Total Assets and Market to Book Value Ratio, because both the development and the main of
these ratios have a significant effect on stock prices. Meanwhile, the ratio that has no effect on stock prices is
the Price Earning Ratio. Meanwhile, Return on Equity, Earning per Share, Book value per share, and company
size in the main classification companies have an effect on stock prices while the development classification
has no effect.

This can be used as a consideration for investors so that before choosing a company to invest in the
Indonesia Stock Exchange, they can pay attention to the ratios above so that it can reduce several factors that
may make them fail in investing. For academics it can be used as a reference for further research or can use
other factors or financial ratios to be used to find out what factors can affect stock prices.

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Book Value, Return On Asset, dan Return On Equity Terhadap Harga Saham Sektor Keuangan. *Jurnal
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**Author’s Biography**

The author comes from the city of Jakarta in Indonesia. Currently the author is a student from the faculty of master's degree in economics at the University of Indonesia in Jakarta. The author has previously completed an education program as bachelor accounting from University Advent Indonesia in Bandung. And now, apart from continuing his studies, the author is also working for a mining company in Indonesia. This research was conducted in addition to being a task in the educational process, but because the author was also interested in the world of stocks. Therefore, the authors chose a research theme on finance, precisely on stocks on the Indonesia Stock Exchange.
THE RELATIONSHIP BETWEEN SOME MACROECONOMIC VARIABLES AND THE BALANCE OF PAYMENTS IN THE ARAB FINANCIAL MARKETS

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ABSTRACT

This study aimed to identify the impact of foreign direct investment and economic growth on the balance of payments in the Arab financial markets during the period (1980-2017). To achieve the aim of the study, a descriptive and analytical approach was followed through the application of co-integration analysis and the error correction model, as these statistical methods are modern methods that give results with high credibility compared to traditional methods. The study found different results between the countries of the study sample, for example the results showed a negative impact of foreign direct investments on the balance of payments in Jordan, Saudi Arabia, and Oman, while it was found that foreign direct investments had a positive effect on the balance of payments in the United Arab Emirates. The results indicated also that GDP had a statistical significant negative impact on the balance of payments in Qatar and the United Arab Emirates, while GDP had a positive effect on the balance of payments in Oman.

KEYWORDS: foreign direct investments, economic growth, balance of payments, Arab financial markets, joint complementarity analysis.
TRACK 2B
BUSINESS
EFFECT OF BUSINESS DEVELOPMENT SERVICES ON THE PERFORMANCE OF SMALL AND MEDIUM Sized ENTERPRISES IN BRUNEI DARUSSALAM

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ABSTRACT

It is indisputable that small and medium size enterprises (SMEs) play a vital role in promoting economic growth of every country. In Brunei, SMEs make up 97% of all enterprises and contribute 22% of the country’s gross domestic product. While SMEs play a vital role in economic growth of Brunei, evidence suggests that they lack access to business development services (BDS), which could assist them to acquire key technical skills, improve their understanding of and access to markets, as well as to enhance their performance. To address this concern, we purposed to examine whether BDS could predict SME performance in Brunei Darussalam. Market access, management/organization, technology and product development, alternative financing mechanisms, as well as input and supply were casted as the components of BDS. The hypothesized model was tested and evaluated on a sample of 281 SMEs four major districts in Brunei using Partial Least Structural Equation modeling. Results indicated that input and supply, market access, technology and product development, and alternative financing mechanisms positively affect SME performance. However, management/organization was not found to be significantly related to SME performance.

KEYWORDS: Business Development Services; Business performance; Small and Medium Sized Enterprises.

1. INTRODUCTION

The role of small and medium size enterprises (SMEs) in promoting sustainable economic growth of every country around the world is indisputable. For instance, the Department for Business Innovation & Skills (2015), has estimated that SMEs contribute 60% of the United Kingdom’s total employment and up to 47% of all private sector annual turnover. In the same vein, the contribution of SMEs to the Gross Domestic Product (GDP) of Canada, Australia, Germany, and Austria were casted to be 55% (Abubakar & Mahmood, 2016). In Southeast Asia, SMEs play a significant role in ASEAN industrial and economic growth, contributing as much as 80% of employment, as well as 50% to the GDP (Aziz, 2015). In Malaysia, SMEs make up of 99.2% of all business establishments, and contributed 32% of GDP (Tahir, Razak, & Rentah, 2018). In the context of the proposed study, SMEs roughly make up 97% of all enterprises in Brunei Darussalam, including those that are involved in manufacturing, professional services, oil and gas, tourism and hospitality, as well as information and communication technology. The contribution of SMEs to the Brunei Darussalam's gross domestic product (GDP) was estimated to be 22% (Polsaram, Kulsiri, Lissara, & Kanittha, 2011). However, a recent report highlighted the GDP growth rate of Brunei Darussalam for 2016 is -3.8% (Trading Economics, 2017). To overcome this, the Brunei Governments are emphasizing the need for SMEs development to outperform the oil and gas industry due to the recent drastic fall in oil price (Ministry of Finance, 2017). As a result, it is a priority to improve the understanding on these small firms with the purpose of overcoming their disadvantageous position (Ebben & Johnson, 2005) due to their significance for the world economies (Garg and Goyal, 2012).

While SMEs play a vital role in promoting sustainable economic growth of Brunei Darussalam, anecdotal evidence suggests that they have been facing a lot of challenges, including inadequate business management skills, changing market demands, access to finance, and lack of access to business development services, among others (Hayat, 2017; Kadai, 2012).

The strategic importance of business development services in assisting SMEs to acquire key technical skills, improve their understanding of and access to markets, as well as streamline their production and management processes have been well acknowledged in extant entrepreneurship literature (David, Jianzhong, & Lei, 2008; Goyal, Sergi, & Kapoor, 2017; Helena, 2008; Mazanai & Fatoki, 2012; Storey, 2004). Despite the strategic importance of business development services such as, services business training, marketing,
technology development and information not adequately provided to local SMEs, especially among Brunei Malays’ Entrepreneurs. Thus, the purpose this study is to examine the Effect of Business Development Services (BDS) on the Performance of Small and Medium Sized Enterprises in Brunei Darussalam.

2. LITERATURE REVIEW

2.1 Business Development Services and SME performance

BDS has been defined as the “services that improve the performance of the enterprise, its access to markets, and its ability to compete” (Committee of Donor Agencies for Small Enterprise Development, 2001, p. 11). These services include, but not limited to market access, management /organization, technology and product development, alternative financing mechanisms, as well as input and supply (Miehlbradt & McVay, 2003). Empirical studies have shown that BDS was positively related with SME performance (Islam, 2014; Okeyo, Gathungu, & Kã, 2014; Ombi, Ambad, & Bujang, 2018). Specifically, Ombi et al. (2018) demonstrated that financial Services, such as financial Support had a significant and positive relationship with performance of manufacturing SMEs in Sabah, Malaysia. In the Bangladesh, Islam (2014) found a significant positive relationships between BDS and performance. In a study involving 150 SMEs in in Nairobi, Kenya, Okeyo et al. (2014) found that BDS dimensions such as procurement services and infrastructure facilities had a positive and significant effect on the performance of manufacturing SMEs. Besides the aforementioned empirical studies, several other works have established a significant positive relationship between BDS and SME performance in different research contexts (e.g., Ndiaye, Abdul Razak, Nagayev, & Ng, 2018). Based on aforementioned empirical studies we therefore advanced the following hypothesis:

Hypothesis 1: Market access will be positively related to SME performance.
Hypothesis 2: Management /organization will be positively related to SME performance.
Hypothesis 3: Alternative financing mechanisms will be positively related to SME performance.
Hypothesis 4: Technology and product development will be positively related to SME performance.
Hypothesis 5: Input and supply will be positively related to SME performance.

3. METHODOLOGY

3.1 Research design

Given the longitudinal research design engulfs time and financial resources, the present study employs a cross-sectional research design in which the data were analysed and interpreted statistically, while drawing conclusions. This study utilized survey method, where owners/managers of SME are invited to complete the questionnaire on behalf of their firms. Four major districts in Brunei, namely: Brunei-Muara, Belait, Tutong and Temburong were covered in this study.

3.2 Participants and procedure

In this study, the participants were local SMEs operating in four major districts in Brunei, namely: Brunei-Muara, Belait, Tutong and Temburong. According to the Labour Department, Ministry of Home Affairs, Brunei Darussalam, (2018), there are currently 1,934 SMEs operating in Brunei Darussalam. Therefore, following Saunders, Lewis, and Thornhill’s Saunders, Lewis, and Thornhill (2009) sample size determination table, given population of 1,934, a sample size of 322 is required. We distributed 322 self-administered questionnaires to owners/managers of SMEs in Brunei, but only 281 useful and valid questionnaires were retrieved for the main analysis. Given that this study involved human participants and personal data, such as demographic profile of the respondents, our major priority was to respect “participants’ dignity, rights, safety and well-being”, as well as to ensure that highest ethical standards have been it maintained. Toward this end, ethical clearance for this study was obtained from the Graduate Studies and Research Office (GSRO), though Faculty Ethics Coordinator of the UTB School of Business, Universiti Teknologi Brunei before embarking on data collection activities.

After successful data collection, the raw data collected from the field, was then be subjected to initial screening and preliminary analyses before conducting the main analyses of interest. This is to ensure that the key multivariate assumptions are not violated prior to conducting the main analyses. The statistical analysis was conducted using partial least squares (PLS) path modeling based on Smart PLS 3.0 software (Ringle, Wende, & Becker, 2015). In terms of demographic profile of the 281 participating SMEs in this study, 75.8% were managers, with mean firm age of 2.5 years and standard deviation of 0.65. The detailed demographic profile is presented in Table 1.
3.3 Measures

**Business Development Services.** The selected dimensions of Business Development Services were assessed using a Business Development Services scale developed by Barisic (2004), which was based on Committee of Donor Agencies for Small Enterprise Development (2001) BDS guiding principles for donor. Specifically, market access was measured by 10 items (e.g., “Access to information to meet standards and specifications of new markets”). Seven items were utilized for management/organization (e.g., “Management and business skills development training”). Technology and product development were also measured using 7 items (e.g., “It is easy for our firm to conduct product research and development”). We then measured alternative financing mechanisms using 4 items (e.g., “Facilitating linkages with financial institutions”). Finally, 5 items were used to measure input and supply (e.g., “The prices of inputs and supplies are very expensive”). Owners/Managers were invited to respond to the items regarding each dimension of BDS based on 5-point Likert scale (1 = “Strongly disagree” to 5 = “Strongly agree”) for technology and product development, as well as input and supply. However, items in the management/organization and market access scales were rated using 5-point Likert scale (1 = “Almost always” to 5 = “Never”).

**SME performance.** We used six-items to assess a wide range of SME’ performance indicators from existing literature (e.g., Baker & Sinkula, 1999; Powell, 1995). Ratings were based on a seven-point Likert scale ranged from 1 = strongly disagree to 5 = strongly agree. Sample item was: “Compared to last 3 years, our firm increases product sales.” “Compared to last 3 years, the level of complaints from our customers have decreased.”

### Table 1: Demographic profile

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>171</td>
<td>60.9</td>
</tr>
<tr>
<td>Female</td>
<td>110</td>
<td>39.1</td>
</tr>
<tr>
<td><strong>Firm age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>16</td>
<td>5.7</td>
</tr>
<tr>
<td>4 - 5 years</td>
<td>113</td>
<td>40.2</td>
</tr>
<tr>
<td>6 - 7 years</td>
<td>144</td>
<td>51.2</td>
</tr>
<tr>
<td>Above 7 years</td>
<td>8</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary or below</td>
<td>4</td>
<td>1.4</td>
</tr>
<tr>
<td>Certificate/Diploma</td>
<td>68</td>
<td>24.2</td>
</tr>
<tr>
<td>Degree/Professional</td>
<td>113</td>
<td>40.2</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>12</td>
<td>4.3</td>
</tr>
<tr>
<td>Others</td>
<td>84</td>
<td>29.9</td>
</tr>
<tr>
<td><strong>Position</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner</td>
<td>68</td>
<td>24.2</td>
</tr>
<tr>
<td>Manager</td>
<td>213</td>
<td>75.8</td>
</tr>
</tbody>
</table>

4. RESULTS

4.1 Measurement Model

The PLS path modeling estimation results are structured according to the measurement model and structural model. Furthermore, “measurement model results (Table 2) are based on the indicator reliability, internal consistency reliability, convergent validity, and discriminant validity (Chin, 2010; Wong, 2013). On the other hand, the structural model results are assessed based on the significance of path coefficients, level of R-squared values, and the predictive relevance of research model (Henseler, Ringle, & Sinkovics, 2009).

Following Hulland (1999), indicator reliability was established by examining the outer loadings of each construct’s measure; and an indicator with loading of 0.70 or higher should be retained. As indicated in Table 2, of the 44 items in the measurement model, only 17 items were deleted due to loadings below 0.70. Hence, the remaining 27 items with loadings between 0.714 and 0.964 suggest adequate indicator reliability. We then established internal consistency reliability by inspecting the composite reliability of each construct’s measure. Methodologically, internal consistency reliability is said to be established if composite reliability of each
construct’s measure is .70 or higher (Bagozzi & Yi, 1988). The results of the measurement model Table 2 suggest adequate internal consistency reliability because the composite reliability co-efficient of each construct’s measure exceeded the threshold of .70.”

Table 2: Results of measurement model

<table>
<thead>
<tr>
<th>Latent variables/items</th>
<th>Loadings</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA01</td>
<td>0.741</td>
<td>0.948</td>
<td>0.723</td>
</tr>
<tr>
<td>MA03</td>
<td>0.892</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA04</td>
<td>0.882</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA05</td>
<td>0.873</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA06</td>
<td>0.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA09</td>
<td>0.834</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA10</td>
<td>0.844</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management /organization</td>
<td></td>
<td>0.946</td>
<td>0.746</td>
</tr>
<tr>
<td>MO01</td>
<td>0.850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO02</td>
<td>0.844</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO03</td>
<td>0.912</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO04</td>
<td>0.829</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO05</td>
<td>0.890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MO06</td>
<td>0.855</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative financing mechanisms</td>
<td></td>
<td>0.963</td>
<td>0.866</td>
</tr>
<tr>
<td>AL01</td>
<td>0.891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL02</td>
<td>0.911</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL03</td>
<td>0.964</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL04</td>
<td>0.956</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology and product development</td>
<td></td>
<td>0.948</td>
<td>0.860</td>
</tr>
<tr>
<td>TA05</td>
<td>0.924</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA06</td>
<td>0.930</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA07</td>
<td>0.927</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input and supply</td>
<td></td>
<td>0.834</td>
<td>0.628</td>
</tr>
<tr>
<td>IS01</td>
<td>0.913</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IS03</td>
<td>0.736</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IS05</td>
<td>0.714</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SME performance</td>
<td></td>
<td>0.946</td>
<td>0.745</td>
</tr>
<tr>
<td>FP01</td>
<td>0.903</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP03</td>
<td>0.853</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP04</td>
<td>0.782</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP06</td>
<td>0.890</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: CR = Composite Reliability; AVE = Average Variance Extracted

To establish the convergent validity of each construct’s measure, Average Variance Extracted (AVE) should be 0.5 or higher (Bagozzi & Yi, 1988). Following Bagozzi and Yi (1988), the AVE values of each construct’s measure in Table 3 exhibited high loadings above .50, which indicates adequate convergent validity. Finally, discriminant validity is established using Fornell and Larcker’s (1981) criterium, if square root of AVE of each latent variable is greater than the correlations among the latent variables. As indicated in Table 2, the square root of AVE of each latent variable is greater than the correlations among the latent variables, as such, discriminant validity has been established. We further established discriminant validity is established using Heterotrait-Monotrait Ratio (HTMT) criterium (Table 4). Researchers using this criterium suggest that discriminant validity is established if the correlation values obtained between latent variables are less than or equal to 0.850. As indicated in Table 4, the highest correlation is between alternative financing mechanisms and technology and product development (0.580). This indicates that all correlation values obtained are less than the cut-off value of 0.850. Hence, acceptable level of HTMT was achieved (Henseler, Ringle, & Sarstedt, 2015).
Table 3: Results of Discriminant Validity using Fornell-Larcker Criterion

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Market access</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.850</td>
</tr>
<tr>
<td>2. Management /organization</td>
<td>-0.034</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.864</td>
</tr>
<tr>
<td>3. Alternative financing mechanisms</td>
<td>0.050</td>
<td>0.476</td>
<td></td>
<td></td>
<td></td>
<td>0.931</td>
</tr>
<tr>
<td>4. Technology and product development</td>
<td>-0.033</td>
<td>0.532</td>
<td>0.547</td>
<td></td>
<td></td>
<td>0.927</td>
</tr>
<tr>
<td>5. Input and supply</td>
<td>0.264</td>
<td>0.141</td>
<td>0.101</td>
<td>0.265</td>
<td></td>
<td>0.793</td>
</tr>
<tr>
<td>6. SME performance</td>
<td>0.213</td>
<td>0.337</td>
<td>0.384</td>
<td>0.451</td>
<td>0.369</td>
<td>0.863</td>
</tr>
</tbody>
</table>

Note: Entries shown in bold face represent the square root of the average variance extracted.

Table 4: Results of Discriminant Validity using Heterotrait-Monotrait Ratio

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Market access</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Management /organization</td>
<td>0.119</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Alternative financing mechanisms</td>
<td>0.067</td>
<td>0.496</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Technology and product development</td>
<td>0.089</td>
<td>0.564</td>
<td>0.580</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Input and supply</td>
<td>0.271</td>
<td>0.143</td>
<td>0.108</td>
<td>0.274</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. SME performance</td>
<td>0.223</td>
<td>0.327</td>
<td>0.392</td>
<td>0.481</td>
<td>0.403</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Structural Model

Following Hair, Hult, Ringle, and Sarstedt (2014), we estimated structural relationships among exogenous latent variable, mediator variable and endogenous latent variable on the basis of significance of the coefficients, coefficient of determination ($R^2$), as well as predictive relevance of the model ($Q^2$ values). We also applied bootstrapping with 5000 resamples to generate standardized path coefficients, standard errors, t-values, as well as p-values. Table 5 reported the standardized path coefficients obtained together with Bootstrapped Confidence Interval, $R^2$, $f^2$ and $Q^2$ values.

Table 5: Results of structural model

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Latent variable</th>
<th>Beta</th>
<th>SE</th>
<th>t-value</th>
<th>97.5% Bootstrapped Confidence Interval</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>MA -&gt; SME performance</td>
<td>0.155</td>
<td>0.075</td>
<td>2.073</td>
<td>[0.044; 0.290]</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>MO -&gt; SME performance</td>
<td>0.095</td>
<td>0.070</td>
<td>1.360</td>
<td>[-0.025; 0.208]</td>
<td>Not supported</td>
</tr>
<tr>
<td>H3</td>
<td>AF -&gt; SME performance</td>
<td>0.170</td>
<td>0.067</td>
<td>2.555</td>
<td>[0.052; 0.272]</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>TP -&gt; SME performance</td>
<td>0.251</td>
<td>0.101</td>
<td>2.488</td>
<td>[0.097; 0.425]</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>IS -&gt; SME performance</td>
<td>0.231</td>
<td>0.051</td>
<td>4.516</td>
<td>[0.148; 0.317]</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Effect sizes: $f^2$

MA -> SME performance | 0.032 |
MO -> SME performance | 0.009 |
AF -> SME performance | 0.028 |
TP -> SME performance | 0.053 |
IS -> SME performance | 0.068 |
As indicated in Table 5, the total effect model explains 33% of the total variance in SME performance. Hence, the $R^2$ value of 0.33 can be considered acceptable (Falk & Miller, 1992). Table 5 demonstrates $Q^2$ value of 0.224, which suggests adequate prediction relevance of the direct effect model (Henseler et al., 2009). Following Stone-Geisser test of predictive relevance, a Crossvalidated redundancy ($Q^2$ value) should be less than zero for a model to have predictive relevance, Hence, results presented in Table 5 suggest that the structural model in this study has predictive relevance.

Regarding the estimates of the path coefficients, it could be recalled that Hypothesis 1 stated that market access will positively be related to SME performance. As can be seen in Table 5, the positive effect of market access on SME performance was found to be statistically significant ($\beta = 0.155, t = 2.073, CI: [0.044; 0.290]$). Thus, the main conclusion that can be drawn from Table 5 is the confirmation of hypotheses H1.

As shown in Table 5, the direct effect of management /organization on SME performance was found to be insignificant, as the path coefficient between the two variables was not statistically significantly different from zero ($\beta = 0.095, t = 1.360, CI: [-0.025; 0.208]$). Hence, H2 was not supported. Our hypothesis 3 was confirmed because the path coefficient between alternative financing mechanisms and SME performance was found to be statistically significantly different from zero ($\beta = 0.170, t = 2.555, CI: [0.052; 0.272]$). It could also be recalled that Hypothesis 4 stated that technology and product development will positively be related to SME performance. As can be seen in Table 5, the positive effect of technology and product development on SME performance was found to be statistically significant ($\beta = 0.053, t = 2.488, CI: [0.097; 0.425]$). Thus, hypotheses H4 is confirmed. Finally, we found support for hypothesis 5 as the path coefficient between input and supply and SME performance was found to be statistically significantly different from zero ($\beta = 0.231, t = 4.516, CI: [0.148; 0.317]$).
5. DISCUSSION

The main objective of the present study was to examine the role of BDS in predicting SME performance in Brunei Darussalam. “Based on the main objective of this study, five hypotheses formulated were tested and the results of the PLS path modeling provided support for the only four hypotheses. It could be recalled that the present study sought to assess the influence of BDS on SME performance. In general, BDS was found to have a significant influence on SME performance. This denotes that firm that consistently obtain BDS can achieve sustainable business performance. This finding was very much similar to the previous studies in the literature entrepreneurship (e.g., Islam, 2014; Ndiaye et al., 2018; Okeyo et al., 2014; Ombi et al., 2018).

5.1 Practical Contributions

The results of this research provided important insights on how BDS could enhance the overall performance of SMEs in Brunei Darussalam. Subsequently, “the results of this study would serve as a blueprint for the policymakers and practitioners in formulating vital policies that could assist and help in improving the overall performance of SMEs. The findings suggested that managers of SMEs require working alongside strategic business units, including marketing and quality assurance departments to map out and implement entrepreneurial strategy that help in promoting customer satisfaction and firm performance (Lai, 2003; Lai & Cheng, 2005). Furthermore, the findings of this study imply the need to encourage employees’ involvement and participation in carrying out this strategy. This could be achieved by developing formal reward and recognition systems in order to encourage employee involvement and participation, provide feedback to the employees, as well as support teamwork (Demirbag, Koh, Tatoglu, & Zaim, 2006).

5.2 Limitations and future research directions

Despite its contributions, the present study has a number of limitations that merit discussion. First, SME performance data used in the present study was only perceptual or subjective. Although researchers (e.g., Jones & Linderman, 2014; Ketokivi & Schroeder, 2004) showed that subjective measure of firm performance is valid and reliable proxies for objective measures, however, “objective measures of firm performance has been found to be relatively free from measurement error (Devaraj, Hollingworth, & Schroeder, 2001; Meier & O’Toole, 2012). Therefore, future research could incorporate objective measures of SME performance in order to replicate the findings of the current study. Second, the present study offers quite limited generalizability because it focused mainly on SMEs in Brunei Darussalam. Thus, future research is needed to include SMEs in other research context in order to generalize the findings. Furthermore, future research could study and compared Brunei Darussalam with other ASEAN countries. Finally, the present study employed a cross-sectional design. One major weakness of cross-sectional design is that it does not allow causal inferences to be made from the population. Hence, given the shot coming of cross-sectional design, future research is strongly needed using longitudinal research design in order to measure re-examine the relationship between total quality management and SME performance by collecting data at different points in time to confirm the findings of the present study.

6. CONCLUSION

The present study demonstrated that BDS is an important factor, which positively related to SME performance. In conclusion, the present study has extended our knowledge of the underlying determinants of SME performance in the context of Brunei Darussalam. The results are notable because they are well grounded in aspects of the literatures on entrepreneurship.

ACKNOWLEDGEMENT

The authors would like to acknowledge the funding support from Universiti Teknologi Brunei, through the University Research Committee, which made this research possible. The authors would also like to acknowledge participants of the 6th International Conference on Accounting, Business and Economics (ICABEC 2020) for their invaluable inputs and suggestions during the virtual presentation amid COVID-19 outbreak.
REFERENCES


CONCEPTUAL FRAMEWORK ON ISO9001:2015 PRACTICES AND ORGANIZATION PERFORMANCE ON MOE IN OMAN.

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ABSTRACT
Implementation of quality systems in the education industry plays an instrumental role in bringing about more creativity and innovation. Moreover, the quality systems encourage the development, management, and maintenance of processes and the standard of education. The certificate is considered an international standard for quality management and services and is aimed at improving the administrative system to achieve high quality. ISO 9001 is applicable to any organisation irrespective of their size or geographical location. One of the major strengths of ISO 9001 is its wider appeal for all types of organisation. Although the application of ISO 9000 Quality Management System has internationally proven its effectiveness and positive effects on the overall performance of organizations, the effects of its implementation in the field of study are still in doubt. Therefore, this research study identified the relationship between ISO9001:2015 practices and organizational performance. ISO 9001 QMS provides the infrastructure, procedures, processes and resources needed to help organisations both monitor and improve their performance to drive efficiencies, client service and product excellence. Customer satisfaction is main element because of the performance of General Directorate in their administration. Other than that proper system will be apply due to ISO application in ministry of education in Oman. Management commitment is another main factor for the employees in the Ministry of Education in order to provide quality service. In previous research also determine that effectiveness and efficiency are important factor in ISO implementation in MOE.

KEYWORDS: ISO, Customer Satisfaction, Management Commitment, Effectiveness and Efficiency
THE IMPACT OF ORGANIZATIONAL AGILITY CAPABILITIES ON ACHIEVING TRANSFORMATION INTO HIGH PERFORMANCE ORGANIZATION.

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ABSTRACT

This study aims to propose the importance of transforming traditional (low-performing) organizations into high-performance organizations. In this study, the quantitative research design will be used, which enables the researcher to test the relationship between the organizational agility and high performance’s organization. Therefore 350 questionnaires that will be distributed randomly to managers in senior management and middle management in the Jordanian Public Shareholding Industrial Companies. The methodology will be applied to all 56 companies of the Jordanian Public Shareholding Industrial Companies. Researcher uses SPSS and Partial Least Squares (PLS-SEM) to analyse the data. This study appeared at the beginning of the emergence of Arab studies on the importance of practicing modern administrative methods and techniques in developing performance. Thus, it would contribute to providing experimental literature, and opening the doors to more theoretical and academic research studies in the future. In practical side, practitioners can benefit from this study to help address the problem of stumbled performance in the Jordanian public shareholding industrial companies, by demonstrating the importance of practicing organizational agility and its impact on achieving the highest performance of companies.

KEYWORDS: Organizational Agility, High-Performance Organization, Jordanian Public Shareholding Industrial Companies.
MEASURING INNOVATION CAPABILITIES, LOGISTICS SERVICE QUALITY AND SUSTAINABLE BUSINESS PERFORMANCE OF MALAYSIAN 3PL SERVICE PROVIDERS: A CONFIRMATORY FACTOR ANALYSIS APPROACH

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ABSTRACT

Many enterprises require facilitating agencies such as third-party logistics (3PL) service providers to assist them in transporting their products or services. In today’s highly competitive environment, 3PL service providers need to be more innovative in providing their services to their clients. Therefore, this study explores innovation capabilities (management innovation, service innovation, technology innovation, marketing innovation, and process innovation) and logistics service quality and how they may be related to the sustainable business performance of 3PL service providers in Malaysia by conducting a literature review and developing a questionnaire to access the views of industry experts. To this end, this study aims at testing the psychometric properties of questionnaire items on innovation capabilities, logistics service quality, and sustainable business performance. In total, 500 questionnaires were distributed to selected 3PL service providers in Malaysia. The data collected from 152 usable questionnaires was analysed using IBM SPSS AMOS 26. The first-order confirmatory factor analysis (CFA) approach was employed to revise a hypothesised model on the relation between innovation capabilities, logistics service quality, and sustainable business performance among Malaysian 3PL service providers. The revised CFA measurement model indicated goodness of fit and therefore showed that the revised model fitted the data well. The findings of this study explain the significant role of innovation capabilities and logistics service quality in improving the sustainable business performance of 3PL service providers in Malaysia. This improvement is vital for ensuring that the Malaysian government will be geared up for achieving performance excellence through innovation for the betterment of life.

KEYWORDS: Innovativeness, Services, Third-Party Logistics, Confirmatory Factor Analysis, Malaysia
TRACK 2C
ECONOMICS
MEASURING TECHNICAL EFFICIENCY OF TRANSPORT MANUFACTURING INDUSTRY IN MALAYSIA: A COMPARISON OF DEA AND SFA METHOD

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ABSTRACT

This article is a comprehensive analysis that measures the level of technical efficiency (TE) of the transportation manufacturing industry in Malaysia by making a comparison between the method of Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA). This study uses data at the firm level and involves the entire sub-industry involving 611 firms from 2005 to 2010. Comparative analysis is started by selecting either the constant returns to scale (CRS) and Variable Return to Scale (VRS) models through the DEA approach. While the SFA approach chooses whether to use the Cobb-Douglas or Translog function. Next, analyze whether the efficiency measures provide consistent results based on DEA and SFA comparisons taking into account the three main criteria of comparison namely comparing efficiency distributions with each other, efficiency based comparisons and identifying firms or sub-industries whether they have the best performance and worst performance. The results of the study showed that the VRS model has a high average efficiency compared to CRS through the DEA approach and the Translog function was selected through the SFA approach. In addition, parametric and non-parametric methods generally have a consistent distribution of each other and produce a high level of efficiency for the entire firm. Meanwhile, the comparison of Spearman’s correlation coefficient between DEA and SFA was found to be weak and inconsistent between one sample and another. However, comparisons can still be made using subsector samples. Finally, the DEA and SFA approaches show inconsistencies in identifying the best and worst performing firms. This can result in different policy makers targeting and depending on the method used to formulate the policy.

KEYWORDS: Data Envelopment Analysis, Stochastic Frontier Analysis, technical efficiency, productivity, transport.

1. INTRODUCTION

Recently, studies on efficiency in the transport industry have become increasingly important as the pace of change in the industry has increased particularly in western and other countries (e.g. Jarboui et al. 2013; Chang and Tovar, 2014; Gonzalez, 2015; Rhee and Kim, 2015, Fahmy-Abdullah et al., 2019). However, the number of efficiency studies of the transport industry is very limited in Malaysia. Most of the studies conducted are general and non-exhaustive (involving whole subindustry). In addition, the results obtained from different approaches can actually cause conflicts and difficulties with policy makers or implementers to determine the right and appropriate policy implications to improve the technical efficiency (TE) of the transport industry.

Parametric and non-parametric approaches are two of the most widely used approaches for measuring technical efficiency (TE) (Jarboui et al. 2012). This approach is a popular and widely used method for measuring the efficiency of a firm or industry (Mahadevan, 2004) and is also an alternative approach that has been widely studied as a methodology of various industries or organizations (Cullinane et al. 2006). A parametric approach, known as the Stochastic Frontier Analysis (SFA) method, determines the form of cost function, profit or production function between input, output and environmental factors (Aigner et al. 1997). While inefficiencies and random errors are considered orthogonal to the input, output or environment variables that have been selected in the equation estimation (Baume, 2004). The SFA method also analyzes the structure, examines the determinants and performance factors (Cullinane et al. 2006, Fahmy-Abdullah et al, 2019) and is easily adaptable to environmental variables and enables statistical hypothesis testing to be performed on any boundary parameter to be associated with economic theory (Coelli, 1996; Coelli et al, 2005).

However, a non-parametric approach known as the Data Envelopment Analysis (DEA) method was introduced by Farrell (Farrell, 1957). The DEA method estimates the relationship between inputs and outputs with minimum assumptions (Banker et al. 1984) and can measure the Decision Making Unit (DMU) that is
said to be efficient and sensitive to unreliable data. A DMU that is considered to be efficient will form a boundary of efficiency for all other units below that boundary (Avkiran, 2001). The DEA method does not allow for random errors in addition to hypothesis testing and statistics are not performed to estimate efficiency scores (Boame, 2004).

Looking at it, the debate still exists between parametric or non-parametric approaches. Studies such as Yu and Fan (2009), Agarwal et al. (2010), Sun et al. (2015) and Sabli et al. (2019) focused on the DEA approach while Coto-Millan et al. (2004), Mazumder and Adhikary (2010), Jarboui et al. (2015) and Fahmy-Abdullah et al. (2017) using the SFA approach. There are also studies that make comparisons between these two approaches (whether involving the transport industry or other industries), particularly those related to efficiency (as described in detail by Lovell, 1993). Similarly, an earlier study conducted by Ferrier and Lovell (1990) measured the cost efficiency in banking by assessing the strengths and weaknesses of both approaches. Meanwhile, port-related efficiency studies conducted by Cullinane et al. (2006) have highlighted the strengths and weaknesses of both approaches. Similarly, studies conducted by Karlaftis and Tsamboulas (2012), Odeck and Braten (2012) and Randrianarisoa et al. (2015). In fact, there are studies that compare three approaches to measuring competencies such as Coelli and Perelman (1999) and Lin et al. (2013). However, to our knowledge, there is still no competency study comparing analysis in the transport industry in Malaysia.

The contribution of this article to past studies should be given serious attention. The objective of this article is to perform a comprehensive comparative analysis between the DEA and SFA methods to measure the TE level of the transport industry in Malaysia so that the research gap can be met. Furthermore, the industry is still less explored among researchers than in other industries. This analysis is not intended to determine which method is better for measuring efficiency that ultimately controls for efficiency using only one approach. Instead, this article proposes a set of consistent conditions that must be met from a variety of approaches to serve as a guide to policy makers or other implementers for planning and policymaking in the transport industry in Malaysia. It is important that these decisions be consistent so that the recommendations and conclusions reached are more accurate.

2. DATA AND METHODOLOGY

2.1 Data Envelopment Analysis (DEA)

The DEA method established by Farrell (1957) is a non-parametric linear programming technique aimed at assessing the efficiency of a firm or organization (defined as a Decision Making Unit or DMU in the DEA literature). Charnes et al. (1978) and Coelli (1996) conducted a follow-up study to measure the level of efficiency and proposed an input-oriented model namely the Charnes, Cooper and Rhodes Model (CCR Model). This model assumes that the input reduction or output increase is at a constant rate (constant return on a scale - CRS) for each Decision Unit (DMU) or also known as the CCR-CRS model that provides General Technical Efficiency (GTE) (Nunamaker) technical efficiency scores, (1985)

The CCR model assumes that there is no significant relationship between operating size and efficiency assuming that the efficiency score obtained is CRS. The assumption of CRS is only justified when all DMUs are operating at the optimum level. However, firms in the transportation industry are likely to experience rising or falling economies of scale (SE) (a maximum increase in output due to the use of minimal inputs). Therefore, if CRS assumptions are made and at the same time not all DMUs operate at an optimal level, then TE score calculation will be contaminated with scale efficiency.

Banker et al. (1984) have improved the previous CCR model which assuming that all DMUs are CRS. The BCC model (Banker, Charnes and Cooper, 1984) has been introduced to assess DMU efficiency scores which have the assumption that the input reduction or output increase is at a constant rate (Variable Return on Scale - VRS). The BCC-VRS model provides a Local Pure Technical Efficiency (LPTE) efficiency score (Nunamaker, 1985). VRS measures TE scores without detecting SE. If there is a difference between the TE and LPTE scores of a particular DMU, then it indicates a scale inefficiency, which is TE = PTE x SE. This situation indicates that the ability to utilize the firm’s resources provided, while the second refers to exploiting economies of scale operating on the production border that reflects the CRS.

2.2 Stochastic Frontier Analysis (SFA)

The SFA model was proposed by Aigner et al. (1977) and Meeusen et al. (1977) and subsequently Battese and Coelli (1995) to obtain firm TE values. The SFA model applied in this article uses the Cobb-Douglas and Translog functions (Coelli et al. 2005) to analyze the transport industry using panel data from 2005 to 2010 that contains three inputs and one output.
2.3 Firm input specification, output and data

This study involved firm-level data conducted through the Manufacturing Industry Survey (IMS) conducted by the Department of Statistics Malaysia (DOS) from 2005 to 2010. The firm level data used in this study is the latest data that has been released by the Department of Statistics Malaysia (DOSM) based on Economic Census 2015. The data obtained need to get permission and involve a long process. While the selected efficiency variables were based on variables that had a significant impact on the results of the study. In fact, the input and output variables selected should reflect the real objectives of the study conducted in the transport industry. However, the main problem of variable selection is due to the lack of relevant data. This problem is exacerbated by the difficulty in obtaining data at the firm level due to lack of cooperation from employers in responding to the DOS-issued questionnaire. Therefore, some studies such as Princess (2007), Rahmah and Idris (2008) and Noor Aini (2013) only use industry-level data to conduct studies related to the transport industry.

However, Tingley et al. (2005) emphasize that budgeting using firm data as an individual is preferable because further analysis of factors affecting the level of budgeting can be studied. In fact, the use of data at the firm level taking into account the determinant factors can produce more significant and accurate efficiency values (Battese and Coelli, 1995). The main advantage of this study is that we use firm-level data obtained from DOS. The selection of outputs, inputs and variables of the study is based on the objective of the study in addition to the previous studies and relies on existing data and avoids the use of unnecessary variables that may affect the results of the study.

According to Mankiw et al. (1995), this study used three inputs namely capital ($x_1$), which is the purchase value and fixed assets account for construction and improvement during the reference year (measured in Ringgit Malaysia); workers ($x_2$), where all workers are paid for wages and benefits as employers or workers. While intermediate input ($x_3$) is also included in the input as production factor which is the value of materials and supplies used including cost of industrial work, electricity and water, value of fuel, lubricant and gas used and so on. While the output used is Sales ($y_1$), it refers to the sale of products produced by the firm (measured in Ringgit Malaysia). Table 1 shows a summary of the statistics of input and output variables used in the DEA and SFA methods..

<table>
<thead>
<tr>
<th>Output</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales ($y_1$)</td>
<td>4176086</td>
<td>275896</td>
<td>21318011</td>
<td>4589477.059</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital ($x_1$)</td>
<td>942623</td>
<td>57964</td>
<td>4465787</td>
<td>919913.636</td>
</tr>
<tr>
<td>Labour ($x_2$)</td>
<td>8508</td>
<td>894</td>
<td>22477</td>
<td>6679.767</td>
</tr>
<tr>
<td>Intermediate input ($x_3$)</td>
<td>4058439</td>
<td>201730</td>
<td>18044586</td>
<td>3944969.305</td>
</tr>
</tbody>
</table>

Source: Department of Statistics Malaysia, 2005 – 2010

Data collection provided by the DOS can be categorized into 6 sub-industries at the 3-digit level according to MSIC 2000 and MSIC 2008 namely motor vehicle manufacturing, passenger car manufacturing and commercial vehicle manufacturing; the construction of coachwork for motor vehicles and the manufacture of trailers and semi-trailers; manufacture of spare parts and accessories for motor vehicles; construction of ships and boats, construction of ships and floating structures and construction of cruise and sports boats; construction of aircraft and spacecraft and related machinery; manufacture of transport equipment whose activities are not classified elsewhere (t.t.t.t.), manufacturing of motorcycles and the manufacture of bicycles and vehicles of persons with disabilities. Data collection by the DOS is based on the needs and objectives of the study and is done randomly through a step-by-step simulation process including identifying large, medium and small firms, number of employees, capital and value added.

Based on original data obtained from the DOS, the screening process again with several firms was dropped due to a lack of relevant information (incomplete output or capital value) and a very small number of workers who did not meet the intent of the small and medium firms. (less than 5 employees) that impacted the sample analysis. In total, 611 firms were involved from 2005 to 2010. In addition, all inputs and outputs took into account 2005 as the year under study.

Next, To determine whether the results obtained are consistent or not to achieve the objectives outlined, here are five criteria for measuring the efficiency comparison of Bauer et al. (1998) have been selected by comparing TE distributions with each other, comparing TEs position and lastly identifying firms or sub-industries that have the best and worst performance.
3. RESULT

Prior to the analysis of the DEA model and the SFA model, the data filtering process was performed as described previously as it could have impact on the analysis of the sample performed.

3.1 Efficiency based on DEA model

Based on the CCR-CRS model and the BCC-VRS model, DEAP software version 2.1 (Coelli, 1996) was used to derive the efficiency of the transport manufacturing industry. Table 2 shows the efficiency scores of the CCR-CRS and BCC-VRS models of the transport industry in Malaysia from 2005 to 2010.

Table 2: Efficiency Score Of Transport Manufacturing Industry Using CCR-CRS Model And BCC-VRS Model, 2005 - 2010

<table>
<thead>
<tr>
<th>Sub-Industry</th>
<th>CCR-CRS Model</th>
<th>BCC-VRS Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.201</td>
<td>0.287</td>
</tr>
<tr>
<td>2</td>
<td>0.211</td>
<td>0.490</td>
</tr>
<tr>
<td>3</td>
<td>0.281</td>
<td>0.426</td>
</tr>
<tr>
<td>4</td>
<td>0.274</td>
<td>0.327</td>
</tr>
<tr>
<td>5</td>
<td>0.345</td>
<td>0.464</td>
</tr>
<tr>
<td>6</td>
<td>0.282</td>
<td>0.383</td>
</tr>
<tr>
<td>Average</td>
<td>0.266</td>
<td>0.396</td>
</tr>
</tbody>
</table>

Note: 1 = motor vehicle manufacturing, passenger car manufacturing and commercial vehicle manufacturing; 2 = the manufacture of frames for motor vehicles and the manufacture of trailers and semi-trailers; 3 = manufacture of spare parts and accessories for motor vehicles; 4 = construction of ships and boats, shipbuilding and floating structures and construction of cruise and sports boats; 5 = construction of aircraft and spacecraft and related machinery; 6 = manufacturing of transport equipment whose activities are not classified elsewhere, motorcycle and bicycle manufacturing and disabled vehicles.

The results of these efficiency scores show that the average efficiency of the CCR-CRS model has a lower average efficiency per year compared to the BCC-VRS model with the overall average values of 0.325 percent and 0.525 percent, respectively. This result is not surprising given that the CCR-CRS model assumes that the input reduction or output increase is constant, while the BCC-VRS model assumes that the input reduction or output increase is at a constant rate and gives the Local Pure Technical Efficiency (LPTE) without detecting the economies of scale (SE). Therefore, based on these results, this study selected the BCC-VRS model to be compared with the efficiency level in the SFA model because its efficiency score was higher than that of the CCR-CRS model.

Based on the results obtained on the BCC-VRS model, the highest average efficiency score was recorded in 2007 at 0.579 percent. While sub-industry 6 had the highest average efficiency score 0.611 percent during the study period.
3.2 Efficiency based on SFA model

In order to determine the best production function either the Cobb-Douglas and Translog functions, the hypothesis testing was performed using LR (λ). Null hypothesis for testing production selection is that Cobb-Douglas production function is suitable to represent data in this study:

\[ H_0 = \text{Cobb-Douglas production function} \]

\[ H_1 = \text{Translog production function} \]

Statistic value LR for testing null hypothesis \( H_0 : \beta_{ij} = 0 \) is calculated and compared with critical value for \( \chi^2_6 \) distribution, (at 5 percent level of significance), Table 3:

<table>
<thead>
<tr>
<th>Null hypothesis</th>
<th>Cobb-Douglas ( ( H_0 : \beta_{ij} = 0 ))</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR Statistics</td>
<td>36.09***</td>
</tr>
<tr>
<td>Critical value</td>
<td>16.81***</td>
</tr>
<tr>
<td>Result</td>
<td>Reject ( H_0 )</td>
</tr>
</tbody>
</table>

Note: *** indicates 1% significance level

The results of this study shows that the Cobb-Douglas production function was rejected during the study period while the more general Translog production function was selected and considered more appropriate to represent the data studied as shown in Table 3. While the TE results for the Translog production industry the construction of transportation from 2005 to 2010 in detail is be shown in Table 4.

Table 4: SFA (Translog) Technical Efficiency Results, 2005 – 2010

<table>
<thead>
<tr>
<th>SFA</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.584</td>
<td>0.657</td>
<td>0.939</td>
<td>0.688</td>
<td>0.751</td>
<td>0.718</td>
</tr>
<tr>
<td>2</td>
<td>0.494</td>
<td>0.580</td>
<td>0.717</td>
<td>0.767</td>
<td>0.536</td>
<td>0.468</td>
</tr>
<tr>
<td>3</td>
<td>0.521</td>
<td>0.624</td>
<td>0.780</td>
<td>0.577</td>
<td>0.744</td>
<td>0.633</td>
</tr>
<tr>
<td>4</td>
<td>0.467</td>
<td>0.672</td>
<td>0.578</td>
<td>0.609</td>
<td>0.610</td>
<td>0.498</td>
</tr>
<tr>
<td>5</td>
<td>0.509</td>
<td>0.491</td>
<td>0.951</td>
<td>0.442</td>
<td>0.522</td>
<td>0.435</td>
</tr>
<tr>
<td>6</td>
<td>0.573</td>
<td>0.595</td>
<td>0.712</td>
<td>0.629</td>
<td>0.547</td>
<td>0.747</td>
</tr>
<tr>
<td>Average</td>
<td>0.525</td>
<td>0.603</td>
<td>0.780</td>
<td>0.619</td>
<td>0.618</td>
<td>0.573</td>
</tr>
</tbody>
</table>

Note: 1 = motor vehicle manufacturing, passenger car manufacturing and commercial vehicle manufacturing; 2 = the manufacture of frames for motor vehicles and the manufacture of trailers and semi-trailers; 3 = manufacture of spare parts and accessories for motor vehicles; 4 = construction of ships and boats, shipbuilding and floating structures and construction of cruise and sports boats; 5 = construction of aircraft and spacecraft and related machinery; 6 = manufacturing of transport equipment whose activities are not classified elsewhere, motorcycle and bicycle manufacturing and disabled vehicles.

The results show that the whole sub-industry operates at a moderate level. This is especially evident when in 2007 it recorded the highest efficiency level of 0.78 percent while in 2005 it recorded the lowest efficiency level of 0.53 percent. Whereas sub-industry 1 had the highest average efficiency during the year under review at 0.723 percent and sub-industry 5 had the lowest efficiency average of 0.558 percent.

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1 LR test statistic, \( \lambda = -2 \{ \ln(\lambda(H_0)) / \ln(\lambda(H_1)) \} = -2 \{ \ln(\lambda(H_0)) \} \) have \( \chi^2_q \) distribution where \( q \) is the number of parameter and assumed to be zero in hull hypothesis.
3.3 Comparison Between Results of DEA And SFA

The objective of this article is to measure efficiency by performing a comprehensive comparative analysis between two-stage DEA and SFA methods. Therefore, the five criteria set by Bauer et al. (1998) have been selected for comparative purposes to obtain study results including comparing efficiency distributions with each other, efficiency based comparisons and identifying firms or sub-industries whether they have the best performance and worst performance.

3.3.1 First criteria: Comparison of efficiency distribution

The results of the efficiency distributions produced by the parametric and non-parametric approaches can be shown in Table 5. Based on three different samples, the overall efficiency on the non-parametric DEA model was 0.529 (with the highest number of modes being 1,000), while the overall model efficiency was the SFA parametric is 0.624 (with the highest number of modes being 0.895). Overall, based on a sample of both approaches, the average efficiency in the transportation industry is modest.

Table 5: Comparison of Efficiency Distribution Between DEA And SFA Model

<table>
<thead>
<tr>
<th></th>
<th>DEA</th>
<th>SFA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Year</td>
<td>Subsector</td>
</tr>
<tr>
<td>Mean</td>
<td>0.529</td>
<td>0.538</td>
</tr>
<tr>
<td>Median</td>
<td>0.449</td>
<td>0.564</td>
</tr>
<tr>
<td>Mode</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.103</td>
<td>0.436</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.000</td>
<td>0.593</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.293</td>
<td>0.067</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.488</td>
<td>-0.822</td>
</tr>
<tr>
<td>Curtosis</td>
<td>-1.138</td>
<td>-1.239</td>
</tr>
<tr>
<td>Total firm</td>
<td>611</td>
<td>611</td>
</tr>
</tbody>
</table>

In addition, the standard deviation of the three samples by the non-parametric approach was 0.136 compared to the parametric approach of 0.127. This indicates that the position between one firm and another firm based on the parametric approach is closer to the level of full efficiency than the non-parametric approach. Skewness values show that the data distribution for non-parametric and parametric approaches is more biased towards the left because the mode value is larger than the average value and both data approaches the symmetry. While the value of kurtosis represents the level of data volatility based on the three samples in the transport industry. Although the results show that the SFA data is more dispersed or dispersed than the DEA and the average efficiency of the DEA is higher than that of the SFA, however, the degree of data volatility in both areas remains the same or may be interpreted as Mesocarctic volatility and at a consistent level.

In conclusion, it can be said that parametric and non-parametric methods generally have a consistent distribution among each other and produce a high degree of efficiency for the entire firm involved. The findings are a result of the process of data filtering taking into account the external elements that are so important to the analysis performed. This is because the non-parametric method is very sensitive to the external element compared to the parametric method which can make a significant difference to the results obtained. Therefore, when the external element is taken into account then the efficiency estimates obtained are more realistic or reliable.

3.3.2 Second criteria: Comparison of efficiency ranking

Although the efficiency level estimates between the DEA and the SFA vary slightly between the firms in the transport industry, this method may produce a firm position similar to the level of efficiency across the mapping method. In fact, identifying firms in the transportation industry that are more effective by policy makers is more important than absolute measures of efficiency. Bauer et al. (1998) assert that if the firm's position is not identical, then the policy adopted may be unstable and will depend only on the boundary approach used.
Table 6: Spearman’s Rank Correlation Coefficient

<table>
<thead>
<tr>
<th></th>
<th>DEA All</th>
<th>DEA Year</th>
<th>DEA Subsector</th>
<th>SFA All</th>
<th>SFA Year</th>
<th>SFA Subsector</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEAall</td>
<td>1.000</td>
<td>0.029</td>
<td>0.771*</td>
<td>0.089</td>
<td>-0.429</td>
<td>1.000</td>
</tr>
<tr>
<td>DEAyear</td>
<td>-0.143</td>
<td>0.257</td>
<td>0.429</td>
<td>-0.714</td>
<td>0.771*</td>
<td>-0.371</td>
</tr>
<tr>
<td>DEASubsector</td>
<td>0.429</td>
<td>-0.714</td>
<td>1.000</td>
<td>0.029</td>
<td>1.000</td>
<td>-0.429</td>
</tr>
</tbody>
</table>

Note: * indicates 10% significance level, obtained from Spearman’s Ranked Correlation Coefficient distribution table

Table 6 illustrates the extent to which Spearman's correlation coefficients differ from one firm to another based on six different samples using the firm's overall sample. The average rating of each firm using different samples is based on the average efficiency level over the six years of the study. Based on the benchmark used, Spearman's DEA average correlation coefficient among each other as a whole was positive at 0.371 and the correlation between DEA data and DEASubsector showed positive and significant depictions of both samples having similar firm positions with a high value of 0.771. On the other hand, the overall average correlation coefficient of Spearman’s SFA was negative at -0.181 but not significant.

In addition, the comparison of Spearman's correlation coefficients between DEA and SFA data is very weak and inconsistent between one sample and another. The average correlation obtained was negative at -0.314. The results showed that four out of nine samples had negative results and one of them was negative and significant. However, the correlation between the DEASubsector and SFASubsector data showed a positive and significant difference in that the two samples were still consistent with each other with a high value of 0.7714. This means that comparisons can still be made between the DEA and the SFA provided that they only use the sample data of the DEASubsector and SFASubsector. On the other hand, if the comparison is made between DEA Year and DEASubsector with SFASubsector and DEASubsector, then the results obtained are contradictory as the firm's position is not the same. These decisions can cause conflicts among policy makers because the policies they implement may not be strong at all.

3.3.3 Third criteria: Identifying firm’s best and worst performance

Table 7: Firms’ Best And Worst Performance

<table>
<thead>
<tr>
<th></th>
<th>DEA All</th>
<th>DEA Year</th>
<th>DEA Subsector</th>
<th>SFA All</th>
<th>SFA Year</th>
<th>SFA Subsector</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEAall</td>
<td>0.089</td>
<td>-0.213***</td>
<td>0.744***</td>
<td>-0.009</td>
<td>0.199***</td>
<td>0.599***</td>
</tr>
<tr>
<td>DEAnYear</td>
<td>0.370***</td>
<td></td>
<td>-0.213***</td>
<td>0.199***</td>
<td>0.599***</td>
<td>-0.032</td>
</tr>
<tr>
<td>DEASubsector</td>
<td>0.337***</td>
<td>0.359***</td>
<td>-0.096</td>
<td>0.999***</td>
<td>0.371***</td>
<td>0.331***</td>
</tr>
<tr>
<td>SFAall</td>
<td>0.999***</td>
<td>0.371***</td>
<td>0.331***</td>
<td>0.212***</td>
<td>0.935***</td>
<td>0.022</td>
</tr>
<tr>
<td>SFAyear</td>
<td>0.212***</td>
<td>0.935***</td>
<td>0.305***</td>
<td>0.199***</td>
<td>0.371***</td>
<td>-0.310***</td>
</tr>
<tr>
<td>SFASubsector</td>
<td>0.022</td>
<td>0.215***</td>
<td>0.865***</td>
<td>0.021</td>
<td>0.228***</td>
<td></td>
</tr>
</tbody>
</table>

Note: Upper right triangle on top right indicates top 25% performance
Lower left triangle indicates bottom 25% performance
*** indicates 1% significance level
** indicates 5% significance level

According to Table 8, the top right triangle in the table shows the top 25 percent of firms performing best based on different samples. For example, while 25 percent of the firms with the best performance were identified based on the SFA sample, 74.4 percent of the same firms also had the best performance identified by all DEA samples. This percentage also indicates that 25 percent of the best performing firms have been identified by SFAall and DEAall with the same number being 25 percent (153 out of 611 firms). The value obtained is based on 25 per cent of the firm and the value of 0.744 shown in the table shows positive and significant at the 1% level. The same analysis also occurred on the bottom left showing 25% of firms with the worst performance.
The table finds that the parametric, non-parametric approaches and the parametric and non-parametric approaches are in poor consistency. For the parametric approach, only one of the three best-performing samples showed positive and significant significance at the 5 percent level of significance, 18.5 percent. Whereas two of the three worst performing samples of the parametric approach showed positive and significant significance at the 1 percent level with an average of 22.05 percent. The non-parametric approach, however, finds that the three best-performing samples are in a state of inconsistency. In contrast, for the three worst performing samples the non-parametric approach was in excellent condition when positive and significant at the 1 percent level with an average of 35.4 percent

Similarly, the comparison between the DEA and the SFA found that 25 percent of the firms with the best performance were in poor consistency. Only three of the six samples were positive and significant at the 1 percent level with an average of 51.4 percent, while the other three had negative results and one of them was significant. Meanwhile, 25 percent of firms with the worst performance showed eight out of nine samples were positive and significant at the 1 percent level with an average of 52.91 percent.

4.0 CONCLUSION

This study aims to investigate the consistency of technical efficiency measures derived with two different methodologies: Stochastic Frontier Analysis (SFA) and Data Envelopment Analysis (DEA). This study involved firm-level data conducted through the Manufacturing Industry Survey (IMS) conducted by the Department of Statistics Malaysia (DOS) from 2005 to 2010. Our main conclusions from the analysis of three consistency criteria are as follows. The average efficiency in the transportation industry is modest while parametric and non-parametric methods generally have a consistent distribution among each other and produce a high degree of efficiency for the entire firm involved. However, the comparison of Spearman's correlation coefficients between DEA and SFA data is very weak and inconsistent between one sample and another. Therefore, policymakers can apply DEA method if the goal is identify technical efficiency of firms. On the other hand, SFA method can be applied to identify the factors of inefficiency of firms.

ACKNOWLEDGEMENTS

We are deeply indebted to the Department of Statistic Malaysia (DOSM) that provided us with the necessary data and permission for this research. Authors acknowledge Ministry of Higher Education, Department of Statistic Malaysia, Universiti Tun Hussein Onn Malaysia (UTHM) and Universiti Kebangsaan Malaysia (UKM) for providing the necessary funding, facilities, and assistance. This research was supported by Registrar, Universiti Tun Hussein Onn Malaysia and UTHM-GPPS-H449-2019 from Research Management Centre Universiti Tun Hussein Onn Malaysia.

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ABSTRACT

Any company that is in the mature stage has the potential for bankruptcy. The potential for bankruptcy of a company can be seen and measured by the bankruptcy analysis methods. The bankruptcy analysis that is often used is the analysis of Grover, Springate, Zmijewski and Ohlson model, with the aim of predicting a company's condition as a consideration for further decision making. The purpose of this study is to determine the most appropriate model in predicting potential bankruptcies in insurance sector companies those listed on the Indonesia Stock Exchange for the 2014-2019 periods. The population in this study was 15 insurance companies with a sample of 10 companies with the smallest market capitalization. The results of data processing with the four analysis model obtained different results from one another. Grover and Zmijewski model show that none of the 10 insurance companies experienced financial distress; Springate model state that 8 out of 10 insurance companies experiencing financial distress; and Ohlson model state that 4 out of 10 insurance companies experiencing financial distress. The results also shows that the Grover model have the highest accuracy rate and the lowest error type. Therefore, it is expected to use an appropriate and appropriate model in measuring this bankruptcy.

KEYWORDS: Bankruptcy, Insurance Sector, Grover, Springate, Zmijewski, Ohlson
HOUSEHOLD PREFERENCES ON THE ENERGY LABELLING OF REFRIGERATOR: AN APPLICATION OF CHOICE EXPERIMENT METHOD

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mahirahkamaludin@gmail.com

ABSTRACT

Energy label allows saving on consumers’ electricity bill, reduces environmental impact and helps consumers make better informed purchasing decision. This paper employed a hypothetical choice experiment (CE) in Terengganu, Malaysia to investigate whether the energy efficiency (EE) label influences consumer preference on refrigerator. Based on the CE, consumers’ awareness and attitude regarding refrigerator were measured. A conditional logit better was specified to measure the attributes that consumers search for when choosing refrigerators. This study focused on non-monetary attributes, namely energy star, energy consumption, price of refrigerator and energy saving and monetary attribute. Results revealed about 90.2% of respondents are willing to pay to get better quality appliances that promote safe environment and 9.8% are not willing to pay. The consumers prefer to pay more for refrigerator with low energy consumption as they believe reducing energy consumption every year will save their money. Maintaining an energy-efficient home can significantly reduce the cost of utility bills and benefit the environment by conserving natural resources.

KEYWORDS: Choice experiment, energy label, energy efficient, refrigerator, willingness to pay
TODA-YAMAMOTO CAUSALITY TESTING FOR TOURIST ARRIVAL AMONG ASEAN-5 COUNTRIES

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ABSTRACT

The purpose of this study was to investigate the integration of tourist arrivals among Malaysia, Indonesia, Singapore, Thailand, and the Philippines. This study employed several econometric techniques such as unit root test, vector autoregressive model (VAR model), Johansen approach for co-integration and the Granger causality based on Toda and Yamamoto (1995) approach. In addition, it utilised the time series data from 1970 to 2014. Based on the causality test for tourist arrival in ASEAN-5 countries, it can be concluded that the policies implemented across ASEAN countries had been unsuccessful as the causalities for each country were not integrated between each other. Thus, it can be stated that there was low-level co-integration despite many efforts that had been taken for tourism development, thus signifying the unsuccessful ASEAN efforts in promoting tourism. At the same time, tourist arrival among ASEAN countries is leaning towards the individual, rather than as a collective. This study presumed that when the arrangement has been made, and the leaders of ASEAN-5 countries are serious to collaborate with each other, there will be many positive bi-directional results. The results from this study could serve as a good reference for policymakers in these countries for making efficient policy to move forward.

KEYWORDS: Co-integration, Granger Causality, Toda-Yamamoto approach.
TRACK 2D BUSINESS
A PROCESS MODEL OF RECRUITING FROM THE JOB-SEEKER’S PERSPECTIVE

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(awanis@uniten.edu.my, david.dean@lincoln.ac.nz, Muhdmajid@uitm.edu.my, Faizal.azman@drb-hicom.com)

ABSTRACT

Recruitment involves several decisions; some are made by the organization and others by individual job seekers. If done well, recruitment can lead to success for organizations and job satisfaction for job holders. If done poorly, organisational suffers and individuals can be dissatisfied with their job, make poor decisions, and perhaps leave the firm. Job dissatisfaction occurs when jobs fail to meet the individuals’ expectations or fulfil their needs. Such job dissatisfaction often leads to a new job search. In the job search literature, the type and attributes of the job information available are important for job seekers. However, the most valued specific job-related information varies across potential employees. This variation exists because the search for specific job-related information differs among individuals, influenced by individuals’ needs and expectations. The process of matching individuals’ needs and expectations with the selection of specific job-related information may help avoid job dissatisfaction and turnover. This research draws from the extant literature to map the process of recruiting from the perspective of the job seeker. This process follows the conditions prior to job seeking, self-regulation mechanisms that drive the decision to change jobs, specific job content and job context specifications that direct information search, and the necessary satisfaction of these specifications that leads to job application. The proposed process model of recruiting from the employee perspective is empirically tested with the intention of validation using a sample of 396 employees of a major corporation in Malaysia. Three hypotheses, drawn from the model, all found significant support so it can be concluded that 1) there is a positive relationship between salary as a motivator for the job seeker and the importance of job context information (including salary); 2) There is a positive relationship between the current working conditions of job seekers and the importance of non-salary job context information; and 3) There is a positive relationship between the job itself as a motivator for the job seeker and job content information.

KEYWORDS: recruiting job dissatisfaction, motivation to search, job-specific information, information-seek

1. INTRODUCTION

Recruitment is an important function of an organization’s human resources planning. This is because recruitment is responsible for attracting new employees with appropriate knowledge and skills required by the organization (Momin, & Mishra, 2015; Allen, et al, 2004). Successful recruitment results in an organization hiring employees who are skilled, experienced, and a good fit with the organization’s culture (Swider et al, 2015; Sangeetha, 2010; Barber, 1998). This is crucial to ensure the retention of quality employees and the financial success of the company in the long run (Momin, & Mishra, 2015; Swider et al, 2015; Sangeetha, 2010). Substandard recruitment results in an organization failing to hire the right potential employees (Swider et al, 2015; Breaugh & Starke, 2000). Job dissatisfaction in a current job leads to the search for a new job (Ito et al, 2014; Bretz, Boudreau & Judge, 1993). Job search can also be used as a means of improving employment conditions in one’s current organization (Wallace & Tauber, 2014; Lazear, 1986). Job search behaviour can occur in a variety way, depending on employees’ needs, motivations and/or expectations (Liu et al, 2014; Delfagaauw, 2007; Ramlal, 2004). This often includes searching for a variety of specific job-related information (Pager, & Pedulla, 2015; Delfagaauw, 2007; Armstrong, 1971). It seems that motivational factor is then directly related to selecting specific job-related information (Pager, & Pedulla, 2015; Ellis, 1996; Armstrong, 1971). It is the aim of this research to combine these disparate streams of research into a more comprehensive process model recruiting, specifically from the job-seeker’s perspective.
2. A COMPREHENSIVE PROCESS MODEL OF RECRUITING FROM THE EMPLOYEE PERSPECTIVE

The proposed process model of recruiting from employee perspective draws from a number of recruiting research streams but its central concept is job information seeking behaviour. The primary objective for jobseekers is to ensure that their unmet expectations can be fulfilled. The process model involves psychological behaviour and the cognitive reaction of employees towards their prior identified problems. Below is the process model of recruiting from the employees’ perspective.

![Figure 1: A process model of recruiting from employee perspective](image)

Figure 1 views the recruiting process from employees’ point of view and is a result of the insight gained from previous literature in the broad area of recruitment, motivation, and job search. The process model has four stages to be considered: 1) prior conditions, 2) self-regulation 3) specification in Information Job Search and 4) Job application.

The first step in the process called prior conditions. This includes the conditions of employees in terms of background and work motivation. Employee histories are varied, ranging from different education background to the different level of job supervision responsibility. These different contexts produce various ways of thinking, past experience, and feelings. For example, an employee with more experience on the job, expects recognition when completing a large and complex task. If it does not eventuate, and the employee receives no recognition or acknowledgment, dissatisfied might occur. In relation with this, every employee has some unique characteristics that influence their satisfaction. Considering these characteristics is seen as a prior condition to ultimate success in the process.

The second stage of the process is self-regulation. It accepts that the employees control the timing, or when they begin and to end the process. The employees assess their job search objective, considering the prior conditions they have. This assessment is necessary for employees to make a right decision either to proceed or not proceed with the job search. The decision is made based on the employees’ prior conditions, whether their objectives have been met or not and potentially the dissatisfaction they have experienced. The goodness-of-fit is the indication of employees’ psychological needs and value congruence are met. The ability to attract a sufficiency of potential employees is a sign of a good fit between applicant and organisation (Mohsin et. al., 2013; Carless, 2005; Cable & Judge, 1996; Chatman, 1991; Dawis & Lofquist, 1984).

Past literature review also revealed that employees go through complex evaluations before deciding either to remain with the organisation or to start searching another job. This process helps the employees to confirm their needs, as their level of uncertainty and anxiety are decreased. This lower level of anxiety is produced because the employees start to narrow the alternatives that they have constructed or reviewed in stage one (the prior conditions). If the employees decided to proceed with finding a new job, then they move to the third stage. Otherwise, they remain and give their service to the organisation.

The third process is the specification in job information search. The needs identified in stage two help the employees to proceed with the type of job information that they are searching for in the job search process. The two types of job information that are identified in previous literature such as job content information and job context information. Job content information refers to all information about the job itself. Meanwhile, job context information is about all information surrounding the job.

In this process, it involves the selection of job information, then evaluates it to determine whether it is relevant and/ or accurate. The answers to these questions direct the employees whether to select or not select this type of information. The uncertainty feeling gradually decreases as they move towards a point of certainty. This point occurs when employees are satisfied with the accuracy and relevance of job information sought.

Breaugh and Billings (1988) define that accuracy of job information is about the correctness of information when compared with the reality in the job. When the job information is accurate, it indicates that the information might be relevant to that potential employee. This accuracy leads to a specificity in job information; the detail of information becomes sufficient for employees to decide to apply for that job.
The job application is the final stage in job information search process. When the job application is made, it indicates that the employees are satisfied with what they have found in the process. The employees anticipate that the new employment situation will meet their unmet expectations.

After the job application process, there are follow-on processes. Post job application processes are not included in the job information search process but represent important components at the end of the job recruitment process and represents processes after job application and before a job offer is accepted. The applicants are likely to have gone through an interview stage and may have received a job offer. It is expected that an individual may obtain extra information, after they apply, about the job. Thus, before job acceptance, a person might search for job information again. This process is likely in the event they want to verify the information they gained through the interview and compare with the information they have obtained from other sources (e.g. internal employee word-of-mouth information) and will reassess the information thoroughly before job acceptance.

Therefore, this research proposes a multi-stage process model of recruiting from the viewpoint of the employee (jobseeker). The activities outlined in the process model emphasise the centrality of job information search behaviour. To further support the proposed model, the examination of the theoretical underpinnings of each stage is necessary. Next is a discussion of these theoretical underpinnings for each stage in the process model of recruiting from the employees’ perspective.

3. ADAPTING MOTIVATION THEORIES TO THE MODEL

The focal point for the process model in recruiting is to see how the behaviour of an employee is influenced and driven to start a job search or stop a job search (Vroom, 1964). Examining the motivation process contributes to the process model of recruiting. However, a thorough understanding of the content associated with this model is necessary. Thus, Herzberg motivation theory is seemed applicable to outline the present conceptual framework.

Herzberg (1966) outlines his motivation theory into two factors: motivators and hygiene. Motivators make up the reason’s employees do not feel satisfied with the job. He measured the not satisfied towards the job regarding responsibility, recognition, advancement, achievement, promotion, and the nature of the job itself. Not satisfied with the job meaning employees job criteria was not fulfilled in that organization. Job search may happen for this reason.

Hygiene factors consists of job environment elements, including salary, interpersonal relationship, supervision, company policy, job security and the condition of the workplace. The absence of hygiene factors may make employees feel little satisfaction in the organization. Whether a motivator or hygiene factor, both are drivers for employees to transform from dissatisfied to satisfied. The efficacy of these drivers depends on the level of necessity, and it differ across employees’ background.

The two points above, employees background and motivation drivers are associated with and influence the job search process. Several assumptions on motivation drivers related to information seeking behaviour research are generated as below:

1) Different job experience may prefer different motivations as a driver in job search
2) Some job seekers may prefer monetary drivers in job search
3) Some job seekers may prefer non-monetary drivers in job search
4) Some job seekers emphasize on job enrichment in finding new job placement.

In sum, Herzberg’s theory of motivation will be used in the information seeking behaviour model. The drivers in Herzberg theory reflect the motivation conditions in the workplace. The process outcomes range from energizing work to quitting, and the range is illustrated by Herzberg’s theory. Also, to search and to apply for a new job, information is also needed in this research. Thus, concepts from the theory of job Information are used in the process model.

4. ADAPTING JOB INFORMATION THEORY TO THE MODEL

The starting point in job information theory is to provide appropriate and timely information for job seekers; the expectation is that such information enables the job seekers to find a specific job they seek. Ellis (1996) divided job information into two divisions: job content and job context. Both of these two-job types of information were used in this conceptual framework.

Ellis (1996) describes job context as any information related to the environment of a job while Job Content related to the job itself. These two types of information are related to the motivation drivers discussed above. The condition and type of information depends on an individual employee’s needs and wants. To assume all, have similar needs and preference regarding job information is problematic. For example, some job seekers
prefer job context information (Nujoo et al., 2012) and others prefer job content information in searching job information (Armstrong, 1971). Therefore, employees’ background plays a role as well as job motivation and job information in the information seeking model. Different background and different needs and want, thus lead to different preference of job information specifically during a job search.

5. RESEARCH OBJECTIVE

The objective of this research is to examine some of the relationships proposed by the model and look for supporting evidence. The current research examines relationships suggested in the model between the motivations to change jobs (current working conditions, salary, and job itself) and the importance of the various types of job information (job content and job context).

The first proposed relationship is between salary as a job search motivation driver and specific job-related information. Herzberg (1966; 1956) states that motivation drivers can contribute to the prediction of information seeking behaviour. McLean, Smits, and Tanner (1996) suggest that the more job seekers consider salary as their primary motivator, the more likely they are to emphasize salary information in their job search. Nowadays public and private organizations have acknowledged rewards like salary as a motivating drive to increase organizational achievement. Furthermore, much research has been carried out, to examine the relationship between rewards and employee motivation (Asaari, Desa & Subramanian, 2019). This shows the importance of rewards like salary to attract and motivate employees, hence organizations need to develop systematic procedures and policies that could maximize employee’s motivation.

Thus, the following hypothesis was developed:

H1: There is a positive relationship between salary as a motivator for the job seeker and the importance of salary job context information in the job search.

Lawler (1974) and Sullivan and To (2014) point out in their study that job seekers who treat current working conditions as their primary motivation for job-searching, place more emphasis on job security, supervision, interpersonal relationships, company policies and working conditions in their information search. Herzberg (1956) also emphasized that employees evaluate their current working conditions from inadequate to adequate and he suggests that those employees are likely to seek more information on working conditions and emphasize this in their searches to improve their working conditions. In addition, a latest study conducted by (Anguelov, Stoyanova & Tamošiūnienė, 2020) in the IT sector in Bulgaria found that the strongest motivation to work are related to working conditions, preserved work-life balance and opportunity for new positions. Thus, the following hypothesis was developed:

H2: There is a positive relationship between current working conditions as motivation drivers and the importance of non-salary job context information.

Kim and Cha (2000) reported that job seekers who set the job itself as their strongest motivating factor tend to place more emphasis on job-content information (recognition, responsibility, achievement, and advancement) due to the chance that these factors may enhance their future career potential. Ellis (1996b) found a positive relationship between the job itself characteristics as a motivator and job content information. The more employees think about their job, the more this researcher anticipates that job content information is their primary concern. A recent study conducted by Ann & Blum (2020) in the hospitality industry has also found that the work itself was the most powerful and significant factor of job satisfaction. Hence, it is understandable that employees have classified interesting work as the most important motivational factor. This assumption is described in the hypothesis below:

H3: There is a positive relationship between the job itself as motivation drivers and job content information.

The above hypotheses regarding the job search process flow from the proposed model. The theoretical defense of the model shows that the job-search process requires variety and understanding this may help organizations to recruit quality employees in future. However, this exciting area of study has received relatively little attention in previous research. However, there is little if any research focusing on the relevance of job search motivation in the determination of job-related information in the job search process. Thus, this current study has been designed to begin to validate some of the relationships proposed in the process model of recruiting from the employee perspective.
4. METHODOLOGY

The questionnaire was developed from existing instruments to measure job search motivation drivers and job information search importance, along with demographic data. The job search motivation drivers were largely derived from Tan & Waheed (2011), which was derived from an adapted Job Description Index used by Dunnette et al (1967) to measure sources of job satisfaction/dissatisfaction across a number of occupations. The dimensions included current working conditions, salary, and the job itself. The job information search importance was measured using items from Ellis (1996)’s seminal work on job content and job context.

A Malay version of the questionnaire was developed, and the process involved translation, back-translation, and an expert panel. The sample frame was employees (across numerous job types and levels) of one Malaysia’s largest organisations. A pilot programme made small changes to the questionnaire and confirmed the preliminary reliability and validity of the instrument.

5. RESULTS

The sample consisted of 396 usable responses from 500 distributed questionnaires (79% response rate); 242 (61%) male, and 154 (39%) female. The largest number of job types were clerical (administrative) (29.29%), followed by engineering (25%), managerial (24.24%) and technical (21.46%).

In order to answer research objective, a test was computed to measure the relationships between job search motivation and specific job-related information. Three hypotheses (H1: There is a positive relationship between salary as a motivator for the job seeker and the importance of salary information in the job search. H2: There is a positive relationship between current working conditions and the importance of job context information, and H3: There is a positive relationship between the job itself and job content information) were formulated and the results are presented in Table 1.

Table 1: Correlations between Job Search Drivers and Specific Job-Related Information

<table>
<thead>
<tr>
<th>Job Search Motivation</th>
<th>Salary Job-Context</th>
<th>Non-Salary Job Context</th>
<th>Job Job-Context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.196***</td>
<td>0.179***</td>
<td>0.297***</td>
</tr>
<tr>
<td></td>
<td>($r^2 =3.84%$)</td>
<td>($r^2 =3.20%$)</td>
<td>($r^2 =8.82%$)</td>
</tr>
</tbody>
</table>

*** Correlation is significant at the 0.01 level

Table 1 shows the test for Hypothesis 1 was a positive significant correlation (0.196) between job search motivation and salary job-context (p<0.01), indicating that there is a positive relationship between salary as a motivator for the job seeker and the emphasis placed on job context salary information when seeking a new job. Thus, the result provides support for Hypothesis 1. The table also shows the results for job search motivation and non-salary job context with a significant correlation (.0179; p <0.01). This indicates that there is a positive relationship between job search motivation and the emphasis placed on job context non-salary information when seeking a new job. Thus, the result provides support for Hypothesis 2. Also found, was a positive significant correlation (0.297) between job search motivation and job-content (p <0.01) indicating a positive relationship between job search motivation and the emphasis placed on job content information when seeking a new job. This provides support for Hypothesis 3. The $r^2$ for variance of job search motivation explained are salary job-context information (3.84%), non-salary job context information (3.20%) and job-content information (8.82%). Out of three, the largest variance explained was related to Hypothesis 3. While the variance explained by each of the hypotheses tests were not considered large, the results are still significant.

Table 2 provides the details for Hypothesis 2 and 3 because of the significant relationships. The detail covers only the variances between 1) current working condition as a motivator and job context non-salary information and Table 3 covers the variance between job itself and job-content information. Hypothesis 1 (between salary as a motivator for the job seeker and the importance of salary information in the job search) is not included in this table due to its measurement of only salary information and therefore no opportunities for further comparisons. Hypothesis 1’s relationship is between current working conditions as a motivator and job context non-salary information.

Table 2: Correlations between Current Working Conditions and Job Context Non-Salary Information

<table>
<thead>
<tr>
<th>Current Working Conditions</th>
<th>Interpersonal Relationship</th>
<th>Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.268***</td>
<td>0.131***</td>
</tr>
<tr>
<td></td>
<td>$r^2 = 7.18%$</td>
<td>$r^2 = 1.72%$</td>
</tr>
</tbody>
</table>

*** Correlation is significant at the 0.01 level
The results indicate that employees with current working conditions as a motivation driver greatly value information on interpersonal relationships and supervision when seeking a new job. The \( r^2 \) reflects the changes made by the research scale. The table above shows that the changes made by interpersonal relationship is at 7.18% and by Supervision only at 1.72%. It is a small variance but it still significant only at these two scales instead of five scales. This provides support for Hypothesis 2.

<table>
<thead>
<tr>
<th></th>
<th>Responsibility</th>
<th>Recognition</th>
<th>Achievement</th>
<th>Advancement</th>
<th>Nature of the job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Itself</td>
<td>0.757</td>
<td>0.760</td>
<td>0.639</td>
<td>0.653</td>
<td>0.551</td>
</tr>
<tr>
<td>( r^2 )</td>
<td>57.30%</td>
<td>57.76%</td>
<td>40.83%</td>
<td>42.64%</td>
<td>30.36%</td>
</tr>
</tbody>
</table>

The results also indicate that employees with job itself as a motivation driver greatly value information on responsibility, recognition, achievement, advancement and nature of the job when seeking a new job. The \( r^2 \) reflects the changes made by the research scale. The table above shows that the changes made by Responsibility is at 57.30%, by recognition is 57.76%, achievement is 40.83%, advancement is 42.64% and by nature of the job is 30.36%. These are significant changes to the job itself construct towards a group of job supervision responsibility and thus provide support for Hypothesis 3.

6. DISCUSSION

This research demonstrates the theoretical and empirical value created by examining recruitment processes from the job-seeker’s perspective, and model testing has shown some preliminary success. Namely, proposed relationships have been confirmed including 1) salary as a significant job search motivation driver and job content information, 2) current working conditions as a job search motivation driver and non-salary job context information, and 3) job itself as a job search motivation driver and job content information. These findings are consistent with studies presented in the literature by Akintoye (2000) as cited in Tella et al. (2007). Employees who have salary as a job motivation driver are more motivated to find more about salary information in their job search process.

Current working conditions has a relationship with seeking non-salary job information. Employees who are actively motivated by current working conditions tend to search more for non-salary job context information. This study, therefore, provides an outcome that agrees with Nujjoo and Meyer (2012) and Armstrong (1971). It is evident from the present project that information regarding the non-salary job context is important for employees when looking for alternative jobs. Evaluating working conditions information available to them (e.g., the fairness of company policies, friendliness in interpersonal relationships) is essential for employees to develop confidence in the environment within the organization they might consider for employment beyond their current position. Furthermore, by searching for information on current working conditions, employees are likely to increase their intrinsic motivation, and hence, assist the employees in developing greater motivation towards the job itself in their current positions.

Finally, the elements of the job itself has a role in job search motivation and the discovery of job content information. This result is similar to Kim and Cha (2000) and Ellis (1996). These studies emphasized that employees who have one of the elements of the job itself as a job search motivation driver influence the selection of job content information characteristics. Overall, the relationship between job search motivation and specific job-related information and its role in motivating job search behaviour is crucial in determining information seeking behaviour.

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ACADEMICS’ PARTICIPATION AND APPRAISAL FAIRNESS ON EFFECTIVE PERFORMANCE APPRAISAL: MODERATING ROLE OF PERCEIVED SUPERVISOR SUPPORT (PSS)

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ABSTRACT
Research on performance appraisals (PA) for academics in Nigeria’s higher education institutions (HEIs) is advocated for consideration of the elements that could support its effectiveness due to its relevance towards enhancing academics’ and institutions’ quality and development, demonstrating the significance of understanding antecedents of effective performance appraisals (EPA). Therefore, to add to the body of existing literature, this paper presents a discussion on a theoretical framework that will explore the relationship between employee (academics’) participation and PA fairness and on EPA as well as the moderating role of perceived supervisor support (PSS) in these relationships. The proposed framework is meant to propel researchers in conducting empirical studies in a variety of contexts.

KEYWORDS: Performance Appraisal, Performance Appraisal Fairness, Employee Participation, Perceived Supervisor Support

1. INTRODUCTION
Employees’ performance improvement and effectiveness are considerably shaped by performance appraisals (PA) (Mir & Ahmed, 2014). For that reason, pursuing an effective performance appraisal (EPA) becomes indispensable so as to stimulate employees (Moradi, Mehraban & Moeini, 2017; Park, 2017), and also support employees’ performance improvement and development (Ismail, Mohamed & Rayee, 2017; Kampkotter, 2017). This paper proposes a conceptual and theoretical framework aimed at providing basis for conducting an empirical study on this topic.

PA is an aspect of a performance management system (PMS) framework in an organization, and is the practice associated with evaluating employees’ performance aimed at attaining institutional performance objectives (Sułkowski, Przytuła, Borg & Kulikowski, 2020). Moreover, PA centers on employees’ job, anticipations, progress, efficiency, motivation efforts, as well as attitude towards their job (Aguinis, 2009). The concept is extensively engaged as a human resource (HR) instrument for assessing employees’ performance and thus, expected to attain utmost acceptability but however, bedeviled with some challenges (Saraih, Karim, Ahmad & Nordin, 2017).

Employees, especially, academics’ participation has a role to play in the PA process. For the reason that, evaluating academics’ staff performance happen to be crucial for attaining quality and also, meeting the necessary bench mark (Addy & Dzisi, 2014; Christopher, Gregory, Alice & Elizabeth, 2017; Rusli & Sopian, 2013). As employees are indispensable asset any organization depends on, their active participation in decision-making is important for the of generation new ideas (Singh, 2009). The absence of employee participation in any appraisal process makes the process a futile one (Wright, 2004). PAs associated with high employee participation boosts positive perception of appraisal fairness (Dewettinck & Dijk, 2013), as well as satisfaction with the appraisal process (Mulvaney, 2017).

Makhubela, Botha and Swanepoel, 2016 (2016: 7) noted and reported “appraisers’ knowledge, employee participation, clear goal establishment, employee development, goal establishment, appraisal follow-up and goal discussion” as elements believed to have impact on the appraisal system’s fairness. Also, Ahmed, Ramzan, Mohammad and Islam (2011) indicated that the perceptions held concerning the presence of PA fairness are established by the expressed management and employees’ feelings on a formal appraisal system’s as well as the supervisor’s knowledge concerning subordinate’s performance (Makhubela, et al., 2016). It is well established that employees’ perceptions of PA fairness have significant effect on its effectiveness (e.g., Boswell & Boudreau, 2002; Pichler, 2012). Hence, the presence of doubt in whatever way concerning fairness as an essential element of whichever PAS could have numerous forms of negative employees’ behaviors (Macey, Schneider, Barbera & Young, 2009; Maslach & Leiter, 2008). This implies that any PAS that establishes an
acceptable level of fairness can propel positive employee outcomes, for example, job satisfaction and commitment (Kyereme & Pimpong, 2018).

The current study in this paper incorporated the role of PSS to see if it could further strengthen the relationship between employee (academics’) participation, and appraisal fairness and EPA among academics in Nigeria’s higher education institutions (HEIs). Research has established that PSS (defined as employees views concerning whether their “supervisors/managers value their contributions and care about their wellbeing”) (Eisenberger, Stinglhamber, Vandenberghe, Sucharski & Rhoades, 2002: 565). The theoretical lens of Social Exchange Theory (SET) (Blau, 1964) is proposed to examine the direct relationships of academics’ participation, and appraisal fairness with EPA as well as and moderating relationship of PSS among the constructs with EPA. SET has been exploited progressively as the theoretical foundation for PA research (Pichler, 2012), especially towards understanding employee (academics’) participation, appraisal fairness, and PSS relationships. SET assumes that good actions and accomplishment ought to be reciprocal (Blau, 1964). The theory is a structure that concerns reciprocated repaying process through exchange and give back employing different ways of action (Emerson, 1976). In the PA context, the theory would advocate that “raters in high- (low-) quality exchanges should be more (less) likely to treat ratees favorably, in terms of opportunities to participate in the process as well as more (less) favorable ratings” (Pichler, 2012). Additionally, Pichler (2012) noted that SET suggests that variety of HRM practices (i.e., performance appraisals, employee participation, and supervisors support) that offer different exchange relationships have been utilized by institutions. More importantly, the theory explained that employees work effectively when supported and appreciated by their organization (Eisenberger, et al. 2001), because reciprocity inspires a sense of duty on others, largely because the former showed past conduct that is valuable (Blau, 1964). This might have perhaps informed why over the past years, exchange theorists made massive efforts to stress the significance of social frameworks using exchange relations (Pichler, 2012).

2. LITERATURE REVIEW

For all intents and purposes, this section essentially reviewed extant related literature on past empirical studies. Precisely, the section reviews key concepts of performance appraisal, PA in HEIs, employee (academics’) participation, and appraisal fairness, and PSS. Also, review of empirical studies that explain the direct and moderating relationships among variables toward research framework and hypotheses development was carried out.

2.1 Performance Appraisal

PA for employees is conducted in many organizations to improve their performance and support better organizational productivity (Malik, Baig, & Manzoor, 2020). Since it is among others, employed in taking crucial decisions on issues such as training and development, as well as promotion, PAs are considered very vital foundation of human resource development (Rao, Rao & Kumar, 2011). Even though Kuvaas (2006) indicated that PA is not a standing assessment activity but a dynamic process meant to evaluate and improve the employees’ performance, Agymen-Boateng (2006) argue that it is all about evaluating, observing and boosting employees’ performance towards overall organizational performance. However, the PA system concept has been defined by numerous scholars or researchers based on their understanding of the concept.

Begum, Sarika and Sumalatha (2015) explained the concept as a designed formal subordinate/supervisor interface that generally occurs in the form of a periodic interview, where an employee’s work performance is assessed and discussed, in order to identify areas of weaknesses and strengths as well as prospects for skills improvement and development. Summarily, Lawaj (2014) describes it as the methodical assessment of employees’ performance based on organizational performance benchmarks. To Giangreco, Carugati, Sebastiano and Al Tamimi (2012), it is a sequence of processes undertaken in organizations aimed at evaluating employees’ duties related with mental traits, as well as evaluating anticipated performance alongside actual performance.

Drawing from the various definitions and understandings of various scholars about the PA concept, what is important is that, notwithstanding the diversity, there is apparent concurrence PA supports both the organization and employees towards identifying, assessing and developing individuals’ yardstick for performance (Ikrumullah, Shah, Khan, Hassan, & Zaman, 2012). Thus, organizations use PA to attain organizational effectiveness as well as competitiveness (Rusli & Sopian, 2013), and pursue evaluating employees’ quality with an EPA system (Shin, Toutkoushian & Teichler, 2011).

EPA is the practice of appraising employees’ performance based on established organizational criteria (Sultan & Ghazanfar, 2019). It benefits both the employees and organizations by reinforcing feedback system that encourages employees/subordinates advance suggestions to supervisors (Daniel & Ibrahim, 2019). Ineffective PA, especially among academics, yields problems that affect performance and organizational
outcomes. Poor supervisor-subordinate relationship, negative attitudes, negative effect on employee development (Longenecker & Fink, 2013), and low employee morale in addition to low productivity (Mbiti, et al., 2019), are some of the problems associated with Ineffective PAs. More to these, recently, Babagana, Mat and Ibrahim (2019) reported the defectiveness of the PAs for academics in Nigeria’s HEIs as one of the top issues militating against the practice of EPA. Since academics are the bedrock of every HEI, practicing an EPA supports managerial decisions on matters that could motivate and increase employees’ performance based on PA outcomes, especially among academics (Fletcher, 2001; Kampkotter, 2016).

2.2 Performance Appraisal in HEIs

PA is generally exploited in HEIs to assess academics’ performances but it is nonetheless perceived to be a very contentious issue (Alach, 2016), and scholars are uncertain concerning performance norms and expectations (Sousa, de Nijs & Hendriks, 2010). Different kinds and PA practices have been executed by numerous HEIs all over the Western world (Kallio, Kallio & Grossi, 2017).

For instance, in the HEIs Nigeria’s context, academics performance is defined in relation to their lecturing skill (Babagana, 2014), which its measurement is realized during the course of PA (Agyen-Gyasi & Boateng, 2015). This is consistent with the organization for Economic Cooperation and Development (OECD, 2013) position that; PA is “a key lever for increasing the focus on teaching quality” among academics. After all, students’ and institutions’ performance is reported to be contingent on academics’ performance (Kingdon & Teal, 2007).

Malik, et al (2020) observed the absence of conclusive evidence to support the debates that PA boosts both individual and organizational performance. But PA systems are generally practiced across HEIs (Sułkowski, et al., 2020). This may perhaps be because, systematic periodic performance review will reveal performance defects and training conferences may be employed to lessen such defects. Thus, practicing EPA becomes essential for monitoring, managing and enhancing academics’ performance so as to attain objectives HEIs are established.

Additionally, Akinsolu (2010) suggest that, to attain improved academics’ performance and competence, effective ways of evaluating performance of academics should be evolved. PA for academics in Nigeria’s HEIs has been consistently reported as ineffective (see Babagana, et al., 2019; Igbojekwe, et al., 2015; Moja 2010; Ojokuku, 2013; Saint, Hartnett & Strassner, 2003; Sajuyigbe, 2017; Yusuf, Abdulkareem & Ogbadinkpa, 2017). This then raises the question; why does EPA still matter?

It matters for the reason that, it is considered as a significant HR practice (Kehoe & Wright, 2013) that is regularly studied, however, deficiencies of many PA systems has been reported (e.g., Babagana, et al., 2019; Igbojekwe, et al., 2015; Ikramullah, Van Prooijen, Iqbal & Ul-Hassan, 2016; Yusuf, et al., 2017). Additionally, Schleicher, Baumann, Sullivan and Yim (2019) noted that, there is more to understand concerning EPA.

This is more important as employees’ perceptions and reactions concerning effective performance management are fundamental facets of an appraisal system, any displeasure and perceived unfairness in implementation is destined to failure (Dobbins, Cardy, Facteau & Miller, 1993; Iqbal, Akbar & Budhwar, 2015).

2.3 Employee (Academics’) Participation

Employee participation is process in which employees have say on their work and its terms by partaking in decisions concerning their work (Khalid, & Nawab, 2018). It is the participative practice or way where employees’ efforts are utilized to enhance their commitment to the accomplishments of an organization (Robbins & Judge, 2009). Tyler and Lind (1992) observed that employees assign significance on the opportunity to just share their views in appraisal interview process as a way to justify their self-worth and sense of belongingness in the organization. Dewettinck and Dijk (2013) reported a significant link regarding the extent of employee participation and performance management system (PMS) effectiveness, precisely PA.

Similarly, Mulvaney (2017) found that employee participation were significant predictors of satisfaction with the PA. Therefore, employee participation is an essential element in achieving EPA (Saad, 2014). Moreover, employee participation in PMS development is reported as associated to perceptions held on the fairness of the appraisal system (Cawley, Keeping & Levy, 1998; Colquitt, et al., 2001). Supporting these, Pettijohn, Pettijohn, Taylor and Keillor (2001) noted that PAs can be exploited to increase employees’ levels of job satisfaction, organizational commitment and work motivation; however perceptions of fairness and participation must be there. This is consistent with (e.g., Kavanagh, Benson & Brown, 2007; Tuytens & Devos, 2012) that established relations among employee participation and perceived fairness of PAs.
2.4 Appraisal Fairness

PA fairness has received enormous consideration from research scholars since it among others, influences job performance (Richter, König, Koppermann & Schilling, 2016), satisfaction with the appraisal (Makhubela, et al., 2016), boost transparency of the appraisal process (Mulili, 2020). Fairness denotes “a perception of appropriateness” (Colquitt & Rodell 2015). Employees’ perception of fairness is capable of influencing their behavior, particularly as regards their contribution towards attaining organizational objectives (Messer & White, 2006). To Poppo and Zhou (2014) fairness is “a perception that a decision, outcome, or procedure is both balanced and correct”. Therefore, employees’ perceptions of PA are important in establishing effectiveness of the system. Perceived unfairness and ineffectiveness of the PAs affects employees’ productivity and exhibition of negativity on the system (Makhubela, et al., 2016).

Extant literature has demonstrated that employee acceptance of the PA process indicates fairness, implying that they subscribe to the appraisal process as fair, realistic, and beneficial (Kim & Holzer, 2016). It is very obvious that scholars had been studied organizational fairness in other aspects of HR practices such as performance appraisal (Ibeogu & Ozturen, 2015).

Considering influence of organizational fairness on numerous HR outcomes (eg. organizational citizenship, PA), and people’s concern about justice (Colquitt, et al., 2001), findings of some studies are inconsistent. Consistent with positions of scholars (e.g., Narcisse & Harcourt, 2008; Vasset, Marnburg & Furunes, 2010), Warokka, Gallato, Thamendren and Moorthy (2012) explains perceptions of fairness relates to outcomes obtained (distributive fairness), the procedures followed to establish those outcomes (procedural fairness), as well as the way the decision-making mechanisms were implemented and clarified (interactional justice - interpersonal and informational fairness).

2.5 Distributive fairness

Appraisal distributive fairness is associated with “the normality resulting from appraisal ratings in terms of equity, external pressures and managerial decisions” (Ibeogu & Ozturen, 2015, P. 966), which suggests that benefits (outcomes) ensuing from the procedures engaged is fair (Colquitt et al., 2001; Greenberg, 1990). Thus, distributive fairness relates to PA outcomes following procedures perceived to be fair (Abbas, 2014; Colquitt et al., 2001; Greenberg, 1990; Salleh, Amin, Muda & Halim, 2013). Usually, employees match their efforts and outcomes with that of their colleagues to ascertain if their outcomes were fair (Saad & Elshaer, 2017).

Palaiologos, Papazekos and Panayiotopoulou (2011) among others (e.g., Ahmed & Sattar, 2018; Greenberg, 1986; Kim & Holzer, 2016; Narcisse & Harcourt, 2008; Phuong, 2018; Sudin, 2011) demonstrated a positive relationship among distributive fairness and employee appraisal satisfaction with feedback and ratings. But, in other research, (e.g., Getnet, Jebena & Tsegaye, 2014; Ibeogu & Ozturen, 2015; Warokka, et al., 2012) found that distributive fairness not significantly associated with the overall PA practices satisfaction. These are inconsistent findings drawing from prior studies.

2.6 Procedural fairness

Appraisal procedural fairness concerns decisions on the procedure exploited to arrive at outcomes (VouBem, et al, 2016), precisely relating to how employees’ feel whether the procedures employed by supervisors to evaluate their performance is fair (Collins & Mossholder, 2017; Colquitt et al., 2001; Greenberg, 1990; Salleh, et al, 2013). Procedures are deemed fair if they are applied consistently based on accurate information, as well as established standard ethical behavior were followed (Jawahar, 2007). Process fairness that leads to the outcome is related to the followed or laid down procedure (Phin, 2015).

Extant literatures establish that procedural fairness influences on individuals’ perceptions of fairness on PA (Suhasini & Koneru, 2016). Besides, fair PA procedures are associated with boosting employees’ motivation and performance (Elicker, Levy & Hall, 2006). Narcisse and Harcourt’s (2008) study found that procedural fairness impacts on fairness perceptions of employees’ appraisals. More studies (e.g., Erdogan, Kraimer, & Liden, 2001; Getnet, et al (2014) also reported a significant link between procedural fairness and PA, as well as significant link with system procedural fairness and positive significant relationship with rater procedural fairness, among others. However, in some of the most recent studies (e.g., Krishnan, binti Ahmad, & Haron, 2018; Phuong, 2018), insignificant relations between procedural fairness and PA were found. Also, Warokka et al (2012) reported no significant relationship among procedural fairness in PA system and work performance. Similarly, Getnet et al. (2014) also found and reported no significant relationship between procedural fairness in PA.
2.7 Interactional fairness

This is the fairness of the interactive dealing an individual gets while carrying out organizational processes and allotment of outcomes (Getnet et al., 2014). Appraisal interactional fairness implies the personal intent of supervisor–subordinate relations (Karkoulian, Assaker & Hallak, 2016). It embodies supervisor/subordinate relations and the extent to which employees are handled during the PA process (Collins & Mossholder, 2017; Greenberg, 2011).

Interactional fairness comprises interpersonal fairness (the manner people are treated) and informational fairness (the manner people are informed of how and why outcomes are distributed as well as the reasons certain procedures are employed) (Rowland & Hall, 2013).

Interpersonal fairness signifies treatment with politeness, dignity, and respect by those executing procedures or determining outcomes (Sudin, 2011). The concept also covers interpersonal collaboration, openness, respect, courtesy, well-timed feedback, and regard for rights (Getnet, et al. 2014). A significant relationship has been established between interpersonal fairness and satisfaction in the direction of the PA system and developmental purpose of PA (Palaiologos, et al, 2011). On the contrary, insignificant link has been established in some studies (e.g., Fernandes & Awamleh, 2006; Warokka, et al., 2012; Kalay, 2016).

Informational fairness on the other hand connotes adequacy of clarifications regarding decision making procedures and policy implementation (Colquitt, 2001; Greenberg, 1990). It embraces the manner appraisers connect with appraises and explaining stands on equity ensuing from procedures, accuracy of likely performance, reaction of appraisers, and reasons for decision (Ibeogu & Ozture, 2015).

It is well established that informational fairness is linked significantly to satisfaction toward the performance appraisal system (Sudin, 2011). Also, Getnet et al.’s (2014) study reported significant link among informational fairness in PA practices. Nonetheless, drawing from prior studies, this construct have been reported as not having significant impact and relationship on some constructs including PA (see Cohen-Charash & Spector, 2001; Kalay, 2016; Taneja, Srivastava & Ravichandran, 2015).

2.8 Perceived Supervisor Support (PSS)

Perceived supervisor support (PSS) has got immense interest from researchers scholars for the reason that it has impact on employees’ job outcomes (e.g. Chen & Chiu, 2008; Gentry et al., 2007; Griffin et al., 2001). PSS denotes interpersonal relationships among supervisors and subordinates (London 1993). Supervisor’s support embraces the effective appraisal of one’s performance, career mentoring, and job direction among others (Tan, 2008). At a moment where the link among employees and supervisors is hinged on trust, long term orientation as well as socio emotional resources, the employees view support from supervisors as a social exchange construct (Dysvik & Kuvaas 2012). However, such support should generally be able to prompt positive attitudes on the organization since supervisors act as the organization’s proxies (Bigliardi et al., 2005; Lee, 2004).

An organization could have a modern PMS, especially PA, however, requires to be supported by the managers (supervisors) who pursue the execution of EPA into practice. Even though employees may perhaps not necessarily know all the facets of the PA that an organization develops, in developing countries like Nigeria, supervisors’ support may be important in making them understand fully, the PA content (Baloyi, Van Waveren & Chan, 2014).

Employee participation in the appraisal process has been recognized to be a critical element with regards to employees’ PA satisfaction (Mulvaney, 2017). Additionally, organizational fairness relationship to PSS signifies to the magnitude to which employees consider their contributions are appreciated, and their supervisor has their well-being in mind (Kurtessis et al., 2015). A considerable relationship among organizational fairness and PSS has also been established (Mansour, 2014; Zaitouni & Nassar, 2015). Given that supervisors operate as proxies of organizations, whom are vested with responsibility of directing and appraising subordinates’ performance, employees hold the view that supervisors’ behaviors are approved by the organization (Li, 2020). Different findings of empirical studies consistently demonstrate that organizational fairness is positively related to PSS.

While researchers are examining the influence of organizational fairness on PSS through a mediating effect model, findings of some studies are inconsistent (e.g., Byrne, Pitts, Wilson, & Steiner, 2012; DeConinck, 2010; Mansour, 2014; Stinglhamber, Cremer & Mercken, 2016; Zaitouni & Nassar, 2015). Thus, this paper proposes PSS as a moderator among this study’s constructs. Supervisor support may act as a moderator in the link among the employee (academics’) participation, and appraisal fairness, with EPA. The expressions ‘mediator’ and ‘moderator’ have, nonetheless, been applied interchangeably, and hence may perhaps cause some misunderstanding (Baron & Kenny, 1986). Numerous studies in the social psychology field have made efforts to distinguish between these two variables (Connor-Smith & Compas, 2002; Frazier, Tix & Barron, 2004). The mediating and moderating effects of PSS are mutually exclusive models where they
stand for several theoretical expressions that can be built when interfacing two different bodies of literature, such as ting effect model, findings of some studies are inconsistent (e.g., Byrne, Pitts, Wilson, & Steiner, 2012; DeConinck, 2010; Mansour, 2014; Stinglhamber, Cremer & Mercken, 2016; Zaitouni & Nassar, 2015). Thus, this paper proposes PSS as a moderator among this study’s constructs. Supervisor support may act as a moderator in the link among the employee (academics’) participation, and appraisal fairness with EPA.

3. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

This study’s framework suggests that employee (academics’) participation, and appraisal fairness are linked to EPA through PSS as the moderating variable. This connection is supported by the Social Exchange Theory. Figure 1 depicts the study’s Theoretical Model illustrating connections between variables. Drawing from theoretical explanations and prior empirical studies (e.g., Blau, 1964; Malik, et al., 2020; Daniel & Ibrahim, 2019; Pichler, 2012; Roberts, 2003), hypotheses for this study have been developed for empirical testing and validation. The study model has five constructs, viz., appraisal distributive fairness, procedural fairness, interpersonal fairness, informational fairness, and employee participation as the independent variables, and PSS as the moderating variable, EPA as the dependent variable. Accordingly, ten hypotheses have been developed.

3.1 Employee (academics’) Participation

Participation in the appraisal interactions, goals setting, and taking part in the development of the PA system among others, are the numerous forms employees’ participation assume (Saad, 2014). Ineffective PA, Roberts (2003) argue, may possibly be the aftermath of passive or non-employee participation. The non-inclusion of employees in the appraisal process can make them view it as worthless exercise (Wright, 2004). For that reason, Saad (2014) call attention to the significance of employee participation in achieving EPA.

Given that PA system is enriched by employee participation and seeming precision of goals Roberts (2003), it could also be positively linked to EPA, hence reinforcing the arguments concerning communicating superordinate goals (Latham, 1994). Additionally, developmental PA is relate to lending employees a sense of belongingness and that sense of being appreciated by their colleagues and the organization as a whole makes employees more committed to the organization (Levy & Williams, 2004). Employees’ participation in the appraisal process enables to contest ratings, documentation or verbal feedback they feel uncomfortable with (Folger, 1987). Therefore, on the ground of these, it is postulated that:

**Hypothesis 1:** Employee (academics’) participation is positively related to the EPA.

3.2 Appraisal Fairness and EPA

Fairness perception of employees is a determinant of the success of the PA system and its acceptance or rejection (Kim & Holzer, 2016; Kim & Rubianty, 2011). Thus, fairness perception is one of the issues that employees react to in the PA system (Roberson & Stewart, 2006).

Research demonstrated positive relationship between organizational fairness and PA outcomes, such as boosting motivation (Kuvaas, 2006; Selvarajan & Cloninger, 2009), increasing employees’ performance (Selvarajan & Cloninger, 2009), and employee turnover rate reduction (Poon, 2004; Rao, 2004; Selvarajan & Cloninger, 2009), among others. Thus, fairness perceptions concerning the various elements of PA system are very important not only for employees, but also for an organization (Ikramullah, Shah, Hassan, Zaman & Khan, 2011).

Researchers suggested that employees’ perceived PA fairness and legitimacy in most instances are based on their perception of distributive fairness (Thurston & McNall, 2010). Perceptions that may be held on performance appraisals as unfair could affect the benefits derivable from it, for instance, weakening instead of enhancing employee’s positive attitudes and performance (Getnet, et al, 2014). In fact, when appraising employees’ performance, their accomplishments should be proportionate outcomes following the appraisal. This is consistent with SET (Blau, 1964) which was discussed in the preceding section. The theory assumes rewards in return for performance (exchange), outcome of the appraisal process matters towards achieving EPA.

Research has showed the existence of positive link between distributive fairness and PA (e.g. Greenberg, 1986; Jawahar, 2007; Palaiologos, et al., 2011; Phin, 2015; Phuong, 2018; Saad & Elshaer, 2017; Sudin, 2011). Relating to procedural fairness, a positive relationship among the construct and PA has also been established. Erdogan, et al (2001) reported a significant relation between system procedural fairness as well as positive substantial relationship with procedural fairness rate and PA. Also, Trivellas and Kakkos (2015) projected that procedural fairness might be a significant predictor of EPA regardless of the PA outcome. Moving on,
interpersonal relationship among supervisors and subordinates which is very important during PA reviews is dependent on such relationships (Nathan et al., 1991). Additionally, direct and indirect link has been found among fair interpersonal treatments to attitudes on the supervisor (Getnet, et al, 2014). Palaiologos, et al (2011) found that developmental purpose of PA is related to interpersonal fairness. Finally, supervisors; exhibit informational fairness by clearly clarifying on the procedures engaged to establish employee outcomes (Collins & Mossholder, 2017). Since supervisors are the source of job-related information, exhibiting informational fairness reinforce employees in understanding and contextualizing their organization (Ambrose, Hess, & Ganesan, 2007). Moreover, explanations concerning procedures used, to determine outcomes, intensify perceptions of informational justice (Getnet, et al, 2014). On the basis of the above therefore, the following hypotheses are developed:

**Hypothesis 2:** Distributive fairness is positively related to EPA.
**Hypothesis 3:** Procedural fairness is positively related to EPA.
**Hypothesis 4:** Interpersonal fairness is positively related to EPA.
**Hypothesis 5:** Informational fairness is positively related to EPA.

### 3.3 Moderating Effects of PSS

Due to inconsistent findings among researches, a third construct is suggested that may work in a particular context to support the relationship between employee participation and appraisal fairness towards achieving EPA. Theoretically, a moderator shapes the way or strength of relationship among an independent (or a predictor) variable and a dependent variable, while a mediator explains the link among the predictor and the dependent variable (Baloyi, et al., 2014). Therefore, questions concerning moderators deal with when or for whom a predictor, best intensely predicts or triggers an outcome variable; but mediators show how or why any variable predicts or triggers an outcome variable (Frazier, et al., 2004). Accordingly, for this study, PSS is anticipated to moderate the relations among employee participation, appraisal fairness and EPA among academics in Nigeria’s HEIs. Considerable issues can be noticed in the process of executing PAs. Monitoring employees’ reactions or expressions during the appraisal process is the responsibility of supervisors. In accordance with the major role of supervisors, PSS has demonstrated to be an effective antecedent of employee participation (Cawley, et al., 1998; Oldham & Cummings, 1996; Shalley & Gilson, 2004), and organizational fairness (Byrne, Pitts, Wilson, & Steiner, 2012; DeConinck, 2010; Kuwait, Zaitouni & Nassar, 2015). According to social exchange theory (Blau, 1964), employees work effectively when supported and appreciated by their organization (Eisenberger et al. 2001).

Theoretically therefore, PSS might moderate the relationship between employee participation, and appraisal fairness on EPA. Majority of the adverse consequences of PA can be addressed by pursuing genuine PSS. PSS affords employees the opening to contribute in success of the appraisal process (Singh, 2015). In a bid to identify strengths in an employees as well as finding the utilization of these strengths in the job context, supervisors show compassion and the enthusiasm to view the world from subordinates’ standpoint, and in so doing, supporting the process of fostering relationship (Meinecke and Kauffeld, 2019). This is likely to achieve EPA once employees recognize that there are elements of interests and supervisors’ support in their organization (Eisenberger et al., 1997; Rhoades & Eisenberger, 2002). Moreover, actions in the direction of supervisory support are essential, especially when receiving appraisal feedback (Gilliland, 1994; Bauer, Maertz, Dolen, & Campion, 1998). Accordingly, in this paper, it is hypothesized that, to achieve EPA:

**Hypothesis 6:** PSS moderates the relationship between employee participation and EPA.
**Hypothesis 7a:** PSS moderates the relationship between distributive fairness and EPA.
**Hypothesis 7b:** PSS moderates the relationship between procedural fairness and EPA.
**Hypothesis 7c:** PSS moderates the relationship between interpersonal fairness and EPA.
**Hypothesis 7d:** PSS moderates the relationship between informational fairness and EPA.

The proposed conceptual model is displayed as Figure 1.
4. CONCLUSION

The paper contributes to the developing body of literature towards examining EPA. Specifically, the paper proposed a theoretical framework of how PSS could moderate the relationship between employee participation, and appraisal fairness to achieve EPA among academics in Nigeria’s HEIs. Researchers may use the theoretical framework to conduct empirical study as their contribution to the body of literature in the PSS and EPA relationship domain. Undoubtedly, this paper will trigger experts in PMS/PA area to draw from the paper’s literature review improve on its shortcomings/limitations in future studies.

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**Books**


**Conference**


**Thesis/Dissertation**


**Note:**
The author welcomes any suggestions relating to this paper for further improvements and development.

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LEADERS’ COACHABILITY AS A STRENGTH

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ABSTRACT

This paper concerns the prevention of derailment of successful leaders that is due to their weaknesses and flaws. Derailment of executives is a loss for organizations as well as hurting the executives’ own careers. It also applies to younger high-potentials who are promoting earlier than their expectation. Past researches investigated the causes of derailment and discussed what the organization can do to prevent it. They suggest that the organization build a supportive climate and culture as well as provide executive coaches with clear feedback to foster improvement. However, such endeavors by organizations or by coaches may not be effective. Some leaders do not believe negative messages, some do not see its importance, some do not even listen to others, and so on. This paper sheds light on the side of the leaders themselves, to prevent their own derailment, and on what they themselves can do. We investigate coachability and suggest that it is the key attribute that leaders need to possess. We assert that leaders’ coachability is essential for their growth, as well as to prevent derailment. Without such traits, no help will be effective. This is the very strength that current executives and future leaders need to possess for his/her personal and professional growth, even when coaching is not received.

KEYWORDS: Executive coaching, Weakness, Derailment, Learning, High-potentials

1. INTRODUCTION

It is an unfortunate fact that successful executives derail at a high rate. This damages the organizations as well as the executives’ own careers. More and more young high-potential managers are unexpectedly in peril of failing given the earlier opportunities of promotion, which is in turn due to the structural change of the organizations. It is necessary both for organizations and for individuals to know how to prevent such losses.

Past researches on derailment have shown the causes and countermeasures for this outcome. There are several factors to cause derailment, and one of the most deciding factors is executives’ weaknesses and flaws (McCall, 1998; Goldsmith, 2007). This paper seeks to investigate the ways of preventing successful leaders’ derailment due to these causes. Here, ‘leaders’ includes successful executives to young high-potentials. The purpose of this paper is to present the key to preventing such derailment, which turns out to be a powerful and integral means needed by any leader seeking success.

The organization of this paper is as follows. First, we will look at the past researches on why successful executives fail and on what these researches have suggested for the prevention of such derailment. Second, we will consider leaders’ responsibility as a recipient of executive coaching, especially in relationships with feedback. Third, we further explore leaders’ attitudes towards executive coaching. Finally, we present conclusions.

2. EXECUTIVES’ DERAILMENT AND THEIR NEED FOR CHANGE

2.1 Causes of executives’ derailment

Research by McCall (1998) reveals the four dynamics underlying talented people’s derailment: “every strength can be a weakness; blind spots matter eventually; success after success can lead to arrogance; and ‘bad luck’ happens” (p. 35). In short, leaders who have been successful may eventually fail because of their current weaknesses. Their current weakness 1) was once a strength that made the person successful, 2) didn’t used to matter or was forgiven before, 3) is arrogance grown over time because of their success so far, and 4) is in their temperament to react poorly to bad luck.

In addition to academic researches like that of McCall (1998), practitioners, for example executive coaches, also give warnings about successful people’s flaws. Goldsmith, as an executive coach, targets successful people who want to be even more successful. As the title of his book (2007), What Got You Here Won’t Get You There, says, the way you have succeeded so far will not take you to your further success.
Goldsmith (2007) submits twenty transactional flaws (Table 1), and asserts that such interpersonal behaviors should be changed for the leaders to become even more successful.

### Table 1: Twenty Transactional Flaws

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Source: Goldsmith (2007, pp. 49-50)

Ironically, the talented leaders’ yesterday’s successes are the seeds of weaknesses, which leads to derailment. They need to change, but doing so is difficult. From a practitioner’s perspective, Goldsmith (2007) argues that there are four key beliefs that, having brought a person to success, become obstacles for the person’s change: 1) I have succeeded; 2) I can succeed; 3) I will succeed; 4) I choose to succeed. These are labeled, respectively, as 1) positive interpretation of their past, 2) self-efficacy, 3) optimism, and 4) self-determination (Goldsmith, 2003). It is hard for successful people with a positive view of their past performance to hear disconfirming information. Successful people’s self-efficacy makes them think “I must be successful because I behave this way” (Goldsmith, 2003, p. 11). This makes it difficult for them to change their behavior. Successful people’s optimism brings them to be over-committed, and makes them extremely busy, not having time for their own improvement. Because of their self-determination, successful people need a sense of ownership. Since they believe their behavior is a result of their choices, they do not want to change their behavior.

From a researcher’s perspective, McCall (1998) lists fifty-eight reasons people don’t change, and sorts them into three categories. First, lack of clear information blocks learning. For example, if there is no feedback given, or the feedback given is vague, people do not change. Second is lack of incentives and resources, such as “Rewarded for staying the same,” “Don’t see the real importance of it” and “I’ve been successful as I am” (McCall, 1998, p. 172). Third is lack of support, such as executives’ being too busy, and their feeling fear of manipulation.

We can conclude that three things are common to the perspectives of researchers and practitioners. First, executives do not see the need for change because they have been successful as they were. Second, delivering clear feedback to the executives that they need to change is necessary. Third, executives are busy, and do not take time for change.

### 2.2 Countermeasures for derailment I: Support from the organization

In order to prevent leaders’ derailment, McCall (1998) points out the responsibility of organizations. They create a culture that makes executives’ change easier or harder. He warns that organizations tend to leave the change of executives up to the individual, and suggests they provide support to the executives. The organizations need to improve information, such as giving clear feedback, provide incentives and resources, and support the effort to change.

Utilizing executive education programs is one means of support. What executive education programs provide is not limited to learning new ideas and gaining their knowledge. Executives often look for support in order to make their behavior change (Kets de Vries & Korotov, 2007). The organizations used to send executives to executive education programs for several days. However, executive coaching seems more suitable for the purpose of leaders’ change.

There are four differences between executive education programs and executive coaching that suggest the advantage of the latter (Eggers & Clark, 2000). First, executive education programs offer group activities, while coaching is conducted one-on-one. Second, the former lasts for days, while the latter continues for a longer period, e.g., from three months to a year. Third, the education programs are offered at a location remote from the workplace, while coaching occurs on site. Fourth, the program of the former is uniform for a group, while the latter is tailored to meet individuals’ needs.
As the above show, in order to prevent executives’ derailment, what the organizations can do is to create a learning climate, including giving clear feedback, and to offer the leaders the opportunity to receive executive coaching.

2.3 Countermeasures for derailment II: Support from the coach

The coaches’ efforts on the process of executives’ changing old habits and replacing them with more effective behaviors takes time. It goes slowly, but such tedious parts of coaching are integral for lasting results (Peterson, 2011). Changes in behavior typically show up in three to six months, and it takes a about a year for sustained changes (Ludeman & Erlandson, 2004).

A skilled coach is required for executive coaching. The reason is that highly intelligent, bold, self-confident, demanding, and successful executives mostly find it difficult to acknowledge that they need help or ask for help, being stubborn and resistant to feedback (Ludeman & Erlandson, 2004). There are several effective methods that executive coaches can use (Ludeman & Erlandson, 2004). For example, the best way of capturing executives’ attention is by presenting data, such as 360-degree feedback. This reliably reveals their behaviors that should be changed. Using the Defensiveness-Openness Scale is another way. Executives may get defensive with feedback, but by making them engage their curiosity and competitive instincts by such an instrument, they can be more open-minded.

In addition to listening skills, empathy, a genuine interest, the ability to deliver honest feedback, integrity, and trustworthiness, a great coach is to have qualities of “really get the person to reflect,” “inspire people to want to change,” “takes people to higher levels,” and “has a passion for helping others” (Peterson, 2011, p. 83). Executive coaches try to help executives to prevent their derailment; however, there is a limit on the side of coaches.

3. A COACHEE IN EXECUTIVE COACHING

3.1 Executive coaching: A triangular relationship

Coaching is conducted one-on-one, between a coach and a coachee (a person being coached). But what differentiates executive coaching from other types of coaching is that its purpose is ultimately to improve the effectiveness of the coachees’ organizations, as well as the individuals’ professional performance and personal satisfaction (Kilberg, 1996).

Executive coaching forms a triangular relationship among a coach, an executive (a coachee), and a sponsoring organization (the client) (Sherman & Freas, 2004). Taking from the triangular relationship viewpoint of executive coaching, what we saw in the previous section is that what prevents executives’ derailment is as follows. Namely, the organization makes efforts to create a learning climate, and the skillful executive coach works hard with integrity, to support the executive who is in peril of failing.

3.2 Coachees’ responsibility

What is left to be considered is the coachees, or executives, themselves. In the coaching relationship a coach serves as a partner to the coachee, not as a teacher or a therapist. The responsibility of coaching lies on the side of coachee.

In coaching, what is important is whether the coachees are qualified to be coached: “Is the executive motivated?” “Is he valuable enough to justify the cost of coaching?” (Sherman & Freas, 2004, p. 87). The executives’ time and attention are limited, and it is often the case that they pay only lip service to the coaching, not committing themselves to their behavioral changes (Ludeman & Erlandson, 2004).

3.3 A four-way nexus perspective of feedback

As we saw in section 2.1, one of the risk factors for executives’ derailment is the lack of clear feedback. Incorporating a triangular relationship of executive coaching, Muromatsu (2020) submits a four-way nexus perspective on feedback in executive coaching. According to this perspective, feedback in executive coaching consists of four components: an executive coach as a source (a sender) of feedback, an executive (a coachee) as a recipient of feedback, an organization as feedback culture, and a feedback message as a content and container. This model makes each party’s role clear.

The role of the organization is to create a learning climate and to provide support such as executive coaching. A strong feedback culture has been shown to enhance individuals’ feedback orientation (London & Smither, 2002). The source of the feedback has an influence on the recipient’s response (Ilgen, Fisher, &...
The executive coach, as a source of the messages, needs to be credible and trustworthy. As for the feedback message, both its content and how to express it are crucial.

What, then, does an executive coachee need to do, as a recipient of the feedback? Heen and Stone (2014) recommend learning how to receive feedback well. They say that everyone, including executives, struggles with receiving feedback, with an emotional reaction and tension. The recipients of the feedback need to treat it not as something that threatens them, but as something that improves their ability. If there is no feedback given, the recipient should actively seek it (Ashford & Cummings, 1985; Heen & Stone, 2014). And after the feedback is received, the recipient should engage in small experiments to find out if it is useful: if it works, great, and if it does not, make an adjustment or end the experiment (Heen & Stone, 2014). It is up to the recipient of the feedback whether or not to make the feedback worthwhile. This can be applied to coaching as a whole and is not limited to feedback. In other words, a coachee needs to be a good coaching receiver.

4. COACHABILITY AS A STRENGTH

4.1 Executive coaches and coachability

Coaching is becoming more and more popular. One in three CEOs and one in two senior executives receive coaching in the United States (Larcker, Miles, Tayan, & Gutman, 2013). In spite of such popularity, the fact is that not everyone can be coached (Bacon & Voss, 2012). Some coaches decline to coach people who are not coachable.

Goldsmith (2007) asserts that we should not try to coach people who should not be coached, especially following three cases: “Stop trying to change people who don’t think they have a problem,” “Stop trying to change people who should not be in their job,” “Finally, stop trying to help people who think everyone else is the problem” (pp. 270-271). Goldsmith (2009) warns not to waste time, money, and energy into those people who do not commit.

Waldroop and Butler (2000) tells of the need to make the decision before starting coaching whether the person is valuable enough to warrant the investment. Goldsmith (2009) claims that we should set strict guidelines on who is allowed to participate in executive coaching, rather than forcing them to join.

4.2 Coachability model

Bacon and Voss (2012) developed a framework of coachability with seven levels (Table 2). The lower the number on the scale, the greater the difficulty in coaching executives.

<table>
<thead>
<tr>
<th>Coachability Level</th>
<th>Behavioral Descriptors</th>
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<tbody>
<tr>
<td>C0</td>
<td>Not coachable at present</td>
</tr>
<tr>
<td>C1</td>
<td>Extremely low coachability</td>
</tr>
<tr>
<td>C2</td>
<td>Very low coachability</td>
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<tr>
<td>C3</td>
<td>Fair coachability</td>
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<td>C4</td>
<td>Good coachability</td>
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<td>C5</td>
<td>Very good coachability</td>
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<tr>
<td>C6</td>
<td>Excellent coachability</td>
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Adapted from Bacon and Voss (2012, pp. 83-86)

According to Bacon and Voss (2012), coaches need to assess the coachability of coachees early in the coaching process. They suggest that coaches share their coachability decision with the coachees who rate C1,
C2, or C3 on the scale, discussing whether coaching is worth the investment of time and energy for the both coaches and coachees.

This coachability model, however, is useful not only to the coaches, but also to the coachees, as well as the human resources and sponsoring managers, Bacon and Voss (2012) claim. The coaches can use it to make a coachability determination of the executives. As for the executive coachees, they can use the coachability model with their direct reports during performance management discussions. The human resources and sponsors can use it to select the best candidates for recipients of executive coaching. In other words, from the triangular-relationship perspective of executive coaching by Sherman & Freas (2004), all the three parties benefit from this coachability scale.

Peterson (2010) raises two problems concerning the notion of coachability. One is that it labels people as uncoachable. People who are assessed as uncoachable may just not see the need to change, or simply do not want to be forced to change. As for the people who are considered excellently coachable, they may not want to be coached if coaching does not meet their needs. And thus, it is not the people who are uncoachable, but rather it is the situation that should be labeled as difficult or complex (Peterson, 2010).

The other problem, which Peterson (2011) describes as an unfortunate irony, is that the people labeled as uncoachable are the very people who need professional coaching the most. On the other hand, the highly coachable people are self-directed learners with an intrinsic desire to grow, and they may rarely need to receive coaching.

4.3 What leaders need to possess for learning

It seems necessary that in order to prevent derailment, executives need to be coachable. Sharratt (2008) submits some major attributes of leaders who have this characteristic (Table 3). These correspond to a coachability scale of C6 of Bacon and Voss (2012) and include such attributes as a strong desire to grow, a lifelong learner, and realistic awareness of self.

Table 3: Major Attributes of Coachable Leaders

| A strong personal readiness to benefit from continued professional growth |
| A comfort with risk-taking and setbacks |
| An openness to new ideas |
| A realistic self-awareness of strengths and limitations |
| A desire for lifelong learning |
| A willingness to accept and implement feedback from multiple stakeholders |
| A comfort with uncertainty and ambiguity |
| A strong sense of personal accountability |
| A demonstrated willingness to persist in accomplishing identified goals |

Adapted from Sharratt (2008, p. 35)

We claim that executives who would like to prevent their own derailment need to possess these traits of coachable leaders. Moreover, even if one is not in peril of derailment, to be successful one needs to acquire coachable attributes. We submit five reasons one needs to do so.

First, if you do not have some level of coachability, you will be judged not as suitable for coaching, and your human resource department will not select you as a candidate for executive coaching. Consequently, you might derail because you lose the opportunity to receive the essential support of executive coaching.

Second, even if your organization provides the service of coaching, if your executive coach assesses you as not coachable, you will not receive coaching. In that case you might derail because you will maintain the way you are, not being aware of the need for change due to the lack of a coach.

Third, suppose you receive executive coaching despite your coachable level being low. As mentioned above, the skilled executive coach will work hard with integrity in partnership with executives. Executive coaches can make use of refined ways of coaching executives with low coachability, derived from their experience. However, not all coaches are qualified to work in such difficult coaching situations (Peterson, 2011). What if your coach is not capable of dealing with complex situations such as coaching uncoachable executives? In this case, you might derail without getting the real benefit of executive coaching.

Fourth, after experiencing executive coaching, you are to be able to self-coach. Coachable leaders form collaborative partnerships with executive coaches, and make coaching an essential part of their continuous personal and professional development (Sharratt, 2008). However, it must be mentioned that the coaching relationship must end at some point, for the contracted period, or when the goal is met. The executives should not be dependent on the coach (Maccoby, 2009). Therefore, when your coaching contract ends, you need to continue your newly acquired behavior with only yourself as a coach. In addition, you will need to tackle any
new weaknesses by yourself. In order to coach yourself, having high coachability seems essential; this includes a strong personal readiness for continued growth and a willingness to persist in identified goals; these traits protect you from the danger of derailment.

Fifth, recall that the excellently coachable leaders in the C6 Level are self-directed, motivated, and are lifelong learners. Such executives are the ones who rarely need coaching (Peterson, 2011). Thus, if you possess attributes of coachable leaders, it may indicate that you are least in danger of derailment. You may not have any critical flaws or weaknesses. Or even if you do, you have a willingness and ability to deal with the challenges by yourself.

Based on these five reasons, we assert that leaders’ high coachability is essential for them to acknowledge their weaknesses and to learn, consequently to avoid derailment. No support is effective without executives having high coachability. Moreover, irrespective of coaching, this is the very strength that current executives and future leaders need to possess to further their growth and learning.

5. CONCLUSION

In this paper, we have proposed that coachability is an integral strength that leaders need to possess. We saw that successful executives’ causes of derailment come from their weaknesses and flaws. Such flaws are typical of successful leaders, in particular their believing they were successful as they were. It is essential that organizations create a learning climate and provide support, such as offering executive coaching for leaders to make changes.

However, we saw that what is crucial is the executives themselves, rather than the organization and the coach. The leaders, as coachees, need to be excellently coachable, possessing the attributes of coachable leaders. It is necessary for those who receive coaching as well as those who do not, and we presented five reasons for this. In essence, uncoachable leaders are selected as candidates for executive coaching neither by the organization nor by the executive coach. Uncachable leaders cannot be expected to get an effective result from coaching, especially when the coach is not qualified for this difficult situation. When the coaching contract has ended or when not receiving coaching, the leaders need to self-coach themselves.

This paper started from a discussion of the derailment of executives. And executive coaching is taken up as an effective means of preventing such derailment. The executives with excellent coachability do not seem to need to receive coaching, because they are self-directed, highly motivated life-long learners. Does it mean they do not need coaching? The answer is both yes and no. They do not require coaching to prevent derailment because they are least likely to derail. However, they can attend coaching for purposes other than fixing, such as personal and professional growth. Here their high coachability manifests itself, the coach serving as a sounding board for reflecting their thoughts.

In summary, having a coachable attitude is a must. Coaching is, in essence, learning (Witherspoon & White, 1996; Sherman & Freas, 2004; Muromatsu, 2014). Coachability is a strength every leader needs for continuing learning and growth. Irrespective of coaching, this is the very strength that current executives and future leaders need to possess for their further success. Further research is needed to investigate the specific traits of coachability, the ways of acquiring them, and whether or not they can be taught. These themes we leave for future research.

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EMPLOYEE PARTICIPATION IN DECISION – MAKING AND ITS EFFECT ON JOB SATISFACTION

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ABSTRACT

Decision-making plays a large and essential role in different organizations, and sharing decision-making with employees is one of the high-quality professional means for an organization. This paper discusses the Islamic management perspective of employee participation in decision-making and its impact on employee job satisfaction, and explains the benefits of employee participation in decision-making and its impact on the organization. The role of employee participation in decision-making and its impact on employee job satisfaction has been extensively studied, data used from books and published research were collected from both an Islamic and traditional perspective, a gap in the literature was searched and a structured approach was used to carefully review the literature based on the decision-making process. And employee participation and its implications for employee satisfaction, and showed that employee participation is very important and vital to the vision and mission of the organization in achieving its goals. The advantages of this participation showed on the organization’s performance and employees’ satisfaction. This participation enhances and increases employee satisfaction, productivity and performance of the organization, so employee participation remains It suggested that you play an important role in raising the level of the organization through constructive decision-making. This review concluded that the Islamic management perspective has a positive role in employee participation in decision-making and enhancing job satisfaction.

KEYWORDS: job satisfaction, Employee Participation in Decision-Making, Decision-Making & Islamic management.

1. INTRODUCTION

The employees are the main performers in the completion and operation of various businesses The business has developed to achieve the distinguished performance of the employees through many means and methods that achieve employee satisfaction. (Mohsen & Sharif, 2020).

Among them were the participatory decision-making of employees and participation in decision-making and the impact of that on employee satisfaction (Filketu, Dvivedi, & Abebe, 2019), in addition to many influences that were associated with it such as the organizational structure, the behavior of the leader, and the workplace. (Sharif, 2020), this concept of participatory decision-making, job satisfaction and the performance of workers in the East and West has spread and everyone has worked to develop and advance it. (Van Der Westhuizen, Pacheco, & Webber, 2012).

This concept has spread in This concept spread to the wide world, and many bodies have worked to achieve job satisfaction, to enhance employee participation in decision-making to obtain better performance (Mohammed, 2019). This study will clarify the effects of participation in decision-making on employee performance and employee satisfaction, as well as the study will clarify these concepts.

1.1 Job satisfaction

Job satisfaction is one of the most important variables that affect different jobs and businesses. It has been linked to many influencing factors, from management to job design. The concept of job satisfaction is defined, by different approaches by different scholars, differently. Where job satisfaction is seen as a feeling that can have a positive or negative impact on an individual's roles and responsibilities at work (Nunez, 2020).

As greater job satisfaction means that employees want the job and work, while low job satisfaction is related to individual job frustration, it was important to understand the concept of job satisfaction. (Demir, 2018). More specifically, job satisfaction can be interpreted as an employee's overall attitude toward the job. It is a pleasant feeling that results from the employee's perception of achieving the desired level of satisfaction or contentment, job satisfaction satisfies the psychological and physiological needs of an individual through the organizational process, it is a multidimensional position consisting of a salary position, promotions, coworkers, supervision, work environment, and other factors (De Simone, Planta, & Cicotto, 2018).
Where functional participation mediated in part the impact of job satisfaction on organizational commitment and job satisfaction and organizational procedures of the institution is affected (Čulibrk, Delić, Mitrović, & Čulibrk, 2018).

Low job satisfaction is a dangerous sign of a declining organization's efficiency. It results in lower productivity and performance, in addition to other complications (Matolo, 2015).

1.2 Decision making

Decision-making is an important process on which the functions of management are anchored. The decision-making process within an organization is often defined as the process of choosing between different options. The process is divided into two important parts, the analytical processes and the problem-solving processes, where the analytical process seeks to define the problem and its dimensions by gathering information about the problem in the organization and thus trying to find the path of the problem (Al Abri, 2018), while the problem-solving process includes evaluating the various solutions proposed to solve the problem and selecting the appropriate alternative the process can be either programmed or not programmed, such as daily tasks, regular jobs, and daily tasks (Tran Thi Hoang, Dupont, & Camargo, 2019), organizations usually base their programmed decisions on previous experiences that have succeeded in the past. Also, decision-making methods in companies are divided into two groups: individual decision-making, where one individual is the decision maker, decide; and group decision-making where a group of individuals, usually CEOs, meet and decide on more complex problem (Kospenda, 2020), the circumstances of decision making may vary, difficulty under pressure of time and management of available resources (Rao, 2018).

There are many decision-making theories that are used in facing complex problems. (Dong, Liu, Liang, Chiclana, & Herrera-Viedma, 2018) they were contemporary decision-making theories: classical, administrative, garbage can, political, shared decision-making rational, incremental, mixed-scanning, and bounded rationality. Research suggests none of the models can be used universally; rather, each must be selected contingent on the situation (Wehrkamp, 2020).

1.3 Employee Participation in Decision-Making

In an age of hyperactivity, sophistication, and constant competition, formulating and implementing traditional HRM strategies and practices is not sufficient to retain the talented workforce. As the challenges and pressures of competition in changing global markets are nerve-wracking and intense, organizations are forced to find ways to be more adaptive, accommodating, and collaborative. In this context, a set of employee engagement practices can help organizations achieve success and outperform competitors (Khalid & Nawab, 2018).

A new approach to human resource management has emerged to remain competitive and improve performance. On the focus of human resource management (HRM) to build employee engagement, (Valentin, 2018), where opportunities for growth and progress are greatly affected by employee participation (Chahar & Hatwai, 2018). Leadership support is particularly important and has had a huge impact on the pace of participation. And that the employer's intentions have a major direct impact on employee participation, and that promoting sustainable participation is an ongoing process for the well-being of work and employees (Little, Wordsworth, & Malinen, 2019).

In order for small and medium-sized companies to be able to promote economic growth and the continuity of performing their business, they resort to focusing on decision-making, as their success depends on their proper management.

The cornerstone of all administrative functions is decision-making, and companies work to gain a strategic advantage over their competitors to refine their decision-making skills, and by involving employees in decision-making. (Tarbai, 2018) Participatory decision-making is a cooperative arrangement in which decision-making and employee involvement and contribution are distributed (Selvaraj, 2016), employee participation in decision-making promotes a sense of satisfaction, belonging and loyalty to the business (Dammak, 2017).

1.4 Employees Participation in Islamic management

Islamic management strengthened the concept of employee participation in decision-making, as the principles of Islamic management are based on the principles of brotherhood, solidarity, cooperation, mercy, kindness and charity. He notes that the Islamic approach reinforces the principles of participation and these values (Hayat, 2018).

The Qur'an speaks about sincerity in work, fairness, honesty, and fairness in work relations, as well as diligence in completing work (Fesharaki & Sehhat, 2018). Islam also urges cooperation in work and
consultation in decision-making, and obliges employees in sincerity in their decisions and their participation in making decisions (Jain, 2018).

Islamic leadership style has a positive and significant impact on employee engagement. As well as achieving the goals of the company and its sustainability. (Zainudin, Rashid, Murugeesan, Che Zainal, & Malek, 2019).

Conclusions - The Islamic leadership we developed in this study can be an alternative solution for organizations in modern business today. Critical elements in materializing employee engagement are skills, reliability, and confidence (MEIYANI & Putra, 2019).

1.5 The Advantages Employees Participation in decision making

It enhanced the employee’s role in decision-making, employee participation and consultation in decision-making, and had a positive moral impact on organizational productivity and that employee participation in the decision was positive. (EZEANOLUE & EZEANYIM). Even in the various manufacturing industries, employee participation has resulted in decisions being made to employee loyalty to their businesses and to an increase in productivity and efficiency (Chan et al., 2016).

The application and promotion of employee participation works to activate the motivation of employees and achieve job enrichment is to improve the quality of the employee's work and thus motivate the employee to accomplish more (Baker, 2013).

The participation of employees in decision-making achieves the satisfaction of employees and leaders, as they issue more consistent and unanimous decisions and adopt them, which increases the responsibility and effectiveness of these decisions (Sturgess, Clapp, & Fleischer, 2019). Participation of employees in decision-making promotes behaviors of national citizenship, identity, loyalty and belonging (Buil, Martínez, & Matute, 2019).

Knowledge between sectors and hierarchies and participation in them decision making and job rotation, these mechanisms combine different sources from experience and increased lateral interaction between functional areas (Rua, França, & Ortiz, 2018).

2. RESEARCH OBJECTIVES AND HYPOTHESES

The objectives of this study are:

1. To Identify the factors affecting job satisfaction.
2. To Investigation of the impact of employee participation in decision-making on job satisfaction.
3. Review the relationship between the employee’s participation in decision-making and job satisfaction.

In order to achieve the study objectives, these are research hypotheses:

H1: Participation in decision-making has a significant impact on employee performance.
H2: Job satisfaction has a huge impact on an employee’s performance.
H3: Job satisfaction has a direct effect on employee performance and vice versa.

3. METHODOLOGY

To Explore the truth of the relation between employee participation in decision-making and job satisfaction. In more detail, an interpretive approach is used in all this study's procedure (Bearman et al., 2012), the way through reaching the research objectives, by searching in the relevant reliable scientific sources. Electronic resources and databases were used to find the necessary scientific background. Magazines and articles. To ensure the reliability and accuracy of the study (Snyder, 2019), a lot of research was covered in multiple fields and different sectors, which is a good way to be sure of the correctness (Pillai N, 2020).

4. THE RELATIONSHIP BETWEEN EMPLOYEE PARTICIPATION IN DECISION-MAKING, EMPLOYEE PERFORMANCE AND EMPLOYEE SATISFACTION

Several researchers have investigated the relationship between participative decision making and employee performance in both private and public sector organizations with different findings.

This has generated both positive and negative arguments in the literature, some of these studies conducted from different parts of the world, including Nigeria are reviewed below. Rehman, Khalid and Khan (2012) studied the impact of Employee Decision Making Styles on Organizational Performance in Banks in Pakistan. The study adopted descriptive approach and questionnaire as instrument for data collection. The population of the study consists of 151 branches of all public and private limited banks in Gujranwala city of Pakistan. The sample size was determined statistically. Random sampling techniques were applied in data collection using
the banking industry. The target population consists of 16% top level managers, 59% of middle level managers and, 25% of low-level managers respectively. Data were tested statistically using regression technique to compare the relationship between employee decision making and organizational performance in public and private sector banks. Findings showed that employee decision making rational have positive influence on organizational performance (Rehman, Khan, Alkharfy, & Gilani, 2012).

Study of Rehman, Khalid and Khan (2012) and present study are similar as both focused on organizational performance and adopted descriptive survey design and questionnaire as instrument for data collection. However, the difference between earlier study and present study is that the industry of study and area of study are not the same (Rehman et al., 2012). However, the study of Rehman, Khalid and Khan (2012) was limited to corporate organizations (Banks) in Pakistan, while present study is limited to transport sector organization. Previous study did not determine the extent to which leader behavior influences employee commitment in the hospitality industry in Owerri, Imo State. this is the gap, present study intents to fill.

Similarly, Kesenwa, Oima and Oginda (2013) researched on effect of Strategic Decision Making on Firms Performance using four selected firms in Kenya. The selected organizations include Safaricom M-PESA, Airtel Money, Orange Money and Essaryu cash Plc. Study adopted descriptive survey approach and secondary data as instrument for data collection. Secondary data were employed to calculate the firms’ liquidity ratio and profitability ratio to measure the performance for the firms. Findings showed that there is a significant positive relationship between decision making and organizational performance (Kesenwa, Oima, & Oginda, 2013).

Study of Kesenwa et al. (2013) and present study are similar as both focused on decision making and organizational performance. However, the difference between study already done and present study is that both studies adopted different industries to achieve research objective. Again, area of study and driver variable of study are not the same. Conversely, the study of Kesenwa et al. (2013) did not determine the extent to which leader behavior influences employee commitment in the hospitality industry in Owerri, Imo State. This is the gap, present study intents to fill.

Again, Wainaina, Iravo and Waititu (2014), examined the effect of Employee Participation in Decision Making on Organizational Commitment in the Private and Public Universities in Kenya. The target population comprised of academic staff of the university. Descriptive research design and questionnaire was adopted as instrument of data collection. Out of 347 questionnaires were administered to sixteen selected universities in Kenya, only 282 questionnaires were returned in good faith, while the remaining 65 were not returned. The study found that employee participation in decision making significantly influence university academic staffs’ organizational commitment in Kenya (Wainaina, Iravo, Waititu, & Sciences, 2014).

Study of Wainaina et al (2014), and present study are similar as both focused on decision making and organizational commitment. However, the difference between study already done and present study is that both studies adopted different industries to achieve research objective. Again, area of study and driver variable of study are not the same. Conversely, the study of Wainaina et al. (2014) did not determine the extent to which leader behavior influences employee commitment in the hospitality industry in Owerri, Imo State. This is the gap, present study intents to fill.

Omobude and Igbudu (2012) wrote on Teachers Participation in Decision Making Process and Job Performances in Oredo Local Government Area of Edo State, Nigeria. The study found that teacher’s participation in decision making influence positively job performance (Omobude & Igbudu, 2012). Work already done by Omobude and Igbudu (2012), and present study are similar as both focused on employee participation in decision making and organizational performance. However, the difference between work already done and present study is that industry of study and area of study are different. Again, the driver variables of both studies are not the same.

Conversely, the study of Omobude and Igbudu (2012) did not determine the extent to which leader behavior influences employee commitment in the hospitality industry in Owerri, Imo State. This is the gap, present study intents to fill. Zubair, Bashir, Abrar, Baig and Hassan (2015) also investigated Employee Participation in Decision Making and Manager’s Encouragement of Creativity, the study employed descriptive survey method and questionnaire as instrument for data collection. Out of 240 questionnaires distributed to the participants of the organization, only 206 were returned and used for the study while the remaining 34 were not returned, the findings found that there is positive relationship between employee participation in decision making and managers’ encouragement of creativity (Zubair, Bashir, Abrar, Baig, & Hassan, 2015).

Work already done by Zubair et al. (2015) and present study are similar as both focused on employee participation, However, the difference between work already done.

Participation of employees achieves job satisfaction for the different identities they represent, it promotes a sense of community and belonging to the organization job satisfaction enhances productivity and achieving the goals of the enterprise (Nunez, 2020).
4.1 Relationship between and Decision-Making Participation

The study shows an increase in job performance that increases with the greater empowerment of employee participation.

<table>
<thead>
<tr>
<th>Employee participation in decision-making</th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Standard error mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm performance index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0 and above</td>
<td>97</td>
<td>4.50</td>
<td>0.384</td>
<td>0.111</td>
</tr>
<tr>
<td>Less than 4.0</td>
<td>144</td>
<td>2.82</td>
<td>1.486</td>
<td>0.077</td>
</tr>
</tbody>
</table>

Source: (Alsughayir, 2016)

An index of less than 4.0 was considered low or shallow employee participation in decision-making; an index of 4.0 and above was considered high or deep employee participation in decision-making.

5. CONCLUSION

There is a direct relationship between employee participation in decision-making and work results and being given the opportunity to contribute to their problems (FarajAllah, El Talla, Abu-Naser, & Al Shobaki, 2018). Job satisfaction plays an important role in employee retention outcomes, and participatory decision-making was a good indicator of an increase in job satisfaction (Henry, 2019).

Job participation increased employee satisfaction by a percentage 36.6% (Khalid & Qureshi, 2007). The descriptive analysis of the research results showed that the application of participatory management method positively affects job performance and is associated with it by a percentage 61.2% (Stefanovska, Bojadziev, & Stefanovska, 2014). The advanced job participation leads to a high level of job satisfaction, as the study showed that the relationship between the two variables is the strongest in the study, as the value of the correlation between them reached (Jose & Natarajan, 2011).

The employees’ knowledge and experience is used by involving them in decision-making, which enhances the performance of the organization. The methods of employee participation in making decisions vary according to the quality and importance of decisions, and participation also enhances job satisfaction, job performance, and increases loyalty and belonging to the institution (García, Gonzales-Miranda, Gallo, & Roman-Calderon, 2019).
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THE CORPORATE SUSTAINABILITY DISCLOSURE: EVIDENCE FROM BANKS IN JORDAN

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ABSTRACT

This study aims to examine the level of sustainability disclosure and dimensions, and the comparison among the three sustainability dimensions (economic, social and environmental) disclosure by banks listed on the Amman Stock Exchange (ASE). Sustainability dimensions disclosure index is used to determine the level of sustainability disclosure among Jordanian banks. In addition, the Content analysis was conducted to evaluate the level of disclosure in the annual report of 15 banks for a five-year period (2012–2016). The findings show that the level of sustainability disclosure among Jordanian banks are low. Results of further examination and comparison among the sustainability dimensions suggest that the economic dimension is the most disclosed and the least disclosed is the environmental dimension. While, sustainability disclosure is potentially important means for management to communicate banks’ sustainability performance to various stakeholders, the results suggest that banks’ commitment towards sustainable development is questionable. Banking sector that shapes the capital market landscape should have set the sustainability agenda as one of its priorities. Thus, this study provides insight into how banking sector in Jordan respond to the sustainability disclosure practices. In addition, the use of the updated GRI guidelines to develop disclosure index provides to better capture the three dimensions of sustainability reporting among Jordanian banks.

KEYWORDS: Sustainability disclosure, Amman Stock Exchange, Content analysis, Global reporting initiative.
OVERVIEW ANALYSIS OJK REGULATION No. 51/POJK.03/2017
COMMERCIAL BANKS: A STUDY ON SUSTAINABILITY REPORTING USING
INSTITUTIONAL LOGICS AND ISOMORPHISM

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ABSTRACT

This study aims to analyze the implementation of OJK Regulation No. 51 / POJK.03 / 2017, which requires sustainability reporting to be disclosed by the financial service institutions, issuers, and public listed companies, especially commercial banks in Indonesia in achieving sustainable development goals. The scope of this study is the practice of reporting on the Sustainable Finance Action Plan (RAKB), policies on credit allocation and sustainable investment formulated by commercial banks, and the motivation and behaviour of banks towards the implementation of sustainable finance from the point of view of new institutional theory. Content, thematic, and constant comparative analyses were used to process secondary data, i.e., sustainability reports of the banks which were then coded and compared NV using IVO 12 Plus. The study compares the topics and themes resulted from each Sustainability Reports of the banks on each category (BUKU) in the period between 2017 and 2019. The practice of reporting on the Sustainable Finance Action Plan has been implemented by BUKU 2, 3, and 4 banks with different findings, especially in BUKU 2, which has not been reported to regulators except in Bank Artha Graha and Muamalat. This study shows that most commercial banks have complied with OJK Regulation No. 51 / POJK.03 / 2017, although the implementation of sustainable finance is still limited, and it focuses only on financial matters. By applying the theory of new institutions, the study indicates that banks tend to be not homogeneous in disclosing their sustainability reporting, where bank logics are dominant compared to the regulatory logics. Regulatory logics are set to be a form of bank compliance with existing regulations. The dominance of banking logics and external pressures from institutions to behave professionally as a form of social obligation. This has led BUKU 2 Banks to practice decoupling and BUKU 3 & 4 to practice coupling.

KEYWORDS: Sustainable Finance Action Plan (RAKB); Sustainable Finance; Commercial Bank, POJK No. 51 / POJK.03 / 2017; and New Institutional Theory.
THE IMPACT OF AUDIT QUALITY ON FINANCIAL PERFORMANCE IN JORDAN

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ABSTRACT

Investors and capital providers are expressing growing concern about the information quality provided in annual reports. To date, however, few studies have been conducted related to audit quality and its impact on the performance of companies particularly in Jordan and developing countries in general. That was the motivation to conduct the current study and provide empirical evidence in this area. This study relies on data collected from the annual reports of 88 non-financial Jordanian companies listed on the Amman Stock Exchange (ASE) from 2009 to 2018. In total, the study contained 880 observations. The panel data approach was employed in this study due to the nature of the data collected. The current study measured the independent variable, which is audit quality (AQ) measured by the log of audit fees, and the independent variable, financial performance, measured by TOBIN’S Q (TQ). A multiple regression method was used to analyze panel data. The results showed there is significant and positive impact of AQ and financial performance. Moreover, cash flow from financing activities (CASHF) and Liquidity (LIQ) have a positive impact on the financial performance of companies listed on ASE, while Leverage (LEV) and firm size (SIZ) have an insignificant relationship with financial performance.

KEYWORDS: audit quality, Agency Theory, financial performance.

1. INTRODUCTION

The quality of a company's financial statements was linked with external auditor credibility. This credibility has been questioned after the collapse of some major companies such as Enron and WorldCom in 2001 and 2002, respectively (Habbash, 2010). Stakeholders are worried about the impact of financial reports, so they are looking for standards that ensure financial report quality. Accurate financial reporting is necessary for the proper evaluation of securities (Fossung & Fortune, 2019). Each potential investor is usually concerned with the reliability of the financial information disclosed in a company's financial reports. Information quality has a major role in filling the gap between management as information providers and stakeholders as information users (Brown, Beebes & Verhoeven, 2011). Thus, external audits are an important control tool that improves the quality of financial statements and helps investors make investment decisions by giving them confidence regarding the information provided by companies (Cohen, Krishnamoorthy & Wright, 2002). In this context, Soltani (2014) found that poor audit quality leads to financial scandals. Recently failures have emerged for companies such as Patisserie Valerie in the UK, Kingdom Bank Africa Limited and Choppies Limited in Botswana also in Jordan Amwal Invest. In all the above-mentioned cases, there is evidence of fraud despite the auditor's unqualified opinion. Therefore, it was necessary to highlight issues of investor protection, as the audit quality and financial performance are among the most important of these issues.

In Jordan, as is the case in many countries with developing economies, there is insufficient legal protection for investors (Shleifer & Vishny, 1997). The General Controller of Jordanian Companies pointed out there is non-compliance with international financial reporting standards in the Jordanian companies, which is considered one of the most important reasons leading to unexpected bankruptcies for Jordanian companies (Nazha, 2018). The Jordanian economy annually loses a number of companies as a result of liquidation, which has a negative effect on owners as well as users of financial data such as creditors, investors, and the economy as a whole (Zurigat, 2015). This problem reflects poorly on the national economy, as many people losing their jobs results in weak economic and social development efforts in Jordan. Therefore, there is an important national interest in addressing this problem and mitigating its negative effects. Therefore, the current study aims to investigate the connection between audit quality and financial performance of companies listed on ASE.
1.1 Audit quality

Audit Quality can be defined as the ability of external auditors to expose errors and notify deviations in an accounting system of the customer (DeAngelo, 1981). This definition is dictated by the technological competencies of the auditor and the procedures and techniques that the auditor utilized. According to Palmrose (1988), audit quality was regarded as the likelihood that financial statements had no material misstatements. It is equally possible to regard audit quality as a function of auditor capacity to detect material misstatements and recount errors (Malih, Mahdavikou & Khontalou, 2012). An audit can therefore be regarded as a set of information gathering and evaluation techniques that professionals utilize when making a judgment with reference to the appropriate standards that form an estimate for the procedure or procedures required for the execution of an operation. Fossung and Fortune (2019) highlighted the need to review the internal and external situation of a company in order to decrease informational asymmetry between directors and shareholders. Across auditing firms, audit quality is presumed to be fairly homogeneous, but this presumption has been proven to be untrue (Velury, Reisch & O’Reilly, 2003). Even though all auditing firms are obliged to adhere to minimum professional standards. This is because it is important for these Big 4 firms to preserve their reputation.

The literature deals with two aspects when considering audit quality: supply and demand. Auditing fees and auditing firms are considered input-based proxies. This study considers the demand side of audit quality, meaning do investors, debtholders and owners demand high audit quality. As mentioned in several studies Ghafran and O’Sullivan, (2017), He, Pittman, Rui, and Wu, (2017) and Zaman, Hudaib and Haniffa (2011) the fees amount that external auditors receive is usually considered as an audit quality indication in high-profile studies. In general, Francis (2004) stated that high audit fees denote higher audit quality, either via increased audit effort (i.e., more audit hours) or via higher auditor expertise (higher billing rates). Audit fees are a suitable proxy for audit quality because according to Ghafran and O’Sullivan (2017), a greater amount of audit investigation requires more audit hours and/or the utilization of more-specialized audit staff, and this increases the fees. It is logical that fee is paid to audit firm cover the total cost of the audit, the time spent on auditing, experiences and experiments and the extent of work required for audit. For this reason, there is no fixed audit fee or fee for all auditing work, as it differs with specific circumstances and certain considerations. The task of an external auditor requires the deployment of an integrated team to achieve quality audit in the audit process, it is expected the audit fee will be proportionate enough. If the payment of audit fee is less than what is required, the audit firm will not strive to exceed the cost limit, as it will work with few audit staff and working hours. Thus, in this case we can say that the auditor focus on not exceeding a given cost limit rather than focusing on audit which is detrimental audit quality. Where Bell, Doogar and Solomon (2008) indicated that the risk-based approach of audit planning and subsequent pricing means that clients perceived by the auditor as risky are typically assigned more efforts, which in turn results in higher audit fees. The audit planning depends on audit fees, thus audit quality depends on the extent of planning which is assumed to be one of the audit fees tasks and this assumption is consistent with (Hoitash, Markelievich & Barragato, 2007; Yassin & Nelson 2012; Martinez & De Jesus, 2014 & Hamid & Abdullah, 2012). In their study, Al-Khaddash Al Nawas and Ramadan (2013) concluded that auditors in Jordanian firms need to be paid high fees as an incentive so that they would perform better work. Furthermore, high fee receiving auditors who deliver poor audit quality would be shamed.

In studying 199 members of board directors, audit committees, and auditors in the Jordanian market, Alhababsah (2016) recognize the relevance of audit fees level as a measurement of audit quality in the Jordanian market. The use of audit fees was proposed in Yasser and Soliman (2018) for audit quality measurement. Big4 can be used as a proxy of audit quality as pointed out (Francis & Yu, 2009). However, However, Alhababsah (2019) pointed it is less suitable in Jordan for several reasons. Firstly, compared to developed countries, the Big4 firms in Jordan do not have a large market share, where the percentage of non-financial companies listed on the Amman Stock Exchange that are audited by the Big4 was (35%). Secondly, the main disadvantage of using Big4 as dummy variable (Big 4 and non-Big 4) is inability to capture subtle differences in audit quality (DeFond & Zhang 2014). Where the dummy variable assumes that all of the companies that were audited by the Big4 have a high audit quality without considering the variance in audit quality between these companies. Also, it provides the same minimum level of audit quality for the companies were not audited by Big4. This is the reason for choosing audit fees as the most appropriate proxy for the audit quality instead of the Big4 in Jordan.

2. THEORETICAL FRAMEWORK

The conflict of interest in institutions results from the agent’s pursuit of his personal interests without concern for the interests of shareholders, which makes the latter follow the means to control manager’s behaviour in an effort to alleviate this conflict and try to reduce the tendency to achieve his own interests (Jensen & Meckling, 1976).
1976). The agency problem arises between shareholders-managers because of the asymmetry of information between them and it is one of the drivers for external auditing.

Through the agency theory, monitoring mechanisms are considered one of the important means to reduce conflicts, match all party’s interests, decrease agency problem and opportunistic management behavior. Jensen and Meckling (1976) indicated the vital role that audit quality plays in aligning the interests of the managers with the interests of the shareholders. Hence, it is considered as a control mechanism that prevents opportunistic administrative behavior and the manipulation of information provided to clients. Moreover, Arens, Elder and Mark (2012) emphasized the importance of audit quality to reduce the information asymmetry and conflict of interest between management and stakeholders in the companies. Audit quality increases confidence between potential investors and companies in the capital market, which reflects positively on firm value. Jensen and Meckling (1976) argued that because managers work to maximize their benefits even at the expense of principals, external auditors have a duty to mitigate the principal-agent conflict and reduce information asymmetry. Agency theory suggests that high-quality financial reports reduce asymmetry information and improve investor confidence and stock price (Khurana & Raman, 2004).

2.1 Audit quality and financial performance

The conflict of interest between agent and client leads to agency problems, which in turns leads to increase in agency costs, thus the demand of audit quality increases (Chow, 1982 & Francis & Wilson, 1988). Lai and Liu (2016) argued that audit quality reduces agency problems by two ways: first, by increasing the quality of financial reporting, thus providing investors with more reliable information to monitor investment and agents’ operational decisions; second, the audit quality leads to increase in the quality of disclosure, which increases the chances of investors to analyse and evaluate the company’s performance to ensure that management use the resources efficiently. Companies that employ a high-quality auditor to investigate the integrity of the financial statements are likely to invest more efficiently (Boubaker Houcine, Fitti & Masri, 2018).

The previous studies agreed that audit fee reflect the efforts of auditor, when increasing the audit work so that the reviews are more comprehensive and need to closely supervise the employees, the audit firms impose higher fee to commensurate the work volume (Schelleman & Knechel, 2010 & Krishnan, Sun, Wang & Yang, 2013). Therefore, audit fee is a sign for investors in the capital markets about the reliability of financial information, thus increase the firm value. In this regard, Eshlemen and Guo (2014) found that audit fee is an indication for the auditor's effort, this was concluded by Blankley, Hurtt and MacGregor (2013) and Asthana and Boon (2012). However, in another context Kraußl, Pronobis and Zülch, (2015) Choi, Kim and Zang, (2010) and Donatella, Haraldsson and Tagesson (2019) found audit fee does not indicate the auditor effort.

The external auditor carries out the role of monitoring management to the fullest extent, which leads to increase company’s value (Jensen & Meckling, 1976). Watts and Zimmerman (1986) also noted that the audit would succeed in changing expectations and thus reduce the opportunistic behaviour of managers only if it is expected that the auditor will report some discovered “breaches of contract”. This indicates audit quality improves investment decisions, adds value to companies and improves their performance. Alzoubi (2018) found earning management practices reduce with high audit quality and thus reflects positively on the perception of investors. Houqe, Ahmed and Van (2017) showed high audit quality is considered a strong monitoring mechanism and provides positive signals for the capital market. Fan and Wong (2005) provided evidence that in emerging markets, companies with high-agency problems employed high auditor’s quality to mitigate the agency problem in order to improve performance. Okolie, Augustine and Izedonmi (2014) found that audit quality affects share prices. In the same line, Jusoh, Ahmad and Omar (2013) found the market value of the company is positively affected by the audit quality. The previous studies showed the function of auditor which he performs on the financial statement revealed a relationship with the firm performance (Heil, 2012 & Farouk & Hassan, 2014). Moreover, the management advice provided by the auditor helps to improve the reliability of the internal control system and reduce errors and fraud that lead to profit erosion (Farouk & Hassan, 2014 & Heil, 2012). Based on above, it can be hypothesized that: Audit quality positively influences the financial performance of companies listed on the ASE.

3. METHODOLOGY

The population of the current study consists of 93 non-financial companies listed on ASE from 2009 to 2018. Financial companies were eliminated from the current study due to differences in the business and regulatory environment (Alhababsah, 2019). We used a data set of companies under the industry and service sectors, 47 and 46, respectively, from 2009 to 2018. 5 companies were excluded because of incomplete and unavailable information. As shown in Table (1) the full sample size of the current study consists of 880 firm-year observations, a balanced panel data of different numbers of firms from 2009 to 2018. Balanced plate panel data of 88 firms over a 10-year period from 2009 to 2018 was employed, and panel estimation was used to exploit
both the time-series and cross-section.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Companies number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial sector</td>
<td>98</td>
</tr>
<tr>
<td>Industrial sector</td>
<td>47</td>
</tr>
<tr>
<td>Service sector</td>
<td>46</td>
</tr>
<tr>
<td>Total number of firms</td>
<td>191</td>
</tr>
<tr>
<td>Financial sector</td>
<td>(98)</td>
</tr>
<tr>
<td>Incomplete data</td>
<td>(5)</td>
</tr>
<tr>
<td>Sample of this study</td>
<td>88</td>
</tr>
<tr>
<td>Study period (2009-2018)</td>
<td>10</td>
</tr>
<tr>
<td>Total firm-year observations</td>
<td>880</td>
</tr>
</tbody>
</table>

3.1 Model specification

Panel data approach is appropriate in studies that deal with various types of variables that change over time and between entities, and which are constant over time and change between entities (Wooldridge, 2010). Various estimation methods can use for panel data such as random and fixed effects. Furthermore, robust standard error is used in the case of heteroscedasticity and autocorrelation problems (Hoechle, 2007). Based on data that was collected, panel data approach is considered appropriate for the current study.

\[(FP)_{it} = \beta_1 + \beta_2(AQ)_{it} + \beta_3(LEV)_{it} + \beta_4(LQ)_{it} + \beta_5 \text{CASHF}_{it} + \beta_6 \text{SIZ}_{it} + U_{it}\]

Table 2: Definition of the research variables

<table>
<thead>
<tr>
<th>variable</th>
<th>Column A ( (t) )</th>
<th>Column B ( (T) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>TobinsQ</td>
<td>TQ</td>
<td>The sum of equity market value and total debt book value divided by total assets book value</td>
</tr>
<tr>
<td>Audit quality</td>
<td>AQ</td>
<td>Log audit fees</td>
</tr>
<tr>
<td>leverage</td>
<td>LEV</td>
<td>Total debt book value divided by total equity</td>
</tr>
<tr>
<td>Liquidity</td>
<td>LQ</td>
<td>Total current assets divided by current liabilities</td>
</tr>
<tr>
<td>Cash flow from financing activities</td>
<td>CASHF</td>
<td>Cash inflows from financing over the sum of long-term debt and equities</td>
</tr>
<tr>
<td>Firm size</td>
<td>SIZ</td>
<td>The natural logarithm of the total assets book value</td>
</tr>
</tbody>
</table>

The independent variable of the current study, FP, refers to company financial performance and measured by Tobin’s Q (market-based measure). TQ differs from accounting-based measures because it considers the investor perceptions in the capital market of a firm’s potential performance, while accounting-based measures are concerned with the current firm’s financial performance (Dalton, Daily, Certo & Roengpitya, 2003). The current study calculated TQ by the sum of equity market value and total debt book value divided by total assets book value, which agrees with previous studies (Chadha & Sharma, 2015; Kanwal, Shahzad, Rehman & Zakaria, 2017). The dependent variable is audit quality. To achieve the normality of data and to prevent the largest companies from effecting the results, audit fee variable was transferred to the natural log. AQ is calculated by Log audit fees. The amount of fees that the external auditors receive is usually considered as an audit quality indication in high-profile studies such as Yasser and Soliman (2018) and Alhababsah (2019).

The control variables have been included in the regression model of the current study in order to insulate the effect of other factors that has an impact on the firm’s performance and highlight the links between audit quality and firm performance. Leverage gives us information on the relative amount of debt in the company. The increase in this ratio means an increase in LEV. High LEV may assist the firm in reducing agency costs (Gansuwan & Önel, 2012). LEV is calculated by total debt divided by total equity (Akeem, Terer, Kiyanjui, & Kayode, 2014; Abdur Rouf, 2015). LQ represents the company's ability to face its current liabilities using its current assets (Van Horne & Wachowicz, 2008), which is calculated by total current assets divided by current liabilities (Nik Mohd, 2017). LIQ is an important strategy to attract the interest of current and potential investors. CASHF is the amount received by issuing stock or borrowing as well as payment made to retire debt, provide dividends to owners and repurchase stock (Brigham & Ehrhardt, 2017). It is calculated by cash inflows from financing over the sum of long-term debt and equities (Ni, Huang, Chiang & Liao, 2019). The firm's size is measured as the natural logarithm of the total assets book value. Large firms are able to generate money internally and obtain external sources of funds. This may impact on the firm's value (Ng, 2005). Moreover,
large firms are more likely to be more diversified and therefore may be subject to higher agency costs (Fama & French, 1992). Table 2 presents the definition of the current study variables used in the model.

4. RESULTS AND DISCUSSION

Table 3: descriptive analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQ</td>
<td>880</td>
<td>1.13</td>
<td>0.55</td>
<td>0.22</td>
<td>3.30</td>
</tr>
<tr>
<td>AQ</td>
<td>880</td>
<td>4.05</td>
<td>0.44</td>
<td>3.0</td>
<td>6.35</td>
</tr>
<tr>
<td>LEV</td>
<td>880</td>
<td>0.75</td>
<td>0.75</td>
<td>0.04</td>
<td>2.54</td>
</tr>
<tr>
<td>LIQ</td>
<td>880</td>
<td>1.98</td>
<td>1.53</td>
<td>0.32</td>
<td>5.87</td>
</tr>
<tr>
<td>CASHF</td>
<td>880</td>
<td>-0.26</td>
<td>0.11</td>
<td>-0.58</td>
<td>0.57</td>
</tr>
<tr>
<td>SIZ</td>
<td>880</td>
<td>7.52</td>
<td>0.58</td>
<td>5.67</td>
<td>9.25</td>
</tr>
</tbody>
</table>

Table 3 shows a descriptive analysis of the current study variables for 88 industrial and service companies. It was represented using observations, mean, standard deviation, minimum, and maximum levels. The results of the independent variable, which is TQ, exposed that the average is 1.13 percent with an SD of 0.55. Moreover, the minimum rate of TQ in the Jordanian service and industrial companies is 0.22 percent with a maximum level of 3.30 percent. This result agrees with Almustafa (2017), where the mean of TQ for Jordanian companies was 1.2, which means stocks are valued higher. This may reflect the expectations of the agency’s theory about the importance of AQ. Furthermore, the descriptive analysis for AQ, which represents the dependent variable, shows the mean is 4.05 with an SD of 0.44. Otherwise, the range of AQ in the Jordanian service and industrial companies is between 3.0 and 6.35. This result agrees with Alhababsah (2019) in Jordan where the mean of AQ is 4.01. The result for the control variable shows the average for LEV is 0.75 with a standard deviation of 0.75. Otherwise, the range of LEV is between 0.04 and 2.54. This result differs from Akingunola et al. (2018) in Nigeria where the average LEV was 1.9 and Kanwal et al. (2017) in Pakistan, which recorded a result of 1.3, results that are higher than Jordanian companies. This may be managers do not like more debt. Moreover, the result represents the mean of LIQ 1.98 percent with an SD of 1.53. Furthermore, the minimum rate of LIQ for non-financial Jordanian companies is 0.32 percent with a maximum level of 5.87 percent. This result differs from Marashdeh (2014), where the average LIQ of Jordanian companies was 3.4. This may due to the economic crises to which the Jordanian economy was exposed because of the political events in neighboring countries. Moreover, the descriptive result for CASHF shows the average is -0.26 percent with an SD 0.02. CASHF ranged from -0.58 to 0.57. This result differs from Ni et al. (2017) in Taiwan, where the average CASHF was -0.012. Finally, the mean for was SIZ 7.52 with an SD of 0.58 Otherwise, the range of SIZ between the minimum level 5.67, and the maximum level 9.25. This result agrees with Alabdullah (2018) in Jordan where the mean of SIZ is 7.29.

Table 4: correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>TQ</th>
<th>AQ</th>
<th>LEV</th>
<th>LIQ</th>
<th>SIZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQ</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AQ</td>
<td>0.43</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-0.009</td>
<td>0.13</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIQ</td>
<td>0.22</td>
<td>0.01</td>
<td>-0.39</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>CASHF</td>
<td>-0.02</td>
<td>-0.02</td>
<td>0.08</td>
<td>0.05</td>
<td>1.00</td>
</tr>
<tr>
<td>SIZ</td>
<td>0.23</td>
<td>0.46</td>
<td>0.26</td>
<td>-0.14</td>
<td>0.032</td>
</tr>
</tbody>
</table>

Table 5: Multicollinearity test

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQ</td>
<td>1.30</td>
<td>0.77</td>
</tr>
<tr>
<td>LEV</td>
<td>1.27</td>
<td>0.78</td>
</tr>
<tr>
<td>LIQ</td>
<td>1.21</td>
<td>0.82</td>
</tr>
<tr>
<td>CASHF</td>
<td>1.02</td>
<td>0.98</td>
</tr>
<tr>
<td>SIZ</td>
<td>1.36</td>
<td>0.73</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>1.23</td>
<td></td>
</tr>
</tbody>
</table>

The correlations between variables of the current study are illustrated in Table 4. The multicollinearity level among independent variables has been examined, which should be less than 0.8 percent as suggested by Yoshikawa and Phan (2003). From the results in Table 4, there was no multicollinearity problem. Moreover,
multicollinearity was examined using VIF. Table 5 shows that all VIF values are less than 10 as suggested by Hair, Black, Babin, Anderson, and Tatham (2010). Thus, according to the data referred to in this study, the model does not contain multicollinearity.

The current study employed multiple regression method to investigate the relationship between predictors AQ and criterion TQ variables. This statistical method has been used in many studies, such as (Alabdullah, 2018). Based on the results of the Hausman test (prob 0.0001), the fixed-effect model is more suitable than a random effect model. Moreover, the current study employed the Durbin Watson (DW) test to determine whether there was autocorrelation in the panel data. According to Knoke (2003), the acceptable range of DW value of 1.5-2.5; in this context, the DW is 1.63. The output of the DW test shows there was no autocorrelation problem. Furthermore, the current study employed the Wald test to detect heteroscedasticity presence (Greene, 2007). The probability of the Wald test is (prob 0.00), which indicates a heteroscedasticity problem in the current study model. Alhababsah (2019) suggested using robust regression in the presence of heteroscedasticity.

Table 6: regression results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Robust standard error regression</th>
<th>Coef.</th>
<th>t-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQ</td>
<td>0.36</td>
<td></td>
<td>4.2***</td>
</tr>
<tr>
<td>LEV</td>
<td>0.0003</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>LIQ</td>
<td>0.10</td>
<td>2.3**</td>
<td></td>
</tr>
<tr>
<td>CASHF</td>
<td>0.54</td>
<td>3.46***</td>
<td></td>
</tr>
<tr>
<td>SIZ</td>
<td>0.08</td>
<td>1.10</td>
<td></td>
</tr>
<tr>
<td>CONS</td>
<td>-1.14</td>
<td>-1.7</td>
<td></td>
</tr>
<tr>
<td>R-sq:</td>
<td>0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>obs</td>
<td>880</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows the outcome of robust standard error regression which explains the influence of audit quality towards the financial performance of non-financial Jordanian companies. The value of Adjusted R-squared is 30% percent, meaning that the independent variables of the current study explain 30% percent of the changes in the dependent variable. The study hypothesis mentioned that there would be a positive relationship between audit quality and financial performance. The result shows that audit quality has a positive impact on the financial performance of Jordanian non-financial companies (Coef. 0.36, t-Statistic 4.23 Prob 0.000). Hence, consistent with the current study objectives, this finding supports previous studies such as (Okolie, Augustine & Izedonmi (2014); Jusoh et al., (2013)), which found that audit quality may increase financial performance. This result is in line with agency theory that the external auditor carries out the role of monitoring management to the fullest extent, which leads to increase company's value (Jensen & Meckling, 1976). Watts and Zimmerman (1983) also noted that the auditor reduces the manager's opportunistic behavior by discovering breaches. This indicates audit quality improves investment decisions, adds value to companies and improves their performance. Fan and Wong (2005) provided evidence that in emerging markets, companies with high-agency problems employed high auditor quality to mitigate the agency problem in order to improve performance.

The results for the control variables of the current study have a different effect. LEV has no effect on the financial performance this result context with irrelevance theory and the results in developing counters (Ebaid, 2009; Chadha & Sharma, 2015). However, LIQ has appositive and significant effect on the financial performance. It is in the same line with Mohanty and Mehrotra (2018) and Ismail (2016). Where companies with high LIQ have great investment opportunities. Moreover, CASHF has a positive impact on financial performance. This result agrees with (Ni et al. 2019 & Ogbeide & Akanji 2017). Also it is in the line with the Agency Theory context, long debt reduces agency costs and inefficiency which leads to improving financial performance, (Akintoye 2008). on the other hand, the investors increase the monitoring of the manager's behavior to reduce the management practices that lead to destroying the firm value (Jensen & Meckling, 1976). While, and SIZ have no effect on the financial performance. In the same line Alabdullah (2018) pointed out firm size has no impact on market share in Jordanian companies. These results may due to the investor's evaluate the companies listed in ASE, depending on the financial attributes and information quality more than they the size of the company.

5. CONCLUSION

The current study aimed to investigate the relationship between audit quality and financial performance, using
Panel data of a sample consisted of 88 non-financial companies listed on ASE from 2009 to 2018. The current study found a positive and significant relationship between audit quality and TobinsQ. The findings show that agency theory can explain the relationship between AQ and firm value for companies listed under the service and industrial sector on ASE. Furthermore, it presents the importance of information quality for investors’ perceptions and behavior. Moreover, this result encourages Jordanian companies to pay attention for high audit quality where it sends a positive signal about their integrity, attracts capital providers and investors to expand their business, and creates a positive perception of the company, which reflect positively on company value. In addition, it shows the importance of audit quality as one of the effective governance mechanisms, where policymakers must focus on audit quality and strengthen the regulations related to it. Furthermore, the control variables show various results where the LIQ and CHASHF have a positive and significant impact on financial performance, while LEV and SIZ have no impact on financial performance.

The current study contributes to the literature by investigating the relationship between the audit quality and the financial performance of non-financial companies in Jordan as one of the emerging economies. In this study, audit quality is represented by a logarithm of the audit fees and financial performance is represented by TOBINS Q. To the best of the researcher’s knowledge, the current study is considered one of the rare studies of its kind conducted in Jordan and developing countries which provides new insights in this area.

The main limitation of this study is the sample size, the researchers excluded financial companies due to the difference in corporate governance code. Thus, future studies can apply the current study on the financial sector in order to obtain new results that enrich the current study framework. Moreover, the researcher recommends that future studies consider studying these variables in developing and developed countries to determine the results from various perspectives and different levels of development in countries. In addition, other variables for financial performance, such as market share. Finally, the auditor experience and the size of audit firms can be used to represent the audit quality.

REFERENCES


THE INFLUENCE OF CULTURAL DIMENSION PERCEPTIONS ON THE ADOPTION OF ISLAMIC BANKS: CASE OF INDONESIA

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ABSTRACT

This research aims to examine the role of culture in adoption of Islamic banks in Indonesia. Islamic banks adoption is still an interesting topic especially in Indonesia as the adoption of Islamic banks in Indonesia are still very low, which is approximately 5%-6% of market share compare to more than 87% of Moslem citizen in Indonesia. Culture can be one of the explanation needed to be investigated. There are three dimensions of culture used in this research i.e. Individualism/Collectivism, Uncertainty Avoidance, and Indulgence/Restraints as factors that influence the adoption of Islamic banks. This research presents primary data from questionnaire with a sample of 406 observations where 91% of respondents come from 5 biggest province in Indonesia in Jawa and Bali. The influence of culture on adoption of Islamic banks are examined with multiple regression method. This study found that collectivism culture tend to adopt Islamic banks more compare to individualism culture, in line with argument that the collectivist put their community belief as consideration in making decision, including bank adoption. High uncertainty avoidance culture tends to adopt Islamic banks. Higher uncertainty avoidance culture will learn the terms and condition of Islamic banks with a more caution and find that Islamic banks fit their belief in Islam. However, this research cannot prove the influence of restraint/indulgence level on adoption of Islamic banks. These findings suggest Islamic banks to approach customers by culture as it can lead the customers to adopt Islamic banks.

KEYWORDS: Individualism/Collectivism, Uncertainty Avoidance, Restraint/Indulgence, Adoption of Islamic Banks.
GREENHOUSE GAS EMISSIONS DISCLOSURE: THE ROLE OF INTERNAL AUDITORS

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ABSTRACT

Climate change leads to natural disasters thus affects social and business environment. Malaysian economy is increasingly vulnerable to the impact of climate change thus businesses can no longer ignore the relevance of managing their GHG emissions. Moreover, concern for measurement and disclosure of GHG emissions by industries has increased among stakeholders. Particularly, business entities are increasingly pressured to measure, manage and report their climate change performance. Thus, it is crucial for entities to understand and communicate their contribution to global warming resulting from carbon emissions. Research in GHG emissions disclosure has gained growing attention in recent years to contribute an understanding of factors affecting the disclosure. While previous research examines the relationship between corporate governance and GHG emissions disclosures, research to examine the role of internal auditors is still lacking. Thus, this study employed exploratory case study approach by soliciting 6 Malaysian companies publicly listed on Bursa Malaysia to understand the role of internal auditors in the GHG emissions disclosure. Content analysis of annual reports and face to face interviews with the Chief Internal Auditors of the selected companies were conducted. The results suggest that the internal auditors do not provide any internal assurance on the GHG emissions disclosures. However, the internal auditors assess risk exposures that are associated with the environmental matters and significant to affect the company’s business operations. Thus, this study provides implication to the knowledge that cautious need to be taken when conducting research on the relationship between internal auditors and GHG emissions disclosures. Merely examining the relationship without considering risk exposure will mislead the results and understanding.

KEYWORDS: GHG Emissions, Internal Auditors, Case Study.
TRACK 3B
BUSINESS
MALAYSIAN YOUTHS’ COVID19 INTRA-PERIOD E-WALLET ADOPTION: EXAMINING INTEGRATED TTF-TAM FRAMEWORK

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ABSTRACT

Fintech is growing at an accelerated rate in Malaysia and thus boosted the emerging number of e-wallet providers. The existing statistical data, however, indicated that the e-wallet adoption rate remains at a low percentage and it has been as a barrier for Malaysia in achieving the aims to become a cashless country. Having said that, the use of e-wallet was expected to rise amidst Covid19 pandemic; in order to optimize intervention for Covid19 outbreak. This study attempts to identify the factors that relate to the intention to use e-wallet during Covid19 pandemic. The Task-Technology Fit (TTF) model and Technology Acceptance Model (TAM) were integrated in this study with an extended variable, perceived credibility. This is a quantitative research where an online survey was used to collect responses from 160 Malaysian youths. The results of findings showed that Individual-Technology Fit, Task-Technology Fit, Perceived Usefulness, Perceived Ease of Use and Perceived Credibility were significantly related to Covid19 intra-period e-wallet adoption. A considerable theoretical contribution was made by integrating TTF model with TAM in addition to consider Perceived Usefulness and Perceived Ease of Use in a single integrated model. It is hoped that this research is useful to stakeholders in the e-wallet business, as it can provide enhanced directions to meet market needs by understanding and predicting the behaviour of e-wallet users post-pandemic, thereby helping service providers attract new users and retain their existing users.

KEYWORDS: TTF, TAM, E-wallet, Covid19
DOES DISCOUNT MATTER IN INDONESIA E-WALLET RACE? A QUALITATIVE STUDY ON GENERATION Z E-WALLET CHOICES DURING PANDEMICS

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ABSTRACT

The aim of this study are divided into two objectives. First, to understand the intention of generation Z when using e-wallet for payments. Second, to see whether discount influence them to use e-wallet in the time of pandemics. This study is conducted using qualitative method with total data of 22 students, collected using in-depth interviews through WhatsApp free call. The result shows that the role of discount gives impact on generation Z decision in choosing the e-Wallet. It is found out that discount interest them to choose the e-wallet but it doesn’t guarantee a long-term loyalty from Generation Z. Another finding demonstrates that discount is not the only factor which influence Generation Z in choosing e-Wallet. The ease of use, interrelated apps with the e-Wallet (e.g: grab with ovo; gojek- with gopay), the security system, and cashless society are the other factors contributing in choosing e-Wallet. The limitations of this study lie in the relatively small numbers of respondents. As this study is taken during the pandemics with physical distancing requirements, the number of respondents is fairly small. This research then only carried out on the data collected from 22 students from Economics Faculty in the State University of Malang, Indonesia. However, this study provides an insightful analysis to fellow researcher, academician, and can be used by digital payments industry for a reference. This study can also be a basis for further research in digital payments, especially amongst generation Z in Indonesia or other part of the world.

KEYWORDS: e-Wallet, Digital Payments, Discounts, Consumer Preference, Consumer Intention
A REVIEW ON CONSUMERS BEHAVIOUR AND DECISION MAKING FROM NEUROMARKETING PERSPECTIVES

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ABSTRACT

Marketing is the core of a business and the primary goal of marketing is to bring the products to the target market. However, one of the main reasons some marketing strategies fail is because of the inability to understand the decision-making process that takes place in consumers’ subconscious minds. This is because when consumers made a decision making, their conscious mind pays attention to the familiar item, but they did not know why they spend. Thus, marketers waste most of their budget by attracting only 10% of the brain that drives consumers’ decisions. The objectives of this paper are to review the available literature on neuromarketing study on consumer behavior. This paper provides a review of studies based on neuromarketing principles focusing on customer behavior. For that reason, a suitable method is therefore essential for marketers to understand the underlying responses when consumers make a decision. Neuromarketing is a new method to examine consumers’ subconscious minds towards the main component of marketing during the decision-making process. Neuromarketing will reveal hidden information about consumers’ behavior which was not obtainable by the traditional marketing methods. Thus, neuromarketing can confirm, reconfigure, and improve consumer behavior and decision making.

KEYWORDS: Neuromarketing, Consumer Behavior, Decision Making and Subconscious

1. INTRODUCTION

Consumer behavior is a central component of marketing and marketing strategies. The relation between consumer behavior and marketing strategy is therefore important since the effectiveness of marketing strategies depends on the understanding of consumer behavior. The study of consumer behavior consists of observing consumers in their buying decision processes, from initial search to the moment of purchase, as well as their after-sale assessment of products, in obtaining information to allow companies to formulate proposals that satisfy consumers’ needs and demands (Colaferro & Crescitelli, 2014). Thus, consumer behavior is a complex, dynamic, complicated process and all marketing decisions are based on consumers’ behavior expectations. Consumer behavior studies have also supported a variety of disciplines such as anthropology, sociology, psychology, and more recently, neuroscience, to better understand consumer desires and actions in response to the stimuli provided to make purchases.

Therefore, it is necessary to investigate the behavior of consumers. One of the main concerns in consumer behavior is how consumers develop, adapt, and implement their decision-making strategies (Karimi, 2013). The key factors behind consumer behavior are knowing the decision making of customers to make them a factor of success (Hammou, Galib, and Melloul, 2013). For the past decades, many researchers such as Hawkins et al. 2001 describe consumer behavior as the study of individuals or groups and the mental, emotional and physical processes they use to select, obtain, consume and dispose of products or services, to satisfy needs and wants. For this purpose, understanding customer behavior in decision making will help companies to be more successful in marketing strategies such as product development, product design, advertising, and many more that will attract customers.

2. CONSUMER DECISION MAKING

Decision making is one of the human behavior’s cognitive processes (Foxall, 2003). One of the key issues in consumers’ behavior is how consumers develop, adapt, and utilize decision-making strategies (Karimi, 2013). For that reason, understanding consumers’ decision-making can help companies to be more effective in marketing strategies such as product development, product design, advertisement, and many other agenda that will attract consumers. Definition of consumers’ decision making by Newell & Shanks (2014) refers to the mental treatment leading to the selection of one of several actions. To better explore consumers’ decision-
making, researchers or marketers should, therefore, reach the very heart of the human cognition system, which is directly in the brain (Mahoney, 2003).

Consumers’ decision making has been of great interest to researchers for many years, and this topic has been investigated by a large number of studies. Table 2.1 resumes the field of decision making in different areas (Peighambari, Sattari, Kordestani, & Oghazi, 2016).

### Table 2.1: Category of articles in decision making

<table>
<thead>
<tr>
<th>Topic category</th>
<th>Number of articles</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes</td>
<td>145</td>
<td>11.5</td>
</tr>
<tr>
<td>Attribution</td>
<td>36</td>
<td>2.9</td>
</tr>
<tr>
<td>Belief-expectancy models</td>
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<td>0.9</td>
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<tr>
<td>Cognitive</td>
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<td>1.3</td>
</tr>
<tr>
<td>Information processing</td>
<td>29</td>
<td>2.3</td>
</tr>
<tr>
<td>Involvement</td>
<td>12</td>
<td>1.0</td>
</tr>
<tr>
<td>Learning</td>
<td>10</td>
<td>0.8</td>
</tr>
<tr>
<td>Life style</td>
<td>17</td>
<td>1.4</td>
</tr>
<tr>
<td>Motivation</td>
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<td>1.3</td>
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<td>Perception</td>
<td>151</td>
<td>12.0</td>
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<tr>
<td>Personality</td>
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<td>1.0</td>
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<tr>
<td>Physiological</td>
<td>42</td>
<td>3.3</td>
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<td>Values/beliefs</td>
<td>31</td>
<td>2.5</td>
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<tr>
<td><strong>Purchase Process</strong></td>
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<td></td>
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<tr>
<td>Brand awareness/loyalty</td>
<td>78</td>
<td>6.2</td>
</tr>
<tr>
<td>Choice</td>
<td>74</td>
<td>5.9</td>
</tr>
<tr>
<td>Evaluation</td>
<td>46</td>
<td>3.7</td>
</tr>
<tr>
<td>Post-purchase</td>
<td>41</td>
<td>3.3</td>
</tr>
<tr>
<td>Purchase decision process</td>
<td>60</td>
<td>4.8</td>
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<tr>
<td>Search for information</td>
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<td>2.9</td>
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<td><strong>External</strong></td>
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<td>Communications</td>
<td>57</td>
<td>4.5</td>
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<td>Consumers socialization</td>
<td>18</td>
<td>1.5</td>
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<tr>
<td>Culture</td>
<td>32</td>
<td>2.6</td>
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<tr>
<td>Demographics</td>
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<td>2.6</td>
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<td>Family decision process</td>
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<td>0.6</td>
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<td>Group influences</td>
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<td>2.0</td>
</tr>
<tr>
<td>Innovators/innovations</td>
<td>13</td>
<td>1.1</td>
</tr>
<tr>
<td>Opinion leaders</td>
<td>16</td>
<td>0.3</td>
</tr>
<tr>
<td>Persuasion</td>
<td>49</td>
<td>3.9</td>
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<tr>
<td>Segmentation</td>
<td>22</td>
<td>1.8</td>
</tr>
<tr>
<td>Situation</td>
<td>7</td>
<td>0.6</td>
</tr>
<tr>
<td>Social stratification</td>
<td>10</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumerism</td>
<td>17</td>
<td>1.4</td>
</tr>
<tr>
<td>General</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>Models</td>
<td>41</td>
<td>3.4</td>
</tr>
<tr>
<td>Preference</td>
<td>22</td>
<td>1.8</td>
</tr>
<tr>
<td>Public policy</td>
<td>11</td>
<td>0.9</td>
</tr>
<tr>
<td>Store patronage</td>
<td>16</td>
<td>0.3</td>
</tr>
</tbody>
</table>

*Source : Peighambari et al. (2016)*

According to the findings from five major international journals (Journal of Advertising Research, Journal of Consumers Research, and Journal of Marketing & Journal of Marketing Research), the most studied topic in consumers’ decision making articles was Perception, which was covered by 12% of the articles, Attitudes (11.5%), followed by Brand awareness/loyalty was the third topic with 6.2%. However, cognitive is one of the areas that have less coverage published in the top five international journals in the field. These will make the study of consumers’ decision making from a cognitive perspective more interesting and will add some value to the research area. Therefore, it is crucial to recognize consumers’ decision-making behavior from another perspective, which is from consumers’ subconscious minds.
3. DECISION MAKING FROM A COGNITIVE PERSPECTIVE

Decision making is one of the human behavior’s cognitive processes (Foxall, 2003). Goode (2008), define cognitive as the subconscious minds of the consumers that mental processes operate outside consumers’ consciousness. Cognitive is therefore involved in measuring the relationship between the brain and the mind (Senior & Lee, 2008). Therefore, can be concluded that decision-making by consumers is a brain process (Pirtošek, Georgiev, & Gregoric-Kramberger, 2009 and Wang & Ruhe, 2007). To further explore consumer decision making, researchers or companies should also hit the very center of the human cognition system, which is directly in the brain. This is because, the brain carries out several automatic subconscious processes (Palokangas, Jyrki, Jarmo, Sini, & Jussi, 2012). Hence, the basic subconscious processes are taking place in the human brain (Kenning et al. 2007).

Decisions are made in the subconscious mind before it reaches the conscious mind, and it is known that the subconscious is more powerful than the conscious mind. The conscious mind predicts short-term-focused behavior and is limited in time and scope, while the subconscious mind is timeless; assesses both spontaneous and long-term behavior (Weinberger, 2020).

Most businesses and customers agree that purchasing decisions are often based on price, trust in a brand, or suggestions from a friend and family. But consumer research shows that consumers’ decisions start from a much deeper place; the subconscious level (Neto et al., 2011). In most situations, the company discovers consumer consciousness only, but rarely in consumer subconscious minds. Companies need to understand consumers’ behavior in detail because it allows recognizing and predicting the buying behavior of consumers in the marketplace. For decades to understand consumers behavior and the trigger behind consumers decisions towards purchasing products companies have depended on traditional marketing tools such as self-report surveys, experiments, and focus groups (McDowell & Dick, 2013), to understand consumers’ responses and draw conclusions about consumers behavior, and use the information to make marketing decisions for building a better brand. Mostly, the company discovers only the conscious mind of consumers, but rarely at the subconscious minds of consumers. When consumers decided to make it, their conscious mind pays attention to the familiar item, but they did not know why they spend. This is where the subconscious minds play a role. The belief that underpins for consumers’ decision making is based more on subconscious minds (Hartel & Russell-Bennett, 2010).

The belief that underpins consumers’ decision making is based on the subconscious mind and to overcome these challenges, researchers and marketers can measure consumers’ subconscious responses to marketing stimuli (Ariely & Berns, 2010; Morin, 2011; and Sebastian, 2014). One of the challenges for marketers is to analyze the consumers’ subconscious minds since the consumers’ decision-making process occurs in the subconscious minds (Morin, 2011; and Page, 2012). Subconscious minds or consumers’ “black box” is the most important element in consumers’ decision making, since 95% of the decision-making process takes place at the subconscious level (Mahoney, 2003). Therefore, it is potential to discover consumers’ subconscious minds which determine the decision-making process. This is because by understanding the consumers’ subconscious response; it will discover which external inputs which can produce the desired buying response.

Goode (2008) it’s essential for managers to learn both conscious and subconscious processes to reduce product failures and increase customer loyalty and profits. A study proves that subconscious minds are important to a consumers’ behavioral preference in decisions making (Mehta & Panda, 2015). Yet most of the companies fail to measure the subconscious area because the traditional marketing techniques measure the conscious reflection but not the subconscious (Murphy, 2017). To make it possible in measuring the subconscious minds, the neuromarketing technique is the best way (Roth, 2013). This can be seen where the majority of scientists are interested and investigates the emotional influence on consumers’ behavior at the subconscious level (Banyte, Joksaitė, & Virvilaitė, 2007).

Finding by Luan, Yao, Zhao, & Liu (2016) substantiates that consumers’ subconscious mind is hard to be measured by traditional research methods, simply because the majority of behavioral studies were conducted using survey and observation techniques. However, many companies fail to measure the subconscious area because the traditional marketing techniques measure the conscious reflection instead of the subconscious reflection (Murphy, 2017). Traditional research methods have been widely used to get to know consumers’ behavior effectively and for a better understanding of consumers’ behavior. However, one of the major weaknesses of the traditional market research tool is its dependence on the consumers to provide honest feedback and does not consider consumers’ subconscious response. This is important because when marketers fail to understand their consumers’ subconscious response, it may lead to losses.

To make it possible in measuring the subconscious minds, the neuromarketing technique is the best way (Roth, 2013). This can be seen where the majority of scientists are interested and investigates the emotional influence on consumers’ behavior at the subconscious level (Banyte, Joksaitė, & Virvilaitė, 2007). The use of neuroscientific methods is known to improve understanding of subconscious aspects that influenced human behavior, with particular regard to behaviors perceived to be risky (Iloka & Onyeka, 2020).
4. DECISION MAKING FROM NEUROMARKETING PERSPECTIVES

As stated by Roth (2013) neuromarketing uses the latest advances in brain scanning to learn more about the mental processes behind customer purchasing decisions. Table 2.7 summarizes the previous literature between neuromarketing and decision making.

Table 2: Literature on neuromarketing and decision making

<table>
<thead>
<tr>
<th>Author</th>
<th>Objective</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erk et al. (2002)</td>
<td>Decisions between different products, fMRI</td>
<td>Is it possible to find neural correlates to evaluate the attractiveness of a product?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Products that symbolize wealth and status lead to higher activity in areas that are responsible for rewards.</td>
</tr>
<tr>
<td>McClure et al. (2004)</td>
<td>Choice between different brands, products, and their flavor perception, fMRI</td>
<td>How does brand information influence the flavor perception of sensory similar products?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Depending on the brand information given to the test person, different areas are activated by the consumption of a soft drink. If the consumers believe the drink to be his favorite brand, areas of reward are activated.</td>
</tr>
<tr>
<td>Deppe et al. (2005)</td>
<td>Choice between different brands, fMRI</td>
<td>Which neural correlates form the basis of brand information as a frame in decision processes connected?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In situations of doubtful credibility, brand information has an important influence on the decision-making process, which results in higher attractiveness in fields including rewards in decision making.</td>
</tr>
<tr>
<td>Plassmann et al. (2008)</td>
<td>Choice between different service brands, fMRI</td>
<td>How do information asymmetries influence the neural favorite brand effect?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In particular, with uncertain decisions, the favorite brand leads to the activation of areas responsible for the integration of rewards into decision making.</td>
</tr>
</tbody>
</table>

In a study conducted by Erk et al. (2002) on twelve subjects were studied with fMRI looking at photographs of various cars, and the results show that sports cars were much more attractive than small cars and limousines. These confirm that products that symbolize wealth and status lead to higher activity in areas that are responsible for rewards. Neuromarketing was also applied in a famous study on brand information influence the flavor perception of sensory similar products (McClure et al., 2004), where Coke and Pepsi have a very similar structure, with strong behavioral preferences for both. A study conducted by Deppe et al. (2005) proposed to adapt behavior flexibly, individuals need to evaluate the significance of all types of environmental stimuli, and they found that that part of the medial prefrontal cortex also plays a key role in during decision-making. According to Nilashi et al., (2020) researchers use brain imaging to figure out why and how consumers react to stimuli, and what parts of their brains motivate them to take action.

Thus, from the previous research, there is potential to discover consumers’ subconscious processes which determine the decision-making process, and it will reveal hidden information about consumers behavior which was not obtainable by the traditional marketing methods (Hubert, & Kenning, 2008; Senior, & Lee, 2008; and Roth, 2013). As Bechara & Damasio (2005), mentioned that consumers are no longer considered as completely rational, because emotions, subconscious and automatic processes, play a central role in generating behavior since consumers behavior is a root, driven by perceptions of a brand (Cobb-Walgren, Ruble, & Donthu, 1995). Thus, ignoring emotions will fail to understand consumer behavior.

5. CONCLUSION

Thus, this study offers a summary of semantics regarding the neuromarketing study of customer behavior. Neuromarketing can demonstrate how the emotional stimuli that supposedly influence consumer knowledge can be influenced directly. While traditional marketing research principles rely on the knowledge of consumers, which is rationality, economic logic, and compatibility. It also measures consumers' willingness and motivation to disclose their attitudes or past behavior. Companies must also reduce their dependence on traditional marketing techniques to receive reliable input from customers. If marketers want specific product assessments, they must reach the subconscious minds of the customer. Thus, the application of neuromarketing is suitable. Neuromarketing works in a variety of ways, but the aim is to observe consumers' physical or mental reactions to situations, drawing conclusions based on them. It is also difficult to capture the emotional factors behind.
consumer desires or actions, and neuromarketing has the potential to show that emotion and logic exist. In summary, the subject of neuromarketing in Malaysia is very small and it needs to be studied by more researchers.

REFERENCES


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Author’s Biography

Dr. Aida Azlina Binti Mansor is a senior lecturer at the Faculty of Business & Management of the Department of Entrepreneurship & Marketing Studies, Universiti Teknologi Mara, Kampus Puncak Alam, Selangor. Her areas of interest include Neuromarketing, consumer behavior, marketing, and customer services. More than 10 years of teaching experience in marketing and customer behavior helped her a great deal in the field of social sciences. Her Ph.D. in Neuromarketing is from Sains Malaysia University. As for someone who does not have much experience in the neuroscience field, the experience gained provides a little bit of expertise in neuromarketing that can be described in Malaysia as a very new and evolved field.
MEDIATED AND MODERATED MODEL OF REPURCHASE INTENTION OF NON-HALAL CERTIFIED COSMETICS AMONG MILLENNIALS

Abdul Hafaz Ngah¹, Marhana Mohamed Anuar², Samar Rahi³ & Cécile Gabarre ⁴
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ABSTRACT

As a way of life, Islam proposed adherents to consume Halal products. The attitude of young millennials that prefer to purchase an international brand which is non-Halal certified cosmetics contradicts the teaching of Islam. Despite many efforts by Halal cosmetics manufacturers to promote their products, market size shows that non-halal certified cosmetics is dominating the cosmetic industry including among the Muslim majority countries. To address the issue of repurchase intention of non-halal certified cosmetics among Muslim millennials, which is crucial for the non-Halal cosmetics manufacturers sustainability, by adopting the Stimulus-Organism-Response model, the study seeks to identify the factors influencing the repurchase intention of non-Halal cosmetics among Muslim millennials. By employing the purposive sampling methods, the data were collected at three universities in Malaysia. The analysis shows that price fairness has a positive effect on the attitude, attitude has a positive effect on the repurchase intention. In addition, attitude mediates the relationship between price fairness and repurchase intention, meanwhile, high religiosity weakens the relationship between attitude and repurchase intention of non-halal certified cosmetics. The findings provide meaningful information on Muslim millennials’ behavior toward cosmetics, and helpful insights for halal and non-halal certified cosmetics manufacturers for them to craft attractive marketing strategies to attract Muslim millennials to consume their products.

KEYWORDS: Muslim Millennials, Cosmetics repurchase intention, SOR Model, Moderator, Mediator
THE RISE OF E-SPORTS AMONG YOUTHS IN EAST COAST OF MALAYSIA

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Faculty of Law, Multimedia University, Melaka, Malaysia³ & STEM Foundation Center, Universiti Malaysia Terengganu, Malaysia⁴
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ABSTRACT

Recently, e-sports (electronic sports) have been growing rapidly as a form of new online sports which are driven by the growing provenance of online broadcasting technologies. It is a form of sport competition using video games that has fast becoming a new public game culture especially for younger generation. However, little research has been forthcoming which analyzes factors that influence youth intention to participate in e-sports. Thus, the aim of this research is to find out whether knowledge, awareness, social interaction, and feeling are able to influence youth intention to participate in e-sports in East Coast of Malaysia. Online self-administered survey was conducted among 300 youths in main cities of Kelantan, Terengganu and Pahang. Main finding shows that knowledge and awareness were among the highest influence towards youth intention to participate in e-sports. Finding also shows that knowledge, awareness, social interaction and feeling have a positive relationship with intention. It is hoped that this study will help practitioner and researcher in their contribution towards the development of e-sports industry in East Coast of Malaysia.

KEYWORDS: E-sports, youth, intention, influence, games.
AGRICULTURAL INDIGENOUS RESOURCE POTENTIAL FOR SOCIETY EMPOWERMENT TO REACH FOOD SECURITY

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ABSTRACT

This study analyses economic resources in Probolinggo and Pasuruan regencies in Indonesia as strategy and development basis of existing economic resources that become the leading resources in both regencies. Besides, this study intends to analyse the rural society empowerment to achieve sustainable food self-sufficiency. This study uses survey and action research approaches. There are three analysis tools employed in this study: Location Quotient (LQ), Growth Ratio Model, and Overlay. The research finding shows that water supply, trash, waste management and recycling, real estate, government administration, defense and social security, and other services sectors are the dominant, as leading sectors. This is reflected from the positive growth rate and large contribution to Gross Regional Domestic Product of Probolinggo Regency. The processing industry becomes the leading sector as it shows positive growth rate and gives large contribution to Gross Regional Domestic Product of Pasuruan Regency.

KEYWORDS: sustainable, agricultural, indigenous, resource, potential
IMPACT OF HUMAN CAPITAL AND INNOVATION TOWARDS TOTAL FACTOR PRODUCTIVITY (TFP): A CASE OF MANUFACTURING SECTOR IN PALM OIL INDUSTRY IN MALAYSIA

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ABSTRACT

Although palm oil-based industries in Malaysia depend on inputs, especially human capital and technology to determine the overall performance and productivity, the sector is yet to use technology that depends on low-skilled workers. Thus, to improve the industries, the study was conducted to analyze the effects of the workers skills and technology on the total factor productivity (TFP). Two stages of analysis were performed. The first was to analyze the overall TFP which was estimated by the Malmquist productivity index (MPI) using data enhancement analysis (DEA). Second, the change in TFP of ranking first as the dependent variable and dependent on the analysis of panel data, namely, the effect of constant (pooled OLS), the effect of fixed (fixed effect) and the effect of random (random effect). The results indicated that the estimated regression discovered impression remains (FE) that was the best of both model with similar existing model without the variable hay or with variable straw and the results were consistent for both models. Model 1 showed that the variables that affected the growth of TFP is the ratio of capital-labor (ln K/L), the ratio of employee professional and management to the number of employees (pro/TL), and the ratio of expenditure to the RND. Meanwhile, model 2 showed that TFP was affected by the ratio of capital-labor (ln K/L), the ratio of employee professional and management to the number of employees (pro/TL), expenses for the ICT, and expenses on the ICT for the food Dummy * ln ICT.

KEYWORDS: Human Capital, Productivity, Palm Oil, Data Envelopment Analysis, Panel Data

1. INTRODUCTION

Coconut oil is the primary agricultural commodity in Malaysia and the rapid development of industrial palm oil began three decades ago. In line with that, the palm oil sector belongs to the twelve National Key Economic Areas (NKEA) of Malaysia (EPU, 2010). Malaysia is the second largest producer of palm oil, contributing almost 30% to the global production of palm oil and the largest exporter for palm oil with 35% of exports (MPIC, 2016). The palm oil industries have significantly contributed to the economy of Malaysia from various aspects. The hectarage of oil palm planted by commodity plantations and smallholders has significantly increased from 1 million hectares in 1980 to 2 million hectares in 1990, and 5.1 million hectares in 2015 (MPIC, 2016). Thus, the palm oil industries have grown by a significant amount that palm oil now is recognized at the international level.

In addition to that, the Malaysian oil palm sector has contributed to the growth of gross domestic product (KDNK) by 37.9%, of manpower by a total of 40%, and of the total employment of agriculture sector by 22.1 million people in 2018 (DOSM, 2019). Furthermore, the exports performance shows that the palm oil production has increased from 180 thousand tons metric in 1965 to 27.86 million tons metric in 2019 (MPOB, 2019). The major importers of Malaysian palm oil include India, China, Pakistan, and the Netherlands. In 2016, India was the biggest importer (19.9 %), followed by China (10.1 %), Pakistan (6.4%) and Netherlands (5.5%). In addition to that, many oils are categorized according to the sources of oil and fat saturation which is produced globally (OWA, 2016). Palm oil register percent high by 28.0% compared with the oil other like oil bean soy (24.0 %), oil rapeseed (13.0 %) and spring sun (7.0 %), even more than the oils and fats from sources animals that only 25.0% only (OA, 2016).

In line with the rapid development of the Malaysian palm oil-based industry, the supply chain aspect is very important to support this industry. Therefore, the activities involved in the downstream process are based
on the input from the upstream activities. An upstream activity involves planting palm trees, production of oil fruit bunched, processing fresh fruit batch (FFB) in an oil mill plant to produce crude palm oil, namely crude palm oil (CPO) and palm oil kernel oil (PKE), in addition to production of refined palm oil (RPO), namely olein liquid, liquid stearin and oleo chemical products (Choo, 2012). The downstream activities of the palm oil industry involve the use of palm oil-based inputs in the food and non-food products, in addition to bio-fuels such as biodiesel and oleo chemicals (Sime Darby, 2014).

Both the agricultural and manufacturing sectors based on oil palm are important for the Malaysian economy. Consequently, the accomplishments and performance of the industry are always scrutinized, and in need of empirical researches. The researches can be observed in various aspects and dimensions. For example, the aspects of technique efficiency on the level of oil production in Indonesia were analyzed (Alwarritzi et al. 2015; Defrizal et al. 2016), and Abdul Salam et al. (2014) determined the efficiency of the technique in processing palm oil in Nigeria. Meanwhile, Said and Said (2004) and Solomon (2012) studied the growth of total factor productivity (TFP) in the manufacturing sector. Furthermore, Sulaiman & Rashid (2013) have continued the study by analyzing the growth of TFP in the manufacturing sector in Malaysia. There are also studies that focus on the efficiency techniques in the manufacturing industry (Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018; Hamdan et al., 2019; Latif et al., 2019).

The preliminary studies on food industry in the country only focused on the analysis of technical efficiency (Kalirajan & Tse, 1989; Radam, 2007). Furthermore, a similar study was conducted by Mad Nasir et al. (2013), but the focus was on the food industry and enterprises, especially the small and medium-sized enterprises (SMEs). Another study looked into the processing of food for large-scale enterprise (Yodfiaatfinta et al., 2012). Ahmud (2012) and Mohamed and Said (2010) researched the determinant of food production and the sources of productivity growth for the food industry in the country. In addition to that, Jalil et al. (2008) analyzed the relationship between the global price and exports for palm oil, including the role of technology to the TFP of palm oil. The research by Ramasamy et al. (2005) on the performance of the palm oil industry was more specific to the size of the firm and company holdings. Meanwhile, Krishnasamy & Ahmed (2006) examined specifically the changes in the productivity of vegetable oil in the country, including coconut oil, palm oil, palm oil kernel oil and oil stated.

Distinct to the earlier studies, the study aimed to measure the level of TFP in oil palm-based industry by focusing on the industrial food and non-food outputs. Furthermore, the study analyzed the factors that determined the immediate potential in influencing the growth and achievement of the TFP on oil palm-based industry in Malaysia. Since the performance of an industry is usually measured through the levels of efficiency, productivity or TFP to indicate the power of competition (European Commission, 2009), the study chose TFP as the dependent variable. The factors that affected TFP included incoming capital, labor, expenses for training, expenses for the use of technology, communication and information technology (ICT), expenses for the research and development, and level of workers skills, namely skilled and medium-skilled. This review contributed to the body of literature in terms of the measurement of TFP growth in the palm oil-based manufacture industry. The scope of the study was on categorizing industries based on the industrial food and non-food output. Next, the research also analyzed the specific contribution of the level of workers skills. In addition to that, the studies would recommend effective strategy in order to increase the competitiveness of the palm oil-based industry. The second section of this paper reviews the previous studies related to the total factor productivity (TFP) of the palm oil-based industry in Malaysia. The third section discusses the research methodology, data sources, and model specification. The fourth section analyzes the results, and the fifth section provides the conclusions and the implications of this study.

2. LITERATURE REVIEW

Total Factor Productivity, (TFP) is a measure of overall optimum efficiency in the use of inputs to produce outputs or minimizing the use of inputs to produce a quantity of output that is similar. The input quality when generating the quantity of output is high when the input is used efficiently and effectively. The high contribution of TFP to the growth of the economy is a condition that leads to improve the standard of living of the people of a country (Reporting Productivity, 2009). TFP plays an important role to the growth of the economy and the differences of income per capita between countries. In business, TFP is closely associated with the production and period of work hours (Fahmy-Abdullah, 2017).

TFP measures synergy and efficiency in the use of capital and human resources. TFP can also be considered as a measure of technological progress in relation to economic growth. The high growth of TFP points to the efficiency of use and management of resources, materials and inputs necessary for the production of goods, showing that the quality and service are excellent. TFP also reflects the increase in production through increased efficiency which is produced by increasing the training, skills and expertise of employees, procurement procedures, techniques of management, progress of the organization, benefits of specialization, introduction of technology for innovation or improvement of readily available technologies, progress of
technology, information and communication (ICT), and value added from processing and industry. Productivity will produce better returns if the intensity of capital increases in line with the growth of TFP.

There are five determining factors of TFP outlined by the Malaysian Productivity Corporation (2002). The first determining factor of TFP is the intensity of demand which is a factor that indicates the level of productive capacity of the national economy. The slowdown in the intensity of demand will result in unrealized potential of capacity, consequently reducing the use of available equipment and machinery. Demand intensity can be seen through sales performance. The second is education and training for the workforce aimed at improving the skills and knowledge of employees. With high level of skill and science knowledge, employees will be more efficient and able to produce better quality products and services. Investment in the development of human point of emphasis is given to education and training.

The third determining factor is the restructuring of the economy, which shows the movements of the economy in the less productive sectors in comparison to the more productive ones. The experience of developed countries proves that the resources of the more productive sectors are used more efficiently compared to that of the less productive sectors. The fourth factor is the structure of the capital which shows the extent to which the investment is made in the input capital. Investments for equipment and machinery are deemed as the investment for productive capital, resulting in the short duration of production compared to the investments in the infrastructure, buildings and plants which require a long period of time to produce results. The next determining factor is the technological progress associated with the use of technology that is effective and efficient, innovation, positive attitude at work, and management and organization. With high level of technology, employees are motivated and energetic at work, leading to efficient management and high added value to products and services at cost-competitive prices.

According to a recent study, TFP was analyzed using various data including cross-section and time-series data of firms and industries. Previous studies also used various methodologies to analyze data, such as data enhancement analysis (DEA) using the Malmquist index or Divisia index, and Stochastic Frontier Analysis (SFA) using the residual method by Solow. The scope of the study also varied, including studies on the growth of TFP, determining factors in the growth of TFP, and the contribution of TFP to the output growth. A study by Idris (2007) showed that the growth rate of Malaysian TFP was low due to the negative contribution of TFP component, namely technical efficiency (TE). In addition to that, the contributor to TFP such as innovation can yield change in the economy. Furthermore, the focus on the economy requires increased capabilities based on productivity, particularly the effective use of human being in the market labor to increase the number of skilled workers to handle the advanced and recent technology.

Heshmati and Kumbhakar (2010) used panel data of China provinces known for a number of transition technologies to study the effect on the technical change and TFPG. The results showed that heterogeneity was significant in the provinces in China. On average, the trend of the technical change model was 13.7 percent, between 4.2 percent to 22.3 percent. It is a major contributor to TFP growth. Meanwhile, the model index of technology also showed that all of the dependent variables had a significantly increasing growth but at a decreasing rate. Furthermore, the correlation of the technology index was also significant. Technical change was due to the economic corridors which consisted of two indices of the capital recruitment and changes in the economy influenced by the significant purchases of infrastructure, attractions and acquisition of technology, transfer of technology, and ability of the region to learn something new.

Suphannachart and Peter (2010) studied the TFP in the agriculture sector in Thailand based on the time-series data in the period of 1970 to 2006 by using the error correction model (ECM) estimator. TFP was calculated for crops and livestock separately while the data sets obtained from plants and livestock were for individuals. In particular, the average annual growth rate of TFP in the crop sector was estimated at 0.68 percent, which was 20.82 percent of the crop growth output. The TFP growth was estimated at 0.67 percent, which was 17.49 percent of the livestock production growth. The results of the study showed that all of the dependent variables used in models of determinants of TFP was significant.

2.1 TFP and Palm oil Based Industry

A study by Krishnasamy & Ahmed (2006) examined the extent of which the productivity changed in the four sectors of Malaysian vegetable oil: palm oil, palm kernel and other oils. The Malmquist productivity index was used to estimate the efficiency and productivity changes of each vegetable oil sector. The productivity index was calculated in the framework of Data Enhancement Analysis, which further elaborated productivity growth to the changes in technical and technological competencies. The results of the analysis showed that the TFP increased in the sector of coconut oil, palm oil, kernel palm oil and other oils while the palm oil sector noted a decrease in productivity.

In addition to that, Jalil et al (2008) evaluated the relationship between the global price of palm oil, the export of palm oil in Malaysia, and technology to the TFP of palm oil sector. The research was conducted using the secondary data in a period of 31 years starting from 1975 to 2005. The data obtained were analyzed
following method by Cobb Douglas. The measurement of TFP for the Malaysian palm oil industry was assumed to follow the model produced by Cobb Douglas and index of productivity generated using Solow Residual. Overall, the results showed that the global price of palm oil, the export of palm oil and technology have positively impacted the productivity of palm oil during the period of study.

2.2 Skills of Employees and Technology and TFP

There are several researches on the industrialized countries that showed that the increased demand for skilled workers was driven by advance changes in technology, and most substantially by the use of technologies of information and communication technology (ICT). The review by Tan (2000) examined the hypothesis by focusing the study in Malaysia, where researchers used panel data from the manufacturing sector for the period from 1985 to 1995. For the stage first, the relationship between the growth of TFP and demand of skills was studied to understand whether the change in technology would affect the skills, and if so, the skills of which kind of society. The model of production panel demonstrated that the use of IT increased the productivity due to the accumulated experience with the latest technology. The advantage was significantly more substantial with the training of workers. Therefore, the result supported the hypothesis that the changes in technology and skills were critical and essential for skilled workers in the field of IT in Malaysia.

The study by hurray and Shumway (2014) examined the factors that drove the technical changes, efficiency of technical changes and scale, and incorporated the changes in the efficiency of which components affected the TFP by focusing on the agriculture sectors in America. The results showed that changes in technique were mainly from an increase in innovation through research and improvements in the skills of workers. Changes in the efficiency of techniques were driven by education, development, the ratio of workers family to the whole, and some weather variables while the scale and mix changes of competence were significantly affected by the by size of farm, all variables in weather and temperature. In addition to that, the results indicated that some previously neglected factors such as access to healthcare played an important role in the growth of productivity.

The review by Che & Zhang (2017) focused on the energy business colleges in China from 2003 to determine the effects of skilled workers to productivity. By using the strategy estimates that vary differences, the researchers found that the industry that used more technology and intensively skilled workers experienced a more substantial increase in the TFP after 2003 compared to past years. By increasing the skills of workers to the growth of TFP, the researchers found that the industries also accelerated the use of new technology, importation of advanced goods capital, spending on research and development (RND), intensity of the capital, and recruitment of more highly skilled individuals. The gains in productivity were weaker for private domestic firms than foreign firms. However, researchers found that such studies, especially those that discussed the relationships between TFP growth, employee skills and technology were still under-studied in Malaysia. Based on the results of the literature review of the previous studies, there are various factors that affect the growth of TFP including human capital, the growth of the economy, RND and ICT.

3. METHODOLOGY

Two data approaches were conducted:

1. Analysis of Malmquist index to obtain the change in TFP by using the data enhancement analysis (DEA) and to observe the pattern of TFP growth for the chosen sectors in the palm oil-based industry.
2. Analysis of panel data statistics by using the estimation of Power Two Smallest or Pooled Ordinary Least Square (POLs), and the fixed and random effect to study the factors that determine TFP particularly in the variable of skilled workers and technology for the chosen sectors in the palm oil-based industry in Malaysia.

3.1 Data Sources

The analysis in this study used panel data that combined both cross-sectional and time-series data. The data included a period of 12 years starting from 2000 until 2012, but the data for the year 2011 were interpolated because they were not included in the obtained data. This review selected 11 sub-sectors of the industry based on coconut oil. The database in the study was derived from the Survey of Industrial Manufacturing issued by the Department of Statistics, Malaysia (JPM) (Refer to Table 4). The dependent variable in the study was the total factor productivity (TFP). The independent variables were the ratio of total capital-labor (K/L), of workers to professionals, of management to a number of employees (pro/TL) and of technical and professional workers to the number of employees (TEK/TL), spending on technology, information and communications (ICT), expenditure on research and development (RND), and expenses to the training of workers (TRN) as referenced in the original equation 4. The growth of TFP was calculated based on the data enhancement analysis (DEA) and subsequently used as an enabler change leaning in equations 4 and 5.
3.2 Industry Classification

Prior to that, the data obtained from JPM were reviewed and scrutinized. Then, they were prepared and processed. Each sub-sector had in the aggregate from 18 sub-sectors based on the 2008 standard MSIC (Standard Classification of Industry Malaysia 2008) to 11 sub-sectors cited in the 2000 standard MSIC (Standard Classification of Industry Malaysia 2000). In this study, the data such as the output, value of assets, value of the input, and expenditure on ICT, RND and training of workers (TRN) were converted to the right to use the consumer price index (CPI), in which the year 2000 was used as the base, \(2000 = 100\). The data obtained were analyzed by using quantitative methods. Once the performance values were calculated and obtained, then the multiple analyses to study the impact of human capital and innovation on TFP were conducted.

Table 1: Type of Sub-Sector

<table>
<thead>
<tr>
<th>No.</th>
<th>5 Digit Sub-Sector</th>
<th>Type of Sub-Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15142</td>
<td>Manufacture of crude palm oil</td>
</tr>
<tr>
<td>2.</td>
<td>15143</td>
<td>Manufacture of refined oil</td>
</tr>
<tr>
<td>3.</td>
<td>15144</td>
<td>Manufacture of kernel oil</td>
</tr>
<tr>
<td>4.</td>
<td>15201</td>
<td>Making ice cream and other ice that can be eaten like sorbet</td>
</tr>
<tr>
<td>5.</td>
<td>15202</td>
<td>Manufacture of condensed, flour and evaporated milk.</td>
</tr>
<tr>
<td>6.</td>
<td>15499p</td>
<td>Manufacture of other food products n.e.c</td>
</tr>
<tr>
<td>7.</td>
<td>24111</td>
<td>Manufacture gas industrial or medical non-organic in form of liquefied compressed</td>
</tr>
<tr>
<td>8.</td>
<td>24119p</td>
<td>Manufacture of basic organic chemicals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Preparation of compounds not organic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacture of other basic chemicals n.e.c.</td>
</tr>
<tr>
<td>9.</td>
<td>24240p</td>
<td>Manufacture of soap and material washers, providing clean and shiny</td>
</tr>
<tr>
<td>10.</td>
<td>24290p</td>
<td>Manufacture of perfumes and providing makeup oneself</td>
</tr>
<tr>
<td>11.</td>
<td>24230p</td>
<td>Manufacture of active ingredients of medicines for use by pharmacology in the manufacture of medicines</td>
</tr>
<tr>
<td></td>
<td>21003</td>
<td>Manufacture of medicines</td>
</tr>
<tr>
<td></td>
<td>21007</td>
<td>Pharmaceutical manufacturing, biotechnology</td>
</tr>
<tr>
<td></td>
<td>21009</td>
<td>Manufacture of pharmaceutical products, medical and botanical chemicals n.e.c.</td>
</tr>
</tbody>
</table>

3.3 Data Enhancement Method (DEA)

DEA is a mathematical programming for non-parametric linear budgetary boundaries. DEA seeks to assess the performance efficiency of the decision making unit (DMU) in an organization. The method was founded by Farrell (1957), whom estimated the boundary of a production firm by using a programming method. The method was explored in more depth by Charnels et al. (1978), and Ocelli (1996) through the analysis of the technique efficiency. Charnels, Coopers and Rhodes (1978) proposed a model-oriented input of CCR model and supposed a constant returns to scale (CRS). Then, Banker, Charnels and Coopers (1984) have proposed a model of variable returns to scale (VRS) which was recognized by the BCC model with a set of hypothetical alternatives. The advantage of using the DEA approach includes:

a) DEA Model can measure many input variables change and enabling output variables;

b) The approach is not a hypothetical existence of a correlation function between the dependent variable input and enabling variable output in a study; and

c) The dependent input variable and enabling output variable have a different set of measurements.

However, there are various methods that have been used by researchers prior to estimating the growth of TFP, for example the Border Stochastic and growth standard accounting methods.

3.4 Index Malmquist

Malmquist Index is a way to analyze the change in total productivity factor (TFP), technology (TC), efficiency of technique (TEC), efficiency of technique (TE), and efficiency of scale (SE) (Fare, Grosskopf, Norris and Zhang, 1994). The change in total productivity factor (TFPC) is related to the total output according to the inputs. This concept was created by Malmquist (1953). Non-parametric methods were used in this study.
The Malmquist TFPC index is widely used in the total productivity changes. The Malmquist Index is defined using the distance function. Here, the distance of the output is used to consider the development of the maximum, which is proportional to output based on the given input (Mahadevan, 2002). More specifically, the TFP Malmquist Index measures changes in the growth of TFP between two points of data to calculate the ratio of the distance of each point of the data relative to the similar technology. Based on Fare et al. (1994), the output-oriented Malmquist TFP change index between period s and period t is given by:

\[
m_0(y_s, x_s, y_t, x_t) = \frac{d_0^2(y_t, x_t)}{d_0^2(y_s, x_s)} \times \frac{d_0^2(y_t, x_t) \times d_0^2(y_s, x_s)}{d_0^2(y_t, x_t) \times d_0^2(y_s, x_s)}^{1/2}
\]

(1)

Where the notation represents the distance from observation period t to time technology; y represents output; and x represents input. A value greater than one indicates positive TFP growth from period s to period t while a value less than one indicates a decrease in TFP growth. The same way to write this productivity index is as follows:

\[
m_0(y_s, x_s, y_t, x_t) = \frac{d_0^2(y_t, x_t)}{d_0^2(y_s, x_s)} \times \frac{d_0^2(y_t, x_t) \times d_0^2(y_s, x_s)}{d_0^2(y_t, x_t) \times d_0^2(y_s, x_s)}^{1/2}
\]

(2)

Where the ratio of the outer cage measures the change-oriented output b in order to estimate the efficiency of technical Farrell between periods s and t. The change in efficiency is equal to the ratio of the efficiency of technical Farrell period t to period s. The section index in equation (2) is a measure of the technical change which is an average of geometric transition technology between the two periods, which are valued at x, y and xs. In other words, TFP growth can be decomposed as expressed by equation 3 below:

\[
\text{TFP Growth} = \text{Changes in Technical Efficiency} \times \text{Changes in Engineering}
\]

(3)

3.5 Model Specifications

Basic model

\[
\text{TFPG}_{it} = \beta_{01} + \beta_{11}(\ln \frac{K}{L})_{it} + \beta_{21} \ln \text{ICT}_{it} + \beta_{31} \ln \text{TRN}_{it} + \beta_{41} \ln \text{RND}_{it} + \beta_{32} (\frac{TPRO}{TL})_{it} + \beta_{51} (\frac{TTEK}{TL})_{it} + \mu_{it}
\]

(4)

Dummy Model

\[
\text{TFPG}_{it} = \beta_{02} \ln(\frac{K}{L})_{it} + \beta_{12} \ln \text{ICT}_{it} + \beta_{22} \ln \text{TRN}_{it} + \beta_{23} \ln \text{RND}_{it} + \beta_{32} (\frac{TPRO}{TL})_{it} + \beta_{32} (\frac{TTEK}{TL})_{it} + \beta_{62}(D_m*\ln \text{ICT})_{it} + \beta_{72}(D_m*\frac{TPRO}{TL})_{it} + \mu_{it}
\]

(5)

With:

\(\text{TFPG}_{i,t}\) = growth of overall productivity factor (TFP),
\(\ln \frac{K}{L}\) = original logarithm of capital-labor ratio,
\(\ln \text{ICT}\) = logarithmic natural expenditure on information and communication technology,
\(\ln \text{TRN}\) = logarithmic original expenses to the training of workers,
\(\ln \text{RND}\) = logarithmic original expense to the research and development
\(\frac{TPRO}{TL}\) = ratio of professional and management employees to overall employees and
\(\frac{TTEK}{TL}\) = ratio of technical and professional workers to overall employees,
\(D_m\) = volume interaction where, 1 = food sector, 0 = not food sector
\(i\) is industry and \(t\) is time and, \(\mu_{i,t}\) = error

3.6 Static Panel Data Analysis

The model estimation used in this study was a static data panel test. The three panel data analyses were constant coefficient estimator (Pooled OLS), fixed effect estimator (Fixed Effect) and random effect estimator (Random Effect). The constant coefficient estimator model is related to the estimation using Ordinary Least Squares (POLS). The fixed effect estimation model is related to the Least Square Dummy Variable Model (LSDV) which refers to a model that has a constant gradient but the constant is based on cross-sectional units.
The random effect estimation model is related to the regression model with cross-sectional unit errors unrelated to the variable errors used in the model. Then, the model was selected based on the Wald test and Hausman test hypotheses.

The Wald test was used to identify which model to choose between POLS and FE. The Wald hypothesis test can be consulted in Table 1. If $F_{\text{statistics}}$ are greater than $F_{\text{critical}}$, then the null hypothesis is rejected. In other words, if the $p$-value of the Wald test is significant at the significance level of 5 percent; then, the model to be selected is a fixed effect model, FE. If the $p$-value is not significant then the model to be selected is the model POLS.

The Hausman test selects whether a fixed effect model (FE) or a random effect (RE) is the most appropriate to use. Hausman test is performed with the hypothesis as in Table 1. The test follows the distribution of chi-square statistics with a degree of freedom of $k$, where $k$ is the sum of the independent variables. If Hausman statistical value is greater than the critical value, then the null hypothesis is rejected and the exact model is a fixed effect model (FE). Conversely, if the Hausman statistical value is less than the critical value, then the correct model is a random effect model (RE).

3.7 Data Analysis

The SFA model was selected to denote the TE value. In order to obtain an accurate estimate of the value of TE, each of the assumptions and rules listed must be followed. The test was started by the translog production function to obtain the TE value. Overall, all approaches and budgeting met the objectives of the study.

### Table 2: Wald Test Hypothesis and Hausman Test

<table>
<thead>
<tr>
<th></th>
<th>Wald test</th>
<th>Hausman test</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_0$</td>
<td>constant effect estimation (POLS)</td>
<td>$H_0$ = according to random effect (RE)</td>
</tr>
<tr>
<td>$H_1$</td>
<td>fixed effect estimation (FE)</td>
<td>$H_1$ = according to the fixed effect (FE)</td>
</tr>
</tbody>
</table>

4. FINDINGS

4.1 Descriptive Analysis

### Table 3: Descriptive Statistic

<table>
<thead>
<tr>
<th></th>
<th>TFP</th>
<th>K/L</th>
<th>TPRO/TL</th>
<th>TEK/TL</th>
<th>$ln$ ICT</th>
<th>$ln$ TRN</th>
<th>$ln$ RND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0.937273</td>
<td>440.6631</td>
<td>0.119536</td>
<td>0.135313</td>
<td>8.977060</td>
<td>7.525782</td>
<td>7.705880</td>
</tr>
<tr>
<td>Median</td>
<td>1.009000</td>
<td>158.4491</td>
<td>0.112016</td>
<td>0.133929</td>
<td>9.082334</td>
<td>7.427842</td>
<td>8.132266</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.352000</td>
<td>4305.689</td>
<td>0.266918</td>
<td>0.265647</td>
<td>10.86282</td>
<td>10.74075</td>
<td>10.64923</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.000000</td>
<td>28.15717</td>
<td>0.030965</td>
<td>0.030282</td>
<td>5.670980</td>
<td>2.597363</td>
<td>-0.617345</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.281576</td>
<td>738.5993</td>
<td>0.052455</td>
<td>0.046670</td>
<td>1.104212</td>
<td>1.464447</td>
<td>1.851042</td>
</tr>
<tr>
<td>Skewness</td>
<td>-2.794187</td>
<td>3.265753</td>
<td>0.815744</td>
<td>0.494172</td>
<td>-0.987993</td>
<td>-0.494993</td>
<td>-1.270529</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>450.7239</td>
<td>988.8653</td>
<td>20.07333</td>
<td>5.868295</td>
<td>28.69778</td>
<td>10.67031</td>
<td>67.54107</td>
</tr>
<tr>
<td>Probability</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000044</td>
<td>0.053176</td>
<td>0.000001</td>
<td>0.004819</td>
<td>0.000000</td>
</tr>
<tr>
<td>Observation</td>
<td>143</td>
<td>143</td>
<td>143</td>
<td>143</td>
<td>143</td>
<td>143</td>
<td>143</td>
</tr>
</tbody>
</table>

From the statistical summary, we could identify the type of data used. In general, these statistics provided clues regarding the normal distribution of data. Table 5 presents the results of summary statistics for the data used in the model which were total factor productivity (TFP), ratio of total capital-labor (K/L), ratio of professional workers to the number of employees (pro/TL), ratio of technical workers to the number of employees (TEK/NE), true spending on information and communication technology (ICT), true expenditure on research and development (RND), and true expenses to the training of workers (TRN). Based on Table 6, a series of right-skewed, positive data for the variables K/L recorded the degree of skewness (skewness) of 3:26. Meanwhile, TFP recorded the degree of skewness to the left (negative) of -2.79. In addition to that, all series...
had positive kurtosis, and the value greater than three showed that the data had excess kurtosis called leptokurtic or fat-tail.

To identify whether the data was normally distributed, the Jarque-Bera probability was used. In addition to that, the data distribution could be identified through the mean and median values of the data. If the mean and median are equal, the data are distributed normally. For this study, the distribution of data was not normal because the mean and median of the series were not the same. Furthermore, based on the Jarque-Bera likelihood (probability), the p-value of each series was significant at the level of significance of 5 percent and 10 percent, showing that they were not distributed normally. Although the data were not distributed normally, the data were still accepted as the method used was the panel data, and the results of regression showed that the effect remained was the model chosen. On the other hand, if POLS or fixed effect was chosen, then the data had to be rejected and the result would not be valid.

4.2 TFP Growth Performance

Table 4 and Table 5 show the growth of TFP categorized into food and non-food sector. Based on the tables, we can produce a chart as shown by figure 5 and figure 6 to further observe the growth of TFP for the food sub-sector of the palm oil industry in Malaysia. The TFP growth for 2001 to 2012 focusing on the 11 sub-sectors is illustrated in Figures 5 and 6. In general, all sub-sectors experienced fluctuations in TFP growth. The TFP growth was calculated using the data enhancement analysis (DEA) via Ocelli software. Graphically, the fluctuations in the value of TFP for the sub-sector of palm oil manufacturing industry showed more pronounced trend in the sub-sector 15143 of refined palm oil manufacturing sub-sector. This sub-sector underwent TFP growth in 2009 by 0.624 percent most likely due to the economic crisis of 2008, leading to the growth of TFP at low levels. However, a study conducted by Mohamad & Said, (2010) found that the change in Technical Efficiency for the refined oil manufacturing sub-sector experienced the highest increase of 3.3 percent per year.

In addition to that, for the non-food sector of the palm oil industry, sub-sector 24111 (industrial gas or inorganic medicine in the form of compressed liquid manufacturing sector) has experienced a high TFP growth of 1.352 percent during the study period in 2006 (Figure 6). However, the sales value of the manufacturing sector in February 2016 declined 1.4 percent to RM51.4 billion from RM52.1 billion in 2015. Based on the data by the Department of Statistics, the sales value declined by 7.0 percent when compared on a monthly basis. Moreover, the decline was mainly due to the decline in the manufacture of industrial or inorganic medicine in liquid or compressed form (Utusan Boneo, 2016). Thus, this observation has addressed the first research objective of measuring the pattern of TFP growth for the sub-industries. The indicators for each sub-sector are shown in table 4.

### Table 4: TFP for the Food Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>15142</th>
<th>15143</th>
<th>15144</th>
<th>15201</th>
<th>15202</th>
<th>15499</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.989</td>
<td>1.104</td>
<td>0.978</td>
<td>1.020</td>
<td>0.950</td>
<td>1.073</td>
</tr>
<tr>
<td>2002</td>
<td>1.024</td>
<td>1.072</td>
<td>0.996</td>
<td>0.977</td>
<td>0.947</td>
<td>1.017</td>
</tr>
<tr>
<td>2003</td>
<td>1.034</td>
<td>1.129</td>
<td>1.002</td>
<td>1.017</td>
<td>1.034</td>
<td>0.987</td>
</tr>
<tr>
<td>2004</td>
<td>0.985</td>
<td>1.095</td>
<td>1.037</td>
<td>1.093</td>
<td>1.024</td>
<td>0.965</td>
</tr>
<tr>
<td>2005</td>
<td>0.971</td>
<td>0.986</td>
<td>1.027</td>
<td>1.001</td>
<td>1.017</td>
<td>0.984</td>
</tr>
<tr>
<td>2006</td>
<td>1.038</td>
<td>1.198</td>
<td>0.977</td>
<td>1.044</td>
<td>1.004</td>
<td>0.985</td>
</tr>
<tr>
<td>2007</td>
<td>0.974</td>
<td>1.248</td>
<td>1.028</td>
<td>1.059</td>
<td>1.035</td>
<td>1.016</td>
</tr>
<tr>
<td>2008</td>
<td>1.028</td>
<td>1.026</td>
<td>1.009</td>
<td>0.891</td>
<td>1.017</td>
<td>1.047</td>
</tr>
<tr>
<td>2009</td>
<td>1.021</td>
<td>0.624</td>
<td>0.847</td>
<td>0.978</td>
<td>0.925</td>
<td>1.021</td>
</tr>
<tr>
<td>2010</td>
<td>0.983</td>
<td>1.208</td>
<td>1.085</td>
<td>1.072</td>
<td>1.001</td>
<td>1.129</td>
</tr>
<tr>
<td>2011</td>
<td>1.006</td>
<td>1.010</td>
<td>0.996</td>
<td>1.018</td>
<td>1.018</td>
<td>0.918</td>
</tr>
<tr>
<td>2012</td>
<td>1.006</td>
<td>1.010</td>
<td>0.996</td>
<td>1.020</td>
<td>1.016</td>
<td>0.892</td>
</tr>
</tbody>
</table>
Figure 1: TFP for the Food Sector

Table 5: TFP Non-Food Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>24111</th>
<th>24119</th>
<th>24230</th>
<th>24240</th>
<th>24290</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>1.002</td>
<td>0.982</td>
<td>1.009</td>
<td>0.991</td>
<td>0.967</td>
</tr>
<tr>
<td>2002</td>
<td>1.031</td>
<td>1.001</td>
<td>1.039</td>
<td>0.990</td>
<td>1.067</td>
</tr>
<tr>
<td>2003</td>
<td>0.989</td>
<td>1.060</td>
<td>1.034</td>
<td>1.047</td>
<td>1.007</td>
</tr>
<tr>
<td>2004</td>
<td>0.783</td>
<td>1.023</td>
<td>0.966</td>
<td>0.996</td>
<td>1.086</td>
</tr>
<tr>
<td>2005</td>
<td>1.072</td>
<td>1.046</td>
<td>1.025</td>
<td>0.998</td>
<td>1.025</td>
</tr>
<tr>
<td>2006</td>
<td>1.352</td>
<td>1.002</td>
<td>1.061</td>
<td>1.021</td>
<td>1.064</td>
</tr>
<tr>
<td>2007</td>
<td>1.021</td>
<td>0.967</td>
<td>1.000</td>
<td>1.016</td>
<td>1.133</td>
</tr>
<tr>
<td>2008</td>
<td>0.827</td>
<td>1.020</td>
<td>0.952</td>
<td>0.985</td>
<td>0.905</td>
</tr>
<tr>
<td>2009</td>
<td>1.037</td>
<td>0.961</td>
<td>0.988</td>
<td>0.992</td>
<td>1.114</td>
</tr>
<tr>
<td>2010</td>
<td>1.156</td>
<td>1.100</td>
<td>0.987</td>
<td>1.035</td>
<td>0.892</td>
</tr>
<tr>
<td>2011</td>
<td>0.982</td>
<td>1.056</td>
<td>1.029</td>
<td>0.986</td>
<td>1.056</td>
</tr>
<tr>
<td>2012</td>
<td>0.983</td>
<td>1.051</td>
<td>1.027</td>
<td>0.984</td>
<td>1.093</td>
</tr>
</tbody>
</table>

Figure 2: TFP Non-Food Sector

4.3 TFP Model Budget Decision

Table 6 shows the estimation results for Model 1 and Model 2 using three types of estimation for the panel data: the constant coefficient effect (Pooled OLS), the fixed effect (Fixed Effect), and the random effect
(Random Effect). There were two models used in the study. Model 1 was the model without independent variable interactions while Model 2 included interaction variables which were the Dummy*Pro/TL and Dummy*ln ICT. In model 1, for the estimation of the POLS, the coefficient for the constant, the ratio of capital-labor (ln K/L) and the ratio of professional and management workers to total employees (TPRO/TL) were significant at the level of 1 percent. To interpret the value of the coefficient in the POLS model, we could assume that if the capital-labor ratio (ln K/L) increased by 1 percent, then the TFP growth would decrease by 0.0965 percent, and if the ratio of professional and management workers to total employees (TPRO/TL) increased by 1 percent, then TFP growth would increase by 1.5129 percent.

Next, for the estimates using fixed effects (FE) in Model 1, the coefficients for constant value, capital-labor ratio (ln K/L), ratio of professional and management workers to total employees (TPRO/TL) and expenditure on research and development (ln RND) were significant at levels of 1 and 10 percent, respectively. To interpret the value of the coefficient in the FE model, we could assume that if the capital-labor ratio (ln K/L) increased by 1 percent, then the TFP growth decreased by 0.2926 percent; if the ratio of professional and management workers to total employees (TPRO/TL) increased by 1 percent, then TFP growth would increase by 2.7331 percent; and if the expenditure to the RND increased by 1 percent, the growth of TFP would increase by 0.0343 percent.

Furthermore, for estimates using random effects (RE) in Model 1, the coefficients for constant values, the ratio of capital-labor (ln K/L), and the ratio of professional and management workers to total employees (TPRO/TL) were significant at level of 1 percent. To interpret the value of the coefficient in the POLS model, we could assume that if the capital-labor ratio (ln K/L) increased by 1 percent, then the TFP growth would decrease by 0.0965 percent; and if the ratio of professional and management workers to total employees (TPRO/TL) increased by 1 percent, then TFP growth would increase by 1.5129 percent.

Based on the three methods of estimation, the fixed effect (FE) model was both based on the result of the test Regression Panel Model 1 of the Table 8. From Table 7, the Wald test was used to determine which model would be chosen between POLS and FE. Based on the test, the Wald’s statistic p-value was significant at the level of 5 percent, meaning that the FE model could be selected. Moreover, the Hausman test showed that the FE model was significant at the level of 5 percent. In addition to that, the statistical R2 to model the residual effect was 0.1802, illustrating that all the dependent variables explained 18 percent of the performance of TFP in the manufacturing sectors during the study. Table 1 is a reference hypothesis for determining the results of the Wald and Hausman tests.

Furthermore, Table 6 shows the results of the estimation of Model 2 using the three types of estimation for panel data, namely the impact of the constant coefficient (POLS), fixed effects (FE) and random effects (RE), and the interaction variables, Dummy*Pro/TL and Dummy*ln ICT, were included as independent variables in Model 2. The estimation involved volume variables used to quantify the characteristics or categories of qualitative variables. The volume variable of 1 indicates the existence of a feature and of 0 indicates the absence of a feature (Gujarati, 2009). For this study, the volume variable of 1 was the food sector while the volume variable of 0 was the non-food sector. Based on the results of the FE estimation for Model 2, the coefficient Dummy*Pro/TL was negative and not significant. Meanwhile, the Dummy*ln ICT coefficient was negative and significant in influencing TFP growth for the food sector. The results of the study showed that many professionals did not affect the TFP growth for the food sectors.

Based on the three methods of estimating this model, the fixed effect was the model both based on the results of the test Regression Panel Model 2 of the Table 6. From Table 8, the Wald test was used to determine which model would be chosen among the POLS and FE. Based on the test, the Wald statistic p-test was significant at the level of 5 percent, meaning that the FE model could be selected. Furthermore, the Hausman test showed that the FE model was chosen due to the level of significance of 5 percent.

### Table 6: Estimated Result of Model 1 and Model 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>MODEL 1</th>
<th></th>
<th>MODEL 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant Effect (POLs)</td>
<td>Fixed Effect (FE)</td>
<td>Random Effect (RE)</td>
<td>Constant Effect (POLs)</td>
</tr>
<tr>
<td>C</td>
<td>0.7821**</td>
<td>1.1257***</td>
<td>0.7821**</td>
<td>0.6741**</td>
</tr>
<tr>
<td>ln K/L</td>
<td>-0.0975***</td>
<td>-0.2926***</td>
<td>-0.0975***</td>
<td>-0.9620*</td>
</tr>
<tr>
<td>TPRO/TL</td>
<td>1.5129***</td>
<td>2.7331***</td>
<td>1.5129***</td>
<td>1.9665</td>
</tr>
<tr>
<td>TEK/TL</td>
<td>-0.1665</td>
<td>0.0773</td>
<td>-0.1665</td>
<td>-0.2411</td>
</tr>
<tr>
<td>ln ICT</td>
<td>0.0738</td>
<td>0.1007</td>
<td>0.0738</td>
<td>0.0724</td>
</tr>
<tr>
<td>ln TRN</td>
<td>-0.0208</td>
<td>-0.0228</td>
<td>-0.0208</td>
<td>-0.0226</td>
</tr>
<tr>
<td>ln RND</td>
<td>0.0003</td>
<td>0.0343*</td>
<td>0.0003</td>
<td>0.0062</td>
</tr>
<tr>
<td>Dummy*lnICT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.0067</td>
</tr>
</tbody>
</table>
Table 7: Regression Test for Model Panel 1

<table>
<thead>
<tr>
<th>Dummy* (TPRO/TL)</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>0.1623</th>
<th>1.2904</th>
<th>0.1623</th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td>0.0666</td>
<td>0.1802</td>
<td>0.1427</td>
<td>0.0769</td>
<td>0.2330</td>
<td>0.1328</td>
</tr>
<tr>
<td>F-statistic</td>
<td>1.62</td>
<td>4.62</td>
<td>9.71</td>
<td>1.40</td>
<td>4.71</td>
<td>11.16</td>
</tr>
</tbody>
</table>

Table 8: Regression Test For Model Panel

<table>
<thead>
<tr>
<th>Wald Test Statistics</th>
<th>Constant Coefficient (POLS)</th>
<th>Fixed Impact (FE)</th>
<th>Random Effects (RE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wald Test Statistics P-value Hypothesis</td>
<td>POLS vs FE 1.79 (0.0684) Reject H₀</td>
<td>RE vs FE 18.37 (0.0054) Reject H₀</td>
</tr>
<tr>
<td></td>
<td>Hausman Test Statistics P-value Hypothesis</td>
<td>POLS vs FE 1.79 (0.0684) Reject H₀</td>
<td>RE vs FE 18.37 (0.0054) Reject H₀</td>
</tr>
</tbody>
</table>

5. CONCLUSION

The study assessed the level of TFP growth for palm oil-based industries using 143 data panel. The study was carried out on the period of 2000 to 20012. Three models were used to select the best model, and fixed impact models were selected for the analysis. Based on the results of Model 1 and Model 2, the determining factors of TFP, namely ICT and RND influenced the growth of industrial TFP. The result of Model 1 showed that the independent variables that affected the growth of TFP is were the ratio of capital-labor (ln K/L), ratio of professional and management employee to the number of employees (pro/TL), and expenses for RND.

However, for the capital-labor ratios, the coefficients were negative and significant, indicating that the ratio of labor capital has had a negative impact on the growth of TFP and that the level of technology increased the performance of the industry. Meanwhile, the Model 2 included the ratio of capital-labor (ln K/L), ratio of employee professional and management to a number of employees (pro/TL), expenses for the ICT, and interaction variable of the food Dummy*ln ICT. However, the capital-labor and expenses on the ICT for the food Dummy*ln ICT variables were negative and significant while the ratio of employee professional and management to a number of employees (pro/TL) and expenses on the ICT for the food Dummy*ln ICT were positive and significant. Therefore, the skills of professional workers (Pro/TL) can improve the performance in palm oil-based industry while expenses on the ICT might directly (indirect) affect TFP industry.

The results of this study can contribute to several policy implications. First, the ratio of professional and management workers to total employees (TPRO/TL) can help the growth of the industry through the growth of TFP. Consequently, actions should be taken to increase the number of highly-skilled workers with the advancement of ICT in the food sector to enhance the growth of TFP. In addition to that, the dummy coefficient interaction, in the terms of Dummy*ICT was negative. Therefore, the expenses on the technology on ICT affect the TFP for the food sectors compared to the non-food sector. That this can be considered as ICT does not give the impression directly to the performance of the industry as ICT-related meetings with the administration are not included in the downstream activities.

As the industrial palm oil market is now sought after globally, the palm oil-based industry is a profitable business that gives the opportunities to diversify the food and non-food products. Based on the findings of the
effect remains, only the dependent variable chosen to be examined in the study was significant and positively affected the growth of TFP. The dependent variables of Model 1 were the ratio of professional and management workers to the number of employees (pro/TL) and expenditure on research and development (lnRND). The results obtained for Model 2 also included the independent variables such as the ratio of professional and management workers to the number of employees (pro/TL) and expenses to the ICT.

Malaysia has become among one of the countries that lead the trade in coconut oil, thus the resulting change that is selective, significant, and positive based on this research can be used as an indicator of the palm oil-based industry. The relationship between the workers skills, and spending on the ICT and RND, and the upstream and downstream activities in the palm oil-based industry can improve the performance of the industry, namely TFP. In other words, if we focus on the factors that positively contribute to the TFP of the industry, then the industry will increasingly develop and impact country’s economy. Furthermore, the supportive relationship between the upstream and downstream industries based on palm oil can improve the performance of innovation through the expense on RND, and hiring of skilled workers.

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DOES SUKUK MATTER FOR REDUCING INEQUALITIES?

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ABSTRACT

The problem of inequality has become main concern across the globe. Income inequality has increased in nearly everywhere in recent decades. Many argue that Sukuk is believed to reduce inequalities and for some cases, green sukuk is closely associated with increasing sustainable development. Through fiscal policy innovation, sukuk is designed to overcome not only the problem of investment but also environmental problem. This research aims to understand the impact of sukuk in reducing inequalities in top ten sukuk issuer countries including Malaysia, Saudi Arabia, Indonesia, Turkey, Qatar, Kuwait, United Arab Emirates, Pakistan, Oman and Bahrain. Partial Least Square-Structural Equation Model (PLS-SEM) was used to analyze the data. PLS-SEM is used to overcome problem of multivariate endogenous variables. Based on the PLS-SEM analysis, sukuk is found to have positive impact on reducing inequalities. In addition, the implementation of fiscal policy innovation through green and sustainable financing and structural reforms can be main booster in accelerating sustainable development. Stakeholders should consider the pattern of inequalities then implement pro-equality strategy and achieve Sustainable Development Goals.

KEYWORDS: green sukuk, inequalities, inclusive growth, PLS-SEM, fiscal innovation.

1. INTRODUCTION

The problem of inequality has become main concern across the globe. Income inequality has increased in nearly everywhere in recent decades. According to the United Nations (2019), the poorest 50 percent of the world population only gained a 12 percent share of the global wealth. While the richest 1 percent of the world population received 27 percent. Comparing with with the last decades, global income inequality became worse. In the 1980s, the richest 1 percent of the world population got 28 percent of total wealth, but by 2017, they had 33 per cent, while the bottom 75 percent had stagnated about only 10 percent.

Understanding that income inequality is the global problem, it requires a global policy recommendation. This involves improving regulations, reforming markets and financial institutions, and encouraging development assistance and investment in areas where it is most needed. Discussing the investment and inequality relation, Hooper (2020), using US state-level data from 1976 to 2008, found that investment in public sector decrease income inequality. In China case, Zhang and Fan (2004), estimated that investment in the least-developed western region reduce regional inequality, whereas additional investments in the coastal and central regions worsen regional inequality. Considering the strong correlation between investment and inequality, it is essential to know type of investment which contribute more in reducing inequality.

As a form of investment, sukuk is believed to have significant impact in decrease inequality. Some countries with numerous moslem population have started to issue sukuk as their instrument of investment. Wahid (2010) proposed sukuk because it has not only lower transaction cost and risk, but also free from interest. In Malaysia, since 1980s after the implementation of Securities Commission Act (Act 498) 1983 and Securities Trading Sysyem 1993, have contributed the massive development of Islamic money market. The other countries such as Bahrain, Qatar have developed more popular sukuk instrument such as sertificate of murabahah, ijarah and musyarakah. Consequently, sukuk became more popular as alternative financing model which have more potential to grow in financing the government project or private company.

Recently, emerging country such as Malaysia and Indonesia, have already issued green sukuk and SDGs sukuk that are closely associated with increasing sustainable development. In 2020, Indonesia’s annual sovereign green sukuk issuances continue to show leadership in the public sector including the first retail green sukuk, while Malaysia’s corporates are innovating by issuing variations of the green sukuk such as the Sustainable Development Goals sukuk (SDG sukuk) and the sustainability sukuk. Through fiscal policy innovation, sukuk is designed to overcome not only the problem of investment but also environmental problem. The green sukuk provides an excellent base for innovation in the area of sustainable finance to target specific issues that require funding such as reducing inequality.

This research aims to understand the impact of sukuk in reducing inequalities. To understand the global pattern, we select the top ten sukuk issuer countries including Malaysia, Saudi Arabia, Indonesia, Turkey,
Kuwait, United Arab Emirates, Bahrain, Qatar, Pakistan, and Iran. This is the first study which analyse the impact of sukuk issuance on income inequality using multiple country analysis.

2. LITERATURE REVIEW

2.1 Sukuk

Sukuk is defined by the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI, 2008) as certificates of equal value representing after closing subscription, receipt of the value of the certificates and putting it to use as planned, common title to shares and rights in tangible assets, usufructs and services or equity of a given project or equity of a special investment activity.

Sukuk is a sharia financial instrument that has been issued both by state or corporation. There are several countries that have become regular issuers of sukuk, including Malaysia, Bahrain, Brunei Darussalam, United Arab Emirates, Qatar, Pakistan. The reasons for issuing sovereign sukuk are intended for purposes general state funding (general funding) as well as financing certain projects, such as building dams, power generation units, ports, airports, hospitals, roads trains, and toll roads. In addition, sukuk can be used to finance the budget deficit. State expenditure income (cash-mismatch), namely by using sukuk with term short term (Islamic Treasury Bills) which can also be used as money market instruments.

The history of the development of sukuk in the world began with the issuance of sovereign sukuk, however furthermore, it was dominated by issuance of corporate sukuk (corporate sukuk). Standard Data & Poor's Reports (2008) shows that in 2003, sovereign sukuk still dominated the global sukuk market, namely 42% and sukuk issued by financial institutions of 58%. However, in 2007, it was the corporate sukuk that dominated the global sukuk market, namely about 71%, financial institutions 26%, and the government only 3%. Generally, the issuance of sukuk the corporation is intended for business expansion, especially by large companies from Middle Eastern and Southeast Asian countries (Malaysia).

2.2. Green Sukuk

Green Sukuk is a sharia investment concept issued to finance projects or clean and renewable energy investment in order to protect environmental assets or natural resources owned. Green Sukuk is a potential financial instrument to support sustainable economic development. Green Sukuk contains two standards, that is to comply environmental awareness and sharia compliance mandate. Green Sukuk are bonds that comply with sharia, where 100% of the proceeds used to finance or refinance green projects that it contributes to mitigation and adaptation to climate change as well as conservation of biodiversity, these initiatives are aligned with Indonesia's goals to achieve SDG goals.

Issuance of Green Bond / Sukuk guided by the Green Bond and Green Sukuk framework reviewed by CICERO (Center for International Climate Research). Apart from showing the government's commitment, green sukuk is also an instrument which signals Indonesia's support for expanding the green bond and green markets sukuk both domestically and internationally, especially in the Southeast Asia region (Angraini, 2018). In case of Indonesian Green framework, there are 9 sectors that can be financed by Green Sukuk, namely: renewable energy, sustainable natural resource management, energy efficiency, green tourism, resilience (resilience) to climate change, green buildings, sustainable transportation, sustainable agriculture and waste management and waste energy.

2.3. Inequality

Inequality income distribution occurs due to the strength of the reverse impact and the weak impact spread in developing countries (Jhingan, 1999). Income inequalities are closely associated with economic growth, where growth is presumably what investment is meant to achieve. Several economists have tried to find out at this question by examining the cross-country relation between inequality and growth. Barro (2000) found that inequality is associated negatively with growth in the poorer countries and positively in rich countries. Banerjee and Duflo (2003) analyse changes in growth on changes in inequality and conclude the relationship to be an inverted-U shape. In another language, both reductions and increases in inequality seem to be followed by a decline in growth.

To underline the urgency of inequality problem, Banerjee (2010) stated two arguments. Firstly, it is obvious that the wealth distribution is something that one needs to worry about. In emerging countries, where financial markets often volatile, there is no presumption that the distribution of asset is close to efficient investment, and the loss in productivity is potentially very large. Secondly, We need to worry about the rich getting richer albeit the poor are also getting richer. The point is that the rich and the poor compete for economic
resources, including capital, and when the rich become richer it is more difficult for the poor to win the competition with them.

2.4. Previous Studies

According to Noordin et al. (2018) Sukuk is an effective vehicle to fulfil the needs of potential social institutions to raise sufficient funds to finance their social development projects in permissible ways according to Islamic Principles. Besides, retail sukuk can be regarded as one of the most effective instruments to promote financial inclusion by providing households with opportunities to participate in wider investment markets. Ahmed et al. (2015) also suggested that there is an obvious need to raise capital through the issuance of Islamic bonds to fund microfinance activities in the society. This would help the Islamic microfinance institutions, which currently face funding constraints, regulatory restrictions and limited scale of operations to promote a greater level of financial inclusion. However, up until today, sukuk has yet to be issued to specifically address the issues of financial inclusion.

Discussing the relation between investment and inequality, Kaulihowa and Adjasi (2018) confirm a non-linear relationship between foreign direct investment (FDI) and income inequality, whereas, initially the flow of FDI reduces the inequality; however. In another cases, Sehrawat and Giri (2015) presented almost similar results for India that financial development aggravates the income inequality in both the short and long run.

3. METHOD

This research aims to understand the impact of sukuk in reducing inequalities in ten sukuk issuer countries including Malaysia, Saudi Arabia, Indonesia, Turkey, Kuwait, Iran, Oman, Pakistan and United Arab Emirates. To answer the research objectives related to the effect of sukuk on income inequality, this study uses quantitative methods. The research data comes from primary data and secondary data. Income inequality data as an exogenous variable is the income distribution variable taken from the World Inequality Database (https://wid.world/data/). Meanwhile, the data on the number and volume of sukuk between countries are taken from the Islamic Finance Development Report 2019. The technique of collecting data is by doing observation, literature study, and documentation. This study uses descriptive statistical data analysis and Partial Least Square - Structural Equation Model (PLS-SEM). Descriptive method used to obtain a complete and precise picture of the research objectives. PLS-SEM data analysis is an analysis used to develop or predict an existing theory. This study uses PLS structural model analysis assisted by using SmartPLS 3.0 software.

4. RESULT AND DISCUSSION

In measuring the impact of sukuk on inequality, we use two different moder. In the first model, we calculate the impact of number of sukuk (x1), volume of sukuk (x2), GDP per capita (x3), inflation (x4), employment rate (x5) and annual growth rate per capita (x6) on income inequality (Y1). We use poverty rate as intervening variable to understand the path of sukuk in promoting income inequality variable. The second model, we eliminate working poverty rate as intervening variable and directly measure all variable in the first model in promoting inequality variable.

According to the econometric analysis, Latent 1 (x1), Latent 2 (x2), Latent 5 (x3), Latent 3 (Y1) in the first model are not significant in reducing income inequality Y. When we tried the second model, we found similar finding where sukuk although has positif sign in reducing income inequality, it is not significant.
The result shows that sukuk (measured by number of sukuk and volume of sukuk) has positive impact in reducing income inequality according to PLS-SEM cross country analysis although some variables are not significant. There are several reasons that may affect the result. First, this might be because of the lack of data. As we know the number of countries issuing sukuk are very limited. Secondly, albeit, we have 10 countries issuing sukuk, the number and volume of sukuk are not significant in affecting the income inequality in those countries.

In term of country-level case, Malaysia is the leading sector for sukuk issuance. For instance, Khazanah Nasional Berhad in June 2015 issued a 7-year MYR100 million sukuk for educational use. The proceeds were
channeled to Yayasan AMIR, a non-profit organization to transform 20 public schools under the Trust Schools Programme. In addition, building on the success of the first issuance, Khazanah issued the second tranche of the transaction in August 2017, raising another MYR100 million with a similar 7-year tenure. This issuance was the first SRI Sukuk in Malaysia to feature a retail offering, which provide retail investors the opportunity to participate in supporting the Trust School Programme. The issuance also introduced crowdfunding platforms as a conduit for the public to subscribe to the transaction.

One WASH Sukuk and Indonesian Cash waqf linked sukuk are good examples of impact sukuk. The project attempts to cut cholera deaths by 90 percent and improve the lives of 5 million people in 29 cholera affected OIC member countries. One WASH sukuk will directly and measurably contribute to multiple Sustainable Development Goals (SDGs), including SDG 3, SDG 5, SDG 6, SDG 13 and SDG 17.

5. CONCLUSION

Based on the PLS-SEM analysis, sukuk is found to have positive impact on reducing inequalities, albeit some variables are not significant. For country-level individual case, Green sukuk is found to have impact on SDGs achievements (including goal 5 gender equality and goal 10 reduce inequality). In addition, the implementation of fiscal policy innovation through green and sustainable financing and structural reforms can be main booster in accelerating sustainable development. Therefore, stakeholders, including government and private sector should consider the pattern of inequalities then implement pro-equality strategy and achieve Sustainable Development Goals.

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THE EFFECT OF BEHAVIORAL, INCOME AND PRICE-DISCRIMINATION ON PURCHASE INTENTION OF GREEN PRODUCTS IN MALAYSIA: A PROBIT REGRESSION ANALYSIS.

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ABSTRACT
The increasing concerned of environmental economists and government on environmental pollution stimulates the demand for green products to reduced pollution and to cuts government spending on the environmental hazard. Provision of evidence on how consumer’s behaviour, income, and price discrimination influence purchase intention of green products using the theory of planned Behavior based on preliminary analysis, are the purposes of this research. The data collected from 161 respondents in Kedah using convenient sampling were tested using a probit regression model. The results show that subjective norms, perceived behavioural control and income level, have a significant effect on the intention to purchases green products and price discrimination fairness as well as subjective norms have minimal impacts on the purchase intention of green products. This work forms the basis for further investigation and understanding of household behaviour towards green products.

KEYWORDS: Purchase intention, price discrimination, perceived behavioural, income, green products.

1. INTRODUCTION
Environmental deterioration is the primary issue of a global concern that attracts researchers and policymakers in the world. The persistent deterioration of the natural environment awakes the issue of protecting the environment that led to ethical consumption known as green consumerism (Moisander, 2007; Rambalak & Pathak, 2017). More so, the negative impact of major economic activities on the environment necessitates a call for accelerating the green economy’s growth through the use of environmentally friendly products worldwide (Henderson, 2007). Barnett (2006) and Kuo, Rice & Fennell (2016) maintained that environmental issues anywhere are generally caused by human activities that are mainly for economic gains. While Barry (2007) perceived the cause of environmental problems from the inherent behaviours of the populace living in a defined territory. These accumulated challenges would be treating the future consumption in large scale and need to be addressed from the angle of consumers by creating awareness on the environmental advantages for consuming green products. Consumers seek to consume environmentally friendly products if they are well informed of their consumption-related environmental problem (Paul, Modi and Patal, 2016; Kilbourne et al., 2009, Laroche et al., 2001) for the benefit of the future generations. This proactive awareness and focusing on sustainable consumption expected to impact consumer purchase decisions (De moura et al., 2012; Paul et al., 2015).

The green consumerism has recognised rapidly in the industrialised nations, but with time this concept is gaining ground in the developing countries (Rambalak and Pathak, 2016; Raghavan & Vahanti, 2009). However, the study of this kind is scanty and far between in developing countries like Malaysia. Whereas, in the context of Malaysia, a developing country few studies are conducted that centred on the consumers’ behaviour towards purchasing green commodities (Khare, 2015; Paul et al., 2016). The potential path to achieve this is by optimising the current consumption and joyful life without deflecting the chances of future generation consumptions (Hoeschele, 2008). Besides, McHenry, Doepel, & Urama (2017) stress the need to consider posterity to sustain friendly environments for the current and future generations. Analysing this, the ongoing study endeavor to apprehend consumer behaviour towards purchasing green products in the context of an emerging economy, i.e., Malaysia.

The present study used the theory of planned behaviour (TPB) framework to understand the consumers’ purchase behaviour on green products. TPB is commonly used framework in analysing human behaviour in a wide scope of fields, and precisely it has countless empirical use in the field of environmental consciousness.
The study is part of the early attempts to know consumers’ green purchase behaviour by adopting the TPB in the Malaysian context. Nevertheless, the study adapted the TPB framework by introducing additional constructs (price discrimination, country of manufacture/country of origin, income level) to measure its impact and predictive power on the consumers’ green purchase intention and behaviour. Specifically, to our notice, no study conducted in Malaysia with these additional constructs. The remaining part of the paper consists of the following sections; section two is a literature review; the research methodology is in section three. Meanwhile, section four presents the results and findings of the study. Finally, part five discussed the related findings, and section six concludes the article.

2. LITERATURE REVIEW

2.1 Theory of Planned Behavior (TPB)

Rivis et al., (2009, p. 2985) considered "the TPB is conceivable the most dominant theory in the forecast of societal and health behaviours." The application of TPB in environmental behaviour is successful (Hsu, Chang, and Yansritakul, 2017; Chen, 2016; Han et al., 2010; Kim et al., 2013; Yadav & Pathak, 2016). The TPB has been used to analyse consumer green purchase behaviour (Albayrak et al., 2003; Justin, Modi & Patel, 2016). In TPB, Ajzen (1985) maintained that subjective norm, attitude and perceived behavioural control influences intention and stimulate real behaviour. Moreover, as mentioned by Ajzen (1991, p. 188), attitude on behaviour means "the degree at which a person has either a favourable or unfavourable evaluation of the behaviour in question". Subjective norm refers to "the perceived social coerce to act or not to act in a particular behaviour," while perceived behavioural control denotes "the perceived easiness or uneasy to perform the behaviour." Prior research has employed the TPB to examine consumers' behavioural intentions (Chen, 2016; Paul et al., 2015, 2016; Chin et al., 2016; Casidy et al., 2016; Khan & Mohsin, 2017). For instance, Han et al., (2010) applied the TPB to portray the pattern of hotel consumers' willingness to patronize a green hotel. Besides, earlier studies (e.g., Paul et al., 2016; Nguyen et al., 2016; Moser, 2016; Kim et al., 2013) implemented TPB to study the association amongst the variables and what consumers' agreed upon, and commitment in conservation behaviour.

On the footing of TPB assumptions and examined literature the study proposed the following hypothesis as guide to the objective of the research:

H₁: There is positive significant relationship between attitude and green products purchase intention.

H₂: Subjective norm is positively influences the consumers intention to purchase green products.

H₃: Perceived behavioural control significantly influences the consumers intention to purchase green products.
2.1.1 Green Product and Purchase Intention

The term green can be described as "eco-friendly," "environmentally friendly," "environmentally conscientious activities," or "sustainable" (e.g., Roberts, 1996; Pizam, 2009; Han et al., 2009, 2011; Laroche et al., 2001). Ottman (1998, p.89) portrays that "green products are naturally resilient, non-lethal, produce through reused materials, or modestly portrayed." Peattie (1995, p. 181) described green products the same as "when its societal and environmental use, performance, disposal and production significantly enhances and innovative in comparison to conventional products." Moreover, Tomasin et al. (2013, p. 74) indicated that, "green products invented to avoid, reduce, limit, and rectify unwanted effects on water, soil and air." Reinhardt (1998, p. 46) clarified that environmentally product variety requires a "firms innovating products that offer sufficient environmental advantages, or that environment is expose to minimal externalities compared with similar products."

Dangelico and Pontrandolfo (2010) argued that the green product describes lower negative externalities on the environment when compared with the conventional products where the negative impact is visible on air and water pollution. Berchicci and Bodewes (2005) equally maintained that the invention of green commodities is made to reduce the environmental degradation, disposal of products and industrial use. Consequently, the dynamic advancement of green products is essential for the prosperous ecological policies and makes sure industries and economies are environmentally sustainable (Pujiari et al., 2003).

Newberry et al. (2003) perceived that purchase readiness is a recurrent tool employed in forecasting purchase behaviour. O'Keefe (2002) affirmed that behavioural intent is the most appropriate aspect for forecasting actions of an individual's household under numerous conditions, including the green market. However, Spears and Singh (2004), together with Peter and Olson (2008), believe that purchase willingness is a deliberate effort to decide to purchase a particular commodity or service. Considering this definition, Nik Abdul Rashid (2009) believed that a distinct green purchase intent as the willingness and the likelihood of consumers in their purchase concern to place more preference to green produce than conventional products. The idea of green purchase is a different consciousness of environmental cleanliness behaviour that consumers embrace to show concern to the environment. Furthermore, green purchase intent is established as a purchase of commodities that are harmful free to society (Ramayah et al., 2010).

2.2 Inclusion of Constructs in the TPB

It is well known that TPB assumes that the intended behaviour is shaped by subjective norm, attitude, and perceived behavioural control. Besides, researchers nowadays suggest loading factors which not observed in TPB (Rambalak et al., 2017; Donald et al., 2014; Armitage & Conner, 2011). In the recent past psychological literature documents ever-rising evidence of modifying constructs in the TPB (Rambalak et al., 2017; Yadav and Pathak, 2016; Read et al., 2013) for the aim of various empirical studies. The current research has introduced three constructs (price discrimination, product country of origin/made in, and income level of consumers) to evaluate the predictive power and the impact of the constructs and the TPB constructs on the consumers' green purchase intention. Further, consumers' willingness to pay a premium price for green products is still debating for price-sensitive Malaysians. Consumer's income plays a vital role in green purchase intention in both developed and developing nations, i.e., Malaysia. More so, some consumers consider the green products country of origin or where its made, if the country has strict environmental regulations.

2.2.1 Price Discrimination Fairness and Purchase Intention

Ahmad et al. (2011a) articulate the effect between price and purchase intention, as consumer conscious understanding of price unfairness may lead to looks for substitute or alternative, indifference about the commodity. Ahmad et al. (2011) also added that opinion on price fairness has a significant relation to emotions. Further, significant facts from studies and surveys signifying that consumers keep attention to 'fair pricing' are (Blinder et al., 1998; Frey and Pommerehne, 1993; Hupertz et al., 1978; Zbaracki et al., 2004), Even though, is imprecise as to how much preferences specified are upset purchases and in turn pricing.

Price has established its substantial influence on consumers' assessment of commodities substitutes and their final purchasing decision (Moser, 2016; Li et al., 2016; De Medeiros et al., 2016). Price could similarly cause a commodity to be considered as normal or inferior as the price of the commodities is in response to demand (e.g., prestigious commodities) and the stockpile (e.g., low price supermarkets) (Dickson & Sawyer, 1990). Besides, the consumers’ sensitivity to different prices of commodities is a vital piece of evidence for the firms fixed costs (see, for example, Loffler, 2015; Miller, Hofstetter, Krohmer, & Zhang, 2011).

Several empirical studies observed the forces of prices competition on purchases (Garbarino and Maxwell, 2010; Courty and Paglieri, 2010; Anderson and Simester, 2001, 2010; Campbell, 1999; Goldberg, 1996; List, 2004) and causes of discriminatory prices. In specific, Anderson and Simester (2010) found that consumers
are unwilling to make additional purchases from firms which reduced the prices of their commodities subsequently. List (2004) founds that firms assumed discriminatory prices mostly due to statistical explanations and not due to taste-based discrimination.

**H4:** Price discrimination fairness significantly influences the consumers behavioural intention to purchase green products.

### 2.2.2 Country of Origin (Made in)

Earlier studies observed that the consumer behaviour research addresses the potential impact of the country of origin (COO) and consumers' perceptions to price changes (e.g., Drever and Quester, 1999; Veale & Quester, 2009). Nagashima (1970) describe COO as connected with the appearance, stereotype, manufacturer's brand name and consumers choice to a particular products of a giving country, according to these variables as national traits, economies of scale and technological advancement. Roth and Romeo (1992) stated that many literatures used this definition in the past and recommended for subsequent studies. The COO effect refers to the consumers believe about country know-how on particular commodities and environmental consciousness in production process (Lotz and Hu, 2001). Bilkey and Nes (1982) maintained that such renown images and environmental concern serve as a foreign firm efficiency in persuading the preference of consumers from different countries.

Moreover, numerous preceding studies have established that the COO of a commodity changes customers' preference and decisions to purchase (Lee et al., 2013; Awada and Yiannaka, 2012; Jossiassen, 2010; Veala and Quester, 2009; Insch & McBride, 2004; Mamrai et al., 1998). Veale and Quester (2009) proposed that the COO may perhaps generate substantial influences; for instance, it can escalate the good looks of a product. Fournier (1998) discovered that COO communicates from where products are made and capability of a country technology, which can yield a strong passionate connection to convinced consumers about products and brands. Botschen and Hemetsberger (1998) shown that consumers associate COO not only to durability of the commodity but equally to the perception of national self-importance and remembrances of past vacations.

Botschen and Hemetsberger (1998) shown that consumers associate COO not only to durability of the commodity but equally to the perception of national self-importance and remembrances of past vacations. Besides, Debrenova et al. (2015) established that consumers with optimistic about COO have substantial impacts on product view and purchase intent.

**H5:** Country of manufacture or made in significantly influences consumers to purchase green products.

### 2.2.3 Consumer Income

It is understood that income level has a positive correlation on the purchase intention of green products (Wang et al., 2020; Rezai et al., 2012). Besides, consumers with high income level are better to adapt with the rising price to purchase green products (Wang et al., 2020; Kim et al., 2012; Fisher et al., 2012; Rezai et al., 2012). Yin et al. (2010), used convenience sample and conducted study on the influence of income status and green consumption in China and found that high income impacted on the willingness to purchase green foods. Study by Rezai et al. (2012), in Malaysia examined the consumers who benefit from high income level have a strong willingness to purchase green foods as the prices of green foods are normally 10-50% greater than traditional foods.

**H6:** Income level is positively influences the consumers decisions to purchase green products.

On the fact of the above discussed hypothesis, a theoretical framework (see, Fig. 2) was proposed.

### 3. METHODOLOGY

#### 3.1 Theoretical Framework

Accordingly, the study employed Ajzen's (1991) TPB. As mention by Perugini and Bagozzi (2001) TPB could be developed and prolonged through theoretical framework. Goh et al. (2017) employed the expanded TPB to distinguish visitors' willingness. Jiang et al. (2016) used a modified TPB to forecast users' intention to microblog. Chen and Hung (2016) also utilized an extension of TPB to recognise the critical determinants for accepting the green products.

However, Rivis et al. (2009, p. 2985) recommended that "the TPB is perhaps the known theory in forecasting social and health behaviours." The application of TPB in the field of ecological behaviour is successful (Yadav and Pathak, 2016; Chen, 2016; Kim et al., 2013; Han et al., 2010). Ajzen (1985) "maintained that the subjective norm, perceived behavioural control and attitude changes intention and virtually real
behaviour”. Moreover, as described by Ajzen (1991, p. 188), attitude led behaviour means "the extent a person has either a favourable or unfavourable evaluation of the behaviour in question." Subjective norm refers to "the perceived social pressure to do or not to do a giving behaviour,” and the perceived behavioural control relates to "the perceived easiness or difficulty of performing the behaviour." Many earlier researches have implemented TPB to explore consumers' behavioural intent (Casidy et al., 2016; Chin et al., 2016; Chen, 2016; Paul et al., 2016, 2015). Also, preceding studies (e.g., Nguyen et al., 2016; Kim et al., Paul et al., 2016; 2013; Moser, 2016) employed the TPB to observe the correlation between the variables and consumers' preference of, and commitment in ecological behaviour. Figure 2 demonstrates the research model with the additional constructs (price discrimination, country of manufacture/made in and income level).

![Figure 2: The Theoretical Framework used in the present study.](image)

3.2 Sampling design

The study conducted a paper-based questionnaire with expediency sampling procedure to compile the data. The sum of 200 respondents joined in this study by answering the questionnaires. Following the exclusion of unfinished as well as replica responses, the study utilised 161 usable responses as the sample for the analysis out of the 200 questionnaires returned i.e 80% of the total questionnaires. The target population covered educated aged 18 years and above in the urban areas. Kim et al. (2013) maintained that focusing on this sample is useful for two fundamental reasons. This teaming population group forms the future consumers, and in the next few decades, they can make a difference. The others are that individual's working-class resident in Malaysia. The main aim of using this sampling method is that the members of the target population are assumed to be homogeneous.

3.3 Measurements of constructs

For the aims of testing hypothesis, the study used seven costructs: attitude (ATT), subjective norm (SIN), perceived behavioural control (PBC), price discrimination fairness (PDI), product country of manufactured or made in (COO), consumer level of income (YDL) and purchase intention of green products (EPI). However,
in terms of measurement: Attitude was proxies by scale items adopted from Bruner (2010). Subjective norm was proxies by the scale items adopted from Trafimow (2000). Perceived behavioural control was measured using scale items adopted from Han et al. (2010). However, products country of manufactured was measured by applying scale items adopted from Glass et al. (1981). Price discrimination was measured by employing scale points adopted from Laroche et al. (2001). Purchase intention was measured by scale items from Ajzen and Fishbein (1980) and Trafimow (1994), and consumer income was proxies by employing the scale points from Omar et al. (2016).

In an attempt to find the effect of personal behaviours on green products purchase intention, subjective norms and perceived behavioural were employ. The former is expected to have the probability of negatively affecting the purchase intention. While the effect of the latter on green products depends on the perception of the respondents; positive opinions on the products is expected to impact positively on its purchase intention of the products while contrary views are expected to impact inversely on the purchase intention of the green products. On the hand, it could assume that the higher the income of the consumers, the higher the purchase intention on the products. Price discrimination is expected to impact negatively on the purchase intention of the green products. Meanwhile, the rest of the control variables are: attitude, marital status and gender of the respondents could have either positive or inverse influence on purchase intention of the green products. The respondents' attitude toward green environment could be positive or negative, as the country of origin (made in) could have the probability of increasing or decreasing the purchase intention of the green products. Similarly, both marital status and gender have no specific nature of influence, and they could probably increase or decrease the purchase intention.

3.4 Estimation Method and Model Specification

Given the nature of variables measurement and the data, the best estimation method utilises by the study is ordered logit. This is because the variables including estimated purchase intention are ranked and ordered using a five Likert scale as explained in the previous section. After considering the problem statement, significance, and scope of the study, the study applied the following model for the attainment of the objective. The study presents the estimated purchase intention function in Equation [1].

\[ EPI = f(ATT, SJN, PBC, COO, PDI, YDL) \]  


Based on Becker and Kennedy (1992), the ordered probit model of the Equation is specified in Equation [2].

\[ Y^* = \beta_0 + \sum \beta_i X_i + \epsilon_i \]  

\[ EPI^* = \beta_0 + \beta_1 ATT + \beta_2 SJN + \beta_3 PBC + \beta_4 COO + \beta_5 PDI + \beta_6 YDL + \epsilon_i \]  

where: \( Y^* \) is the unobserved EPI, \( X_i \) are \( ATT, SJN, PBC, COO, PDI \) and \( YDL \), \( \beta_0 \) Intercept \( \beta_i \) coefficients, and \( \epsilon_i \) error term.

The \( EPI \) is an unobservable dependent variable has \( J+1 \) categories, based on five Likert scales, and therefore, it is expressed as:

\[ Y=1 \quad \text{if} \quad Y^* \leq \delta_1 \]
\[ Y=2 \quad \text{if} \quad \delta_1 < Y^* \leq \delta_2 \]
\[ \ldots \]
\[ Y=j \quad \text{if} \quad \delta_{j-1} < Y^* \leq \delta_j \]

4. RESULTS AND FINDINGS

Table 1 dislosed the descriptive statistics as well as correlations among the constructs. The correlation amongst attitude, perceived behavioural control and consumer level of income are positively correlated with consumers intention regarding purchase of green products, respectively. However, subjective norm, price discrimination fairness and green products country of manufactured were negatively related with the purchase intention. The average values of all the constructs are greater than the computed standard deviation which means the data are normally distributed and free from left or right skewned, respectively.
Table 1: Descriptive Statistics and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. EPI</td>
<td>1.471</td>
<td>0.082</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. ATT</td>
<td>2.756</td>
<td>0.295</td>
<td>0.796</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SJN</td>
<td>3.618</td>
<td>0.570</td>
<td>-0.148</td>
<td>0.732*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. PBC</td>
<td>3.718</td>
<td>0.741</td>
<td>0.200</td>
<td>0.428**</td>
<td>0.621</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. COO</td>
<td>3.390</td>
<td>0.775</td>
<td>-0.143</td>
<td>0.165</td>
<td>0.140</td>
<td>0.816</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. PDI</td>
<td>1.750</td>
<td>1.016</td>
<td>-0.246*</td>
<td>0.058</td>
<td>0.073</td>
<td>0.116*</td>
<td>0.489*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. YDL</td>
<td>1.718</td>
<td>1.197</td>
<td>0.274*</td>
<td>0.148</td>
<td>0.017</td>
<td>-0.023</td>
<td>0.656**</td>
<td>0.542</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note: **,* represent 1% and 5% level of significance, respectively.

The findings of the estimation are presented in Table 2. The table shows that subjective norms, perceived behavioral, and income level is significant in influencing the purchase intention of green products in Malaysia. This implies that a change in Subjective norms by one percent will have a probability of reducing the purchase intention by 2.833 percent and the coefficient is significant at one percent level and this is contrary to hypotheses two. Similarly, a one percent increase in perceived behavioural of the Malaysia resident will have a probability of increasing the purchase intention by 3.394 percent, and the coefficient is significant at one percent level, thereby supporting hypotheses three. This also, implies that the perception of the respondents towards green products is positive. Furthermore, as expected, income has a positive impact on purchase intention of green product in Malaysia with one percent increase in income having a probability of increasing purchase intention by 1.219 percent, and it is significant at one percent level and perhaps confirmed hypotheses six of the study. This findings is consistent with studies of Wang (2020) and Fishe et al. (2012), while studies by (Ansar, 2013; Paul and Rana, 2012; Zakersalehi & Zakersalehi, 2012) found that level of income do not influences green products purchase intention. On the other hand, price discrimination, even though, it has a correct sign of negative influence, but it is statistically insignificant in explaining the probability of changes in purchase intention of green products in Malaysia. The result of price discrimination established opposite assumption of hypotheses four. This supported the study conducted by Rambalak (2017) and contradicts the results of Choi and Parsa (2007), Kang et al. (2012), Shen (2008).

Table 2: The Results of the Ordered Probit Estimations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>Std. Error</th>
<th>Z-Statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJN</td>
<td>-2.833***</td>
<td>0.849</td>
<td>-3.34</td>
<td>0.001</td>
</tr>
<tr>
<td>PBC</td>
<td>3.394***</td>
<td>0.942</td>
<td>3.60</td>
<td>0.000</td>
</tr>
<tr>
<td>YDL</td>
<td>1.219***</td>
<td>0.298</td>
<td>4.10</td>
<td>0.000</td>
</tr>
<tr>
<td>PDI</td>
<td>-0.013</td>
<td>0.437</td>
<td>-0.03</td>
<td>0.976</td>
</tr>
<tr>
<td>ATT</td>
<td>2.620**</td>
<td>1.339</td>
<td>1.96</td>
<td>0.050</td>
</tr>
<tr>
<td>COO</td>
<td>-0.310</td>
<td>0.357</td>
<td>-0.87</td>
<td>0.385</td>
</tr>
<tr>
<td>MST</td>
<td>-1.249</td>
<td>0.878</td>
<td>-1.42</td>
<td>0.155</td>
</tr>
<tr>
<td>GEND</td>
<td>0.043</td>
<td>0.556</td>
<td>0.08</td>
<td>0.938</td>
</tr>
<tr>
<td>/cut1</td>
<td>9.806</td>
<td>3.833</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/cut2</td>
<td>13.000</td>
<td>4.229</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/cut3</td>
<td>13.594</td>
<td>4.255</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/cut4</td>
<td>14.523</td>
<td>4.290</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ***,** represent 1% and 5% percent, respectively.

Furthermore, country of origin or where the products is manufacture has negative impact and statistically insignificant, not supporting hypotheses five. It signified that Malaysian consumers are not concerned with where the green products are made. The rest of the control variables, such as attitude, marital status (MSN) and gender (GND), are insignificant in explaining the fluctuations of purchase intention of green products in Malaysia. This implies that; from the preliminary research findings, the significant variables affecting the purchase willingness of green products in are; the behaviour of the Malaysia residents and the income level. While the price discrimination and country of origin of the green products, even though, it has a negative stimulus on purchase intention of green products, it is statistically insignificant in explaining the changes of the intention.

4.1 Post estimation Diagnostic Checking
For any estimation to be valid, a necessary post estimation diagnostic checks must be conducted. For this purpose, the study conducted link specification test, and range fulfilment tests and the results are presented in the various tables below. The result of the link test is presented in Table 3. The results show that the model is correctly specified given the coefficients of hat and hatsq of 2.604 and -0.068 with their respective probabilities of 0.118 and 0.327. Having a probability of more than five percent signifies that the models are correctly specified.

Table 3: Link Test for Specification Error

<table>
<thead>
<tr>
<th>EPI</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>Z-Statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>_hat</td>
<td>2.604</td>
<td>1.667</td>
<td>1.56</td>
<td>0.118</td>
</tr>
<tr>
<td>_hatsq</td>
<td>-0.068</td>
<td>0.069</td>
<td>-0.98</td>
<td>0.327</td>
</tr>
<tr>
<td>/cut1</td>
<td>18.999</td>
<td>9.806</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/cut2</td>
<td>22.273</td>
<td>10.083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/cut3</td>
<td>22.818</td>
<td>0.066</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/cut4</td>
<td>23.705</td>
<td>10.054</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the range fulfilment test are reported in Table 4. The condition for most linear probability model is that the estimated series of the dependent variable must lie between zero and one (0 ≤ Yhat ≤1) and at the same time the standard deviation of the estimated series should be closely similar to the mean (Gujarati & Porter, 2009). From the table, the minimum Yhat is around approaching zero 2.33e-08 or 0.0000000233, and the maximum is 0.9999999, which is approximately one. This implies that the range fulfilment test is accomplished. Also, the table shows that the mean value of the estimated series is 0.376, while the standard deviation is 0.340. This satisfies the second condition of mean to be closely similar to the standard deviation.

Table 4: The Range Fulfilment Test Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observation</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min.</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yhat</td>
<td>450</td>
<td>0.376</td>
<td>0.340</td>
<td>2.33e-08</td>
<td>0.9999999</td>
</tr>
</tbody>
</table>

5. DISCUSSION

The findings on this research it could translate into having a diverse culture and different orientation regarding products and services used for both environmental friendly products (green products) and the general goods and services. Such diversity also, makes it possible for retailers, to charge different prices (price discrimination which may also affect products and services usage) in Malaysia, producers or firms should be carefully implementing or charging premium price on green products. The fundamental role of prices often becomes the beginning of the individual economic behaviour’s analysis. Prices majorly determine the resources allocation. It also affects the loyalty of consumers, and eventually, the social welfare of societies. Previous study on selling demonstrates how consumers understand price fairness is an essential factor of consumer response (Bolton et al., 2010; Campbell, 1999; Carlson and Weather, 2008; Sheng, Bao and Pan, 2007). Studies on price discrimination fairness approach shows how consumers perceive the prices and equally the influence of discriminatory prices towards purchases decisions. Price discrimination is identified as the practice of firms to charge different prices for the same product to different consumers. Upon these consumers’ views prices in a different dimension. However, unjust perception of price increment may lead consumers to have declining purchase intentions (Bolton et al., 2010; Grewal, Hardesty, & Iyer, 2004), this would excite the intention to consider for some alternatives (Ferguson, Ellen, & Bearden, 2013) and lesser willingness to purchase from a firm (Campbell, 1999).

Further, the broad question posed to many firms that practices or adopting discriminatory prices approach is whether profitable or not. In the perspective of “standard” price discrimination, higher elasticity in prices setting have a strong association with higher profits in monopoly and lesser profits in oligopoly (Thissé &

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2 This is particularly emphasized in the works of many influential economists who were employed at the University of Chicago such as Gary Becker, Ronald Coase, and Milton Friedman.
Vives, 1998). Villas-Boas (1999, 2004) study duopoly market involving infinite horizon as well as consumers overlapping generations, shows that if consumers excise patients, the practices hurt firms. The example of firms that practices discriminatory prices are supermarkets, air ticket, electricity, financial services, telecommunication, insurance companies, and gas stand out for widespread use for behaviour-based price discrimination approach. Finally, studies conducted in the past, the results are more ambiguous, focus on prices and disregard the psychological effect of consumer preference on green products consumerism when considering the behaviour-based price discrimination.

Besides, increasing awareness by environmental economists about the consumption of green products to currents and potential consumers changes the mindsets of many firms and individual household. Also, increase community consciousness on different environmental pollutions has shifted consumers’ behaviours and induce decisions on purchasing green products. However, green products consumerism significantly has affected the rational choices of various firms (Maniastis, 2016); for instance, many industries have modernised their manufacturing procedures and recognise the causes distorting consumers’ purchase intention towards green products (Paul et al., 2016). It is essential to comprehend consumers’ purchase behaviour as they can be use to forecast consumers’ behaviour.

6. CONCLUSION

It is having ascertained that behaviour and income of the residents majorly affect the purchase intention of green products. And the results pass the diagnostic checks conducted which qualifies the model. The preliminary finding shows that from the perspectives of the policymakers, this work provides a course of action to develop more effective macroeconomic environmental policies that can motivate industries towards friendly production process that is with less environmental pollution. Besides, increasing awareness by the government to shows the importance of using less polluted production techniques may help the government to cut its budgets on environmental-related hazard thereby diverting the resources to other viable projects. More importantly, the government should create incentives for a household that purchase green products and industry that adopted modern production techniques. It may compel the industries to invest in adopting advanced technology towards the production process. The findings of this study offers a dimension to encourage the use of green products for the existing and potential consumers. Eventually, this will give birth to clean environments.

The basis for conducting the study is to find out the possibility of indepth study to find out the significant determinants that encourage purchases of green products in Malaysia and widen our horizon of acceptance of these new products. The study attempted to provide a theoretical framework for understanding consumer purchase preference for green products. Explicitly, the study interposes to our understanding of how price discrimination fairness, country where the green products is made and level of income influences purchase intention. The study preliminarily establishes that subjective norms and perceived behavioural control largely influenced the purchase intention of green products while consumers' attitude toward green products becomes weaker in terms of influence. The overall conclusion is that studying the factors affecting the consumers' purchase intention of green products are feasible and not only limited to prices but social factors.

Although the study contributes to the body of knowledge, other limitations are appeal mentioning to propose for future research. The theoretical model is strong and well furnished. Hence this pilot study recommends a duplication of the study or further testing using dissimilar sample design to provides a plausible explanation on present research findings. Secondly, we put forward that future studies may perhaps focus on a specific green product. Finally, the stipulated time frame of this pilot study, cannot classify how other factors influencing individual or household purchase intention, and whether purchase preference changes overtime.

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DO THE POOR DESERVE HAPPINESS?

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ABSTRACT

Poverty and happiness are two terms that can describe the living standard of the poor household. Poverty is nothing new; has improved, yet definitions and tradition view have constantly changed due to discovery of new knowledge from various perspectives. Many scholars view the poverty concept in different way in line with the developments of knowledge. On the other hand, happiness can be defined as an attempt to overcome problems and improve the quality of human life including physical, social and psychological. Happiness is necessary for each individual regardless of the socioeconomic level; poor, middle-income or high-income. Based on stratified random sampling from 1,103 poor households in Kedah, the findings show that there are three main factors that cause persistent poverty, namely lazy attitude, feeling that their lives are good and expecting government assistance. However, these poor household still has the awareness that poverty can be overcome by doing business and focusing on the education of children. Therefore, happiness is an important element that needs to be given attention towards reducing the pressure of poverty among the poor. Moreover, this comprehensive perspective of happiness provides an alternative measurement to the policymakers in measuring poverty. Implications from the discussion of issues were also raised.

KEYWORDS: persistent poverty, happiness, household, quality of life, government assistance
TRACK 3D EDUCATION
ABSTRACT

The sudden outbreak of a deadly disease called COVID-19 caused by Coronavirus (SARS-CoV-2) shook the entire world. Thus, the pandemic has transferred the traditional education to online educational platforms, which directly affects the methods of teaching and learning in Malaysia. This study proposed a conceptual research based on literature, concepts, and theories to describe the effectiveness of online teaching and learning during the COVID-19 pandemic. The objective of this study was to focus on educators’ satisfaction towards the online educational platforms in higher learning institutions. Thus, this study aimed to determine several factors such as IT literacy, students’ perceptions, institutional support, and internet connectivity with regards to educators’ level of satisfaction towards online learning during this pandemic. The findings indicated that these factors have an impact on educators’ satisfaction. Hence, this study will be useful to higher learning institutions, policy-makers, universities, and colleges, as well as educators, and students.

KEYWORDS: Educators, Satisfaction, Online Teaching and Learning, Effectiveness, Challenges

1. INTRODUCTION

With the emerging and rising concern on the spread of COVID-19, World Health Organization (WHO) has declared it a global pandemic. This pandemic has imposed curfews and lockdowns in many countries which have caused long-term impacts on individuals’ behaviour and lifestyle. The pandemic has also imposed measures of social distancing on the society, as well as affected the traditional education (face-to-face delivery). Nearly 1.6 billion of learners in more than 190 countries and continents face the disruption of traditional education due to COVID-19 (United Nation, 2020). The closure of educational institutions such as schools, universities, colleges, and other forms of learning spaces was decided by the governments around the world to control the spread of COVID-19 considering the safety of students, educators, and everyone related (Chandra Y, 2020).

Besides that, this situation has also challenged the education systems across the world and compelled the educators to shift to an online mode of teaching overnight. Many educational institutions that were initially reluctant to change their traditional pedagogical approaches were left with no option, but to shift entirely too to online teaching and learning. However, it seems that there is an ambiguity and disagreement towards the online teaching and learning mode among educators about what to teach, how to teach, the workload of teachers and students, the teaching environment, and the implications on education equity (Zhang, Wang, Yang, & Wang, 2020). To help institutions overcome this unexpected crisis, UNESCO is working with ministries of education across nations to ensure students’ continued learning. This is through the use of different alternative channels and supporting them in various ways, such as technical assistance, selection of digital learning tools, arranged webinars, and creation of national learning platforms (Chandra Y, 2020).

Online teaching and learning tools play a crucial role during this pandemic with the aims to facilitate instructors, schools, and universities in delivering knowledge as well as enlightening student learning during the closure of universities and schools due to COVID-19. Indirectly, it allows the educational institutions to be involved in training the next generation by using the alternative teaching methods in maintaining the standard of education. In this situation, the educators are required to be fast learners to adapt with the new norm of teaching mode and be efficient in delivering the knowledge, as well as using the software. However, it seems that educators are also facing a few challenges such as Information Technology (IT) literacy and skills of adapting to online learning, as well as lack of support provided by the institutions, parents, and students which affects the learning environment. According to Murgatrotd (2020) and Zhang, Wang, Yang, & Wang (2020), there are certain deficiencies, such as the weaknesses of online teaching infrastructure, the inexperienced teachers, the information gap, and the complex environment at home. As a result, the context of online learning effectiveness during this pandemic may lead to low level of productivity/satisfaction among educators in...
Malaysia. Therefore, the current situation demands necessary actions and solutions so that the students’ education is not affected during the pandemic. With that in mind, this study focused on highlighting the importance of educators’ satisfaction, as well as the challenges faced by them in conducting online learning and teaching. Moreover, this study provides insightful information to enable various stakeholders such as higher learning institutions, educators, students, and policy-makers to strengthen the online teaching and learning platforms, improve education initiatives, and also up skill educators’ teaching abilities.

2. LEARNING SHIFT TOWARDS ONLINE IN MALAYSIA

At present, COVID-19 pandemic has also impacted online programmes since the instruction from MOHE 2020 and the Standard Operating Procedures (SOPs) on 3 June, 2020. It outlines the conduct of academic activities at Institutions of Higher Learning during and post-CMCO. It states that all teaching and learning activities must be carried out via Online Teaching and Learning (OTL) until 31 December, 2020 and face-to-face teaching is still not allowed until then. Frequency of online programmes being offered in higher education contexts continues to increase (Lamdson, 2017). As a result, research examining the impact of online learning on learners and learner outcomes has also increased. However, there is less research dedicated to examining educators’ outcomes. Research that focuses on the feelings and perceptions of educator satisfaction that derived from their participation in online teaching seems to be absent. Many have come to understand the impacts of online learning on learners and how their perceptions of online learning are shaped. However, less is known about what effects that OTL has on educators and whether there is a relationship between their satisfaction with online teaching and their teaching presence during videoconference lessons (Dietrich, 2015). Online educators’ satisfaction has not received nearly as much attention and research emphasis as other topics in OTL (Dietrich, 2015), and research into educators/instructors' satisfaction is extremely limited in the field of higher education (McLawhon & Cutright, 2012).

3. FINDINGS OF LITERATURE

This section presents the findings in collaboration with pertinent literature on the OTL practices in higher learning institutions.

3.1 Educator Satisfaction

Maslow’s hierarchy of needs is the most widely mentioned theory of motivation and satisfaction (Weinhric & Koontz, 1999). Abraham Maslow postulated that an individual’s motivational needs can be arranged in a hierarchy. Once a given level of needs is satisfied, it no longer helps to motivate. Thus, the next higher level of needs has to be activated in order to motivate and thereby satisfy the individual (Luthans, 2005). Maslow (1943) has also identified five levels in his need hierarchy; namely, physiological needs, safety/security needs, social/relationship, esteem/achievement needs, and self-actualisation. Maslow’s model has been studied in various disciplines, such as in social sciences, psychology, sociology, and education (including adult learning). It is also being used as a model to understand individuals’ needs. Meanwhile, in business, it has been approached as a model to explain employees’ motivation (Benson and Dundis, 2003). In sum, Maslow’s theory has highly influenced the way of thinking (Alderfer, 1969) and become the most well-known theory that attempted to explain the mechanisms of human motivation.

Educator satisfaction could be described as educators' positive emotional state resulting from their appreciation of being educators (Lockes, 1976). Therefore, to understand the importance of educator satisfaction firstly requires understanding of the more general literature on job satisfaction. According to Maslow et al. (1970), satisfaction in one’s job is achieved when the job and the environment in which it occurs meet the needs of the individual. Vroom (1982) builds on the importance of job satisfaction and notes that individuals are likely to make decisions about their work that takes into account their perceived ability to complete their work to a satisfactory standard and receive some sort of reward for their efforts. When this perception is high and an individual can make a connection between success and reward, and that reward is valued, the individual’s motivation increases as their performance and satisfaction are attained. According to Robbins (1986), he defines job satisfaction or dissatisfaction as an individual’s general attitude towards his or her job. A person with high level of job satisfaction holds positive attitude towards the job. He noted that satisfaction is strongly but consistently negatively related to an employee’s decision to stay or leave the organisation. High job satisfaction is important, therefore, managers, directors, and heads should be concerned with the level of job satisfaction in their organisations.

Other studies further demonstrated that employees with higher level of motivation potentially have better professional performance (Kuvaas, 2006). Looking at the connection between motivation and performance, one may see that it is a relationship of mutual conditioning as when the individual expectations and organisational demands overlap, there are high chances of fostering professional performance. Therefore, in
work process, motivation is the driving factor of performance and is linked to the individual and organisational interests (Gilmeau, 2015). Taghipour and Dejban (2013) state that employee motivation is one of the most effective managers’ strategies to enhance effective workers’ job performance within their organisations.

Even though motivation and job satisfaction are two independent concepts, they are also interrelated to each other (Oguz et al., 2016) involving cognitive, affective, and behavioural processes (Mutale et al., 2013). These two factors can significantly influence labour productivity, labour fluctuation or absenteeism, or in another word, performance (Lefer et al., 2012). As stated by Daft (2010), motivation can lead to behaviours reflecting high performance within an organisation, therefore, it is the manager’s responsibility to design the right combination of motivational tools and incentives that are able to simultaneously satisfy employees’ needs and encourage high performance. As the result of the analysis, it was found that both job satisfaction and motivation had a significant effect on organisational commitment.

### 3.2 Lack of Institutional Support

According to Makhaya and Ogange (2019), there are five institutional support factors for e-learning adoption. These include e-learning being embedded into the department’s normal teaching, funding that is available for e-learning, support from the top management, copyright and intellectual property issues, as well as promotion and tenure policies that recognise teaching developments. Findings from the study regarding lecturer perspective on institutional support for e-learning adoption found that 35.4% indicated that e-learning had been embedded into the department’s normal teaching. This means that the e-learning courses were considered part of the teaching load in the planning of course allocation, examinations, and all processes for semester preparations at the department. However, there seemed to be a general consensus among the lecturers that funding allocated for e-learning was not sufficient to facilitate adoption. The heads of department and deans were perceived to be supportive of e-learning while most lecturers seemed to be unaware of the copyright and intellectual property issues that had been applied to them when developing content for e-learning within the institution. About 37.6% of the lecturers were not satisfied with the institutional measures on copyright and intellectual property issues that touched on e-learning content development for the university, with some explaining that they were unclear about the ownership of the copyright for the content developed for e-learning.

To establish the relationship between the institutional support provided to the lecturers and their perception of e-learning usefulness, a correlation analysis was conducted. Similar to the findings of the earlier studies, the study suggested that the perceived usefulness and ease of use of an e-learning system have a significant effect on the behavioural intention to use the system. According to Pituč and Lee (2006), having a distance learning system within the educational institution setting would not automatically lead to its use.

Administrators and/or faculty members who are uncomfortable with change and working with technology, or feel that online programmes cannot offer quality education often inhibit the process of implementation. These people represent a considerable weakness in online programmes because they can inhibit the success. The administration, who is unable to see beyond the bottom line and look at online programmes only as ways to increase revenues, will not be committed to see these programmes as a means of providing quality education to people who would otherwise be unable to access them. In such a case, an institution that is not aware of the importance of proper facilitator training, essential facilitator characteristics, and limitations of class size would not understand the impact that these elements can have on the success of an online programme.

### 3.3 Internet Connectivity Issues

Internet connectivity is an important element for OTL. The frequent challenge with online courses or classes is the lack of reliable internet at home. This is supported by Mishra et al. (2020) in their study which revealed that the major challenge while teaching online is unstable network connection. If the videos and audios of the students were kept off, the connection remains more stable, but that mode of teaching seems like teaching to a blank wall. In addition, most of the challenges are related to the students and their responses to the needs of online teaching, which include uninterrupted electricity connection and intermittent signal issues. These are also supported by Thang et al. (2014) who stated that poor coverage and low speed are also common problems associated with wireless technology. They are normally caused by network congestion, i.e., when the number of user population is much higher than the number of wireless routers available, and this could cause a collapse of the network system. Interference of bad weather may also impede its functionality.

Besides that, there are teaching transactions that go online without fixing the accountability of the teachers regarding the exact online platforms used by them. The challenge that students normally expressed of having, particularly early on in the course, is the lack of face-to-face help from the instructors. As accessibility to internet connectivity in Malaysia is uneven, especially in places or areas located in remote rural setups without 4G internet connectivity or broadband services and uninterrupted power supply, there are compatibility issues with regard to two-way interactions. Selangor had the fastest mean download and upload speeds on fixed broadband during Q3-Q4 2019, as well as having the lowest latency (14 ms). Meanwhile, in terms of states
categorised according to rank with high latency are Sabah, Labuan, Sarawak, Kelantan, and Perlis which mobile speeds have been tested and recorded by the state and federal territory using speed-test data for Q3-Q4 2019 (Gomez, 2020).

3.4 IT literacy

IT literacy has started to develop since over the past 39 years with the explosive growth of technology and the impact to the society. Quiroga et al. (2006) referred to IT literacy closely to information literacy and computer literacy where information literacy incorporates the ability to recognize information needs, access information, evaluate information, and synthesise information. Meanwhile, computer literacy is the level of expertise and familiarity of using the applications in computers. According to Quiroga et al. (2006), IT literacy is a strategic element in Information Society development as it has been applied into educational models through interactions of teaching, research, and information services. It can also help to develop teachers’ professional capability and strengthen institutional capacity (Ezziane, 2007). IT literacy can be obtained formally or informally. Formal ways of obtaining IT literacy are through school programmes or at work whereas the informal ways are at home, learning from friends, and also by themselves (Ezziane, 2007).

South Korea has started integrating Information and Communication Technologies (ICTs) into education since mid-1990s. However, Pang, Reinking, Hutchison, and Ramey (2015) stated that the important skills related to ICTs are still unable to be accomplished. The lack of technical support and important ICT skills have created continuous pressure on teachers to incorporate ICTs into the learning process. This will result in stress among the educators and affect their job satisfaction. Supported by Mwakasangula and Mwita (2020), their study showed a negative relationship between occupational stress and job satisfaction among teachers in Tanzania. The higher the stress level, the lower the job satisfaction encountered by the teachers.

Sahito and Vaisanen (2017) found that educators have some understanding on Information and Communication Technologies (ICTs), the functions in their job, and job satisfaction. The responses from the educators showed that they believe that without IT literacy, educators cannot survive. However, even though they showed understanding on the importance of ICT, only 20% of them have utilised ICT in their routine. The others are unable to incorporate ICT in teaching. According to Quiroga et al. (2006), most of the instructors put aside IT literacy skills and focus more on the content of the studies and teaching. They considered themselves competent in doing research, but they have lack of computer literacy as compared to information literacy. Digital content should be incorporated into their instructions while using the available IT literacy tools and systems, such as web tutorials and the software.

Faculties were more likely to participate in online learning when they think they have adequate technological skills (Quiroga et al., 2006). A study done by Abd Rahman, Miskam, and Harun (2019) showed a positive and strong relationship between computer literacy (computer, e-mail, and internet) and job satisfaction in Universiti Tun Hussein Onn Malaysia (UTHM). It proved that computer literacy skills will increase job efficiency and result in job satisfaction. It also revealed that educators would have been satisfied with online learning when they have adequate IT literacy, especially during this COVID-19 pandemic era.

3.5 Students’ Perception

In online learning, educators need to form communities of learning. Educators’ presence can significantly impact students’ perception on the positive aspects of online learning (Lumsden, 2017). This is supported by Serena and Catherine (2020) which discussed three factors that contributed to students’ perception on the benefits of using online discussion forums which included sense of belonging, autonomy, and technical challenges. Educators have to be capable enough to apply new technologies as they can negatively affect students’ perception towards online learning if there is lack of technical advancement in an online learning process. This situation is very frugal, especially during the current situation of COVID-19 pandemic where online learning has been the main method of conducting classes.

Perception can be viewed from a few perspectives, such as physical, psychological, and physiological. Adediwura and Tayo (2007) viewed perception as the way we judge or evaluate a person that is familiar in our daily life. In a person’s perception, the perceiver is the “judge” (Allport, 1966) as cited in Adediwura and Tayo (2007). It means that students’ perception can also be referred to as an action of judging the educator. Educators could be judged based on their knowledge of subject matter, attitudes towards work, and teaching skills by students. Students’ perception can be based on the lecturing skills of faculties from five different parameters, such as organization and structure of the lectures, effects of lectures on learning and understanding, level of students’ interest and motivation, professional interactions and support, as well as presentations and classroom atmosphere. Based on these parameters, educators can use them to improve their lecturing skills. They need to keep improving their quality of teaching to gain better students’ perception on their lecturing skills (Al Kuwaiti et al., 2020).
Most studies were focused on the students’ perception towards the quality of education where educators have to take action based on the perception of students. The impact of COVID-19 pandemic which has created a sudden change to the learning environment from physical learning to online learning needs research on the impact of students’ perception towards educators’ satisfaction of online learning. According to Lumsden (2017), educators were worried on students’ perception on the quality of their teaching through online learning. For them, students’ perception is just based on what happens on screen, what they see, and what the educators do. There are a few situations that might affect the students’ perception of their educators, such as their appearance on screen, the way they conduct the class, and not being perfectly prepared for the class. According to Hampton, Culp-Roche, and Hensley et al. (2020), it is important to know the predictors of self-efficacy, such as resilience, adaptability, and ability to cope with stressful situations. Hence, bad students’ perception might lower down their educators’ capability to achieve self-efficacy and resulted in low level of educator satisfaction.

On the other hand, high perception of success on online learning towards educators is unrealistic. Educators are said to be satisfied with their job if they have the ability to get their job done and rewarded. There are links between perception and satisfaction. Based on the research, when the perception of students is high, there is a connection between success and reward, where the reward is valued and the motivation of the educators increases. Then, it will increase their performance and satisfaction achieved (Lumsden, 2017). Supported by Hampton, Culp-Roche, and Hensley et al. (2020), persistence and motivation are associated with self-efficacy. It showed that the confidence of educators has to reach success which ends up with teaching satisfaction. Hence, if good perception is received from the students, educators’ satisfaction towards their job can be achieved.

4. DISCUSSION: ONLINE LEARNING PLATFORMS

In an online environment, educators must have access to several fundamental elements and tools in order to meet their first-level needs, such as books and materials, appropriate software, and a computer with internet access. Without these basic resources, educators will not be able to achieve higher levels of satisfaction in Maslow’s hierarchy. In an online learning system, educators need a stable internet connection to access and upload videos, lessons, and assignments for their students. Generally, internet creates multiple possibilities and limitless opportunities of information, documentation, and communication between educators and students (Oprea, 2014). Thus, educators from rural areas with poor internet access, could possibly being cut off from the learning system completely. Factors such as course preparation, positive reinforcement, as well as quick and responsive feedback play an important part in not only supporting students, but also helping them feel valued and appreciated. Hence, educators should take steps to foster a climate of inclusiveness for all learners. For example, they must be willing to learn from their students, their experiences, be flexible, give up some control to the students, promote collaboration, and facilitate.

Educators’ unfamiliarity with online classrooms is one of the most significant stressors in online learning as they must play a significant role in establishing a comfortable climate for the students. Besides, making the switch from face-to-face in-class learning to remote online learning can be hard as well, especially for those who are unfamiliar with the online systems used and also lack a certain degree of technological proficiency. Therefore, it is important to remember that for all the talks about educators being ‘digital natives’, many of them are not that proficient when it comes to tackling unfamiliar software or using it in a responsible manner. Self-esteem and a sense of value cannot be attained in the absence of a strong foundation in IT literacy within the community of learning and collaboration. Educators who lack familiarity with an online course setting may feel apprehensive causing them to have a lower sense of self-esteem and self-efficacy or confidence of the online teaching environment. Such educators will, perhaps, delay their responses to discussion board postings and hold back on initiating dialogues with students because they are unsure of how they should operate in the environment. Incorporation of online teaching and learning has required developing a fundamental understanding of technology and a set of competencies necessary for using technology. Educators are thus expected to possess digital literacy skills where they should have the ability to understand and use information in multiple formats from a wide range of sources (Hamutoglu et al., 2019).

In an online course, students have opportunities to develop relationships with one another and the educator through dialogues and collaborative activities. Multiple factors influence a student’s experience and perception with respect to collaboration in the online classroom. One of the most apparent is the need to establish a meaningful, collegial relationship with the educator. Educators must rely primarily on discussion board postings, e-mails, and feedback on assignments as means to communicate with students, and vice-versa. However, all these tools, if used appropriately, can lift educator presence and permit the building of strong rapport. Commonly, students in an online course have the ability to interact with one another through venues, such as discussion boards and group projects. Therefore, educators must engage the students in academics to enable them to learn and understand more as student and educator satisfactions are important elements of
quality online education (Aydin, 2013). To fulfil the third level of Maslow’s need hierarchy, educators must know what they are expected to do in order to build a sense of community with their students to gain their positive feedback and perception.

Institutional support is very crucial to assist educators to adapt to the change. Higher learning institutions may conduct an initial training session for educators to ensure a better understanding in online learning. On the other hand, these institutions may also provide ‘hotline’ facilities where educators can report any related technical issues to the respective IT department when conducting online classes. Intrinsic learning is the ultimate goal of all education, including adult education because it involves the processes which can help people become all that they are capable of becoming. Self-actualised people are described as those who listen to their own voices, take responsibility, are honest, and work. They experience fully, vividly, and selflessly with full concentration and absorption (Talevich, 2017). The educator serves an important function to promote greater student learning and experiences. In the online classroom, the role of the educator is to assist learners in managing their own learning and support them for their individual growth and self-actualisation.

5. RECOMMENDATIONS AND CONCLUSIONS

The spread of COVID-19 virus has dramatically changed the educational landscape to online learning. Online learning has become a necessary way to replace normal teaching method. Many countries have started to offer online learning platforms, such as Zoom, Skype, and FaceTime (Chen, Peng, Yin, Rong, Yang, & Cong, 2020). Educators have faced challenges to find and adapt with the new methods to keep their connection with the students. This remote learning acquires the educators to be equipped with IT literacy, and foremost the support provided by the institutions in assisting the educators to conduct classes through online platforms. Besides, internet connectivity is an issue that needs to be pondered by the authorities to provide some assistance to both learners and educators, as well as IT literacy among educators. In the present era, young people are keen about technology and easily get attached and adapted to it. Thus, an educational reform is required by improvising the essential needs of educators in conducting OTL classes without any difficulties.

Based on the above discussion, this paper aims to propose some suggestions to enhance OTL from educators’ perspectives, which are as follows;

a) To revise existing educational policy framework and implement technology-driven teaching and assessment sessions in all aspects, beginning with attendance, delivery, assignments, examinations, devices, software, internet connectivity, power back-up, evaluations, and results.

b) To provide funds for educators to attend training related to technology and education which equip educators with the technology pace and improve themselves.

c) The two-way interaction of teaching should be improved, where the online platforms should actively develop various interactive formats to engage students’ learning enthusiasm and concentration in online teaching.

Adapting to a new norm of online teaching and learning by educators with a good institutional support system, IT literacy, good internet connection, and positive student perception will give a better learning environment to both educators and students. With the rapid emergence of technology, the need to improvise and enhance technological knowledge among educators is an obligation of providing better teaching and learning for the future generation.

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**Author’s Biography**

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THE READINESS OF ONLINE LEARNING AT THE TERTIARY LEVEL OF EDUCATION IN BANGLADESH AMIDST COVID-19: ARE WE MISFOCUSED?

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ABSTRACT

COVID-19 pandemic has disrupted our life at a level where we were not before. It has had significant effects on social, economic, and cultural life globally. It has brought a significant challenge to our worldwide community, resulting in the need for mandatory reform in almost every area of our lives. Surprisingly, it has affected our education system and its components at such a level that we had affected with the temporary closing of educational institutions and the impediment of face to face classes. Most of the researchers in academia have focused their studies on the readiness of online learning, obstacles related to the technical, financial, and organizational levels; those are related to disseminating knowledge and infrastructure. At all educational levels, in a short time, educators pushed themselves to adjust to online learning systems and platforms. However, few have focused on evaluating knowledge among students that emphasizes the difficulties of achieving quality in online learning during this pandemic in the context of developing countries like Bangladesh. This perspective paper aims to add knowledge already given on this topic by presenting understandings of the challenges and the opportunities that the pandemic poses to the tertiary level of education. The study is exploratory, and we have used content analysis to interpret the data collected from different sources. The results imply the need for reformation of methods for teaching and evaluation process, leadership models, and interaction processes in different channels by the ongoing digital transformation for sustainable development that will help the students to compete at the international level with their achieved knowledge.

KEYWORDS: COVID-19, Online learning, University, Transformation, Bangladesh.
ABSTRACT

Higher education sector around the world engages in intense competition in promoting universities to international students. The government, through the higher education sector, is working hard to attract more international students to study in Malaysia and further increase the market share of international students in Malaysia. The international students are an important asset to any country as it gives a positive impact on the economy of the host country. This paper discusses factors that need to be looked at by the host country and higher education institution to attract more international students to study in Malaysia. Policy, quality, and technology are the factors discussed in this paper as to attract more international students to study in Malaysia. As this study only discussed three factors in attracting international students, other factors such as financial also need to be studied in future.

KEYWORDS: International Students, Higher Education, Business, Sustain
CAN PROFESSIONAL SCEPTICISM BE LEARNED USING WORK BASED LEARNING CURRICULUM?

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ABSTRACT

The expectation gap arises between industry and education provider has urged the innovation and advancement in accounting education. To overcome this issue, the work based learning curriculum has been developed to reduce this gap. In accounting profession, professional scepticism skill is required under the ISA standards; hence, it is necessary for the students to acquire this skill to prepare them to be placed in the industry. The work based learning curriculum for the students attaching their elective courses with the Teaching Accountancy Firm is at stake to achieve this objective. 150 students from three cohort has been investigated to measure their professional scepticism skill throughout their studies. Results suggest that the work based learning curriculum has slightly succeeded in achieving this objective.

KEYWORDS: professional scepticism; accounting education; work based learning; case study, Malaysia
TEACHING AND LEARNING STRATEGIES IN HIGHER EDUCATION INSTITUTIONS (HEIs)

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ABSTRACT

Graduates are expected to meet the needs of the relevant industry, which generally requires them to possess relevant skills and knowledge to solve complex problems, coupled with the advancement in technology. Recent literature suggested student engagement and experiential-based learning provides a solid base for the development of critical-thinking and problem solving skills among graduates. The aim of this study is to gather the most common teaching and learning strategies adopted by six selected HEIs in Malaysia using focus group discussions (FGD). Although the findings indicate that the lecture method is still dominant, the use of multiple techniques including exposure to real life examples is also evident. The academicians are found flexible in using multiple teaching and learning activities including the use of case study, role-play, guest-speaker (from industry) to engage actively with students. Work-based learning is also found to be emerging and increasingly important in some universities as it provides effective medium to produce work-ready graduates. Whilst the findings indicate that multiple method of teaching and learnings are engaged to provide diverse learning experience in classrooms, it is nonetheless found that there is very limited evidence to suggest that the academics are involved in teaching strategies which emphasize on deep reflections or deep learning approach. Hence, this finding unlocks an avenue for the academicians to explore deep learning strategies in a quest to further inculcate active and life-long learning amongst graduates. It is also imperative for those involved in HEIs in providing a stimulus not only on knowledge acquisitions, but also in improving soft skills and attitude, and hence graduates employability skills.

KEYWORDS: Teaching and Learning, Strategy, Teacher-centred, Student-centred
TRACK 4A
FINANCE
EVALUATION OF START-UPS FUNDING: IS THERE AN ASYMMETRICAL PERCEPTION BETWEEN VC FIRMS AND START-UPS FOUNDERS

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ABSTRACT

In developing business, start-up founders are required to seek external funding to provide support for start-up operations. One of the external funding that start-up founders can receive is the investment from venture capitalists. However, the Indonesian start-up founders need to know that venture capitalists have investment evaluation criteria for start-ups to assess the start-up’s capabilities and potential. However, many start-up founders might not well-realized these criteria. This study aims to determine whether Indonesian start-up founders are aware of specific criteria that are the principles of decision making by venture capitalists. We also evaluate whether Indonesian start-up founders know the level of importance of each of the assessment criteria held by venture capitalists. Extensive studies covered five different evaluation categories that most VC firms use. These categories are entrepreneurs’ personalities characteristic, entrepreneurs’ skills and experiences characteristics, products or services characteristics, market characteristics, and financial characteristics with different importance each. We interviewed 92 start-ups founders in Indonesia for this study. Start-up founders were asked to answer the importance of each of the five criteria for obtaining venture capital funding. The results were then compared with evaluations based on several literature studies. We found that there was a difference between the criteria considered most important by start-up founders compared to previous studies on every aspect

KEYWORDS: VC firms, start-ups financing, evaluation criteria, Indonesians start-ups
INVESTMENT LITERACY, RISK TOLERANCE AND GENDER: SOME PRELIMINARY WORK

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ABSTRACT

Recent media reports show that scams and fraud cases in Malaysia are becoming more rampant. This situation has been exacerbated during the current Covid-19 pandemic, and this reinforces the importance of investment literacy among individuals in the country. In view of this poor situation and the landmark Malaysia National Strategy for Financial Literacy 2019-2023, we attempt to explore the actual and perceived literacies among normal and sophisticated investors. Since prior studies document that women are generally more risk averse than men for risk taking, we investigate this theme based on several factors, including race, location, education and professional qualifications, among others. Preliminary work i.e. pre-testing by financial experts have been conducted. We expect that sophisticated investors have higher actual and perceived literacies, and the relations are stronger in males. As well, we anticipate that risk tolerance is more pronounced among normal investors but has no apparent link with sophisticated investors.

KEYWORDS: Investment literacy; risk tolerance; gender; sophisticated investors; Malaysia
FINANCIAL LITERACY & INCLUSION OF WOMEN MSMEs IN PACITAN

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ABSTRACT

Based on the results of the initial research in 2019, we found a typical profile of Micro, Small and Medium Enterprises (MSME) women in Pacitan. Women MSMEs in Pacitan have understood the initial parameters of financial inclusion and financial literacy. However, in further parameters, women MSMEs in Pacitan, who are 55 years of age or over, are less comfortable dealing with banks, and many do not understand the technical terms of the bank financial services. Our idea emerged to further examine the low financial literacy for women MSMEs in Pacitan. By increasing the understanding of financial literacy and inclusion, it is hoped that they will be better in making financial decision. That will have a positive impact on their business development. This research has succeeded in mapping the demographic profile, literacy, inclusion, and financial capabilities of 150 female MSMEs in Pacitan. The data were obtained through snowball sampling. They have been able to take appropriate actions when experiencing financial surpluses and deficits, so that they are proven to have high and dominant Financial Intention to make appropriate and effective financial decisions. Using the GLM (Generalized Linear Model) as technique to be the first step to develop a model of financial decision making for women who are MSMEs in Pacitan. The GLM can be used as a recommendation to explore a more complex, advanced analysis model, namely SEM (Structural Equation Modeling) which demands the assumption of the validity and reliability of each indicator.

KEYWORDS: Literacy, Inclusion, Intention, and Financial Attitude, women MSMEs in Pacitan, GLM.

1. INTRODUCTION

In terms of geographic position, Pacitan located in the Southwest of East Java Province, Indonesia. Pacitan mostly hills and mountains, steep ravines and includes a row of Thousand Mountains that runs along the island of Java, located at the position between 7o 92’ - 8o 29’ South Latitude and 110o 90’ - 111o 43’ east longitude. The total area of Pacitan, is an area of 1,389.87 km². Government reduced 20% poverty within 6 years.

When the Covid-19 pandemic occurred, it turned out to have a significant impact on the development of MSMEs in Pacitan. Their sales declined, along with the closure of tourist attractions for a while and the closure of several areas in Pacitan. This creates a separate obstacle to the pulse of the economy, especially for MSMEs players. Lack of understanding of the use of technological advances as a means of promotion, sales transactions, is a major blow to their sales turnover. This is also one of the obstacles experienced by MSME businessmen, especially women.

The existence of women as women MSMEs in Pacitan is very pronounced. They are mostly engaged in the textile (batik) industry, as well as the food and beverage industry. However, they do not seem to have seen a role in decision-making in their business. Lacking knowledge and understanding of the management of funding sources and the allocation of funds could be the one reason they do not have a role in growing the business. The preliminary research at the end of 2019 showed that they lack financial literacy and financial inclusion. They still have low competence. We found that 75% of them do not understand financial institutions’ products and the benefits, and 65% of them do not have financial literacy or basic knowledge of finance. There are still many MSMEs’ businessmen in Pacitan, especially women, who still do not understand the facilities and products offered by a bank and or a non-bank financial service. They use banks only for depositing and withdrawing funds. Banking technology or banking products other than savings, are still not convincing them since they are all new. They do not use all kinds of facilities and products offered by financial institutions in order to accelerate their business financial transactions.

Concerning literacy in the insurance and investment, the only insurance women MSMEs in Pacitan know is social security for health, run by Social Security Administrator for health (BPJS health insurance). They have not considered insurance and other financial instruments (e.g. mutual funds) as well as an investment instrument, due to lack financial literacy and inclusion. Their investment is in saving, land, and gold. They have convinced those three investment instruments to be trusted and profitable.
Based on the results of the preliminary research, it is clear that the financial understanding of women who do MSMEs in Pacitan is still very low. The value that the research team obtained was only around 30%, far from the standard imposed by Bank Indonesia, which is around 80%. This is what ultimately makes them experience obstacles to developing their products or to expand the market share of their products. The dominant thing that becomes their obstacle is financial management and their understanding of financial products and services. Limited information relating to financial products and financial institutions will prevent them from applying for loans or managing assets and investments. Besides, there is a concern when they get caught in an illegal loan.

Continuing the study of Lusardi (2019), we study the low financial literacy and inclusion of the women MSMEs in Pacitan in order to find out and analyze the understanding of women towards financial inclusion in financial decision making. We are mapping the understanding of inclusion, financial literacy, and financial capabilities of women MSMEs in Pacitan. The study is finding a model of financial decision making and a suitable concept for the financial attitudes of the women MSMEs in Pacitan as a manifestation of understanding financial literacy and inclusion, and whether financial intentions as well, will have a very important role in women MSMEs in Pacitan’s decision making.

2. LITERATURE REVIEW

The study will detect financial literacy and inclusion as well as the development of behavioral models for women MSMEs in Pacitan in their financial decision making. Financial inclusion relates to three main things: Access, Usage, and Quality (Grohman, et.al., 2018, and Lusardi, 2019). Access relates to the ability to use the services and products offered by financial institutions. Access is the infrastructure provided by financial service institutions so that people can reach formal financial institutions, products, and services. Examples: adding office networks, increasing the number of agents, number of ATMs, adding points of access through digital and non-digital services.

Usage is related to the use of financial products and services by the public, which is the ultimate goal of financial inclusion, so it is hoped that the public will enjoy it more. Besides, the availability of financial products and services needs to be adjusted to the character and needs of the community that can be reached both in terms of price and access. Quality is related to the relationship between financial services and products in meeting the needs and lifestyle required by individuals. Quality is a condition in which financial products and services can provide great benefits to people who use these financial products and services. Quality can also be defined as the active use of financial products and services by the community. Financial products and services are by what is needed by the community so that the frequency of their use will be relatively high.

Financial literacy is a new thing and is still not widely understood by all levels of society in Indonesia. Based on the definition issued by the Ministry of Finance, it is stated that financial inclusion is a form of national financial inclusion strategy. The right of everyone to have full access and services from financial institutions in a timely, comfortable, informative, and affordable manner, with full respect for dignity and value. Related communities. In order to increase financial inclusion in Indonesia, the government has carried out a lot of development of financial products and services, including four elements of financial inclusion: 1. Expanding access to finance, 2. Availability of financial products and services, 3. The use of financial products and services, and 4. Improving quality, both qualities; the use of financial products and services and the quality of financial products and services itself. Allen, et.al. (2016), define financial inclusion as a process that ensures easy access, availability, and use of the formal financial system by people as members of the economy.

Financial literacy is related to three main things: Financial Behavior, Financial Knowledge, and Financial Attitude (Lusardi & Mitchell, 2014). Financial Behavior uses indicators of individual understanding in budgeting, individual spending, and spending patterns, and the use of financial products. Financial Knowledge deals with the individual understanding of inflation, calculating interest, diversifying risk, and calculating risk, and return in investment. Financial Attitude is concerned with financial planning in the short and long term, the attitude of individuals in spending the money they have. Financial literacy is a combination of individual awareness, knowledge, skills, attitudes, and behavior in making financial decisions to obtain welfare of life. The financial literacy skills possessed by an individual, it can be obtained by distributing questionnaires to respondents and seeing their responses.

A person can be said to be well literate if he has knowledge and confidence about financial institutions, products, and services as well as skills in knowing the features, benefits, risks, rights, and obligations of these financial products and services (the 2017 SNLKI in OJK, 2018). The Organization for Economic Cooperation and Development or OECD (2016) in Listyarti (2017) defines financial literacy as knowledge and understanding of financial concepts and risks, along with skills, motivation, and confidence to apply this knowledge and understanding in order to make financial decisions effective, the financial wellbeing of individuals and society improve and be able to participate in the economy.
Financial literacy is a measurement of a person's understanding of financial concepts and having the ability and confidence to manage personal finances through making appropriate short-term financial decisions, long-term financial planning, and paying attention to economic events and conditions (Remund, 2010). Financial knowledge will then develop into financial skills. Financial skills are defined by the ability to apply their financial knowledge in making daily financial decisions (see (Mouna & Anis, 2017)).

Many studies have shown that financial literacy has a strategic role in improving individual financial management capabilities. Consumers are positioned to manage savings and expenses optimally to provide benefits throughout their lifetime. Households with low financial literacy tend not to plan for their retirement and have low assets. (Lusardi & Mitchell, 2014).

3. RESEARCH METHOD

3.1 Population, Sample and Sampling Technique

The population is women MSMEs domicile in Pacitan. Snack makers, traders, craftsmen, and others. Referring to Grohman, et.al. (2018) and Lusardi (2019), and according to the multivariate technique we collected samples 150 respondents.

3.2 Types and Sources of Data

Using primary data, we collected data by conducting in-depth interviews and distributing questionnaires to the women MSMEs in Pacitan (respondents). Secondary data is obtained from the literature reviews and data issued by authorized institutions. Samples selected by using the snowball sampling method. We look for one respondent, and then ask him to provide recommendations for other respondents. The use of the snowball sampling method is very helpful if the population is unknown. Given the high mobility of the local female population.

3.3 Research Stages and Expected Output

The stages of the research include several steps referring to the research of David L. Remund (2010), Irine Herdjiono and Lady A. Damanik (2016), Tätik Suryani, et.al. (2015) and Grohmann, et.al. (2018):

a. Identify people's understanding of financial inclusion.

b. Identify the understanding of women entrepreneurs using interview and questionnaire methods.

c. Identify the financial inclusions they use.

d. Regional observations on the availability of financial access.

It is expected that outcomes are based on the above stages:

1) Obtain financial service products that are suitable for women MSMEs.

2) Management expertise of women MSMEs, as well as understanding about financial inclusion.


3.4 Analysis Model

Using four latent variables, since it is based on the questionnaire items, we analyze the model. The four variables are Financial Literacy (LK) which has 5 indicators, Financial Inclusion (IK) has 4 indicators, Financial Intention (NK) which is derived from 4 indicators, and Financial Attitude (SK) explored 3 indicators.

The procedure to ensure that all indicators are included in the analysis model used, we used GLM (Generalized Linear Model) processed by STATA 9.0. (Manurung, et.al., 2014) and the stages of GLM estimation using all indicators must pass the reliability assumption with a minimum Cronbach alpha value of 0.4. (Usman and Sobari, 2013).

4. DATA RESULT ANALYSIS

4.1 Demographic Profile of Women MSMEs in Pacitan

4.1.1 Age

The age of the respondents, women MSMEs surveyed and interviewed in Pacitan, is majority around over 40 to 55 years old. The second major is category over 55 years old, and the third major is in the category over 25
years to 40 years old. The largest proportion is 50% of the samples, the respondents over 40 years to 55 years old. The lowest proportion is 4% of the samples, the respondents over 25 years to 40 years old.

4.1.2 Education

The education referred to the last education of the women MSMEs in Pacitan, as respondents. The last education of the majority respondents (42% of the respondents) is senior high school (SMA / SMK), then 27% of the respondents is undergraduate, 20% of them is junior high school (SMP) and the least, 11% of them is elementary school (SD). The majority highest level of respondents’ education in Pacitan Regency. are high school graduates. They directly start up a business, or doing their parent’s business, or looking for a job after graduating from high school, due to collided with the costs to continue to higher education. Respondents with the elementary last education level are the least respondents. They immediately helped their parents work and continued their parents' business after graduating from elementary school.

4.1.3 Length of Work

The length of work of the respondents was the length of time they had started the business until the time when the research was conducted. The length of work of the respondents is almost directly proportional to their age. The older the respondent is, the longer they work and the more mature they are in running the business.

4.1.4 Income per Month

The majority income per month is 74% of the respondents, their income is less than 10 million rupiahs per month. The rest 26% of the respondents earned over 10 million but less than 25 million rupiahs per month. In fact, though their monthly income is less than 10 million rupiahs, it is sufficient for them to support the family. Most of the respondents were small businesses, home industries that processed a lot of natural resources in the local area. They manage a small-scale industry that generally use family members workforce. Their products is limited and have small market share in the tourist market share, both external and the domestic market. Poor access in marketing their products outside the city also becomes a barrier for them to market their products. Although the Pacitan Regency government also has a marketplace to market their products as well as an exhibition building for MSME products, it has not had a big impact on their businesses. Their mostly monthly income is still below 10 million rupiahs.

4.1.5 Use of Financial Institutions as a Source of Financing

Women MSME respondents in Pacitan Regency use pawnshops as an alternative source in financing their business. Besides, they feel comfortable and helped when using banks as a source of financing for their business. The existence of cooperation between banks and government agencies and assistance for their businesses during the process of borrowing capital from the bank, made respondents feel helped and comfortable.

4.1.6 Financial Institutions to Save Funds

The financial institutions to save funds referred to several financial institutions, such as: cooperatives, baitulmaals (muslim’s house of society funds), BPRs, banks, and others that are used by respondents to save their excess funds. All respondents use bank financial institutions as trusted institutions to store their excess funds. Most of respondents consider banks as trusted, safe, and easy financial institutions to assist in their financial transactions.

4.1.7 Utilized Banking Products and Services

Banking products and services referred to savings products, credit products, and service products used by the respondents. Savings products include savings, current accounts, time deposits. Meanwhile, credit products include working capital loans, consumer loans, and investment loans. Services include safe deposit boxes, credit cards, transfers, mobile banking, internet banking, and bank guarantees. Respondents have the same preferences on the use of banking products and services in terms of savings. They use savings products to store their funds. Respondents do not use demand deposits and deposits to save their excess funds.

All respondents use the bank as a business entity to obtain working capital credit. Consumer credit is only used by a less of respondents. Most of the respondents do not go into debt, except for something useful which is for business development. For investment credit products, none of the respondents in the Pacitan Regency
use it. All respondents do not use the safe deposit boxes services, as well as credit card services. People in Pacitan used to use cash or debit cards for their business transactions.

Transfer services used by all the respondents to facilitate trade transactions, payment transactions in order to secure both traders and buyers. Besides, money transfers will also be fast and safe to their destination. Most of the respondents in the Pacitan Regency still have not used mobile banking, internet banking, and bank guarantees.

4.1.8 Credit Refund Period

The credit refund period is the length of time the respondents pay their loan to the bank. The credit refund period for most of the respondents is maximum three years. It is related to the size of the loan they make and the ability of the respondent to repay the loan.

4.1.9 Credit Ceiling Received

The credit ceiling received is the maximum amount of the loan they make. The credit limit or ceiling received by the respondents is adjustable depend on the income they earn each month. Most respondents have 24 months credit repayment period. Least of them have more than 24 months credit period.

4.2 Profile of Financial Inclusion of Women MSMEs in Pacitan

Most respondents are not familiar to financial inclusion, though they have been practicing financial inclusion in their daily lives. The community, especially those in rural areas, still do not understand and use the financial products. There is a big gap on financial inclusion since their financial products’ knowledge limited, though they limitedly own and use financial products already. They are limited to owning them without further understanding the benefits and risks of the financial products.

Most respondents have no obstacle to access to the banking services, though some of them still feel awkward or unfamiliar to come to the Bank, especially the one over 55 years of age. They are uncomfortable dealing with banks, though the bank usually directly assists them. The over 55 years old respondents are not accustomed to using cellphones in conducting banking transactions. They still find it difficult to understand the use of applications on cellphones to make it easier for them to make financial transactions. They prefer to go directly to the bank.

4.3 Profile of Financial Literacy of Women MSMEs in Pacitan

Most of them has a financial surplus, though they did not invest in financial instruments. Instead they buy gold. All respondents used saving, since it is the easiest and fastest to use and withdraw funds at any time they need. They can withdraw and deposit funds by using an ATM card. Investing in gold is an easy way than other financial instruments. Gold is an attractive and easy investment; besides they can use it as jewelry. It is a liquid asset. They prefer to invest their surplus in liquid and easy transacted assets, since the surplus is still working capital that might be easily sold or withdraw when respondents have a financial deficit. They have various strategy in investing surplus and overcoming financial deficit.

4.4 Profile of the Financial Capability of Women MSMEs in Pacitan

When given alternative means of investing in financial products, it turned out that respondents in Pacitan were interested in investing in savings. They think that investing in savings will be safer when they get excess funds in a short time. Savings are an effective alternative for them to save the excess funds. It is safe and easily be retrieved at any time they need it. When their savings are enough, they will use them to invest in land right. Gold is still used as an attractive investment, not only its ever-increasing price but also its liquidity. Respondents' ability in financial management was assessed by their response to whether they need to make financial planning and financial management plans. All respondents had been carrying out budget planning and asset management so far. This is quite encouraging due to their financial capabilities and manage their business finances and family finances.

4.5 Research Model Analysis with GLM

Before conducting a GLM analysis, the reliability analysis of 16 indicators is determined. In order to select the reliable indicators, Table 1 shows that out of the 16 indicators, there were only 10 selected. Four indicators for Financial Literacy (LK), two indicators for Financial Inclusion (IK), two indicators for Financial Intention
(NK), and two indicators for Attitude Finance (SK). Table 1 shows the reliability results coefficient 0.4922, which means that it meets the minimum requirements above 0.4 [according to Usman and Sobari (2013)].

Table 1. Reliability Analysis Results of 10 Indicators with Cronbach Alpha

<table>
<thead>
<tr>
<th>No.</th>
<th>Reliability Parameters Measurement</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>alpha lk1 lk2 lk4 lk5 ik1 ik3 nk3 nk4 sk1 sk2</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Test scale = mean (unstandardized items)</td>
<td>10</td>
</tr>
<tr>
<td>3.</td>
<td>Average interitem covariance:</td>
<td>0.0312722</td>
</tr>
<tr>
<td>4.</td>
<td>Number of items in the scale:</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>Scale reliability coefficient</td>
<td>0.4922</td>
</tr>
</tbody>
</table>

Source: Results of Data Processing (2020)

GLM testing is carried out without and involving Financial Intention (NK). Table 2 shows that all explanatory variables: LK, IK, and NK have a significant influence on SK (Financial Attitude). This means that women who do MSMEs in the Pacitan can identify models for understanding literacy and financial inclusion. These support Irmawati, et.al. (2013) and Suryani, et.al. (2015).

Table 2. Results of GLM Analysis on Financial Attitudes without and with Financial Intent

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>GLM Without Financial Intent</th>
<th>GLM With Financial Intent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Z-test</td>
</tr>
<tr>
<td>Financial Literacy (LK)</td>
<td>0.0304389</td>
<td>1.72**</td>
</tr>
<tr>
<td>Financial Inclusion (IK)</td>
<td>0.0272144</td>
<td>1.63*</td>
</tr>
<tr>
<td>Financial Intent (NK)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Constant</td>
<td>1.180628</td>
<td>10.64****</td>
</tr>
</tbody>
</table>

Note: **** Significant at level 1%
*** Significant at level 5%
** Significant at level 10%
* Significant at level 15%

Source: Results of Data Processing (2020)

The GLM model with Financial Intention has an added value. The LK, IK and NK indicators are significant at the 5% significant level (Table 2). These reinforce the Lusardi (2019) findings, regarding the need to involve Financial Intention (NK) in building models of financial decision-making based on financial literacy and inclusion in developing countries. This is reasonable given the conditions in Indonesia where socio-cultural factors are still so strong, that this intention factor is so important.

4.6. Analysis of Financial Literacy and Inclusion after Community Services Assistance

To draw more practical conclusions about the significance of financial intentions in the GLM model in Table 3, it is also necessary to have a post-test on several female respondents who are women MSMEs in Pacitan. The post-test is important in answering the initial findings that the low level of literacy and financial inclusion of women MSMEs are only 25% and 35%. In detail, the results of post-test are in Table 4.

Table 4. Post-Test for MSME Entrepreneurs after Community Services Assistance

<table>
<thead>
<tr>
<th>No.</th>
<th>Understanding Financial Inclusion &amp; Literacy</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Understanding financial inclusion:</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>a) Usage (use of services)</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>b) Access (barriers to using services)</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>c) Quality (level of service)</td>
<td>78.33%</td>
</tr>
<tr>
<td></td>
<td>Understanding the average</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Understanding of financial literacy:</td>
<td>87.2%</td>
</tr>
<tr>
<td></td>
<td>a) Understanding of insurance</td>
<td></td>
</tr>
</tbody>
</table>
b) Understanding of mutual funds  
    Source: Results of Data Processing (2020)

| Understanding of deposits | 75% |
| Financial planning and management | 80% |
| Understanding the average | 78.3% |

The post-test shows the existence of Financial Intention (NK) which is formed in women MSMEs in Pacitan can be detected through a significant increase in the components of understanding financial inclusion and literacy up to the level of 70-80%. When looking for the explanatory factor, the Community Service side event on 24 October 2020 has proven be able to raise the positive perspective of women MSMEs continue improving their understanding of literacy and financial inclusion.

5. CONCLUSIONS & SUGGESTIONS

The study succeeded in mapping the demographic profile, literacy, inclusion, and financial capabilities of 150 women MSMEs in Pacitan. The women MSMEs in Pacitan have been able to take appropriate action when experiencing financial surpluses and deficits. They are proven to have high and dominant Financial Intention to make appropriate and effective financial decisions.

In general, the study results using GLM are just the first step to prove the ideal financial decision-making model for women MSMEs in Pacitan. GLM can be used as a recommendation to explore a more complex advanced model; SEM (Structural Equation Modeling), which will require assumptions of indicator validity in addition to the reliability assumptions that have been proven in the study.

Respondents next to Pacitan where are still in the same area, such as Madiun, Trenggalek, and others, can also be considered to be respondents on further research in order to cross-check and update data on the development and progress of women MSME respectively.

REFERENCES


DETERMINANTS OF RETIREMENT SAVINGS BEHAVIOUR: AN EXPLORATORY STUDY

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ABSTRACT

Malaysia is expected to become an ageing country by 2030, however, the issue of increasing concern is the adequacy of retirement savings. Studies have shown that most Malaysians exhaust their retirement savings within five years. In addition, the government is considering a review in its current pension scheme as it poses a large financial burden. Given the escalating living costs and healthcare costs, this ageing population phenomenon must be given careful consideration as majority of Malaysians do not plan for their retirement. The awareness among working individuals in Malaysia, especially the younger employees, to do extra savings for older life is still minimal. Against this backdrop, this study aims to identify determinants of retirement savings behaviour among the staffs at public university in the East Coast of Peninsular Malaysia. Based on prior studies, a conceptual model will be developed to demonstrate the relationship between demographic, financial knowledge, social influences, and retirement savings behaviour. Using quantitative approach, an online survey will be conducted among 150 employees. The collected data will be analysed using the SPSS software. The research finding will be useful to the staffs as it will bring out some of the critical issues related to retirement savings and insights on the importance of retirement savings.

KEYWORDS: Retirement savings, financial knowledge, social influence
TRACK 4B
BUSINESS
ECO-INNOVATION CAPABILITIES AND ECO-COMPETITIVE CAPABILITIES FOR SUSTAINABLE BUSINESS PERFORMANCE OF MALAYSIAN SMEs: A CONCEPTUAL APPROACH

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ABSTRACT

The purpose of this paper is to develop a conceptual model that explores the dimensions of eco-innovation capabilities and eco-competitive capabilities for sustainable business performance and their relationship in the context of Malaysian manufacturing SMEs. It also determines the mediating role of eco-competitive capabilities between eco-innovation capabilities and sustainable business performance. Increased competitiveness will help SMEs to be more efficient in various forms. This paper aims at presenting the reviews of the literature on the eco-innovation capabilities and analyses the five factors, namely (1) eco-process innovation, (2) eco-product innovation, (3) eco-management innovation, (4) eco-marketing innovation, and (5) eco-logistic innovation that will sustain the business performance. The method used for this conceptual paper is based on literature reviews from journal articles which provided much information related to the keywords and research area. The literature review section in this conceptual paper has provided information about the resource-based view (RBV) focuses on competitive advantage as well as competitive capabilities. Scholars reveal that SMEs in the manufacturing sector need to acknowledge the diversity of eco-innovation capabilities, competitive capabilities, and sustainable business performance. The identified factors will help the owner of SMEs in effective implementation of eco-innovation capabilities to improve their competitiveness and sustain their business performance.

KEYWORDS: Eco-competitive Capabilities, Eco-innovation Capabilities, Resources-Based View, Small and Medium Enterprises, Sustainable Business Performance.
COVID-19: COSTLY SIGNALS AND ENTREPRENEURIAL BRICOLAGE FOR SMES SURVIVABILITY FROM THE VIEW OF THE FINANCIAL-BASED CROWDFUNDING IN MALAYSIA

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ABSTRACT
Crowdfunding has evolved the entrepreneurial funding landscape in Malaysia. Statistics generated by Securities Commission Malaysia indicate that many SMEs have benefitted from the crowdfunding market. However, the recent pandemic has badly affected SMEs in the country. They are thus forced to adapt to the new normal in their entrepreneurial firms for the creation of shared values and continued growth. This paper explores the post-equity crowdfunding strategies used by the recipient firms that possibly signal the need for prospective funders to pay attention to their firms. This is vital to ensure the firms’ health for future development. The ability of the entrepreneurs to make use of every possible capital amidst the crisis would be a value-added factor for entrepreneurial success. While entrepreneurs are actively looking for more investments, the pandemic could slim down their chances to obtain the needed capitals for the firms’ development. Could the entrepreneurial bricolage and the costly signals provided by these firms increase their funding success rate and assist the firms’ growth? The strategies include the practices employed, the strategic collaboration with platform providers, the social networks, and the engagement with technological advancement that has been proven to affect the firms’ performance.

KEYWORDS: Costly Signals; Technological Advancement; Entrepreneurial Bricolage; Platform Providers; Social Networks

1. INTRODUCTION
The Covid-19 pandemic has triggered numerous reactions among various sectors of the economy, especially the entrepreneurial ecosystem (Leung et al., 2020). Entrepreneurial robustness responds to the crisis in different ways based on several internal and external factors. Whereas the former include the firm’s human demography, its size, age, and the strategies employed, the latter factors which can influence the firm’s response towards the crisis include government intervention and technological advancement. The current execution and continuation of the Movement Control Order (MCO) and Work from Home (WFH) initiative by the Malaysian Government has disturbed both the individuals and businesses. As banking and other financial institutions are notably less “user-friendly” in times of crisis, their inaccessibility causes further problems to all parties including SMEs (Kuckertz et al., 2020). In lieu of this scenario, financial-based crowdfunding has been identified as a reliable alternative to reduce the funding gap encountered by SMEs during the Covid-19 crisis.

The new normal necessitates individuals as well as public and private organizations to adapt to changes as quickly as possible to reduce the disastrous effect. Among the drastic implications adapted by affected organizations include ceasing operation, cutting manpower, striving for survival, and adapting for innovation (Deschryvere et al., 2020). These could temper the operation costs and cause a deviation in the normal practices which could affect the overall performance of the firms (Wenzel et al., 2020). In reality, as the crisis happened in sudden mode (Bogle & Sullivan, 2009), making sound and fast decisions is crucial (Kuckertz et al., 2020). Therefore, a check and balance strategy for causes and actions is essential in order to curb business loss during the crisis (Ramadani et al., 2017). The ability of the SMEs to provide convincing signals could encourage and motivate both existing and potential funders to participate in a new funding campaign. This requires quality signals which are capable of reducing information asymmetry and vagueness that the fundraisers transmit to the funders in crowdfunding (Di Pietro et al., 2020).

1.1 Types of Crowdfunding
There are several types of crowdfunding with the four most familiar being donation-based, reward-based, P2P lending-based and equity-based crowdfunding. The donation-based and reward-based crowdfunding are also known as non-financial based crowdfunding. Meanwhile, equity-based and P2P lending-based crowdfunding are referred to as financial-based crowdfunding. Equity-based crowdfunding refers to funding by investors in
exchange of the venture’s shares (Estrin et al., 2018; Freedman & Nutting, 2015; Hagedorn & Pinkwart, 2016; Tuomi & Harisson, 2017). On the other hand, the P2P lending-based indicates that funding received from the investors is treated as debts and subject to payment of the principal amount and interest (Bruton et al., 2015). It therefore involves the underwriting process (Morse, 2015). Table 1 summarizes the types, the returns, and the motivation of the investor.

### Table 1: Types of Crowdfunding, Returns and Funder Motivation

<table>
<thead>
<tr>
<th>Types of Crowdfunding</th>
<th>Donation</th>
<th>Reward</th>
<th>P2P Lending</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form of contribution</td>
<td>Donation</td>
<td>Donation/Pre-purchase</td>
<td>Loan</td>
<td>Investment</td>
</tr>
<tr>
<td>Form of return</td>
<td>Intangible benefits</td>
<td>Reward &amp; intangible benefits</td>
<td>Repayment of loan plus interest. Socially motivated lending is interest free</td>
<td>ROI in time if business is making profit. Rewards and intangible benefits also attract investors</td>
</tr>
<tr>
<td>Motivation of the investors</td>
<td>Intrinsic and social motivation</td>
<td>Combination of intrinsic, special motivation and reward</td>
<td>Combination of intrinsic, social and financial motivation</td>
<td>Combination of intrinsic, social and financial motivation</td>
</tr>
</tbody>
</table>

Source: Pazowski & Czudec (2014)

1.2 Definitions of Crowdfunding

In general, crowdfunding refers to the collection of a small portion of money from the public via the internet (Green et al., 2015). Internet use which is incorporated with skills and knowledge leads to the success of crowdfunding. Internet savvy individuals would be advantageous for crowdfunding as the attractive campaigns posted via social media and online applications such as Instagram, Facebook, Whatsapp and others help the initiator to attract citizens to donate, provide right and fast information about the crowdfunding stages, and the kinds of reward they will get (Baek & Collins, 2013; Gierczak et al., 2016; 2015). Freedman and Nutting (2015) uphold that the existence of social media enables the collection of small money from many people, especially when the project has social value. Thus, it is also known as the “social model of financing” (Brzozowska, 2013) or “collective financing” (Biancone et al., 2019).

According to Beck (2017), crowdfunding is a manifestation of globalization and internet openness where a group of people share resources with the community that has the same objectives, mission, and obligations. Thus, the many interpretations of crowdfunding refer to a more or less similar meaning. Additionally, entrepreneurial internalization is possible under the crowdfunding setting (Cumming & Johan, 2017). It further has the potential to overcome the funding issues of entrepreneurial ventures and encourages entrepreneurs to go beyond the typical entrepreneur’s normal approach in doing business. Furthermore, crowdfunding promotes new business ideas and develops significant skill and knowledge. Moreover, crowdfunding demonstrates trust as a factor that increases public confidence (Swart & Milner, 2015).

1.3 Financial-based Crowdfunding in Malaysia

The main actors in the crowdfunding ecosystem are the fundraiser or the project creator, the investors, and the platform provider. At present, there are no rules and regulations that bind the donation and reward-based crowdfunding. In contrast, financial-based crowdfunding which is also known as crowinvesting such as equity crowdfunding, peer-to-peer financing and property crowdfunding involve certain rules and regulation. Equity-based crowdfunding is realized when shares are exchanged with money. This type of crowdfunding involves the transfer of ownership from the firm to the investors. On the other hand, P2P lending entitles the firm to obtain the loan from investors and to pay back the principal plus interest as agreed. Hence, these serve as some of the reasons why financial-based crowdfunding is highly regulated in Malaysia (Securities Commission Malaysia, 2015).


Financial-based crowdfunding in Malaysia is governed by the Securities Commission Malaysia under the Guidelines on Regulation of Markets under Section 34 of CMSA (Capital Markets and Services Act 2007) to facilitate equity crowdfunding platforms on the procedures to be followed and the way it is supposed to be
conducted and operated. The introduction of these guidelines made Malaysia the first country in the Asian region to have its own regulation to facilitate equity-based crowdfunding (Securities Commission Malaysia, 2016). However, the guidelines have been superseded by the Guidelines on Recognized Market, revision series number SC-GL/6-2015 (R1-2016). The replacement guideline is to be read together with sub-division 4, division 2 of Part II CMSA in accordance with section 377 of the Capital Markets and Services Act 2007. Part F of the guideline specifically represents the additional requirements relating to a recognized market that is the crowdfunding platform. It consists of two chapters; Chapter 12 on equity crowdfunding platform and Chapter 13 on peer-to-peer lending or crowdfunding (Securities Commission Malaysia, 2016). This is to enhance the investment-related crowdfunding in order to safeguard the crowdfunding actors, especially investors, and to assure that this funding mechanism would benefit the SMEs (Securities Commission Malaysia, 2015).

The guideline necessitates the fitness of the operator or director who must be proper and have the ability to operate an orderly, fair, and transparent market. As the operator plays a critical role in ensuring confidence in the ECF platform, the guideline entrusts the operator with obligations to ensure the issuers’ compliance with platform rules. The operator may deny an issuer access to its platform if it is of the view that the issuer or the proposed offering is not suitable to be hosted on the platform. The operator has to comply with the All-or-Nothing funding model (AON) in which the money raised will be distributed to the issuer if only the funding goals are achieved. In case the money raised is below the campaign minimum target, then the money will be given back to those who have invested. The operator is also required to ensure that funds obtained from investors are safeguarded in a trust account until the funding goal is met. Under this framework, an eligible issuer can raise up to RM3 million within a 12-month period. Issuers will be able to tap on investments from retail, sophisticated as well as angel investors, subject to the investment limits as provided in the Guidelines. ECF investors are given a six-day cooling off period, within which they may withdraw the full amount of their investment. In addition, if there is any material adverse change relating to an issuer, the investors must be notified of such change. The investors will be given the option to withdraw their investment if they choose to do so within 14 days after the said notification.

1.3.2 Financial-based Crowdfunding Platform Providers in Malaysia

Known as registered market operators (RMO), the platform providers are differentiated based on the platforms’ purpose. Table 2 represents the list of financial-based platform providers in Malaysia.

<table>
<thead>
<tr>
<th>Equity-based crowdfunding</th>
<th>P2P lending-based crowdfunding</th>
<th>Real estate-based crowdfunding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ata Plus Sdn Bhd</td>
<td>Bay Smart Capital Ventures Sdn Bhd</td>
<td>EdgeProp Sdn Bhd</td>
</tr>
<tr>
<td>Crowdo Malaysia Sdn Bhd</td>
<td>B2B FinPal Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>Crowdplus Sdn Bhd</td>
<td>Capsphere Services Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>Eureeca SEA Sdn Bhd</td>
<td>Crowd Sense Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>Ethis Ventures Sdn Bhd</td>
<td>Ethis Kapital Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>FBM Crowtech Sdn Bhd</td>
<td>FBM Crowtech Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>Fundnel Technologies Sdn Bhd</td>
<td>MicroLEAL Plt</td>
<td></td>
</tr>
<tr>
<td>Leet Capital Sdn Bhd</td>
<td>Modalku Ventures Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>MyStartr Sdn Bhd</td>
<td>Moneysave (M) Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td>Pitchin Platforms Sdn Bhd</td>
<td>Peoplender Sdn Bhd</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QuicKash Malaysia Sdn Bhd</td>
<td></td>
</tr>
</tbody>
</table>

Source: SC (2020)

1.3.3 Financial-based crowdfunding: Maximum Fundraising Limits and Additional Funding Assistance

The Securities Commission Malaysia governs the activities of financial-based crowdfunding to ensure it remains relevant as an online funding resource for entrepreneurial ventures, the public and private sectors. Initially, the maximum amount an issuer can raise through the ECF platform is MYR5 million. This amount excludes the issuers’ own capital contribution and any funding obtained through other sources. However, in every 12-month period, an issuer can only raise up to RM3 million irrespective of the number of projects and the issuer may seek another MYR2 million the following year (Securities Commission Malaysia, 2016).

Recently, the maximum amount has been raised from MYR5 million to MYR10 million for the equity-based campaign. The P2P lending campaign, in contrast, is not subject to the maximum fundraising limit gazette. However, P2P lending campaigns are not allowed to retain the extra money that exceed the campaign’s
initial funding goal or amount. In cases where the P2P campaign manages to raise more than the required amount, the excess amount must be given back to the funder. Starting from year 2019, both platforms are now allowed to set up secondary trading. This is due to the MSMEs interest on these funding avenues.

On top of that, the Malaysia Co-Investment Fund (MyCIF) for eligible ECF and P2P campaigns has been introduced to encourage investors and government collaboration to grow SMEs in Malaysia. The MyCIF was established with MYR50 million from existing grants to be co-invested in SMEs with private investors through ECF and P2P crowdfunding platforms (Farah Adilla, 2017). The ratio is set at 1:4, meaning that for every four Malaysia ringgit raised from ECF, the MyCIF will invest one Malaysia ringgit and the maximum cap is limited to MYR500,000. Currently, due to the pandemic and to provide further liquidity in entrepreneurial funding, the government has increased the maximum cap for MyCIF to MYR 1 million with the current ratio of 1:2. However, the current maximum cap was only set up to the month of September 2020 (Fong, 2020), and has been extended until the end of December 2020. Table 3 below summarizes the fundraising limit imposed and the availability of assistance funding by the Malaysia Co-Investment Fund (MyCIF).

Table 3: Financial-based crowdfunding: Fundraising limits and additional funding assistance

<table>
<thead>
<tr>
<th>Year</th>
<th>Maximum fundraising limits through platform providers</th>
<th>Additional funding assistance by Malaysia Co-Investment Fund (MyCIF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECF</td>
<td>P2P</td>
</tr>
<tr>
<td>2015-2017</td>
<td>MYR 5 million</td>
<td>No limits</td>
</tr>
<tr>
<td>2018-2019</td>
<td>MYR 5 million</td>
<td>No limits</td>
</tr>
<tr>
<td>2020 (April)</td>
<td>MYR 10 million</td>
<td>No limits</td>
</tr>
</tbody>
</table>

Source (Author’s Illustration)

2. RESEARCH METHODOLOGY

This is an exploratory study that reviews the related literature on costly signals and the entrepreneurial bricolage. Hence, the objective of this paper is to explore the importance of costly signals and entrepreneurial bricolage on future funding activities for firms which have successfully raised funds through financial-based crowdfunding platforms in Malaysia during the Covid-19 pandemic. To relate the study with the crisis, this study concentrates on financial-based crowdfunding in Malaysia during the MCO (18th Mar. 2020 until 18th Nov. 2020).

3. RESULTS

3.1 The Costly Signals in Financial-based Crowdfunding

According to Di Pietro, Grilli and Masciarelli (2020), the equity crowdfunding fundraisers that display their ventures’ previous achievement, particularly the financial realization (costly signal), could reduce the ambiguity and asymmetric information among the crowd. This will eventually increase their chance in securing the funding. In contrast, the fundraisers that merely display their future planning and anticipate profitability (costless signals) will not attract the crowd’s attention. However, the crowd does not penalize the campaigns that anticipate future achievements if they are combined with a profound innovation strategy.

It is significant to provide good signals to the potential funders especially when it involves the start-ups or new firms (Baum & Silverman, 2004; Mollick, 2014). The costly signals include;

<table>
<thead>
<tr>
<th>No</th>
<th>Category</th>
<th>Costly Signals</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strategy</td>
<td>Patents</td>
<td>Hsu &amp; Ziedonis (2013)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Business model</td>
<td>Ahlers et al. (2015), Lukkarinen et al. (2016)</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Product certifications</td>
<td>Ahlers et al. (2015), Bapna et al. (2017)</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Words used in crowdfunding campaigns</td>
<td>Mollick (2014)</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Financial statement</td>
<td>Di Pietro et al. (2020)</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Marketing intensity</td>
<td>Bae et al. (2017)</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Public communication (open dialog)</td>
<td>Behl et al. (2020)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Quality financial reporting, audit quality</td>
<td>Chen et al. (2017), Shahzad et al. (2019)</td>
</tr>
</tbody>
</table>
These signals can be categorized into three main themes: the strategy, founder and top management team demographic and networks and affiliations. They are vital in order to alert and attract the potential funders to participate in fundraising activities, especially during the pandemic. Covid-19 has badly affected the SMEs and nascent ventures by swiping away their financial resources. For instance, in China, a comparison between investment availability from the first quarter of 2019 and 2020 shows about more than 50% reduction on the investment markets. In essence, Covid-19 has changed investors’ reactions towards the equity crowdfunding activities (Brown & Rocha, 2020). Thus, displaying quality signals would increase investors’ satisfaction and willingness to participate in the crowdfunding fundraising activities. However, the costly signals incur substantial amounts of money. This is a reason why start-ups prefer costless signals rather than costly signals. Nevertheless, under certain circumstances such as innovation strategy, costless signals such as cheap talk has also impacted the firm’s investment efficiency (Di Pietro et al., 2020). Therefore, costless signals surely involve investors’ interference (Bhattachary & Dittmar, 2003).

### 3.2 Entrepreneurial Bricolage

The behaviors of entrepreneurial bricolage tend to trigger resolution finding among entrepreneurs in order to solve any arising issues (Tsilika et al., 2020). Bricolage is regarded as a prominent tool used for resource scarcity environment to create innovative technology and new ventures (Baker & Nelson, 2005; Di Domenico et al., 2010; Halme et al., 2012). Bricolage behaviors in entrepreneurship are present in each and every activity of the venture, meaning that entrepreneurial bricolage is not merely utilized for a specific management approach. For instance, ventures use their networks to create new opportunities despite the limitations they face under the network bricolage (Chang & Webster, 2019; Mahajan, 2013). On top of that, the financial bricolage shows how the entrepreneur makes creative use of the resource available at hand to obtain further funding assistance such as crowdfunding funds (Kariv & Coleman, 2015).

The concept of bricolage is to take advantage of entrepreneurial opportunities, therefore an internal and external feature. Internal bricolage refers to the entrepreneur’s characteristics, experience and knowledge of the market, customers’ issues and other attributes that will help to combat issues and capture emerging opportunities. External bricolage, on the contrary, indicates the entrepreneur’s behavior to fully utilize the external resources available at that time (Vanvenhoven et al., 2011). Nevertheless, both serve the purpose of generating new combinations of resourceful inputs with the intention to foster firm performance (Kariv & Coleman, 2015), continued creation of shared value (Dominguez et al., 2020), and growth (Battaglia et al., 2020).

Previous studies acknowledge bricolage as a firm strategy, especially for firms with constraints in resources (Baker, 2007; Baker et al., 2003; Senyard et al., 2011). The three characteristics of bricolage include bias in action when confronting opportunities and tackling crisis, creating value to futile resources, and creatively conjoining resources for greater outcomes (Baker & Nelson, 2005). These include, for instance, innovation (Anderson & Kupp, 2008; Garud & Karnøe, 2003). However, Desa and Basu (2013) argue that further research should be done to examine the bricolage effect on performance, and specifically, innovation.

Therefore, in lieu of the current crisis, it is vital for the venture to remain (Stenholm & Renko, 2016) and improve the business model amidst pandemic (Ketchen & Craighead, 2020).
3.3 The Prologue of Financial-based Crowdfunding Activities during the Pandemic

Table 4 below demonstrates the ECF achievement as of 31st March, 30th June and 30th September, 2020. The fundraisers engaged with the ECF platforms as they have the shares to offer to investors. The number of successful fundraisers was 113 and the success campaigns were 119. More than MYR120 million had been raised as of Sept. 2020. Investment of MYR500K and below represents 41% from the total amount raised. The ECF activities also show that the major investors are from the retail category and 46% of the investors who participate in the ECF campaigns aged below 35 years. In Malaysia, retail investors can invest not more than MYR50,000 a year and are subject to a maximum of MYR5,000 per issuer. However, angel investors can invest in financial-based crowdfunding up to MYR500,000 per year and sophisticated investors face no restriction on the investment amount (Securities Commission Malaysia, 2016). As noted, these rules were enacted to safeguard the investors from unpredictable losses (Securities Commission Malaysia, 2017).

Table 4: Equity Crowdfunding Statistics from March 2020 to September 2020

<table>
<thead>
<tr>
<th>EQUITY CROWDFUNDING</th>
<th>Crowdfunding Statistics as at 31st March 2020</th>
<th>30th June 2020</th>
<th>30th Sept 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 CAMPAIGNS AND ISSUERS</td>
<td>Success Campaigns</td>
<td>94</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>Amount Raised (MYR)</td>
<td>90.36mill</td>
<td>110.26mill</td>
</tr>
<tr>
<td></td>
<td>Successful Issuers</td>
<td>91</td>
<td>102</td>
</tr>
<tr>
<td>iv Distribution</td>
<td>MYR500K and below</td>
<td>48%</td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td>&gt;MYR500K – MYR1.5M</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>&gt;MYR1.5M – MYR3M</td>
<td>22%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>&gt;MYR3M</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>2 INVESTORS</td>
<td>Investor Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>Below 35</td>
<td>47%</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td>35 – 45</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>46 – 55</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>&gt;55</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>ii</td>
<td>Types of Investors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>59%</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td>Sophisticated</td>
<td>21%</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>Business Angel</td>
<td>18%</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>Institutional</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Source: Securities Commission Malaysia (2020)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 displays the P2P accomplishments as of 31st March, 30th June and 30th September, 2020. Under P2P, the fundraisers offer to pay the investors the principal they borrow and the interest they have been promised. From the table, we can see that P2P platforms have conducted more campaigns than the ECF platforms. The amount raised via P2P shows more than MYR900 million. This involves 2,502 fundraisers and more than 13k successful campaigns. In terms of allocation, 73% represents an investment amount of MYR50k and below. Additionally, 88% of the investors are retail investors. Meanwhile, 62% of them are aged below 35 years.

Table 5: P2P Lending Crowdfunding Statistics from March 2020 to September 2020

<table>
<thead>
<tr>
<th>P2P LENDING CROWDFUNDING</th>
<th>Crowdfunding Statistics as of 30th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>March 2020</td>
</tr>
<tr>
<td>1 CAMPAIGNS AND ISSUERS</td>
<td></td>
</tr>
<tr>
<td>i Successful Campaigns</td>
<td>9,989</td>
</tr>
<tr>
<td>ii Amount Raised (MYR)</td>
<td>738.99mill</td>
</tr>
<tr>
<td>iii Successful Issuers</td>
<td>2,100</td>
</tr>
<tr>
<td>iv Distribution</td>
<td></td>
</tr>
<tr>
<td>MYR50K and below</td>
<td>72%</td>
</tr>
<tr>
<td>&gt;MYR50K – MYR200K</td>
<td>20%</td>
</tr>
<tr>
<td>&gt;MYR200K</td>
<td>8%</td>
</tr>
</tbody>
</table>
2

<table>
<thead>
<tr>
<th>INVESTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>i Investor Age</td>
</tr>
<tr>
<td>Below 35</td>
</tr>
<tr>
<td>35 – 45</td>
</tr>
<tr>
<td>46 – 55</td>
</tr>
<tr>
<td>&gt;55</td>
</tr>
<tr>
<td>ii Types of Investors</td>
</tr>
<tr>
<td>Retail</td>
</tr>
<tr>
<td>Sophisticated</td>
</tr>
<tr>
<td>Business Angel</td>
</tr>
<tr>
<td>Institutional</td>
</tr>
</tbody>
</table>

Source: Securities Commission Malaysia (2020)

Indirectly, Table 4 and Table 5 illustrate the potential of financial-based crowdfunding as an alternative entrepreneurial funding for SMEs in Malaysia, especially during the pandemic. Further, to gain more information about the financial-based crowdfunding in Malaysia, this study zooms into PitchIN which is the most popular ECF platform in Malaysia. It runs both as a reward and ECF crowdfunding platform. PitchIN has dominated the ECF funded campaigns so far in terms of amount raised, number of ventures, and investors’ participation. Compared to other platforms, PitchIN provides more inputs as possible to increase stakeholders’ interest and trust. This is one of the reasons why many fundraisers and investors have approached PitchIN to raise and to offer funds respectively.

3.4 PitchIN and ECF Activities amidst Covid-19

Table 6 below shows the success campaigns activities conducted by PitchIN during the Covid-19 outbreak until recently (18th Nov., 2020). It exhibits that PitchIN has assisted ventures into obtaining their funding. A total of 22 successful campaigns have been launched during the crisis involving more than 1,190 investors and the cumulative amount raised was above MYR 37 million. Policy Street recorded the highest success campaign while the lowest amount raised was MYR250,500 by Airuphere. The highest shares offered was 25.17% by Everpeak, an e-commerce platform, and the smallest percentage of ownership was 1.51% offered by Far Capital, a digital infrastructure provider. In terms of the highest and lowest number of investors’ participation, 274 and three were recorded respectively. Surprisingly, the single largest investment showed that three investments were worth MYR1 million and above from a single investor. Mostly, the campaigns reflect the dominance of technology-related activities or industry.

<table>
<thead>
<tr>
<th>PitchIN Platforms Sdn Bhd</th>
<th>Types of Industry</th>
<th>Amount Raised MYR</th>
<th>Shares Offered %</th>
<th>No. of Investors</th>
<th>Larges Investment MYR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentuh Sinergi</td>
<td>Digital Platform</td>
<td>734,400</td>
<td>8.16</td>
<td>74</td>
<td>221,400</td>
</tr>
<tr>
<td>Far Capital</td>
<td>Digital Infrastructure provider</td>
<td>263,500</td>
<td>1.51</td>
<td>3</td>
<td>250,000</td>
</tr>
<tr>
<td>Smart Security Solutions</td>
<td>Digital Smart Lock Systems</td>
<td>684,250</td>
<td>10.24</td>
<td>34</td>
<td>226,100</td>
</tr>
<tr>
<td>Brick House</td>
<td>Café, Catering, Event Management</td>
<td>3,000,000</td>
<td>6.98</td>
<td>9</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Newleaf Eco Development</td>
<td>Durian Massive Plantation</td>
<td>920,000</td>
<td>N/A</td>
<td>51</td>
<td>270,000</td>
</tr>
<tr>
<td>Simply Giving</td>
<td>Platform Fundraising for Social Enterprise</td>
<td>317,912</td>
<td>10.99</td>
<td>9</td>
<td>129,412</td>
</tr>
<tr>
<td>MAHSA Healthcare</td>
<td>Healthcare</td>
<td>3,000,000</td>
<td>10.71</td>
<td>8</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Yin’s Sourdough</td>
<td>F&amp;B</td>
<td>1,139,468</td>
<td>15</td>
<td>59</td>
<td>220,806</td>
</tr>
<tr>
<td>RentGuard</td>
<td>Platform-Digital property</td>
<td>644,600</td>
<td>4.63</td>
<td>107</td>
<td>165,600</td>
</tr>
<tr>
<td>Policy Street</td>
<td>Insurance technology</td>
<td>5,280,657</td>
<td>11.71</td>
<td>274</td>
<td>998,058</td>
</tr>
<tr>
<td>VMO</td>
<td>Platform-Event</td>
<td>2,085,052</td>
<td>9.10</td>
<td>24</td>
<td>692,464</td>
</tr>
<tr>
<td>Newswav</td>
<td>Platform-AI &amp; BD</td>
<td>1,520,178</td>
<td>18.74</td>
<td>7</td>
<td>550,016</td>
</tr>
<tr>
<td>Everpeaks</td>
<td>E-commerce</td>
<td>941,000</td>
<td>25.17</td>
<td>48</td>
<td>500,000</td>
</tr>
</tbody>
</table>
Meanwhile, Table 7 below presents the ongoing campaigns. So far, there are five campaigns and out of the five, four are technology-based campaigns. MAHSA Nexgen offers 16.67% of the ownership. It has exceeded its target funding goal by 33.53% and is waiting for eight more days to complete the campaign. As of today, more than MYR2 million has been raised from 10 investors with the largest single investment recording MYR500k. Accos, an e-commerce provider, offers 48.78% stakes and is nearing its funding target (99.80%) which should end in another 15 days and has managed to attract nine investors. SERV, a new take-off campaign, offers 10% shares and has another 45 days to complete the campaign. However, these campaigns will only be regarded as successful when 100% of the funding goal has been achieved and the cooling off period of six days following the end of the campaigns has been met, as ECF investors may withdraw the full amount of their investment before the cooling off period ends. In addition, if there is any material adverse change relating to an issuer, the investors must be notified of such change. The investors will be given the option to withdraw their investment if they choose to do so within 14 days after the said notification (Securities Commission Malaysia, 2015).

### Table 7: PitchIN Platform’s Ongoing Campaigns during Covid-19

<table>
<thead>
<tr>
<th>PitchIN Platforms Sdn Bhd</th>
<th>Type of Industry</th>
<th>Funding percentage</th>
<th>Days to Complete the Campaign</th>
<th>Amount Raised (MYR)</th>
<th>Shares Offered (%)</th>
<th>No. of Investors</th>
<th>Larges Investment (MYR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERV</td>
<td>Vehicle Super App</td>
<td>13.32%</td>
<td>45</td>
<td>133,200</td>
<td>10.00</td>
<td>26</td>
<td>18,000</td>
</tr>
<tr>
<td>MAHSA Nexgen</td>
<td>One Stop Digital Platform</td>
<td>133.53%</td>
<td>8</td>
<td>2,003,000</td>
<td>16.67</td>
<td>10</td>
<td>500,000</td>
</tr>
<tr>
<td>Kosumy</td>
<td>Cloud Training Platform</td>
<td>83%</td>
<td>38</td>
<td>415,000</td>
<td>19.35</td>
<td>11</td>
<td>100,000</td>
</tr>
<tr>
<td>Accos</td>
<td>E-Commerce</td>
<td>99.80%</td>
<td>15</td>
<td>998,040</td>
<td>48.78</td>
<td>9</td>
<td>300,000</td>
</tr>
<tr>
<td>JTel Marketing</td>
<td>Rental Water Machine</td>
<td>67.77%</td>
<td>25</td>
<td>203,300</td>
<td>9.52</td>
<td>13</td>
<td>51,300</td>
</tr>
</tbody>
</table>

Source: PitchIN (2020)

Recently, PitchIN made history after securing the target amount of MYR100 million which was raised from its equity crowdfunding activities. According to its chief strategy officer, the new announcement of fundraising limits early this year has encouraged entrepreneurs to seek their funding via the ECF platform. Other than that, the increase in fundraising limits and the introduction of MyCIF as an additional financial assistance for eligible ECF and P2P campaigns also contributed to PitchIN’s success. Additionally, the recent budget 2021 announcement of tax rebates for ECF investments and the agenda of PitchIN’s secondary market are projected to attract more potential investors (MSMEAdmin, 2020).

### 4. CONCLUSION AND DISCUSSION

The Covid-19’s impact on entrepreneurial ventures vary depending on various factors including the ventures’ mission and vision, the founder’s leadership, the demography of the founder and top management team, and the ventures’ financial health. All entrepreneurial sectors, especially SMEs and start-ups, have been badly affected by the pandemic (Brown & Rocha, 2020), and the government could take steps to reduce anxiety and panic among these sectors (Sahadevan & Bhagat, 2020). Amazingly, one of the positive outcomes of the
pandemic is the increased spirit of social entrepreneurship, in which ideal collaboration with the government and other social institutions and businesses is realized, and skills, knowledge and community networks have shown their virtuous characters in making the impossible possible (Hidayat et al., 2020). Accordingly, studies have shown crowdfunding as an effective response mechanism during Covid-19 (Mejia et al., 2019).

Meanwhile, there are several common entrepreneurial responses due to the pandemic. For instance, in order to remain in existence, capital injection is needed to pay for operating expenses. If the venture chooses to exercise cost-cutting regimes such as retrenchment or use of lower grade raw material, these will affect the overall performance of the venture (Wenzel et al., 2020). Another solution is to withdraw from the market and restart the new start-up or venture that is resilient and fit with the present situation (Deschryvere et al., 2020).

Despite the Covid-19 conundrum, financial-based crowdfunding providers are actively conducting fundraising activities as usual (Brown et al., 2020). This is the privilege that does not count under the traditional banking and financial institutions’ system (Bruton et al., 2015). Entrepreneurs who constantly expose their costly signals will eventually attract investors or potential funders to visit the campaigns launched on the platforms. The ability of fundraisers to provide transparent and continuous campaign updates will increase the campaign’s genuineness and thus raise the trust level among donors. However, the platform’s accreditation is a donor’s concern. Hence, fundraisers using non-accredited platforms need to double their effort in providing the campaign’s status to lock the donor’s attention (Mejia et al., 2019).

Nevertheless, the costly signals displayed by the financial-based platforms themselves will attract more campaigns from fundraisers and more investments from funders. Thus, under the financial-based crowdfunding umbrella, both parties (i.e. the entrepreneurs and the platform providers) need to transmit their costly signals as the investors rely on those signals. These will increase the investment chances (Di Pietro et al., 2020). The costly signals related to crowdfunding such as the platform’s popularity and Covid-19 policies will also attract the investors’ participation in a crowdfunding activity (Moine & Papiasse (2020).

Even though investors actively participate in equity crowdfunding campaigns during the crisis, the number is decreasing (Battaglia et al., 2020; Brown et al., 2020). Moreover, investors do not merely invest based on the percentage of shares offered (Buell et al., 2020). Conversely, strategies that reflect firm profitability (Hu et al., 2018) will likely influence the investors’ trust and participation (Buell et al., 2020), especially during the crisis (Mejia et al., 2019). One thing for sure, crowdfunding is not simply about acquiring money from investors, but also requires the experience and expertise of the fund provider that will benefit the venture more. It thus revolves around “business valuation” and “concept validation”. The venture’s previous successful round in fundraising from the crowdfunding campaign is an advantage which will secure the high net-worth and far-reaching investors’ interest (Brown et al., 2020). Nevertheless, the literature of entrepreneurship suggests the importance of costless signals. According to Chan and Parhankangas (2017), the costless signals under crowdfunding settings may be helpful if there is limited information available (Lin et al., 2013), when it involves inexperienced investors (Loewenstein et al., 2014), and in a new marketplace where the reputable interactive standards are zero (Danilov & Sliwka, 2017).

This study is one of the few studies which explored the importance of costly signals and entrepreneurial bricolage under the financial-based crowdfunding context in Malaysia during the Covid-19 pandemic. Entrepreneurial funding via financial-based crowdfunding is still considered a new emerging phenomenon in the country. Thus, this study adds to the existing literature on crowdfunding in the Malaysian setting. Unfortunately, there are several limitations in this study. But, the main factor is restricted information provided by the platforms’ websites. As a result, this study is unable to portray the entire picture of financial-based crowdfunding activities in Malaysia during the Covid-19.

As such, this study recommends future research using experimental analysis to provide the latest empirical findings, the first of which is research that examines the portfolio of costly signals which constitute the fundraising campaign success and the impact on the ventures’ fundraising performance. Second is to investigate the entrepreneurial bricolage’s attitude towards the performance of the ventures. Last is to investigate the importance of costly signals and entrepreneurial bricolage from the perspective of the financial-based crowdfunding platform providers. The sustainability of the financial-based crowdfunding ecosystem in Malaysia depends on the sustainability of the fundraisers (entrepreneurs) and the platform providers. Therefore, the policy measures by the government should not be restricted merely to eliminate the burden of cash flows, but should also include the wider space of the entrepreneurial landscape for speedy recuperation and progress (Kuckertz et al., 2020). The government needs to have real-time information so that any uncertainty awaiting the entrepreneurs could be handled accordingly (Brown & Rocha, 2020).

REFERENCES


**Author’s Biography**

Siti Fatimah Mohd Kassim is a PhD student from the Faculty of Muamalat and Economics Administration, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia. She has obtained her Master degree in Muamalat and Economic Administration from the same university. Her research interest is on entrepreneurial funding, namely financial-based crowdfunding, Islamic finance, accounting, management accounting, and fintech.
ENTREPRENEURIAL ORIENTATION IS INFLUENCED OR AFFECTS COGNITIVE BIAS IN RELATION TO THE PERFORMANCE OF SMES

Sony Heru Priyanto¹, Theresia Woro Damayanti² & Fransinka Rosaly³
¹,²,³ Agung Podomoro Universiti, Indonesia

ABSTRACT

In this study we contribute to fulfill the gaps in the literature regarding the relation between entrepreneurial orientation (EO) and cognitive bias (CB), whether it is influenced or influences each other. Specifically, we present the results of each of the CB construct, associated with EO, whether positive or negative. Based on a sample of the SMEs in the batik sector in Indonesia, this study examines how CB affects EO in the context of a multidimensional configuration of how it improves business performance. Data from 309 respondents were obtained from a survey of Batik SMEs in Central Java, Indonesia, then analyzed using structural equation models and AMOS software, it was obtained that the EO results could influence and be influenced by CB in terms of SME performance, where precisely because CB makes performance entrepreneurial traits. Future research needs to explore why some entrepreneurs who have high EO and CB still fail in their business?

KEYWORDS: Entrepreneurial orientation, cognitive bias, business performance, antecedents, SEM
CRITICAL SUCCESS FACTORS OF SMALL AND MEDIUM-SIZED OPERATORS IN MALAYSIA: INSIGHT FROM SCUBA DIVING OPERATORS

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ABSTRACT

This purpose of this paper is to investigate the success factors of small and medium enterprises (SMEs) in Malaysia and thus contribute to the existing knowledge on the critical success factors (CSFs) of SMEs in Malaysian context, especially in the scuba diving operators (SDOs). The study is comprised a survey of a convenience and snowballing sample of 130 SDOs with SMEs operating in Malaysia. It uses multiple regression analysis to examine the effect of a set of CSFs, namely, entrepreneurial, enterprise, business environment, government on the success of SDOs. The results show that entrepreneurial, enterprise and business environment strongly influence SDOs success while government is weakly associated with SDOs success. These results imply that success is tied to owner/manager’s orientation, business operations and external factors more than government’s assistance programs. The study emphasizes the need for Malaysian SDOs to maintain and develop their business operations and at the same to be highly engaged with sustainability practices to ensure the external factors will contribute to achieving success. Specifically, on ecological and environmental of diving activities was found to be the factor most linked to the success of SDOs. While plenty of research has been done on what contributes to the failure of success of SMEs, research on CSF for SDOs is limited. The study combines four SCF not previously used in combination to model the successful performance of SMEs in general and in the Malaysian context particularly in SDOs industry.

KEYWORDS: Scuba diving operators, Critical success factors, Entrepreneurial, Success of SMEs
TRACK 4C
ECONOMICS
ELECTRICITY CONSUMPTION, ECONOMIC GROWTH AND ENVIRONMENTAL QUALITY: THE ROLE OF DEMOGRAPHIC TRANSITION

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¹,²,³,⁴Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Malaysia.
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ABSTRACT

This study investigates the implication of electricity consumption and economic growth on environmental quality in 17 late demographic dividends (LDD) countries with a particular focus on the population ageing. The Panel Auto-Regressive Distributed Lag (ARDL) method based on the Environmental Kuznets Curve (EKC) hypothesis is implemented covering data period from 1990 to 2016. The empirical results demonstrate that CO₂ emission increases with electricity consumption and economic growth. With concern to population ageing, there is a significant negative impact of ageing over the long term in LDD countries. The prevailing findings also indicate no sufficient evidence of EKC hypothesis validity and electricity consumption is the primary driving force of carbon emissions. Unlike prior works, this paper is among the first to discuss environmental quality due to the current demographic transition. Based on the result, population ageing decreases environmental deterioration. The identification of possible ageing impact is vital to combat the climate change for sustainability of the upcoming future in leading to better environmental quality.

KEYWORDS: Climate change, Elderly, Sustainable development, Dynamic panel data
ENERGY CONSUMPTION AND FOREIGN DIRECT INVESTMENT INFLOWS IN WEST AFRICAN COMMONWEALTH COUNTRIES: EVIDENCE FROM ARDL APPROACH

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ABSTRACT

The aim is to explore the influence of energy consumption on foreign direct investment (FDI) inflows and Granger causality empirically in West African Commonwealth Countries (WACCs). The econometric estimator applies dynamic Autoregressive Distributive Lag (ARDL) approach. The empirical results exhibit the variables integrated at level, first difference and cointegrated. Energy consumption contributed towards FDI inflows in the short-run, while in the long-run has no effect and statistically significant. The Granger causality shows one-way causality from FDI to energy use, bidirectional causality between FDI and labor. Unidirectional causality from FDI to carbon emissions and neutral causality between FDI and government spending. The speed of adjustment is very high and significant. Finally, recommend energy conservation policy and labor-intensive FDI inflows approach.

KEYWORDS: energy consumption, WACCs, ARDL, FDI, cointegration

1. INTRODUCTION

Foreign direct investment (FDI) remains one of the primary sources of external funding and energy intensive. Energy consumption is the catalyst for FDI. Invariable, domestic investment and FDI required energy inputs to produce goods and services. FDI brings technology, managerial skills, and employment, and therefore it accelerates growth and development if energy supply is sufficient. Further, FDI displays the roles of skills acquisition through foreign expatriate and adoption of efficient production techniques and innovation, thereby increasing energy consumption (Omri, 2014). Moreover, the availability of energy attracts FDI. Recently, the growing concern for energy consumption and FDI has been at the core of universal policy-making (Zhu et al. 2016). However, sizable FDI inflows without control phase out infant industries in the developing economies like WACCs.

The energy demands are escalating every day, depending on the growing economies and the changing socio-economic structures. Energy is one of the critical factor input for any country growth and development and perhaps display an essential role in the real sector of the economy. Energy supply, demand and pricing influence the living standards, the socio-economic development and entire quality of life of the people (Iwayemi & Iwayemi, 1998). Consequently, energy used has negative externalities like greenhouse emission and water pollution, especially in countries where environmental regulations are fragile or absence. In addition, studies that revealed the negative effect of energy used on environment (see, Dogan (2016), Sarkodie et al. (2018), Katicioglu (2014)).

The West African Commonwealth Countries (WACCs) comprises Nigeria, Ghana, The Gambia and Sierra Leone colonized by British. The choice of three countries Nigeria, Ghana and The Gambia because they constitute larger population, huge market share, oil producing and exportation, a net importer of energy, low-income countries as well as the availability of data on the selected countries. The rationale for the study is to investigate the long-short run influence of energy consumption on FDI inflows as well as causality among energy consumption, FDI, carbon emission, labor force, energy price and government spending over the years in WACCs. The noble idea is no study found regarding these variables selection that focuses on WACCs. However, empirical studies have shown diverse findings on panel data across a different region of the globe, and the proposed suggestion may not suite the WACCs to address the growing need for energy use and FDI.

Besides, findings from related studies invariable controversial and mixed across countries due to unnified data, variables selected and estimator applied for the estimation (see, Keho (2016), Omri (2015), Ozturk (2010), Narayan et al. (2010) for review). Importantly, developing countries to meet the sustainable development goals by 2050, macroeconomic policies relating to energy use and investments is crucial.

The remaining parts of the paper organized as empirical review, methodology, empirical results and conclusion.
2. EMPIRICAL REVIEW

The initial attempts linking FDI and energy demand was made by Mielnik and Goldenberg (2002) which ascribed negative between FDI-energy nexus in a group of 20 less developed countries for the period 1987–1998 to advanced technology adopted by foreign-invested enterprises (FIEs). The previous studies conducted that prove the positive correlation between energy and FDI are (Asiedu, 2002; Aziz and Mishra, 2016; Ledyavea, 2009; Sanfilippo, 2010; Mohamed and Sidiropoulos, 2010; Cheung and Qian, 2009; Deichmann et al., 2003). Ledyavea (2009) examined the former ex-USSR nations in the period 1995-2005 and confirmed that higher energy consumption attracts and influence FDI. Mert et al. (2019) investigate the interrelationships among FDI, renewable energy and CO2 for the panel of 26 European countries. The finding revealed the impact of energy use on FDI inflows in some of the selected countries and one-way causality from energy use to FDI.

Aziz and Mishra (2016) conducted studies on 16 Arab countries from 1984-2012, employed dynamic panel data and established that energy consumption has a significant positive effect on FDI in those countries. Similarly, panel data were used by Sidiropoulos and Sufian (2010) on 12 Middle East and North Africa (MENA) plus 24 developing countries from (1975-2006), Sanfilippo (2010) on 41 African countries from (1998-2007), Elizabeth (2015) on 22 sub-Saharan Africa concurrently they found that significant positive effect of energy consumption on FDI on these economies.

Ajide and Raheem (2016) studies on 15 ECOWAS from 2000-2013 found that the effect of energy consumption on FDI is positive and statistically insignificant. Ezeoha and Cattaneo (2012) studies on 30 SSA from 1995-2008 deployed generalized least square (GLS) regression and found the insignificant positive influence of energy consumption on FDI. In addition, Deichmann et al. (2003) the studies conducted on Eurasia from 1993-1998 establish that energy consumption has significant positive effects on FDI they used ordinary least square (OLS) regression. Milanga et al. (2010) studies on 1,320 projects across 14 Southern Africa Development Community (SADC) countries from 1994-2005 used pooled OLS and panel data result found that energy consumption on FDI was positive and statistically insignificant.

In contrast, dynamic panel data were used by Jadhav (2012) studies on Brazil, Russia, India, China and South Africa (BRICS) from 2000-2009 employed multiple regression found a negative and statistically significant influence of energy consumption on FDI in these countries. Asiedu and Lien (2011) conducted studies on 112 developing countries from 1982-2007 on the effect of energy consumption on FDI found a negative effect and statistically significant. Similarly, Asiedu (2013) studies on 99 developing countries from 1984-2011 found that a negative association exists between energy consumption and FDI. The fact that energy consumption on FDI in these economies turns out to be negative with various significance should not restrict further empirical studies on this subject matter to other economies.

Further, Doytch and Narayan (2016) studies 74 nations from 1985-2012 and discovered a positive relationship not restricted between combined FDI and demand for energy but also for sectoral FDI in mining and financial services. Furthermore, Doytch and Narayan (2016) divide their sample based on per capita income, they concluded that FDI in financial services raises the energy demand, but FDI in manufacturing decreases. Elliott et al. (2013) study the direct effect of FDI on energy intensity, found a negative relationship between FDI energy intensity nexus and suggest that this nexus might have been deteriorated by the dominance of state-owned enterprises (SOEs) in the energy-intensive sectors.

Finally, Longe et al. (2020) investigate the effect of energy use and FDI in Nigeria from 1970-2015, ARDL and Bai-Perron least squares estimator employed and found energy use attract FDI. However, Sirin (2017) established that energy sector attracted FDI inflows in Turkey as a result of energy reform policy. Similarly, studies conducted confirm the influence of energy use on FDI (see, Ibrahiem, 2015; Mert, M., & Bölük, 2016; Nwankwo, 2013; Uzoka, 2016). Salim and Zhang (2017) investigated the high utilization of FDI in carbon-intensive sectors raised energy demand shortly. After calibrating the Chinese data to a recursive dynamic computable general equilibrium model and found that energy consumption influence FDI inflows both in the short and long run.

3. METHODOLOGY

3.1 Data

The study focused on the panel of WACCs that comprises Nigeria, Ghana, The Gambia and Sierra Leone, and the series starts from 1980-2018. The data sourced from World Development Indicator 2020. The foreign direct investment (FDI) inflows is the dependent variable and the prominent mechanism used to in measuring FDI flows is based on the percentage growth of GDP. Energy consumption (ECOI) is measured based on (kilogram of oil equivalent) per capita. However, carbon emission was measured based on per capita CO2 metric tons. Household consumption expenditure (HHE) measured by final household consumption expenditure current of USD. Energy price (PRI) measured based on consumer price index (2010=100). Government expenditure
(GEX) measured by government spending by real total spending (USD) 2005. Labor force (LAB) proxy by total population age between 18-60 years’ work force participation to proxy labor force. Infrastructure (IFR) measured on the fixed telephone line per 100 persons in giving country over some time. Finally, the variables are transformed into natural logarithm to produce a consistent result (LFDI, LECOI, LCO2, LGEX, LPRI, LLAB and LIFR).

3.2 Unit root test

This method is essential particularly on moderate panel data size and the essence for adopting this method apart from, Im et al. (2003), is to affirm that the variables are free from any unit root bias. This method performs the test under the null hypothesis that the time series are non-stationary while the alternative hypothesis that the series in the panel is stationary. It confines correlation across individuals, and correlation cannot be removed by ejecting the cross-sectional averages. Equation [1] demonstrate how to determine the test.

\[ Y_{i,t} = \delta_0 x_{i,t-1} + v'_{i,t} x + \varepsilon_{i,t} \]  

where \( v'_{i,t} \) are the deterministic variables, \( \varepsilon_{i,t} \) is iid \( (0, \sigma_{\varepsilon,t}^2) \) and \( \delta_0 = \theta \).

3.3 Cointegration test

For the cointegration tests, the null hypothesis of no cointegration, after the stationary test is administered in Equation [2]:

\[ \varepsilon_{i,t} = \rho_t \varepsilon_{i,t-1} + \omega_{i,t} \]  

The Pedroni (1999, 2004) advanced two tests for cointegration analysis. The initial test established based on within the dimension approach that encompasses four statistics test. These include panel \( \rho \)-statistic, panel PP-statistic, panel \( \nu \)-statistic, and panel ADF-statistic. Fundamentally, these group of statistic pool the autoregressive coefficients across diverse entity (countries) for unit roots test on the estimated residuals. They recognized common time factors and heterogeneity across countries. the second test was profound between dimension approach that includes three distinct statistics. They include group PP-statistic, \( \rho \)-statistic, and group ADF-statistic test.

3.2 Econometric model

We evaluated and applied the panel unit root tests employed by Im, Pesaran and Shin (2003); the panel cointegration test advanced by Pedroni (2004), linear panel ARDL or Pool Mean Group (PMG). This estimator calculates that the short-run equation coefficients differ by units, while in the long run, the coefficients would be identical. Further, PMG estimator is the advanced version of the mean group (MG) estimator by Pesaran and Smith (2001). MG estimator assumed error variance and the slope coefficients are identical (Pesaran et al. 1999).

The function is presented:

\[ FDI = ECOI + GEX + PRI + HHE + IFR + CO2 + LAB \]  

In accordance with Pesaran et al. (1999) to derive the PMG model that comprises the long-run relationship in Equation [4]

\[ LFDI_{i,t} = \zeta_1 + \sum_{i=1}^{p} \beta_{1i,t} LFDI_{i,t-1} + \sum_{i=0}^{q_1} \gamma_1 LECOI_{i,t-1} + \sum_{i=0}^{q_2} \alpha_{1i,t} LGEX_{i,t-1} + \sum_{i=0}^{q_3} \phi_{1i,t} LPRI_{i,t-1} \]
\[ + \sum_{i=0}^{q_4} \lambda_{1i,t} LHHE_{i,t-1} + \sum_{i=0}^{q_5} \tau_{1i,t} LIFR_{i,t-1} + \sum_{i=0}^{q_6} \beta_{1i,t} LCO2_{i,t-1} + \sum_{i=0}^{q_7} \theta_{1i,t} LPRI_{i,t-1} \]
\[ + \epsilon_{i,t} \]  

the successful estimation of the long-run relations gives way for the estimation of the short-run in the form of an ECT as in Equation [3]:

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\[ \Delta \text{LFDI}_{t,t} = \delta_2 + \sum_{i=1}^{m} \theta \Delta \text{LFDI}_{i,t-1} + \sum_{i=0}^{\infty} \xi \Delta \text{LFDI}_{i,t} + \sum_{i=0}^{\infty} \tau \Delta \text{LFDI}_{i,t-1} + \mu \Delta \text{LFDI}_{i,t} \]

The lag (ECT\text{t,1}) measures the speed of adjustment mechanism or feedback in stabilizing disequilibrium in the model. In addition, a negative and significant coefficient of the ECT term is necessary to ensure the existence of adjustment of disequilibrium and long-run relationship in the model (Doytch and Narayan, 2016; Jegadeesh & Karceski, 2009). The higher the magnitude of the ECT term, the better will be apt of adjustment.

The higher the magnitude of the ECT term, the better will be apt of adjustment.

![Graphs of various economic indicators](image)

Legend: Logarithmic (L), Foreign direct investment (FDI), Energy consumption (ECOI), Government spending (GEX), Energy price (PRI), Household consumption expenditure (HHE), Infrastructure (IFR), Carbon emission (CO\text{2}), Labor force (LAB).

**Figure 1:** The trend of the data series.

### 4. EMPIRICAL RESULTS

#### 4.1 Descriptive statistics and correlation

The descriptive statistics shows that the standard deviation coefficients of the variables **LFDI** 2.597, **LECOI** 0.812, **LGE** 0.103, **LPRI** 1.968, **LHHE** 2.091 and **LLAB** 0.036 are below the estimated mean value of each variable, respectively and this confirms the normality of the distribution of data. Unlike, variables **LIFR** and **LCO2** with the standard deviation coefficients of -2.617 and -1.739, is below the mean value of each variable,
respectively. The outcomes of this analysis signify that each of the series is white noised, and this affirmed by the Jarque-Bera test statistics.

Meanwhile, Table 1 presents correlation coefficients between dependent and independent variables. For instance, the coefficients of the regressors 0.67, 0.86, 0.90, 0.80 such as LECOI, LGEX, LHHE, and LCO2 are strongly correlated with the regressed variable LFDI inflows in the context of WACCs and statistically significant, respectively. Whereas, a weak correlation was found between LPRI 0.45, LLAB 0.63 towards LFDI inflows in WACCs. Further, the negative correlation reported by LIFR -0.17 to dependent variable LFDI.

Table 1: Panel Descriptive Statistics and Correlation Analysis for WACCs

<table>
<thead>
<tr>
<th>Detail</th>
<th>LFDI</th>
<th>LECOI</th>
<th>LGEX</th>
<th>LPRI</th>
<th>LHHE</th>
<th>LIFR</th>
<th>LCO2</th>
<th>LLAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>18.907</td>
<td>5.773</td>
<td>20.585</td>
<td>2.932</td>
<td>22.631</td>
<td>-0.372</td>
<td>-1.010</td>
<td>3.970</td>
</tr>
<tr>
<td>Median</td>
<td>18.792</td>
<td>5.895</td>
<td>20.562</td>
<td>3.690</td>
<td>22.505</td>
<td>-0.435</td>
<td>-1.096</td>
<td>3.967</td>
</tr>
<tr>
<td>Maximum</td>
<td>22.902</td>
<td>6.682</td>
<td>24.355</td>
<td>5.447</td>
<td>26.734</td>
<td>1.270</td>
<td>-0.029</td>
<td>4.062</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>2.597</td>
<td>0.812</td>
<td>1.991</td>
<td>1.968</td>
<td>2.091</td>
<td>0.956</td>
<td>0.500</td>
<td>0.036</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.271</td>
<td>-0.774</td>
<td>0.103</td>
<td>-0.949</td>
<td>0.009</td>
<td>0.060</td>
<td>0.354</td>
<td>0.841</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.129</td>
<td>2.380</td>
<td>1.965</td>
<td>2.864</td>
<td>2.202</td>
<td>2.134</td>
<td>1.851</td>
<td>2.934</td>
</tr>
<tr>
<td>Prob.</td>
<td>0.095</td>
<td>0.002</td>
<td>0.083</td>
<td>0.000</td>
<td>0.241</td>
<td>0.182</td>
<td>0.017</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis represents probability.

4.2 Unit root test

Table 2 depicts the results of the unit root test for WACCs series on the procedures of Levin, Lin, Chu (LLC) and Im, Pesaran, Shin (IPS). The unit root results of the variables show that the null hypothesis of unit root for LFDI, LECOI, LHHE, LIFR and LLAB cannot be rejected at a level. Others were stationary at level I(0). However, by differencing the variables, the null hypothesis of unit root for LFDI, LECOI, LGEX, LHHE, LIFR and LCO2 are rejected at 5 per cent significance level. Meaning stationary at I(1). This recognized that the series are integrated at different levels, that means some of the series are stationary at I(0) and others at I(1). These outcomes recommend the use of panel ARDL procedures.
Table 2: Panel Unit Root Test for the WACCs

<table>
<thead>
<tr>
<th>Detail</th>
<th>Levin, Level Constant</th>
<th>Lin, Chu First Difference Constant + Trend</th>
<th>Im, Level Constant</th>
<th>Pesaran, Shin First Difference Constant + Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFDI</td>
<td>-0.566</td>
<td>-0.368***</td>
<td>-2.500***</td>
<td>-12.151***</td>
</tr>
<tr>
<td></td>
<td>(0.285)</td>
<td>(0.000)</td>
<td>(0.006)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LECOI</td>
<td>0.092***</td>
<td>-4.715***</td>
<td>0.686</td>
<td>-4.828***</td>
</tr>
<tr>
<td></td>
<td>(0.536)</td>
<td>(0.000)</td>
<td>(0.753)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LGEX</td>
<td>-0.178</td>
<td>-13.669***</td>
<td>-2.184***</td>
<td>-12.805***</td>
</tr>
<tr>
<td></td>
<td>(0.429)</td>
<td>(0.000)</td>
<td>(0.014)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LPRI</td>
<td>-4.790***</td>
<td>-6.433***</td>
<td>-2.550***</td>
<td>-5.748***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.005)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LHHE</td>
<td>0.020</td>
<td>-16.341***</td>
<td>0.477</td>
<td>-16.190***</td>
</tr>
<tr>
<td></td>
<td>(0.508)</td>
<td>(0.000)</td>
<td>(0.683)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LJFR</td>
<td>-0.659</td>
<td>-6.319***</td>
<td>-0.853</td>
<td>-4.639***</td>
</tr>
<tr>
<td></td>
<td>(0.254)</td>
<td>(0.000)</td>
<td>(0.196)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LCO2</td>
<td>-1.749***</td>
<td>-11.220***</td>
<td>3.439</td>
<td>-10.106***</td>
</tr>
<tr>
<td></td>
<td>(0.040)</td>
<td>(0.000)</td>
<td>(0.999)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>LLAB</td>
<td>-2.593***</td>
<td>-3.964***</td>
<td>1.543</td>
<td>-5.531***</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.000)</td>
<td>(0.938)</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>

Note: *, **, *** represent 10%, 5%, and 1% level of significance respectively.

4.3 Cointegration Test

The empirical results from Table 3 of the Pedroni cointegration for the gross domestic products, energy consumption and foreign direct investment for the sampled WACCs, shows that the gross domestic products demonstrate that the null hypothesis of no cointegration can be rejected when the model is estimated at intercept were seven tests out of eleven are significant. The test under the intercept plus trend and none display that the null hypothesis of no cointegration cannot be rejected at 5 per cent level of significance. Therefore, the decision is that the panel cointegration results for GDP established that the independent variables have cointegration in the long run for the sampled WACCs.

Furthermore, in energy consumption and foreign direct investment models, the panel cointegration estimated results portray that the null hypothesis of no cointegration can be rejected based on intercept, respectively. Conversely, the models of energy consumption and the foreign direct investment at intercept plus trend and none, the null hypothesis of no cointegration cannot be rejected for the panel and group statistic, respectively. The overall decision based on intercept the regressors have long-run relationships for the WACCs.

Table 3: WACCs Pedroni residuals cointegration test

<table>
<thead>
<tr>
<th>Gross Domestic Products</th>
<th>Intercept</th>
<th>Intercept + Trend</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel v- Statistic</td>
<td>0.756</td>
<td>0.506</td>
<td>2.550***</td>
</tr>
<tr>
<td>Panel p Statistic</td>
<td>-1.569</td>
<td>-2.340***</td>
<td>0.600</td>
</tr>
<tr>
<td>Panel pp Statistic</td>
<td>-1.939**</td>
<td>-2.871***</td>
<td>-0.393</td>
</tr>
<tr>
<td>Panel ADF Statistic</td>
<td>-2.408***</td>
<td>-3.262***</td>
<td>-0.156</td>
</tr>
<tr>
<td>Group p Statistic</td>
<td>-1.474</td>
<td>0.979</td>
<td>0.350</td>
</tr>
<tr>
<td>Group pp Statistic</td>
<td>-2.387***</td>
<td>-0.272</td>
<td>-0.142</td>
</tr>
<tr>
<td>Group ADF Statistic</td>
<td>-2.906***</td>
<td>0.167</td>
<td>0.887</td>
</tr>
</tbody>
</table>

Conclusion: Cointegrated

Energy Consumption

| Panel v- Statistic      | -0.147    | 0.030             | -1.357 |
| Panel p Statistic       | -2.261*** | -0.651            | -0.905 |
| Panel pp Statistic      | -2.532*** | -1.487***         | -1.955*** |
| Panel ADF Statistic     | 0.644     | -1.918***         | -0.506 |
| Group p Statistic       | 0.047     | 1.141             | 1.208 |
| Group pp Statistic      | -1.542*** | -0.484            | 1.403 |
| Group ADF Statistic     | -1.948*** | -1.108            | 1.047 |
It, therefore, cally significant at 5 per on should be carefully selected and widen the pragmatic economies. This confirmed a high speed of adjustment if any error occurred in WACCs. Table 5 illustrates the long run estimation results between FDI and independent variables for WACCs. The estimated long-run coefficients of LECOI, LPRI, and LCO2 are negative and statistically significant at 5 per cent. The coefficient of LECOI is -0.59 means that an increase of one per cent in energy consumption will reduce the inflows of FDI by 59 per cent and statistically significant. This finding is consistent with the work of Khandker, Amin, and Khan (2018) for Bangladesh, Doytch and Narayan (2016), Chen, Wang, Zhong (2019) for China, Hanif et al. (2019) for Asian countries, Rafindadi et al. (2018) for GCC. This entails that to attract FDI inflows in WACCs is that energy consumption should be carefully selected and widen the pragmatic approach to macroeconomic policies to achieve sustainable inflows of investment.

In addition, shows the short-run results of WACCs. The coefficient of LECOI is 3.77 and statistically insignificant. This implies that whenever energy consumption increases by one per cent in the WACCs region will cause to attract FDI by 3.77 per cent in the same direction in the short run. This finding is consistent with the studies conducted by Salahuddin et al. (2018) for Kuwait (Salim et al., 2017) for China and Leitão (2015) for Portugal. TheECTt, reported a higher adjustment rate of 83 per cent and properly signe. It, therefore, means that 83 per cent of disequilibrium in the model will adjust itself to the correct position within one year. This confirmed a high speed of adjustment if any error occurred in WACCs economies.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LECOI</td>
<td>-0.591</td>
<td>0.215</td>
<td>-2.744</td>
<td>0.007***</td>
</tr>
<tr>
<td>LGEX</td>
<td>0.232</td>
<td>0.111</td>
<td>2.082</td>
<td>0.040**</td>
</tr>
<tr>
<td>LPRI</td>
<td>-0.212</td>
<td>0.123</td>
<td>-1.723</td>
<td>0.089**</td>
</tr>
<tr>
<td>LHHI</td>
<td>0.120</td>
<td>0.193</td>
<td>0.624</td>
<td>0.531</td>
</tr>
<tr>
<td>LIFR</td>
<td>0.428</td>
<td>0.056</td>
<td>7.559</td>
<td>0.000***</td>
</tr>
<tr>
<td>LLAB</td>
<td>0.610</td>
<td>0.089</td>
<td>6.853</td>
<td>0.048**</td>
</tr>
<tr>
<td>LCO2</td>
<td>-0.568</td>
<td>0.144</td>
<td>-3.928</td>
<td>0.000***</td>
</tr>
<tr>
<td>C</td>
<td>10.809</td>
<td>4.682</td>
<td>2.308</td>
<td>0.023</td>
</tr>
<tr>
<td>D(LECOI)</td>
<td>3.771</td>
<td>3.141</td>
<td>1.200</td>
<td>0.233</td>
</tr>
<tr>
<td>D(LGEX)</td>
<td>0.591</td>
<td>0.595</td>
<td>0.993</td>
<td>0.323</td>
</tr>
<tr>
<td>D(LPRI)</td>
<td>0.224</td>
<td>0.796</td>
<td>0.281</td>
<td>0.779</td>
</tr>
</tbody>
</table>
Table 6 disclosed the Granger causality test among the variables. There is unidirectional causality from FDI to energy consumption in the WACCs. It implies that FDI inflows contributed towards an increase in energy use across the region and thereby supporting growth hypothesis. Equally, unidirectional causality from FDI to energy price was found and means that FDI inflows are one of the determinants of energy prices in WACCs. Likewise, FDI cause carbon emission across the region and one way directional. This indicated the economic impact of FDI in WACCs and supported the pollution haven hypothesis proposed by the Environmental Kuznets Curve. Further, two-way causality found between FDI and the labor force. It means that FDI inflows provide job opportunities, and at the same time, cheap labor in WACCs attracts FDI inflows. Finally, neutral causality found and FDI and government spending.

Table 6: Grange causality test

<table>
<thead>
<tr>
<th>Null hypothesis</th>
<th>F-statistics</th>
<th>Probability</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>LECO1==LFDI</td>
<td>0.354</td>
<td>0.702</td>
<td>Unidirectional causality</td>
</tr>
<tr>
<td>LFDI==LECO1</td>
<td>4.084</td>
<td>0.019*</td>
<td>No causality</td>
</tr>
<tr>
<td>LGEX==LFDI</td>
<td>0.891</td>
<td>0.413</td>
<td>No causality</td>
</tr>
<tr>
<td>LFDI==LGEX</td>
<td>1.688</td>
<td>0.190</td>
<td></td>
</tr>
<tr>
<td>LPR1==LFDI</td>
<td>0.358</td>
<td>0.699</td>
<td>Unidirectional causality</td>
</tr>
<tr>
<td>LFDI==LPR1</td>
<td>3.302</td>
<td>0.041*</td>
<td></td>
</tr>
<tr>
<td>LHHE==LFDI</td>
<td>2.109</td>
<td>0.127</td>
<td>No causality</td>
</tr>
<tr>
<td>LFDI==LHHE</td>
<td>0.976</td>
<td>0.380</td>
<td></td>
</tr>
<tr>
<td>LIFR==LFDI</td>
<td>0.282</td>
<td>0.754</td>
<td>No causality</td>
</tr>
<tr>
<td>LFDI==LIFR</td>
<td>2.256</td>
<td>0.110</td>
<td></td>
</tr>
<tr>
<td>LCO2==LFDI</td>
<td>1.571</td>
<td>0.213</td>
<td>Unidirectional causality</td>
</tr>
<tr>
<td>LFDI==LCO2</td>
<td>3.619</td>
<td>0.030**</td>
<td></td>
</tr>
<tr>
<td>LLAB==LFDI</td>
<td>2.441</td>
<td>0.092*</td>
<td>Bidirectional causality</td>
</tr>
<tr>
<td>LFDI==LLAB</td>
<td>2.812</td>
<td>0.065*</td>
<td></td>
</tr>
</tbody>
</table>

Note: *, ** implies 10% and 5% level of significance, respectively.

4.6 Diagnostic test

Diagnostic checks were conducted to verify and confirm the eligibility of the model specification and estimation for appropriate inferences. More importantly, the test of residuals shows no evidence of autocorrelation in the model. Also, the examination of heteroscedasticity depicts no sign of heteroscedasticity problem in the model estimated. On the normality of the errors, it was further attested that the estimation is normally distributed, as shown in Table 5.

Table 7: Diagnostic Test of the ARDL for WACCs

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>F-statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autocorrelation</td>
<td>1.559</td>
<td>0.338</td>
</tr>
<tr>
<td>Heteroscedasticity</td>
<td>8.140</td>
<td>0.725</td>
</tr>
<tr>
<td>Normality</td>
<td>2.311</td>
<td>0.311</td>
</tr>
</tbody>
</table>

5. CONCLUSION AND RECOMMENDATIONS

The study explores the long-short run effects of energy consumption on FDI inflows and Granger causality among energy consumption, government spending, energy price, carbon emission, infrastructure and labor force in WACCs. Autoregressive distributive lag estimator and Granger causality employed. Unit root test proposed by Leving, Lin, Chu and Pesaran revealed mixed integration of some variables at the level $I(0)$ and
the first difference I(1). The cointegration test confirmed the long-run relationships amongst the variables. The long-run coefficient shows that energy consumption does not contribute to FDI inflows and statistically significant. Unlike, the short-run energy consumption impacted on FDI inflows and not statistically significant. The error correction term is -0.83, and statistically, the economy has 83% the high speed of adjustment to correct the economy back to equilibrium position when deviated from the equilibrium point—the Granger causality exhibit one-way causality from FDI to energy use. Equally, unidirectional causality from FDI to energy price, from FDI to carbon emission, respectively. Two-way causality between FDI and the labor force. However, no causality between FDI and government spending, FDI and household spending, respectively. Fig. 1 demonstrates series trend over time. Finally, the diagnostic test found no serial correlation, heteroscedasticity and the data normally distributed.

Further, on policy perspective, we recommend that policymakers should embark on energy conservation policy, and this will not harm the growth of the economies as a whole, because WACCs faced energy deficit over a long period. The WACCs is densely populated, and labor-intensive FDI inflows are appropriate as indicated by the bidirectional causality between FDI and labor. Macroeconomic policies suitable to capture the present reality of increasing unemployment coupled with COVID-19 is deemed necessary. More so, government spending is more of recurrent expenditure in WACCs, and this is not stimulating FDI inflows in the region. Budget orientation towards capital expenditure to improve the current delicate infrastructures must put in place. Government spending should focus on infrastructures like diverse energy sources, good road networks, research and development.

It would be necessary for further study to compare other less developed countries with these findings.

REFERENCE


CARBON TAXES AND ITS ENVIRONMENTAL IMPACT: A REVIEW OF ASEAN COUNTRIES EXPERIENCE

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ABSTRACT

In the quest to find the best environmental policy due to everlasting pollution issues faced globally, governments usually turn to the least popular option which imposing charges such as carbon tax to the polluters. Such tax or charges not only affected the polluters but also the consumers when they need to absorb the extra cost included in the price of product or services. The main concern which has been debatable by the public or researchers is how effective of utilising tax as the prominent method to combat the environment. For the extension of this discussion, this study aims to see the implementation of carbon taxes in ASEAN countries and their impact on the environment. Although mix findings have been obtained from the review of the past study, the discussion in this study hopes may shed a light on the continuing effort to educate and increase awareness on the prominent issues faced in the global context.

KEYWORDS: Carbon Tax, Environment, ASEAN countries
IMPACT OF COAL CONSUMPTION AND CARBON EMISSION ON ECONOMIC GROWTH OF MALAYSIA

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ABSTRACT

Coal is a fossil fuel and one of the non-renewable energy. Coal takes a million years to form it. This is because it takes 100 to 400 million years from plant decay. Coal production increased globally by 1.9\% in 2018 and play as a strategic role in the economic growth of the country. This non-renewable resource gives many impacts on our economics changes in many sectors. Moreover, carbon dioxide emission is also one of the factors needed to consider in the consumption of coal in the aspect of environmental concern. Therefore, the purpose of this research is to study the impact of Coal Consumption and Carbon Emission on Economic Growth in Malaysia. The annual time series data from 1980 to 2014 for all variables are used and empirical unit root tests of Auto Regressive Distributed Lag (ARDL) model is used for long run and short run association. The empirical results showed that Coal Consumption and Carbon Emission have long-term and short-term effect to Economic Growth. In this study, the relationship between the variables is significantly associated and it could be used in managing of resources sustainability and could be input information for all parties to take the next step or improve existing policies in the country.

KEYWORDS: Economic Growth, Coal Consumption, Carbon Emission, Non-renewable Energy and Malaysia.
TRACK 4D ACCOUNTING
FAMILY ROLE IN USING ORGANIZATIONAL SLACK RESOURCES ON CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE

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ABSTRACT

This study aims to analyze family role (ownership and management) in using organizational slack resources in corporate social responsibility disclosure (CSR). As CSR is one of the ways to show companies’ effort to survive, companies can show to stakeholders that they can survive in this uncertain condition (COVID 19 era) and move forward in new normal era. As family ownership and management have different ways to treat slack resources and corporate social responsibility, this study analyzes the role of different family business criteria (ownership and management) in using slack resources to influence CSR. This study uses GRI G4 Guidelines to measure CSR and uses panel regression random effect model. By stressing on manufacturing companies listed in Indonesian Stock Exchange from 2014-2016, this study finds that family ownership uses unabsorbed slack resources to increase CSR while family firms decreases the use of unabsorbed slack resources on CSR. The study ends in 2016 as Financial Services Authority introduces requirement to submit sustainability report in 2017. The link between organizational slack resources on CSR is seen in annual report, which integrates financial information and nonfinancial information (sustainability report). The results do not indicate that family firms lead companies to higher risk. Family firms are less prone to disclose CSR because they have lower asymmetry of information, less need to indicate that the family is acting in the shareholders’ interests and less monitoring.

KEYWORDS: Corporate social responsibility disclosure; family manager; family ownership; organizational slack resources
CORPORATE GOVERNANCE DISCLOSURES ON FIRM VALUE: EMPIRICAL EVIDENCE IN INDONESIA

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ABSTRACT

The objective of study is to test and analyze corporate governance disclosures on firm value. Companies are required by shareholders to fulfill their interest. One of the efforts is to disclose corporate governance information. Whether companies that disclose governance can increase firm value. The disclosure is expected to fulfill the shareholders' interest. The population of this research is all manufacturing companies that registered in Indonesia Stock Exchange from 2016-2018. Sample selection method used was purposive sampling. The model used in this research is multiple regression analysis. The empirical result indicates that the effect of corporate governance disclosures on firm value is positive and significant. Disclosure of corporate governance information as a form of management accountability to shareholders to increase company value.

KEYWORDS: Corporate governance disclosures, leverage, profitability, dividend policy, firm value

1. INTRODUCTION

The main objective of the company to maximize profits is not quite right, so financial experts formulate the normative objective of a company is to maximize firm value or wealth for shareholders. Maximizing firm value is considered more appropriate as a company objective because maximizing firm value. This means that the company maximizes the present value of all profits that shareholders will receive in the future (long-term orientation). Maximizing firm value also considers risk factors and places more emphasis on cash flow than just earnings and still pays attention to social responsibility (Sudana, 2015).

Firm value can be seen from the company's market price in the capital market. If the firm value increases, it will increase the market value of equity. If the firm value decreases, it will also decrease the market value of equity. Increasing firm value can also increase investor confidence that the company is doing well. The increasing number of investors who trust the company, the greater the amount of investment the company will receive for the operations.

The number of investors in Indonesia continues to grow rapidly. In 2015 Indonesia Stock Exchange (IDX) recorded 434,107 single investor identification (SID), in 2016 there was an increase of 23.47% to 535,994 SID, in 2017 there were 1,122,668 SID, in 2018 there were 2,470,000 SID. The increase in the number of investors is very good for the company, therefore the company must increase the firm value so that investors are interested.

One of the duties of management is to increase the firm value. Maximum firm value is the result of determining the optimal capital structure. In fact, management often works not to increase firm value, but to increase personal well-being. Conflicts that arise due to differences in interests between owners and management can have an impact on the company's image, the firm performance and value. This conflict is a conflict that occurs between the principal and the agent is called an agency problem.

Agency problems can occur for several reasons, namely when share ownership is spread, so that individual shareholders cannot control management. As a result, the company can run according to the wishes of the management itself. Then agency problems can occur because there is a majority shareholder, so that there is a majority shareholder who can control management or even become part of the management itself. As a result, majority shareholders have absolute control over minority shareholders, so that majority shareholders can take actions that only benefit themselves without thinking about the company interests.

Therefore companies and investors must know the factors that affect the firm value. The research motivation is that research on corporate governance disclosures influencing firm value in Indonesia has never been studied. Based on these contents, the research on the factors that influence firm value. This research was developed Taufik et al. (2018) adding the independent variable, namely leverage, liquidity, profitability, size, activity, dividend policy from Winarto (2015). The objective of the research is to obtain empirical evidence regarding the effect of corporate governance disclosure on firm value. This research is expected to contribute
to management regarding the importance of companies to disclose good corporate governance as a guarantee for investors in investment.

1.1 Corporate Governance Disclosure

Corporate governance disclosure is closely related to good corporate performance because it can maximize shareholder value in the long term in a more ethical manner with fairness, transparency, integrity and management accountability. Companies with good performance signal that the governance that occurs in the company is functioning well and is well managed which results in productive, economic and social advantages (Prusty, 2017).

Corporate governance can help overcome agency problems that arise in companies. Corporate governance has an influence on firm value (Taufik et al., 2018; Braga-Alves and Shastri, 2011; Suhartati et al., 2011; Ammann et al., 2010; Garay and Gonzalez, 2008). If investors see the good corporate governance, it will convince investors to buy these shares because the company can operate effectively and efficiently. Investors give good responses to companies trying to implement corporate governance according to the criteria. The hypothesis proposed is:

Ha: Corporate governance disclosure has positive effect on firm value.

1.2 Leverage

Debt policy is a policy regarding decisions taken by companies to obtain operational funds through financial debt (Pertiwi et al., 2016). Companies prefer to obtain operational funds through financial debt rather than through issuing shares because funds through financial debt are easier to manage in the future. Debt policy is more widely used because it is considered safer than issuing shares so that the higher the leverage the higher the firm value (Samosir, 2017).

Leverage policy has a positive effect on firm value (Winarto, 2015; Samosir, 2017). This indicates that increasing the leverage policy will also increase the firm value. Investors do not see large amounts of debt as a problem because more debt means more sources of financing for company operations and debt policies are considered safer than issuing new shares to raise additional funds. Leverage policy has a negative effect on firm value (Agustina, 2017; Marceline and Harsono, 2017; Jayanti, 2018). The lower the leverage value, the higher the firm value. The small leverage value shows that the company's obligation to pay debts to creditors is reduced so that the earnings obtained are greater so that it can increase the share price, while the large leverage shows that the debt is getting bigger and will cause bankruptcy costs, agency costs and large interest expenses, thereby reducing the company's ability to generate earnings.

1.3 Liquidity

Liquidity will affect the size of the dividends paid to shareholders. Dividends are an outflow, the greater the amount of available cash, the greater the company's ability to pay dividends (Jayanti, 2018). The level of this ratio will affect the interest of investors to buy company shares. If the liquidity ratio is getting bigger, this indicates that the company is empowering the company's current assets efficiently. Liquidity is an internal factor that can be controlled by managers. Companies with more cash have more opportunities than companies that have less cash (Winarto, 2015). Companies with liquidity are considered to have good performance by investors because the company has sufficient internal funds to finance its investment before using external financing through debt (Putra and Lestari, 2016).

Winarto (2015), liquidity has a negative effect on firm value. Large amounts of cash indicate that the circulation of money in the company is only small, ultimately causing a lack of return and resulting in a decrease in firm value. Meanwhile, according to Febrianti (2012) and Putra and Lestari (2016) liquidity has a positive effect on firm value. The liquidity value shows the internal funds available to finance dividends, finance company operations and investments. So that the higher the liquidity, the more internal funds available, the better investors' view of the company.

1.4 Profitability

Profitability is very important to maintain the survival of the company in the long term, if the profitability is high, the company's survival will be more secure (Jayanti, 2018). Profitability can affect firm value because earnings is an expectation for investors. A high profitability value will affect the high and low demand for company shares because the profitability increases the company's attractiveness in the eyes of investors with
high earnings, the company sends a signal that investors will get high earnings through dividend distribution (Wulandari and Wiksuana, 2017).

Profitability has a positive effect on firm value (Winarto, 2015; Dewi and Wirajaya, 2013; Febrianti, 2012; Putra and Lestari, 2016; Agustina, 2017). This indicates that increasing profitability will also increase firm value because company earnings are one of the factors that indicate the company's ability to carry out its obligations to funders and show future prospects. This will increase the demand for shares from investors. The increased demand will cause the firm value to increase. Profitability has a negative effect on firm value (Wulandari and Wikcusana, 2017). Currently, investors are not only focused on the earnings but tend to see social activities that can have long-term effects on the company.

1.5 Size

Size has a positive effect on firm value (Sofyaningsih and Hardiningsih, 2011; Febrianti, 2012; Nurhayati, 2013; Putra and Lestari, 2016). This means that large companies tend to provide greater operating results, the higher the firm value and the higher the confidence of investors in the company's ability to provide a profitable rate of return on investment compared to small companies. Large companies also have easy access to the capital market. Due to the ease of accessibility, his ability to get funds will be better. With this convenience, investors will catch positive signals and good prospects.

1.6 Activity

The activity ratio describes the overall activities of the company in carrying out its operations, both sales, purchasing, and other activities (Astutik, 2017). Asset turnover is very important. The rapid turnover of assets within a certain period of time is a positive signal for investors, because it reflects the effectiveness of the company in managing its assets. Balanced earnings and sales results can also show how management can manage their assets properly (Rinnaya et al., 2016). The activity ratio using total assets turnover can measure the ability of funds in the company in all its assets used in one period. Companies that have a good activity ratio can attract investors to invest their funds. This can raise the stock price and then increase the firm value.

The firm activity does not have an effect on firm value (Winarto, 2015; Agustina, 2017). So even though the value of activity increases or decreases, it does not affect the value of the company because according to investors the activity of the company's assets does not reflect the condition of the company.

1.7 Dividend Policy

Dividend policy is a regulation relating to the allocation of net income obtained from operational activities and distributed in the form of dividends to shareholders (Siboni and Pourali, 2015). Dividend policy is one of the things that is difficult to measure its impact on firm value, due to the lack of empirical support to prove it. Dividend policy is often seen as a signal by investors in assessing companies because the size of dividends can affect the firm value because the greater the dividends distributed, investors will assume that the company gets large earnings (Putra and Lestari, 2016).

Dividend policy has a positive effect on firm value (Winarto, 2015; Siboni and Pourali, 2015; Putra and Lestari, 2016; Marceline and Harsono, 2017). Companies that pay dividends will give positive signals about the prospects for future company earnings and increase the share price per share which adds to the firm value. This also shows that the company has a good going concern so that investors are interested in investment. Dividend policy has a negative effect on firm value (Rakhimsyah and Gunawan, 2011), because companies that have high dividend yields do not necessarily pay large dividends, it is likely that companies will use their earnings as additional capital to carry out company operational activities.

2. METHODS

The population used in this study are all manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2016–2018. Data used in this study are financial reports and annual reports of manufacturing companies obtained from the Indonesia Stock Exchange (www.idx.co.id). The sample that can be used in this research is 44 companies. The sample selection is as follows:
Table 1: Sample Selection

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Firm</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>A consistent manufacturing company listed on the Indonesia Stock Exchange during the period 2016-2018</td>
<td>138</td>
<td>414</td>
</tr>
<tr>
<td>Manufacturing companies that do not have complete annual reports and financial reporting.</td>
<td>(4)</td>
<td>(12)</td>
</tr>
<tr>
<td>Manufacturing companies whose financial year does not end on December 31.</td>
<td>(4)</td>
<td>(12)</td>
</tr>
<tr>
<td>Manufacturing companies that do not present their financial statements in rupiah currency.</td>
<td>(25)</td>
<td>(75)</td>
</tr>
<tr>
<td>Manufacturing companies that do not report positive net income.</td>
<td>(32)</td>
<td>(96)</td>
</tr>
<tr>
<td>Companies that do not pay dividends</td>
<td>(27)</td>
<td>(81)</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>132</td>
</tr>
</tbody>
</table>

Source: IDX data

Firm value (PBV) in this study is measured using price to book value, which is the ratio between share price per share and share book value per share (Taufik et al., 2018). Corporate governance disclosure (CGD) uses 42 items that refer to Uddin and Mostafa (2014). If the company provides published information about each corporate governance attribute, it will be given a score of 1, if it does not provide published information about each corporate governance attribute, it will be given a value of 0. Measuring leverage (DER) uses the Book Debt to Equity Ratio (Winarto, 2015). Liquidity (LIQ) is measured using cash equivalents divided by profit after tax (Winarto, 2015). Profitability (ROA) is measured using Return on Assets (Winarto, 2015). Company size (SIZE) is assessed from the assets owned by the company for company operations (Winarto, 2015). Measuring activity (ITO) uses asset turnover assessment, namely inventory divided by assets (Winarto, 2015). Dividend policy (DPR) is related to the amount of the dividend payout ratio, which is the percentage of net income after tax which will later be distributed to shareholders as dividends (Sudana, 2015). Hypothesis testing in this study uses multiple regression analysis. The research model in this study is as follows:

\[ PBV = \beta_0 + \beta_1 \text{CGD} + \beta_2 \text{DER} + \beta_3 \text{LIQ} + \beta_4 \text{ROA} + \beta_5 \text{SIZE} + \beta_6 \text{ITO} + \beta_7 \text{DPR} + e \] (1)

3. RESULT AND DISCUSSION

The following are the results of descriptive statistical test processing for each variable, both the dependent and the independent variable, can be seen in the table below:

Table 2: Descriptive Statistics Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBV</td>
<td>0.0528</td>
<td>45.7107</td>
<td>3.4637</td>
<td>6.0083</td>
</tr>
<tr>
<td>CGD</td>
<td>0.6429</td>
<td>0.8810</td>
<td>0.7829</td>
<td>0.0560</td>
</tr>
<tr>
<td>DER</td>
<td>0.0833</td>
<td>4.1897</td>
<td>0.7525</td>
<td>0.7166</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.0346</td>
<td>44.9709</td>
<td>2.4621</td>
<td>4.4789</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0008</td>
<td>0.9210</td>
<td>0.1044</td>
<td>0.1161</td>
</tr>
<tr>
<td>SIZE</td>
<td>11.2042</td>
<td>14.5375</td>
<td>12.5913</td>
<td>0.7534</td>
</tr>
<tr>
<td>ITO</td>
<td>0.8879</td>
<td>25.9983</td>
<td>4.8197</td>
<td>3.2729</td>
</tr>
<tr>
<td>DPR</td>
<td>0.0400</td>
<td>23.9247</td>
<td>0.9027</td>
<td>2.5002</td>
</tr>
</tbody>
</table>

Source: Output statistic

Descriptive statistics test results can be seen in Table 2. The firm value has minimum value of 0.0528 and maximum value of 45.7107. This variable has mean value of 3.4637 and standard deviation value of 6.0083. This indicates that the market value of the asset is greater than the book value of the asset. The corporate governance disclosure has minimum value of 0.6429 and maximum value of 0.8810. This variable has mean value of 0.7829 and standard deviation value of 0.0560. This indicates that most manufacturing companies disclose corporate governance. The results of the t test are as follows:
Table 3: t Test

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-21.155</td>
<td>0.004</td>
</tr>
<tr>
<td>CGD</td>
<td>16.914</td>
<td>0.043**</td>
</tr>
<tr>
<td>DER</td>
<td>1.054</td>
<td>0.060*</td>
</tr>
<tr>
<td>LIQ</td>
<td>-0.002</td>
<td>0.983</td>
</tr>
<tr>
<td>ROA</td>
<td>-21.155</td>
<td>0.000***</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.561</td>
<td>0.353</td>
</tr>
<tr>
<td>ITO</td>
<td>0.003</td>
<td>0.622</td>
</tr>
<tr>
<td>DPR</td>
<td>-0.294</td>
<td>0.086*</td>
</tr>
</tbody>
</table>

Dependent is firm value,
* sig<0.10 **sig<0.05 ***sig<0.01
Source: Output statistic

Sig value. CGD is 0.043, which is smaller than alpha 0.05, so it can be concluded that Hypothesis is accepted, this indicates that corporate governance disclosure has a positive effect on firm value. The greater the disclosure of corporate governance, the higher the firm value. This shows that investors as company owners are more confident about companies that implement corporate governance. Corporate governance disclosure as a form of company stewardship to owners. The results of this study are in accordance with (Taufik et al., 2018; Braga-Alves and Shastri, 2011; Suhartati et al., 2011; Ammann et al., 2010; Garay and Gonzalez, 2008) which state that corporate governance disclosure has influence on firm value. The result consistent with theoretical about linking corporate governance practices with higher investor confidence.

Sig value. DER is 0.060, which is smaller than alpha 0.10, so it can be concluded that leverage affects firm value. Leverage policy has a positive effect on firm value, this shows that the more debt the company has, the more opportunities the company has to use funds originating from debt to expand or increase operational activities. Sig value. LIQ is 0.983, which is greater than alpha 0.05, so it can be concluded that liquidity does not affect firm value. Sig value. ROA is 0.000, which is smaller than alpha 0.01, so it can be concluded that profitability affects firm value. Profitability has a positive effect on firm value, this means that the company has good performance, so that the company's profitability increases. Sig value. SIZE is 0.353, which is greater than alpha 0.05, so it can be concluded that firm size does not affect firm value. Sig value. ITO is 0.622, which is greater than alpha 0.05, so it can be concluded that company activity does not affect firm value. Sig value. DPR is 0.086, which is smaller than alpha 0.10, so it can be concluded that dividend policy affects firm value.

4. CONCLUSION

Based on the analysis and discussion of the research sample of manufacturing companies listed on the Indonesia Stock Exchange (BEI) 2016-2018, the following conclusions are obtained corporate governance disclosure has a positive affect firm value. The research implication is that it can help investors to choose the right company from corporate governance disclosure to invest in so that they are able to provide high returns. The measurement of corporate governance disclosure using 42 items shows that most companies fulfill the items above 64%. This measurement of corporate governance disclosure can be used as input for policy makers in assessing the corporate governance index.

In this study, there were limitations and recommendations for future research. Some of the limitations and recommendations of this study are as follows: (1) this study only uses manufacturing companies listed on the Indonesia Stock Exchange (IDX), so the research cannot generally apply to countries other than Indonesia. For future research can use manufacturing companies listed on Malaysia, Singapore, or Thailand Stock Exchange; (2) This study only uses independent variables to predict firm value, namely corporate governance disclosure, leverage policy, liquidity, profitability, company size, company activity, and dividend policy. For future research can use the other variables have affect on firm value, such as institutional ownership, sales growth, and managerial ownership.
REFERENCES:


BOARD OF DIRECTORS AND RISK INFORMATION DISCLOSURE: A CONCEPTUAL PAPER

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ABSTRACT

The need for vibrant risk management and high quality of risk information disclosure through sound corporate governance is significant to the government in order to overcome the global financial crisis and past accounting scandals that occur in every country including Malaysia. This paper aims to examine the impact of corporate governance mechanisms in risk information disclosure in terms of board of directors (BOD) characteristics namely gender diversity, professional membership, and board tenure. Besides that, this study aims to measure the level of risk management information disclosure in the annual reports. This study is expected to give benefits to others researchers who especially interested in corporate disclosure area namely the professional bodies and standard setters so that they can keep updating on the new variables or factors that might affect the risk management disclosure among public listed companies (PLC) in Malaysia.

KEYWORDS: Corporate Governance, Agency Theory, Risk Information Disclosure, Public Listed Companies

1. INTRODUCTION

Corporate Governance (CG) is one of the mechanisms that significant in protecting the stakeholders’ interest. Promoting sound and comprehensive of corporate governance principle has become a global issue or problem for advancing governance and performance of private and public businesses (Mustafa, Berisha and Liaci, 2018). According to Alkurdi, Hussainey, Tahat and Aladwan (2019), the approach to protect interest of stakeholders is with introducing and strengthening business rules and regulations in terms of enhancing of accountability, integrity and transparency which it can mitigate the agency problem among shareholder and management. Besides that, CG is gaining attention worldwide because the aspects such as mismanagement, fraudulence, corruption, and breach of trust have great impact to the financial scandals and corporate failures (Shan, Ab Razak and Ismail @Ali, 2018).

One of the most powerful CG mechanisms are board of directors (BOD). BOD is responsible to enhance a company’s alignment with its stakeholders, to control and supervise a firm’s progress and improve the quality of disclosure by monitoring and controlling the management’s activities. Besides that, BOD also perform many functions namely to ensure the business comply with rules and regulations, safeguarding the public interest and also guarantying stakeholders’ protection (Alkurdi, Hussainey, Tahat and Aladwan, 2019). The efficiency of BOD can balance the relationship between a company’s returns and risks. According to Al Attar (2016), the efficiency of BOD enables the entities get benefits from managing of resources with effectively. Corporate governance mechanism can be used a monitoring instrument to company in order to help investor specially to make a rational decision by disclosing the risk information (Rosli, Mohammed and Sanusi, 2017). A review of prior literature on corporate governance in Malaysia suggests that corporate governance mechanisms such as gender diversity, professional membership and audit tenure of BOD are worthy to be investigated further in relation to the disclosure of annual report.

1.1 Background of the study

Risk management (RM) is a component that important to for every companies in their business activities and business operations. Lark (2015) found that RM is a serious task need to be implemented by companies if they want to accomplish their business aims and objectives. Previous studies have shown that in reducing the risk of corporation, the company should disclose more relevant information about risk. The effectiveness risk management enable to reduce fraud, control possible threat, and use of resource with efficient (Hashim and Koon, 2015). The information that relate to the ability of companies to control the risk is significant to existing and potential investors to make a rational decision. The companies that are refusing in disclosing information about risk will be problematic to access capital. BOD need risk information to enable them in
considering, understanding, and managing risk efficiently. Besides, it shows that the shareholders need to know the impact of risk to the financial position of company in the future. According to Mohamad, Norizan, Rosly and Ahmad (2019), a few methods of risk management have developed for companies in making the risk disclosure of corporate information. Indirectly, these methods are significant in controlling and communicating the different type of risks information disclosure.

1.2 Problem Statement

In recent year, demand for more corporate information disclosure of companies is significant aspects that stakeholders should receive. According to Musa, Ali and Harun (2018), the stakeholders need the companies to disclose information with timely, clear and relevant in terms of business operation and financial performance especially risk information disclosure. Elshandidy and Neri (2015) examined the relationship between risk disclosure and CG and reported that there is strong relationship which the governed firms were more responsible to provide more important risk information especially to their investors as compared to weakly governed firms. It shows that the importance of BOD in providing risk information disclosure. While Allini et al. (2016) reported that the effectiveness of CG within risk disclosure information is largely depend on the composition of the board of directors.

Risk management disclosure information is the significant element to the shareholders to obtain the relevant and appropriate information in making the decision. This is important to shareholders in understanding the risk profile that arise from the company that invest into (Mohamad, Norizan, Rosly and Ahmad, 2019). As investors, they should aware and careful to the risks that are taken because it will impact to the risk disclosure of information. According to Ahmad, Abdullah, Jamel and Omar (2015), every company should be responsible to comply in disclosing a greater risk information for the benefit of the company as whole. Thus, risk management information disclosure is regarded as vital element in the annual report. The government especially should be responsible to ensure to the enhancement of governance mechanism. One of the methods that the government can act is improving and enhancing principles and guidelines for listed firms (Ahmad, Abdullah, Jamel and Omar, 2015). In MCCG 2017, the appointment of BOD is vital in risk management information disclosure because companies need the better establishment of board in making a sound decision.

According to Mustapha, Berisha and Liaci (2018), companies with better establishment of BOD will show the better performance in terms of aspects such as sales, investment and exports compared to companies that do not have the better establishment of BOD. The BOD plays a greater function in a company’s governance structure because they are responsible in ensuring sound corporate governance. According to Freihat, Farhan and Shanikat (2019), BOD is one of the major aspects in the governance mechanism and good corporate governance is urgently needed in many companies. This is because corporate governance and corporate risk management are rising intertwined which is focusing the importance of aspects such as interdependencies and mutual impacts of corporate governance mechanisms into corporate risk information disclosure and risk disclosure is no exception. Therefore, this study was endeavored to fill the academic gap by investigating the relationship of gender diversity, professional membership and audit tenure with the level of risk information disclosure among PLC in Bursa Malaysia for five (5) years period (2015 to 2019).

1.3 Purpose of the study

In order to achieve the main aim of the study, several objectives were outlined as follows:

RO1: To investigate the relationship between the gender diversity of BOD and the level of risk information disclosure.
RO2: To investigate the relationship between the professional membership of BOD and level of risk information disclosure.
RO3: To investigate the relationship between tenure of BOD and level of corporate risk information disclosure.

1.4 Research questions

This study is engaged to answer the following research questions:

RQ1: Does the gender diversity of BOD has a direct relationship with the level of risk information disclosure?
RQ2: Does the professional membership of BOD has a direct relationship with the level of risk information disclosure?
RQ3: Does the tenure of BOD has a direct relationship with the level of risk information disclosure?
1.5 Significance of the study

This paper is expected to contribute to theories pertaining to the impact of CG mechanisms into corporate risk information disclosure i.e., a competent BOD as proposed by MCCG 2017 on the level of risk disclosure information in the annual report. Additionally, the findings of this study will be beneficial to the regulators in making policies on problems related to corporate governance to determine the direction of future governance rules and guidelines for Malaysian companies. This study is also anticipated to contribute to the body of knowledge in terms of aspects such as accounting, the increasing empirical literature in the country, boosts more research in the future about the corporate governance mechanisms that give a huge impact to the risk information disclosures because risk disclosure information is still in early stages especially in developing country like Malaysia.

2. LITERATURE REVIEW

Previous literature discussed that corporate governance attributes can mitigate or minimize risk exposure by enhancing transparency and disclosure quality, protecting shareholders’ interest and monitoring management (Allini et al., 2016; Elshandidy & Neri, 2015; Al-Maghzom et al., 2016; Taylor et al., 2010).

2.1 Agency Theory

This research uses an agency theory (AT) framework to examine the impact of corporate governance mechanisms i.e., board of directors in presenting the interest of corporate owners as a counter to the potential self-interest of management. According to Berle and Means (1932), Ross (1973) and Jensen and Meckling (1976), the renowned ‘agency problem’ arises due to the separation of ownership and control that resulting to inability of the owners to observe the actions of management. They defined the managers of the company as the ‘agents’ and the shareholders as the principal. The shareholder, who is the owner or ‘principal’ of the company are unable to engage in management of the company, delegate the responsibility to the board of directors (agents) to represent their interests in the company. The agency conflict arises when the agents may not always act in the principals’ best interest (Fama & Jensen, 1983; Jensen & Meckling, 1976). The principals’ interests can be compromised if the directors are able to maximize their self-interest at the expense of organizational profitability. Since both parties are utility maximisers; thus, there is no substantial reason to believe that the board of directors will always act in the shareholders’ best interest. Risk management disclosure information is the significant element to the shareholders to obtain the relevant and appropriate information in making the decision. Therefore, board of directors must ensure that shareholders received sufficient risk information to enable them to make informed decisions.

2.2 Board of Director Characteristic

BOD characteristics have a main consequence to the companies namely corporate financial and risk decision making practices. BOD plays a vital role in the governance of companies and hence an understanding of how the characteristics and effectiveness of the board affect the governance of firms is very important, not least because agency theory states that the role of the board of directors is to ensure that the resolutions made by the rulers of a company are in the interest of investors (Deschênes et al., 2014). The board of directors is one of the major factors in the governance mechanism and good corporate governance is urgently needed in many enterprises. One of the essential benefits of establishing good corporate governance practices is that they help companies to access international capital markets. Therefore, BOD characteristics including gender diversity, professional membership and audit tenure are explained under the following sub-headings.

2.2.1 Gender Diversity

The gender diversity is one of the significant factors that influence risk management disclosure of the companies. In Malaysia, nowadays the trend of women holding higher positions compared to men in a company that involved in decision making process in public and private sectors has grown its momentum (Shan, Ab Razak and Ismail @ Ali, 2018). In recent years, regulators around the world have attempted to increase the numbers of women on corporate boards. Shan, Ab Razak and Ismail @ Ali (2018) stated that, the government has introduced a rules and procedures that women must include no less than 30% on board and senior management positions by 2016 for public and limited liability companies with more than 250 employees in order to get gender equality. The first country that legislated gender quotas in the boardroom was Norway. In 2003, Norway passed legislation that required 40% female representation on corporate boards by 2008. Spain adopted the same regulation and mandated 40% female representation on the boards by 2015. Other European
countries that imposed gender quota include France (40% by 2016), Italy (33.3% by 2015), and the Netherlands (30% by 2016). Malaysia is with no exception. Securities Commission Malaysia has introduced the third Corporate Governance Code in 2012, known as MCCCG 2012. Among others the code recommended improving the representation of women directors on the board. This is further recommended in MCCG 2017 that the board of large companies will need to comprise at least 30% women directors. The MCCG 2017 also encourages companies in general to include women participation not only at board level but also in senior management.

Boards of directors is facing increased expectations regarding their roles in efficient risk management (MCCG, 2017). Research on women behavior indicates that women appear less sensitive to probabilities and more pessimistic towards gains than men. According to Schubert (2006), women have better multi-tasking skills, risk management and communicative abilities as compared to their male counterparts. Women also have an ability to exert stronger monitoring effort towards business risk and uncertainty (Adams and Fereira, 2009). According to Bayazitova and Shivasani (2012) female directors are likely to be more risk averse than their male counterparts, which might lead to a decrease in financial distress costs and systemic risk. Therefore, it is expected that more women on board will positively contribute towards efficient risk management and extensive risk information disclosed in the annual report.

Women directors make less risky choices (Perryman, Fernando and Tripathy, 2016) Women are more meticulous when making decision related to risk. Women made decision based on extensive information. Therefore, it can be assumed that informative risk information disclosure is affected by gender diversity considering their less appetite towards risks. Hence the current study aims to answer the research questions related to the potential role of gender diversity in improving risk management information disclosure in annual report. Therefore, it is expected that the increasing of gender diversity will further increase the level of risk information disclosure, hence, the following hypothesis is posited:

H1: There is a relationship between the gender diversity of BOD and level of risk information disclosure.

2.2.2 Professional Membership

Professional membership of BOD is vital element in the risk disclosure information. Board members who have professional qualification and are associated with professional bodies such as the Association of Chartered Certified Accountants (ACCA), The Institute of Chartered Accountants in England and Wales (ICAEW) and Chartered Institute of Management Accountants (CIMA) is categorized as board professionalism. There have been many ongoing debates in the previous studies regarding the influence of board demographic characteristics towards the risk disclosure. A study done by Farag and Mallin (2016) using survey data from 892 Initial Public Offerings (IPOs) floated in both the Shanghai and Shenzen Stock Exchanges, indicated that Chief Executive Officers (CEO) which have postgraduate qualifications tendency to consider corporate risk-taking. Al-Hadi, Hasan and Amp; Habib (2016) suggested that market risk disclosures can be influenced by the risk committee qualifications and size. This is due to the capability of understanding in complexity of business environment among board who have professional qualification together with their experience, expertise and skills in dealing with the multiple stakeholders. In addition, the determinants of corporate risk disclosure can be depending on the education level received and required specialized skills developed through the experience. This can make them more awareness and think consequences of certain practices such as non-compliance with risk disclosure requirements. This can be seen on a study at listed Finnish companies found that the board of directors’ capability of understanding the relevance information-rich risk information that is more useful to the stakeholders is significant correlated with the higher education received (Juha, Troberg, Martikainen, & Mihkinen, 2015).

The relevant qualification and experience of board will make the market risk exposure can be disclosed enough in the report. Moreover, lack of knowledge in financial literacy also may leads the shortages of such disclosure. According to GCC Board Directors Institute (BDI) (2011) stated that the barriers of the effectiveness of boards among GCC is due to the shortage qualified and financially literate as they do not require the directors to have academic or professional qualifications. Therefore, in order to ensure high-quality risk management and risk reporting, it requires the directors with financial expertise and auditing knowledge can more likely to make expert judgements especially in the financial disclosure process (DeZoort and Salterio, 2001, and Naiker and Navissi, 2010). This is in line with Krishnan (2005) and Dionne et al. (2015) indicated that education in finance and accounting will give positive impact on the effectiveness of risk management. The Malaysian Code of Corporate Governance (MCCG) (2007) suggested that the process of corporate reporting including risk management reporting can be presented well if there is financially literate audit committee member.

However, Buckby, Gallery and Ma (2016) analyzed the risk management disclosures in the annual reports of top 300 ASX-listed companies by analyzing risk management disclosure and developing a code and categorise risk management disclosures made in the annual according to the disclosure categories specified in
ASX Corporate Governance Principles and Recommendation (CGPR). The study found that audit committee who are financially literate and qualified accountant do not seem to impact the level of risk management disclosure in the Australia context. Prior research supports their negative association between board members having professional qualification and risk disclosure (Allini, Rossi and Hussainey, 2015; Abdullah, Shukor and Rahmat, 2017). This is maybe due to some of boards might be more cautious on the disclosure of risk management and preferable to withhold this information (Allini, Rossi and Hussainey, 2015). The level of competence and professional membership of board members are appropriately required to ensure a better position in order to identify the relevant risks issues and disclose in annual reports properly. Hasan, Salleh and Ibrahim (2020) also indicate that the existence of board professional membership diversity was found to significantly increase the reporting disclosure. This study also consistent with a study done by Okaro, Okafor, Nwanna and Iginovia (2017). The study on the 18 micro finance banks operating in Nigeria found that lack of knowledge and access to relevant information among internal audit may lead to poor risk management disclosure. Accordingly, based on these arguments, formulated the second hypothesis of the study as follows:

H2: There is a relationship between professional membership of BOD and level of risk information disclosure.

2.2.3 Board of Director Tenure

According to MCCG (2012), the board of directors is responsible in managing all risks involved in the business and ensuring an effective system to monitor and manage the risks. The responsibilities held by the board of directors include determining the company’s level of risk tolerance and actively identify, assess and monitor key business risks to safeguard shareholders’ investments and the company’s assets, and ensure that their risk management system is viable and robust (Securities Commission, 2012). The board’s duty is to serve the interest of shareholders as well as make the company known to the outside environment through disclosure (M. Akhtaruddin & Haron, 2010). The rationale for the existence of director ownership is to make the directors have the perspectives of real owners of the company in which they are expected to provide a strategic leadership that aligns with the company’s interest (Chatterjee, 2009). The decisions on disclosure are in the boards’ hands (M. Akhtaruddin & Haron, 2010). Furthermore, companies with better establishment of BOD will show the better performance in terms of aspects such as sales, investment and exports compared to companies that do not have the better establishment of BOD (Mustapha, Berisha and Liaci, 2018). According to Na Li and Wahid (2018), the BOD plays a greater function in a company’s governance structure because they are responsible in ensuring sound corporate governance. Meanwhile, Freihat, Farhan and Shanikat (2019), BOD is one of the major aspects in the governance mechanism and good corporate governance is urgently needed in many companies. This is because corporate governance and corporate risk management are rising intertwined which is focusing the importance of aspects such as interdependencies and mutual impacts of corporate governance mechanisms into corporate risk information disclosure and risk disclosure is no exception.

On one hand, firms and regulators acknowledge that there are benefits of long tenure, including knowledge continuity and boardroom collegiality. Even so, governance experts have recently raised concerns about the potential costs of longer board tenure. These costs may include a loss of independence and the lack of agility and adaptability. Board renewal (PwC Center for Board Governance, Fall 2011). According to Johnson et al (2013), board tenure reflects the likelihood that board members’ control over the monitoring of executives will increase as the average tenure period increases. Board with longer tenure would logically accumulate more firm-specific knowledge while sitting on the board. Meanwhile, director tenure should be able to enhance a board’s ability both to monitor and provide resources to the firm, and by so doing, reduce its risk of financial distress (Na Li & Wahid, 2018). Prior studies indicate that experienced directors can provide better knowledge about the firm and be more efficient in decision making (Hillman and Dalziel, 2003).

In this study, topic has been carried out seek to identify by mean of associations between the board tenure with the level of risk information disclosure. The risk information disclosure would be quantifying the impact of an event is assumed to provide more useful information and it would be desirable that companies disclose risks in quantified manner. This is important to shareholders in understanding the risk profile that arise from the company that invest into (Mohamad, Norizan, Rosly and Ahmad, 2019). Furthermore, as investors, they should aware and careful to the risks that are taken because it will impact to the risk disclosure of information. On the other hand, Ahmad, Abdullah, Jamel and Omar (2015), every company should be responsible to comply in disclosing a greater risk information for the benefit of the company as whole. Thus, risk management information disclosure is regarded as vital element in the annual report. Therefore, it is expected that board tenure will further increase the level of risk information disclosure, hence, the following hypothesis is posited:

H3: There is a relationship between the board tenure and level of risk information disclosure.
3. THEORETICAL FRAMEWORK

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<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
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<tr>
<td>Gender Diversity</td>
<td>Level of Risk Information Disclosure</td>
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<tr>
<td>Professional Membership</td>
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<td>BOD Tenure</td>
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4. SUGGESTION FOR FUTURE RESEARCH

Based on the findings of this paper, it is necessary to test the model in various settings especially in developing countries such as Malaysia where risk information disclosure is still at infancy stage. Furthermore, it is strongly encouraged to conduct more research on this matter as the literature regarding risk information disclosure is still scarce and limited in Malaysia context. The theoretical framework also needs to be empirically tested to assess the reliability of corporate governance mechanisms in particular, the board of directors in determining the quality of risk management disclosure, as investors will likely to invest in a firm that discloses investment related information including the risk management practices.

5. CONCLUSION

In conclusion, this study is aimed to explore the implications of corporate governance in disclosure of risk information by looking at BOD characteristics namely gender diversity, professional membership and BOD audit tenure. According to Schubert (2006), women have better multi-tasking skills, risk management and communicative abilities as compared to their male counterparts. Women also have an ability to engage in stronger monitoring effort towards risk management and business uncertainty (Adams and Fereira, 2009). Therefore, it is expected that more women on board will positively contribute towards a more systematic and efficient risk management and extensive risk information disclosure in the annual report. Professional membership also plays an important role in the information risk disclosure. Professional membership means Board members who have professional qualification and are associated with professional bodies such as the Association of Chartered Certified Accountants (ACCA), The Institute of Chartered Accountants in England and Wales (ICAEW) and Chartered Institute of Management Accountants (CIMA) are among qualified professional bodies categorized as board professionalism. According to the GCC Board Directors Institute (BDI) (2011) stated that the barriers of the effectiveness among the GCC Board members are due to the shortage of qualified and financially literate as they do not require the directors to have academic or professional qualifications. Therefore, in order to ensure high-quality risk management and risk reporting, it recommends the directors with financial expertise and auditing knowledge will more likely to make expert judgments especially in the financial disclosure process (DeZoort & Salterio, 2001; Naiker & Navissi, 2010). Companies with better establishment of BOD will show better performance in terms of sales, investments and exports as compared to companies that do not have better establishment of BOD (Mustapha, Berisha & Liai, 2018). On the other hand, a study by Ahmad et al. (2015) stated that every company should be responsible to comply in disclosing a greater risk information for the benefit of the company as a whole. Board with longer audit tenure would logically accumulate more firm-specific information while sitting on the board. Meanwhile, the longer audit tenure should be able to enhance a board of director’s ability in both monitoring and providing resources to the firm, and by so doing, reduce its risk of financial distress (Na Li & Wahid, 2018). The findings of this study have indicated that is a correlation between gender diversity, professional membership and board tenure with risk information disclosure.

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EARNINGS MANAGEMENT, ASYMMETRIC INFORMATION, MANAGERIAL OWNERSHIP, AND COST OF EQUITY

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ABSTRACT

The purpose of this study is to examine the effect of earnings management, asymmetric information, and managerial ownership on the cost of equity in the textile and garment industry in Indonesia. Multiple linear regression analysis was used to test the hypothesis. The research sample used is the financial statements of textile and garment companies listed on the Indonesia Stock Exchange (BEI) from 2016 to 2018. The test results show that the earnings management variable is significant at 0.032, where the t test results are 0.032 <0.05 α. It means that the Earnings Management variable affects the Cost of Equity variable. Earnings management regression coefficient has a negative direction, which is equal to -0.295. It shows that Earnings Management has a negative effect on the Cost of Equity. Meanwhile, the Information Asymmetry variable and the Managerial Ownership variable have t values of 0.100 and 0.196, where the t test results are greater than 0.05. It means that the Information Asymmetry and Managerial Ownership variables have no effect on the cost of equity.

KEYWORDS: earnings management, asymmetric information, managerial ownership, cost of equity
TRACK 5A ACCOUNTING
ABSTRACT

This study aims to evaluate the readiness of the bank in Indonesia in implementing PSAK 71 related to the allowance for impairment losses and provide the solution to mitigate the increase in the allowance for impairment losses caused by the implementation of PSAK 71. PSAK 71 is a financial accounting standard in Indonesia which adopted from IFRS 9. The problem raised in this research is the implementation of PSAK 71 causes an increase in the allowance for impairment losses that might potentially decline the banks’ profits. The theory used in this study is the institutional theory. This research was conducted on Bank X, which is a Bank in Indonesia, using a single case study strategy with a qualitative approach. The research instruments used in this research were interview, questionnaire, and documentation. The data analysis used in this research was descriptive analysis. The result of this research is that Bank X is considered ready for implementing PSAK 71, but there is an obstacle faced by Bank X such as incomplete debtor data. The solution that can be used to mitigate the increase in the allowance for impairment losses is to maintain the credit quality in stage 1 which can be done by using the auto-debit method for the payment of the credit installment and providing programs when offering the credit such as free interest or installment discount at a certain time for the debtor who meets the terms and condition like always paying the installments on time without exception.

KEYWORDS: Allowance for Impairment Losses; Credit; PSAK 71

1. INTRODUCTION

The financial statements of limited liability companies must be prepared in accordance with the applicable accounting standards (Article 66 of Law Number 40 of 2007). Amongst the entities that implement the accounting standards in preparing their financial statements are banks. In its accounting, banks adhere to the regulations as stipulated in the Statement of Financial Accounting Standards (PSAK) to ensure an accountable financial statement. One PSAK that is relevant to the business activities of a bank is the PSAK that regulates financial instruments, because credit which is one of the main products of a bank is one of the financial instruments. Before January 1, 2020, the PSAK that regulates financial instruments was PSAK 55. However, on January 1, 2020, PSAK 71 was promulgated to replace this PSAK 55, and became effective to all entities. The new implementation of PSAK 71 has caused the increase in the allowance for impairment losses (CKPN) compared to that in implementing PSAK 55 (Syafina, 2019), which further results in the banks’ profits decline (Septiadi, 2019). This is due to the differences between PSAK 71 and PSAK 55 regarding the regulations on the allowance for impairment losses (hereinafter referred to as CKPN). PSAK 55 recognises an impairment loss when the objective evidence shows that the account receivables are uncollectible, whereas in PSAK 71, the impairment loss is recognised since the first disbursement of the credit (Institute of Indonesia Chartered Accountants, 2018a, 2018b). Ergo, the current study addresses the issue of increasing CKPN in banks due to the implementation of PSAK 71 that might potentially decline the banks’ profits, especially when CKPN is added significantly.

Following the implementation of PSAK 71 that came into force on January 1, 2020, the Indonesian Financial Services Authority (OJK) as an agency that supervises banks in Indonesia has issued a preparation roadmap on PSAK 71 for the banks as a reference for its implementation. The roadmap includes a set of recommendations of stages in implementing PSAK 71, which consists of the initial preparation, gap analysis, development, and parallel run (Financial Services Authority, 2017). Even though all banks refer to this roadmap, each bank’s preparation is different from one another depending on their own policies. Such differences administered by the banks in implementing PSAK 71 consequently yields different results, in which well-prepared banks record profit with their strategies albeit the increasing allowance for impairment losses that might otherwise adversely affect their profits, and vice versa.

With that as a rationale, this research aims to evaluate the bank’s level of readiness, study the obstacles they face in implementing PSAK 71 specifically related to CKPN, and propose viable solutions for them to
mitigate the increase in CKPN to avoid or minimise the decline in profits. Thus, the research problems are as follows: (1) How is a bank’s preparation in implementing PSAK 71, especially in relation to CKPN? (2) What are the obstacles that the bank faces in preparing for the PSAK 71 implementation in relation to CKPN? and (3) What are the viable solutions that the bank can adopt to mitigate the increase in CKPN? This research was carried out at a bank in Indonesia that started to implement PSAK 71 right on its effective date, with interview, questionnaire, and documentation as the research instruments.

2. LITERATURE REVIEW

There are several previous studies that support the current research. The first is a study on the banks’ motives and obstacles in becoming the early adopters of PSAK 71 by Rizal and Shauki (2019). The study revealed that the early adopters of PSAK 71 were the banks owned by foreign and joint venture banks, because they followed their holding companies to synchronise the implementation of accounting standards, that is to make a better external report. Another study by Guorong and Chen (2019) investigated the quantitative impacts of IFRS 9 (PSAK 71) towards the credit card business of a commercial bank. The results showed that CKPN on credit cards based on IFRS 9 (PSAK 71) increases greatly compared to that of CKPN based on IAS 39 (PSAK 55). Another study (Kasparovska, Glaserova, & Lastuvkova, 2014) evaluated the readiness of Czech banks in implementing IFRS 13 and identifying its benefits for financial reporting. They found that the majority of the banks had a low level of readiness, which was shown by the lack of internal guidelines for the IFRS 13 implementation because they perceived that the benefits were insignificant. The majority of previous studies focused on identifying the impacts of PSAK 71 implementation on banks, differences between PSAK 71 and previous PSAK (PSAK 55), as well as motives and obstacles in being the early adopters of PSAK 71. Therefore, the current study wishes to fill the gap and add a new literature for future research.

2.1 Institutional Theory

The core theory used in this study is the institutional theory, a theory which seeks to explain that there are three elements that an organisation ought to obey in order to achieve legitimacy, stability, and sustainability, which are regulative, normative, and cognitive-cultural elements. The regulative element obliges an organisation to comply with rules and regulations, whereas the normative element focuses an organisation to adapt with the norms, and the cultural-cognitive element focuses on the harmony between an organisation and the accepted cultural beliefs in its environment (Meyer & Rowan, 1977; Scott, 2014). This study uses the institutional theory because banks must comply with the newly-promulgated financial accounting standard, PSAK 71, that all related parties should adopt in order to be legally safe in conducting their business. This is because the financial statements must be held accountable in accordance with the prevailing laws and regulations.

2.2 Allowance for Impairment Losses

The implementation of PSAK 71 that all banks have to adopt has resulted in the increase of CKPN that might potentially cause the decline in banks’ profits. Such an increase in CKPN due to the implementation of PSAK 71 is illustrated in Fig. 1 below.

![Figure 1: Illustration of Impairment Loss Recognition Based on PSAK 71](Source: Institute of Indonesia Chartered Accountants, 2016)

In PSAK 71, impairment losses on credits given to the debtors are calculated, set aside, and recognised since the credits are granted for 12 months for the credits whose risk does not increase, and for the credit terms for those credits with increasing risks (Institute of Indonesia Chartered Accountants, 2018b). In PSAK 55, an impairment loss is recognised when the objective evidence shows that the account receivables are uncollectible.
Based on Fig. 1 and the explanation above, the increase in CKPN due to the implementation of PSAK 71 is because banks have to add CKPN since the first disbursement of the credits for 12 months or for the credit terms depending on their default risks, not when the objective evidence shows that there is an impairment. This research is pivotal in proposing solutions for the banks to prevent the increase in CKPN because of the PSAK 71 implementation, so they can avoid or minimise the profit decline. Below is the conceptual framework that illustrates the current study:

**Input**
- The implementation of PSAK 71 causes the increase in CKPN that might negatively impact the banks’ profits.
- There is a difference in impairment loss recognition between PSAK 55 and PSAK 71, in which PSAK 55 recognises an impairment loss when there is evidence that the receivables are uncollectible, whereas PSAK 71 recognises an impairment loss since the first disbursement of the credit.

**Process**
- Studying the banks’ preparation in implementing PSAK 71 in regards to CKPN.
- Identifying the obstacles faced by the banks in implementing PSAK 71 in regards to CKPN.
- Reviewing PSAK 71 and other regulations related to CKPN.
- Producing a set of solutions to minimise the increase in CKPN.

**Output**
- Proposing the practical solutions to the banks to help them reduce the increase in CKPN due to the implementation of PSAK 71 in order to avoid or minimise profits decline.

Source: Research Data (2020)

### 2. METHODOLOGY

This research uses a single-case study design. This design is used to investigate the phenomenon of CKPN increase as a result of PSAK 71 implementation that potentially causes a decline in banks’ profits. This is a qualitative research with primary data obtained from interview and questionnaire, while secondary data obtained from PSAK 71, banks’ regulations on CKPN, and Bank X’s reports. The instruments of this research are interview, questionnaire, and documentation. The interview were administered with the Head of Accounting and Finance Division of Bank X, because this division is related to the implementation of PSAK 71. The questionnaire was distributed to Bank X’s Accounting and Finance Staff.

Data were further analysed using descriptive analysis. Qualitative descriptive analysis is one of the methods used to analyze data through simplifying the data into a summary that contains information about a phenomenon comprehensively and aims to provide information that can help readers understand a situation, experience, or phenomenon more deeply (Loeb et al., 2017; Magilvy & Thomas, 2009; Sandelowski, 2000). The data analysis was carried out by studying the interview results to identify the preparation and the obstacles faced by Bank X in implementing PSAK 71, comparing Bank X’s preparation for the implementation of PSAK 71 with the OJK roadmap to evaluate the level of readiness of Bank X in implementing PSAK 71 related to CKPN, reviewing PSAK 71 to identify the difference between PSAK 55 and PSAK 71 in regards to CKPN calculation and its accounting treatment, reviewing regulations related to CKPN that apply on banks, and formulating the solutions that Bank X can use to mitigate the CKPN increase to avoid or minimise the decline in profits.
3. RESULTS AND DISCUSSION

The Bank X’s readiness in implementing PSAK 71 was evaluated by identifying the preparation that Bank X had made and comparing it to the preparation roadmap of PSAK 71 implementation from OJK, which functions as the reference for the banks. Below is the table that shows the preparation roadmap of PSAK 71 implementation issued by OJK.

Table 1: Preparation of PSAK 71 Implementation as Recommended by the Indonesian Financial Services Authority (OJK)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Actions on Preparation of PSAK 71 Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Initial preparation – Holding a training and socialisation to related work units on general knowledge of PSAK 71 to edify the human resources, forming a team to specifically prepare the PSAK 71 implementation, and work plans drafting</td>
</tr>
<tr>
<td>2</td>
<td>Gap analysis – Identifying the difference in CKPN calculation between PSAK 55 and PSAK 71 and determining the required adjustments in CKPN calculation in accordance with PSAK 71 based on the identified difference</td>
</tr>
<tr>
<td>3</td>
<td>Development – Changing policies and procedures related to CKPN calculation and developing a supporting system for CKPN calculation in accordance with PSAK 71</td>
</tr>
<tr>
<td>4</td>
<td>Parallel run – Conducting a final analysis on the information system of PSAK 71 management, approving the changes in policies and procedures made in the previous stage, and implementing PSAK 71 parallelly with PSAK 55</td>
</tr>
</tbody>
</table>

Source: Indonesian Financial Services Authority (OJK), n.d., 2017

Table 1 shows that there are four stages that are recommended for the banks in implementing PSAK 71. The stages are comprised of the initial preparation, gap analysis, development, and parallel run. These stages were developed to create an efficient and effective implementation of PSAK 71. Despite the fact that OJK issued this roadmap for all banks, each of them prepares the implementation differently from one another depending on the policies they choose to establish. In conducting interviews to identify Bank X’s preparation for implementing PSAK 71 related to CKPN, the first thing the authors asked is whether the preparation for implementing PSAK 71 related to CKPN by Bank X is in accordance with the OJK roadmap or not. The following is what the head of the accounting and finance division of Bank X said:

“If we see, the roadmap provided by the OJK is only a guide and each bank makes preparations based on their assessment. In general, Bank X follows the roadmap, but the preparations made by Bank X go deeper because all aspects have to be explored (human, data readiness, & system readiness). So in general, Bank X has followed what is meant by the OJK. However, Bank X was further developed what suits its needs.”

Below is the table that shows the preparation of PSAK 71 implementation done by Bank X, based on the interview with the Head of Accounting and Finance Division of Bank X and their annual reports:

Table 2: Preparation of PSAK 71 Implementation by Bank X

<table>
<thead>
<tr>
<th>Stage</th>
<th>Actions on Preparation of PSAK 71 Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Holding a workshop on the plan of PSAK implementation to foster the human resources’ understanding</td>
</tr>
<tr>
<td>2</td>
<td>Conducting a gap analysis</td>
</tr>
<tr>
<td>3</td>
<td>Setting up a team to implement PSAK 71 and making adjustments in related units</td>
</tr>
<tr>
<td>4</td>
<td>Making changes in policies and procedures, and developing a supporting system for CKPN calculation in accordance with PSAK 71</td>
</tr>
<tr>
<td>5</td>
<td>Doing a parallel run on the implementation of PSAK 71, analysing the information system of PSAK 71 management, and approving the policies and procedures</td>
</tr>
</tbody>
</table>

Source: Research Data (2020)

In addition to the results of the interview, the following figure is the result of the questionnaire regarding the conformity between the preparation for the implementation of PSAK 71 carried out by Bank X with the OJK roadmap through a close-ended question:
The conformity of Bank X’s Preparation for the Implementation of PSAK 71 with the OJK Roadmap

Not Conform

Conform

0 2 4 6 8 10 12 Respondents

Figure 3: Questionnaire Result Regarding The Conformity Between The Preparation for The Implementation of PSAK 71 Carried Out by Bank X with The OJK Roadmap
(Source: Research Data, 2020)

Table 1, interview quotation, Table 2, and Fig. 3 above shows that the implementation of PSAK 71 at Bank X has complied with the stages as recommended by OJK. However, there were adjustments made in the preparation, which were based on the policies formulated by the management through a discussion with the commissioners and consultant. Bank X decided to conduct a gap analysis after the socialisation of PSAK 71 implementation to their human resources, which aimed to find a gap between the provisions stipulated in PSAK 71 and the condition of several aspects of the company. Thenceforth, Bank X was able to determine what they needed preparing the PSAK 71 implementation and establish a suitable team with appropriate work programmes. Then, the Bank X’s preparation was compared to that of OJK’s roadmap, which is shown in Table 3 below.

Table 3: Comparison between the Preparation of PSAK 71 Implementation Related to CKPN by Bank X and Preparation of PSAK 71 Implementation Roadmap from OJK

<table>
<thead>
<tr>
<th>No</th>
<th>Points in the Preparation of PSAK 71 Implementation Related to CKPN in the Roadmap of Preparation for PSAK 71 Implementation from OJK</th>
<th>Status of Completion by Bank X</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General introduction of PSAK 71</td>
<td>Done</td>
</tr>
<tr>
<td>2</td>
<td>Team formation for PSAK 71 implementation and work plans drafting</td>
<td>Done</td>
</tr>
<tr>
<td>3</td>
<td>Identification of the differences between PSAK 71 and the previous PSAK</td>
<td>Done</td>
</tr>
<tr>
<td>4</td>
<td>Adjustment on the calculation of CKPN in accordance with PSAK 71 as required</td>
<td>Done</td>
</tr>
<tr>
<td>5</td>
<td>Changes in policies and procedures of calculating CKPN</td>
<td>Done</td>
</tr>
<tr>
<td>6</td>
<td>Development of supporting system for CKPN calculation</td>
<td>Done</td>
</tr>
<tr>
<td>7</td>
<td>Analysis on the information system of PSAK 71 management in the parallel run</td>
<td>Done</td>
</tr>
<tr>
<td>8</td>
<td>Approval of changes in the policies and procedures</td>
<td>Done</td>
</tr>
</tbody>
</table>

Source: Research Data (2020)

Based on Table 3, Bank X’s preparation of PSAK 71 implementation related to CKPN is already in line with the roadmap from OJK. This is proven by the preparation actions that conform to the recommendations from the roadmap. This conformity shows that Bank X is well-prepared in the PSAK 71 implementation in relation to CKPN. This further proves that Bank X, as one of the companies in Indonesia’s financial industry, has complied with the related laws and regulations, that is the Law Number 40 of 2007, meaning that the company prepares their financial statement based on the effective accounting standards, such as PSAK 71. Additionally, this confirms the institutional theory proposed by Meyer and Rowan (1977) and Scott (2014), which states that an organisation adheres to the prevailing rules, norms, and cultures in order to obtain legitimacy, stability, and strength in its sustainability. In this context, Bank X has followed the regulations by which limited liability companies are bound to implement the applicable accounting standards, that is PSAK 71.
71. Furthermore, Bank X follows the roadmap issued by OJK, an agency that supervises the banking industry in Indonesia. Therefore, the actions that Bank X has taken to adhere to such institutional regulations might result in the achievements of legitimacy, stability, and sustainability.

The legitimacy acquired by Bank X is in the form of recognition from the society and law. Bank X achieves stability because they are protected from the violation of financial reporting that does not comply with the prevailing accounting standards. In addition, because the preparations for the implementation of PSAK 71 related to CKPN carried out by Bank X are in accordance with the OJK roadmap, they can also avoid problems that may arise when PSAK 71 is fully implemented. In terms of sustainability, Bank X can continue doing their business activities easily because Bank X is valid in the eyes of the community and law, thus, that people put their trust to invest in Bank X. In other words, Bank X maintains its sustainability.

The next discussion in this study is about the obstacle faced by Bank X in preparing for the PSAK 71 implementation. To identify what obstacles faced by Bank X in preparing for the implementation of PSAK 71 related to CKPN, the authors asked whether Bank X experienced obstacles or not in preparing for the implementation of PSAK 71 related to CKPN. The following is what the head of the accounting and finance division of Bank X said:

“The obstacle that we faced in preparing the implementation of PSAK 71 related to CKPN was when we need the debtor’s data.”

The interview quotation above shows that the obstacle faced by Bank X in preparing for the implementation of PSAK 71 related to CKPN was incomplete data on the debtors, which is of paramount importance in the PSAK 71 implementation to calculate CKPN. Debtors’ data in the historical information of the bank is crucial in calculating the percentage of loss given default (LGD) as one of the parameters used in CKPN calculation (Financial Services Authority, 2018).

One of the data related to a debtor is the ones related to collaterals. Bank X is unable to calculate the value of CKPN accurately when they have incomplete data on the debtors’ collaterals. For instance, there are possibilities where credit applications are approved without any review on the location of the collateral to appraise its value. Should the value of the collateral be lower than that expressed in the data, the calculation of CKPN becomes inaccurate because CKPN should be higher. This is because the lower value of collateral that can be sold normally means the higher potential of loss suffered by the bank if the debtors are in arrears. Thus, the incomplete data on the debtors will pose further problems in the future due to the inaccuracy in the value of CKPN. This is because CKPN that Bank X has prepared will keep them away from future problems when the receivables on those credits are incollectable. Hence, Bank X should complete the debtors’ data in order to be able to calculate CKPN accurately and avoid problems that might arise in the future. Data related to the debtors, such as the collaterals, can be updated by directly reviewing its location to decide whether or not it matches with the data owned by Bank X.

The last discussion in this research is related to the solutions to mitigate the increase in CKPN to minimise or avoid the banks’ profits decline. In providing solutions to mitigate the increase in CKPN, the authors first asked whether Bank X has taken actions that can mitigate the increase in CKPN or not. The following is what the head of the accounting and finance division of Bank X said:

“As I said earlier, we must ensure that our business processes are getting better which can be achieved by providing quality credit. Another effort we have done is to increase the collection rate which is an example of a pay cut system to pay installments. Thus, we can increase the collection rate and do not require the addition of a large amount of CKPN.”

The interview quotation above shows revealed that Bank X had taken several efforts to mitigate the increase in CKPN. Bank X strengthens the business process by tightening the credit grants and increasing the collection rate. This action was also strengthened through the results of a questionnaire with open-ended questions and the answers were classified using keywords as in Figure 4.
Looking at the results of the interview and Figure 4 regarding the actions taken by Bank X to mitigate the increase in CKPN, tightening the credit grants, and increasing the collection rate are things that can be done to improve credit quality. Tightening the process of granting credits is done by approving the applications of the right customers, meaning that the granted credits are the credits in high quality. In addition to that, in order to increase the collection rate, Bank X deducts the salary of the employees as a means of paying installments. Such deductions are administered on the employees of Bank X who applied for housing loans (KPR) or companies that cooperate with Bank X in offering the housing loans. Increasing the collection rate might result in mitigating the increase in CKPN, although this cannot be implemented in all customers. Thus, Bank X or other banks need another solution to mitigate the increase in CKPN other than granting credits, which can be implemented in all customers. In developing alternative solutions, the authors had to take into account the Bank’s regulations related to CKPN to avoid violating them. The Financial Services Authority Regulation No. 40/POJK.03/2019 states that banks are prohibited to improve the credit quality as a method to mitigate the increase in CKPN.

The regulation suggests that banks are not allowed to do credit restructuring to improve the credit quality or to prevent the addition of CKPN without taking into consideration the condition of the customers, the business prospect, and their ability to pay the installments after the restructuring (No. 40/POJK.03/2019). Moreover, in developing the alternative solutions, the authors should also consider things that are related to CKPN as stipulated under PSAK 71. The category classification of credit quality and the impairment loss recognition based on PSAK 71 and interviews with Bank X are shown in Table 4 as follows:

<table>
<thead>
<tr>
<th>Table 4: Category Classification of Credit Quality and Its Recognition Based on PSAK 71 and Interviews with Bank X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Stage 1</td>
</tr>
<tr>
<td>Stage 2</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
</tr>
</tbody>
</table>

Source: Research Data (2020)

Table 4 shows that banks are required to add CKPN and recognise it for 12 months on the credits at stage 1, which means that the debtors of credits at that stage pay the principal and interest on time. For the credits at stage 2 and 3, however, banks are required to add CKPN and recognise it for the credit terms. In other words, to mitigate the increase in CKPN, banks should keep the credits at stage 1. When a customer is late to pay the installments even for only a day, a bank is obliged to add CKPN and recognise it for the credit terms. Therefore, Bank X and other banks might consider adopting the alternative solutions as shown in the table as follows:
Table 5: Possible Solutions for Bank X to Mitigate the Increase in CKPN Due to the PSAK 71 Implementation

<table>
<thead>
<tr>
<th>Alternative Solutions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First alternative</td>
<td>Granting credits to the applicants who are willing to pay the installments using the auto-debit feature</td>
</tr>
<tr>
<td>Second alternative</td>
<td>Offering credit programmes, such as free interest in certain periods after the debtors satisfy the applicable terms and conditions, one of which is paying the installments on time</td>
</tr>
<tr>
<td>Third alternative</td>
<td>Offering credit programmes, such as installment discounts in certain periods after the debtors satisfy the applicable terms and conditions, one of which is paying the installments on time</td>
</tr>
</tbody>
</table>

Source: Research Data (2020)

Those three alternatives above are aimed to keep the credits granted by Bank X (or other banks) at stage 1, meaning that the credits are in high grade without arrears. Consequently, banks only need to add CKPN and recognise it for 12 months, not for the credit terms. Hence, Bank X and other banks can mitigate the increase of CKPN without violating the regulation, so that the profit does not decline while the company still maintains the people’s interests in investing with them, which further promote the companies’ sustainability.

4. CONCLUSION

Bank X, as a limited liability company in Indonesia, must comply with existing regulations such as preparing financial reports based on the applicable financial accounting standards as stated in the law regarding limited liability companies. One PSAK is PSAK 71 which became effective on January 1, 2020. This PSAK is a financial accounting standard for financial instruments. However, the implementation of this PSAK had an impact on banks, such as an increase in CKPN because CKPN had to be recognized and added since the first disbursement of the credit. An increase in CKPN due to the implementation of PSAK 71 might potentially decline the banks’ profits because CKPN is a reduction in profit.

Based on the analysis and discussion described in the previous section, it can be concluded that Bank X has shown thorough preparation and, thus, is well-prepared in implementing PSAK 71 in regards to CKPN. This is shown by its preparation of PSAK 71 implementation in relation to CKPN that is in line with that of the roadmap from OJK. This is in line with the institutional theory that an organisation adheres to the prevailing rules, norms, and cultures in order to obtain legitimacy, stability, and strength in its sustainability. In this context, Bank X has followed the regulations by which limited liability companies are bound to implement the applicable accounting standards, that is PSAK 71. Furthermore, Bank X follows the roadmap issued by OJK, an agency that supervises the banking industry in Indonesia. Therefore, the actions that Bank X has taken to adhere to such institutional regulations might result in the achievements of legitimacy, stability, and sustainability. Related to a very sharp decline in profit, this was not because the preparations for the implementation of PSAK 71 by Bank X were not ready, but it was Bank X's strategy to pursue that the coverage ratio of Bank X when PSAK 71 was fully implemented had exceeded 100%. Nevertheless, Bank X still faces an obstacle even though the preparations for the implementation of PSAK 71 related to CKPN are well done. The obstacle faced by Bank X is the incomplete data on the debtors. In implementing PSAK 71, banks can minimise the decline of profits due to the increase of CKPN by maintaining the credit quality at stage 1, so that they are only obliged to add CKPN and recognise it for 12 months. This can be accomplished by granting credits to the applicants who are willing to pay using the auto-debit feature and offering credit programmes. The examples of offering credit programmes are free interest or installment discounts in certain periods, which apply to the debtors who have satisfied the applicable terms and conditions, such as those who pay the installments on time every month without exception.

The authors acknowledge that the current study, however, is subject to several limitations. The first limitation is the number of interviewees in this study. This is due to limited access and time, thus I added data from the questionnaire to strengthen the research data. Second, the solutions proposed to mitigate the increase in CKPN in this study are limited to the new credit applications only without taking into account the old credits. Therefore, future researchers might want to come up with solutions to mitigate the increase in CKPN due to PSAK 71 implementation on the credits that are already granted by the banks. On top of that, Bank X should consider adopting the methods discussed in this study to avoid a decline in profits.

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Journal articles

Books

From online source


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My name is Farah Widia Defri. I was born on January 9, 1996. I live in Jakarta, Indonesia. Currently, I am a master student in accounting at Universitas Indonesia. The reason I took accounting major was because I have an interest in working in finance and want to know more about accounting and finance. Besides that, i also have interests in auditing, business and taxation. In terms of experience, I had an internship experience in the business banking division at PT Bank Mandiri (Persero) Tbk, which is one of the state-owned banks in Indonesia. The list below are the informations about my educational background:

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CONCEPTUAL STUDY ON POST COVID 19 PANDEMIC: THE IMPORTANCE IN STANDARDISATION OF FINANCIAL REPORTING STANDARDS BY SMES IN ASEAN COUNTRIES

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ABSTRACT
This paper is to explore the importance of standardisation of the Financial Reporting Standard among the ASEAN countries particularly for those Small Medium Entrepreneurs (SMEs) post COVID-19 pandemic. With the general economic downturn directly created from the impact of the COVID-19 pandemic, many SMEs are facing difficulties in accounting for its financial effects when preparing its financial statements. It is utmost important to look at implementing a common Financial Reporting Standard to the region in view also of the steady growth even during trade war between China and America and post pandemic. Standardisation of the Financial Reporting Standard in the region will allow the SMEs to mobilise their investment in the region effectively and this initiative will simplified the complication of reporting currently face by the SMEs. Mixed method will be recommend for the research in view of the intention is to collect data from the professional practitioner from the ASEAN countries to identify the norm. The outcome of the research will be recommended to the governing body for their consideration to harmonise the financial reporting standard to ensure quality information can be obtain from the financial statement for decision making by the users.


1. INTRODUCTION
The research aim is to study the compliance; quality and standardisation of reporting of SMEs in ASEAN countries and how this will impact in the way of ASEAN member countries conduct their business decision making particularly post pandemic. Currently, there is still uncertainty about the impact and the post effect of COVID 19 pandemic to ASEAN main economics such as Singapore, Thailand, Vietnam, Indonesia and Malaysia. In turn, preparers of financial statements are facing uncertainty in providing a reliable and material financial information to select the impact of the deadly virus disease. It is importance to addresses the lack of standardization of in financial reporting standard compliance on SMEs within the ASEAN countries particularly on the matters related to treatment of going concern, leasing and contingency liability and post balance sheet event. According to Yapa, Kraal & Joshi (2016) respondents of their research expressed reservations about cited IFRS adoption benefits, including increases of foreign investment and equity cost reductions; and stakeholder confidence has been eroded by the complex harmonising of principles-based “fair value” requirements. Through this study, investors would know the level of compliance, quality and standardisation of financial reporting in ASEAN. To determine impact of compliance, quality and standardisation on investors’ decision making and the ease movement flow of capital within the 9 countries. When reporting is comparable from one country to another, this will create a stronger ASEAN Economic Community.

Why is it important to have compliance in reporting? Well for one, ASEAN Investment Report 2017, prepared by the ASEAN Secretariat and the United Nations Conference on Trade and Development (“UNCTAD”), found that despite the global economic situation resulting in the overall FDI flows in ASEAN falling twenty percent to $96.7 billion in 2016.

According to Diane A.D (2018), two decades after the Asian financial crisis during 1997-1999, FDI flows in ASEAN have rebounded significantly to levels surpassing the pre-crisis apex by about 3 times. Therefore, a standardisation of financial reporting standard will be important to show a single reporting standard and to allow investor to freely move around the region.
Table 1: ASEAN GDP GROWTH 2019

![ASEAN GDP GROWTH 2019](https://theaseanpost.com/article/asean-growth-slower-forecasted)

Source: https://theaseanpost.com/article/asean-growth-slower-forecasted

Table 1 indicate the Gross Domestic Product (GDP) of ASEAN member for 2019. Malaysian SMEs contribute 38.3% of the country GDP in 2019. According to Yahoo Finance, SMEs contribute 48% of the Lion City GDP in 2019 and contribute 58% to 61% of Indonesia GDP.

However, according to Yapa, Kraal & Joshi, 2015 accounting professionals in Asean particularly Singapore, Malaysia and Indonesia strongly supported implementation of IFRS; their suggestion did not differ significantly by their background such as training, experience or professional qualifications. Respondents agreed that their countries benefited economically from Standardisation with global accounting standards. The surveyed accountants believed that pressure from international agencies was instrumental in the adoption of IFRS in the region. The findings also show that governments, the media and professional accounting bodies have supported the adoption, communication and application of IFRS.

According to Kozuharov et al (2015), standardization of financial reporting standard is crucial as it is a mean of “unified language” for business world to communication. The existing of difference reporting standard make multinational company to compare the performance of their investment in various.

According to Hung and Subramaniam (2007), a unified financial reporting is conducted via the convergence of international accounting standards and international standards for financial reporting, which would remove the barrier in the preparation of financial statements and financial information communicate in the reports in order to facilitate and enhance the quality of business communication about between or within the entities in different national economies. (Hung and Subramaniam 2007)

A clearer view of financial reporting level of compliance, quality and standardisation in the 9 countries are essential, as it will impact to investors” decision making. Furthermore, different countries define SMEs differently, this factor will be taken into consideration when choosing the SMEs in the sample.

Financial reporting serve as financial notifications in-line with the international financial reporting standards is to ensure shareholders and stakeholders are using reliable and consistent financial statements for the operations and decision making of the entity (Rudy and Madu 2009). In order to attract foreign direct investment to a country, there is a need of a continuous flow of reliable and relevant information with standardizes financial reporting in the region, on which investors will be able to make economically viable strategic decisions about best use of scarce resources (Weygandt, Kimmel, and Kieso 2012).

As refer to the above various factors discuss about the important of harmonization of the reporting standard, with the COVID 19 pandemic, it has add more uncertainty and doubt about its impact to the
economics. The reporting standard has an important role to ensure the reliability and relevant measurement will be in place to address matter such as post balance sheet event, contingency and going concern of the business entity in the region. According to Joshi (2020), public practitioner in accounting and auditing face challenges and complication to report about the COVID-19 pandemic.

1.1 Contribution

This study will able to contribute in term of important of the governing body in the region to work together to standardise the financial reporting standard so that it able to enable the quality decision making and easy compliance for those businesses who set up many chain in the region. According to Khdir (2016), it is important for all 28 members of European Union to adopt a single International Financial Reporting Standard because this will enhance communication of financial reporting to be more effective and efficient particularly on merger and acquisition. Particularly, post pandemic period may see a new wave of merger acquisition in the region hence it is important to conduct this research.

1.2 Research Question

a. Does the full compliance of financial reporting standard able enhance financial decision making?

b. Does the pandemic affect the financial reporting standard compliance?

Currently not all SME are required to get their accounts audited. Therefore, there is a potential issues of non compliance with the standards.

c. Does the financial report standardisation affect the momentum of investment post pandemic?

2. LITERATURE REVIEW

Accounting professionals in Singapore, Malaysia and Indonesia strongly supported IFRS adoption (Mahesh, Yapa and Kraal, 2016). The initial results obtained after applying the panel data methodology confirm that there is a negative relationship between information asymmetry and the disclosure of an integrated report, which indicates that using this tool to inform can help to mitigate agency problems, facilitate corporate decision making and improve the information among investors. (Isabel and Ligia, 2017). Integrated reporting implementation may be distorted by the low levels of knowledge in Southeast Asia and hence lack of demand from stakeholders. High-quality reporting generally supports capital flows into a region and thus influences economic and social well-being. (Adhariani and Villiers, 2019). Financial information quality, measured by five indicators, improves after IFRS adoption; and that the impact is more prevalent in a rules-based country compared to a principles-based country. (Sajad E. and Zaini E, 2013).

Brüggemann (2013) investigated the intended and the unintended economic consequences of the mandatory adoption of the IFRS in the EU and concluded that the study on the intended consequences generally fails to document an increase in the comparability and transparency of financial statements. On the other hand, there is a lot of evidence of positive impact of adoption IFRS on capital markets and the macroeconomic environment.

Daske et al. (2009) investigated the effects of IFRS adoption on estimating capital cost. Their results suggested that the benefits of IFRS adoption, with respect to lowering the cost of capital, are achieved only in cases involving high levels of incentives for financial reporting. The researcher also distinguished countries into two groups: “serious adopters,” which are expected to achieve better financial transparency through the IFRS, and “label adopters,” which had no incentive to report due to receiving little or no benefit from IFRS adoption.

Seyed (2014) study on 93 firms listed in Tehran Stock Exchange showed that the financial reporting quality contribute a significant positive correlation with the investment efficiency. The study found that there was a direct link between firm size and growth opportunities with investment efficiency. Furthermore, Umobong (2015) also examined the impact of IFRS on market performance for food and beverages manufacturing firms in Nigeria. Key indicators such as Earnings per share, price earnings ratio and dividend yield were selected as performance criterion. Data were collected and divided into pre and post IFRS-Comparative analysis and T test was done to ascertain influence of pre and post IFRS adoption on market performance of the firms. Findings indicate that differences on market performance between pre and post IFRS periods are not significant suggesting a weak correlation between adoption of IFRS and market performance of quoted food and beverage manufacturing firms in Nigeria Stock Exchange.

According to Price Waterhouse Cooper (2020), the pandemic only reported to World Health Organisation (WHO) in late 2019. But the severity of the pandemic was not known until almist the first quarter of 2020, hence professional accountant basically face the challenge and uncertainty to include the impact of pandemic into the financial statement as well as auditor report.
As reference to study by Gaynor (2016), Financial reporting refer to a process of reporting financial activities of business on a formal and standard way. It has been considered as an important resource for any user for decision making. The harmonization able to reduces the dount and conflict in opinion between all interested users either internally or externally. Every party involve in the preparation fo financial statement should be prepare carefully, especially the disclosure process, all transactions, the accounting policies and all judgments and opinions made by the staff involved in this process.

Jennifer Martinez-Ferrero (2014), in her study about the effect and exchanged relationships between the quality of financial reporting and other affecting variables such as fraud, profit manipulation, earnings, internal audit and control and corporate governance show that there is a direct relationship on standardise reporting standard among.

Inconsistencies in improvements to the quality of financial reporting information following IFRS adoption are caused not only by a lack of expertise among researchers and auditors but also by the situation of “pseudo adoption,” as defined by Daske et al. (2009).

Accounting regulations are not always effective because they depend on country-specific reporting incentives and enforcements. Reporting incentives could arise from an increased need for standards due to a lack of expertise in preparing local accounting standards and the presence of multinational companies and international auditors. Incentives also may arise from a need to produce high quality financial reporting due to the potential growth of 0companies and financing needs.

According to Veskaisri 2007, small and medium sized enterprises (SMEs) existence thoughtout the globe has becoming increasingly important as the SMEs has been established with local identity for various kind of business activity either in urban or rural area with government support and protection (Khalique et al., 2011).

Each economic give different classification and definition to SMEs, the categorisation are generally based on quantifiable characteristics such as paid up capital, number of staff, annual turnover or net profit (Rahman, 2001). However, a more specific definition for SMEs are define by the regulator of the respective country where their own benchmark are based on social economic factors. (Mohammad, 2012) Hence there is no universal definition of SMEs is available in literature.

As SMEs have been given certain level of exemption on annual audit since many countries such as countries such as the UK, Australia and New Zealand (Kamarudin, et al., 2012). Other countries have deregulated audits for SMEs, including Malaysia’s neighbor Singapore, Canada and European Union (EU) countries. The initiative to exempt annual audit is to give more flexibility to SMEs and cost saving (Chan, 2012). According to Collin (2010), Kamarudin et al (2012) and Salleh et al (2008), the exemption was derive from the characteristics of the SMEs where it is link to limited resources such segregation of duty and internal control system. Hence, the audit won’t provide any substantial outcome. With this situation, lot of SMEs currently not preparing financial report as per the respective reporting standard. On the other hand, Malaysian Private Entity Reporting standard (MPERS) has implement new framework with effective from 2016 to recommend additional mechanism to enhance financial reporting compliance on private entities. The initiative is to ensure local SMEs able to present their financial report on par with their peer in ASEAN.

3. PROBLEM STATEMENT

The COVID 19 pandemic has caught businesses and government off guard which subsequently may lead to huge uncertainty for next 12 months. Financial reports will be key indicator for business and government to plan and make decision. As some countries predicted a V shape recovery and some argue it will be U or even W shape recovery. But without full compliance in financial reporting standard, it is impossible to provide guidance for policy or decision maker to look into future.

SMEs play a significane role in the socio-economic development of ASEAN countries by providing major sources of employment, income and business innovations. However, these SMEs still encounter challenges and difficulties mainly concerning with the quality of financial reporting presented. Hence, due to lack of standardized, sophisticated and a well-developed accounting framework which leads to insufficiency in high quality and transparent financial reporting? With these reporting limitations, SMEs could not attract foreign capital which in turn serves as entry barrier to the international market.

4. METHODOLOGY

The research will be the primary research with questionnaire to be distributed to the 18 major accounting firms which deal with SMEs in the region to analyse their experience on the important of the subject matter. The research will be an exploratory qualitative and quantitative research. The qualitative method is a research approach which is based on interpretivism and constructivism (Sale, Lohfeld, & Brazil, 2002; Parker, 2003). The research will be more descriptive because the aim of the research is to find out to what extend ASEAN SMEs conform to the international accounting standards. Qualitative research offers holistic
perspectives on phenomena which cannot be achieved through quantitative research. Sinkovics, Penz and Ghauri (2005).

This qualitative research will be in depth in order to develop better understanding of how SMEs in Asean countries with different regulatory framework in actual practice produce financial reports in accordance with international accounting standards. Pavlo and Bertrand (2018) argued that ethnographies provide accounting researchers with untapped opportunities to discover vast reservoirs of knowledge inaccessible to other research methods, and offer a path to humanize accounting research. It recognizes that an existential objective reality cannot be captured (Basri, 2014).

Researcher will distribute questionnaire to Certified Accountant in the region to get their opinion and conduct interview with the public partitioner particularly at Rangoon, Jakarta, Bangkok, Ho Chih Minh, Kuala Lumpur and Singapore to obtain the latest norm in the region. As the first hand data from the pandemic only expect to be seen after first quarter of 2021, hence it is important to conduct interview to obtain the norm. Questionnaire and Interview question will be set base on the criteria of the research question mention in this study.

The research will also collect primary data with questionnaire to be distributed to the 18 major accounting firms which deal with SMEs in the region to analyse their experience on the important of the subject matter. The research will be an exploratory qualitative and quantitative research. The qualitative method is a research approach which is based on interpretivism and constructivism (Sale, Lohfeld, & Brazil, 2002; Parker, 2003). The extensive qualitative material can be managed and analyzed in a systematic manner. The study elaborates how NVivo will help in the analysis. Elg, U., & Ghauri, P. N. (2019).

Objective 1: To enhance compliance level of financial reporting standard amongst the SMEs in the region. The study will collect the previous literature reviews and financial reporting standard; and find out the financial reporting standardization amongst the SMEs in Europe Community influencing on the cross investment in the region. Descriptive analysis, correlation analysis and panel-unit root analysis will be tested for this objective.

Objective 2: To study the impact of COVID 19 pandemic to financial reporting. The data will be collected via interviews with public practitioner as limited data available from previous literature. Panel co-integration analysis will be employed via E-view to analyze the relationships between the pandemic and financial reporting standardization to boost investment. This will show the long-term effect and short-term effect between the variables and companies also.

Objective 3: To estimate the granger-causality between standardization of financial report and investment.

Granger-causality is between the two variables relationship such as financial report standardisation to investment or during pandemic investment and standardisation of financial report. The pandemic is being prolong, we are now researching during pandemic hence the research data to be collected for analysis from 2017(pre), 2018(pre), 2019(pre), 2020(during), 2021(forecast), 2022(forecast). A total of 50 companies from the region will be selected based on the definition of SME paid up capital size. The analysis will be base on the net profit before tax as each country implement different tax rates which will caused significant different to the profit after tax.

5. CONCLUSION

Even with the disruption of the trade war between America and China, Asean managed to record economic growth of 5.1% for 2018 mainly contributed by the strong domestic demand and foreign direct investment. However, the Asean region is facing the grim prospects of financial shocks and recession caused by the economic downturn form the Covid-19 containment measures and global disruption especially to the production supply chain. It’s important for the Asean countries to work together to have a standardized financial reporting standard to further enhance the region integrity and provide consistency to the region financial reporting standard.

The fundamental goal of the study is to emphasize on the role and the importance of financial statements to be standardized and the information disclosed in them when management decision making process at the managerial level of small and medium enterprise in Asean. The information from financial reports are most useful for managers and have a significant impact in making economically justified decisions in allocating scarce resources and in order to determine further actions for improving and expanding the business both nationally and internationally. The benefit of the information from the financial statements prepared in accordance with the International Financial Reporting Standards implies the basis for defining new guidelines in the process of designing strategies to improve the current condition of the companies.

According to ACCA report International Variation in IFRS Adoption and Practice, failure to communicate about the business performance consider as a threat to the economic as it can cause awry to share market and foreign direct investors.
Member countries that comply with IFRS will ensure consistency throughout the region in terms of reporting. This will facilitate flow of investment into member countries. Mobility of capital between member countries will be enhanced. Thus, Asean 9 will become economically resilient and comparable to their counterpart the European Community.

The company must see the need to have reliable Financial Statements in order to gain confidence and for expansion. Investor confidence will only grow if there is standardised and audited Financial Statements.

Previous research on IFRS has examined the economic consequences of the application of IFRS. Some studies have found that the IFRS has positive economic consequences for companies Beuselinck et al., 2009; Daske et al., 2008; Florou & Kosi, 2009, while others have found that it does not Clarkson et al., 2011. Leuz and Verrecchia, 2000 and Lambert et al., 2007 argued that IFRS adoption, as part of a serious commitment to transparency, could reduce information asymmetry, uncertainty, and estimation risk and, hence, should be rewarded with lower costs of capital and higher market liquidity.

REFERENCES


ASSESSING INTERNAL GOVERNANCE MECHANISMS AND PERFORMANCE EVALUATION OF MALAYSIAN HALAL-CERTIFIED FOOD COMPANIES: A PRELIMINARY STUDY

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ABSTRACT

This paper attempts to examine the extent of performance evaluation of Halal-certified food companies in Malaysia and also to investigate whether there are significant associations between the internal governance mechanisms and performance evaluation of the companies in this preliminary study. Using a self-administered questionnaire, it has been distributed among the persons who are involved directly with, and well-versed with the halal matters of food companies which are categorized as small- and medium-sized companies (or SMEs), specifically in the vicinity of Klang Valley. The findings of the preliminary study seem to suggest that internal governance mechanisms play significant roles in monitoring the performance evaluation of the Halal food companies, given that majority of internal governance mechanisms have significant associations with the halal compliance-related dimensions underpinning the performance evaluation of halal-certified food SMEs. The study contributes a fruitful insight on the role of internal governance mechanisms in overseeing the halal compliance in the first place at firm level in order to maintain food integrity. However, some limitations shall be considered due to small number of samples has undertaken in this preliminary study.

KEYWORDS: Governance, Halal, Performance, Food, SMEs.

1. INTRODUCTION

Halal food industry constitutes as one of the leading industries that undergoes a remarkable growth and great attention due to the stark unabating demand on halal food by international and local consumers. Being recognized as a prominent global halal hub, Halal food industry has made a significant contribution to the domestic economy around USD51.9 billion in 2018 (HDC, 2020). The catalysts of the growing demand of halal food can be attributed by several factors including the surging number of global Muslim populations, growing awareness on plethora of food scandals and call for food quality and safety. As consuming Halal food is a religious obligation for Muslims, Halal food can be defined as ‘a lawful and permissible food that meet the Islamic dietary guidelines that aims to protect human’s physical and spiritual being’ (Man and Yahaya, 2014). The entitlement of Halal status for food products is subject to business and social obligations held by food-producing firms in voluntarily complying to a set of Halal guidelines and procedures as stipulated by the Halal authority body (i.e. JAKIM), which allows the food producers to secure for Halal certification. Halal certification is an essential tool for business that symbolizes senses of confidence and trust that could spur consumer’s purchase intention (Awan, Siddiquei and Haider, 2015) and willingness to purchase food products (Iranmanesh, Mirzaei, Hosseini and Zailani, 2019). Halal certification is only granted for a company that is successfully managed to adhere to the Halal-related standards and guidelines as determined by JAKIM and other religious council at the state level which in parallel with the Trade Descriptions Act (TDA) 2011 (Khan, Khan and Haleem, 2019; Ahmad, Ungku Zainal Abidin, Othman and Abdul Rahman, 2018).

The TDA 2011 came into existence as a way to supersede the preceding Act 1972 that regulated Halal affairs in Malaysia (Zakaria and Ismail, 2014). The reform Act 2011 dictates that description of Halal of food products must be consistent with the ways it is sourced, processed, and handled as in accordance with the Islamic laws. Production of food products involves with the interplay between the supply and demand parties that flows from the upstream to the downstream of Halal supply chain activities. The selection of supplier with Halal status is imperative to ascertain that only eclectic sources of products which are permissible and free from cross-contamination can be supplied for the food production process. Besides, the food manufacturers also should possess a better understanding and adequate halal-related knowledge to ensure that food halal supply chain process meet the stipulated Halal guidelines. However, in the production process in which the food is handled and processed are absolutely beyond the sight and knowledge of consumers. It is important to note that most of the food manufacturers are largely among the small-medium typed companies (SMEs) which are characterized by limited in size, resources, and capital funds. Given these limitation factors, they perceived
that compliance of Halal guidelines is such complex process and incur them hefty costs of compliance which seem as major barriers for companies to be sustained in securing Halal certification (Khan, et.al, 2019) Hence, these companies are likely to shirk their responsibility from complying with such Halal-related requirements in food production, which eventually may lead to the rising of various food scandal issues such as displaying fake halal logo and alleged in cross-contamination conduct which could impair trust and well-being of consumers.

1.2. Overview of Halal Governance in Malaysia

In Malaysia, the only government authority that holds responsibility on Halal affairs mainly lies on the Jabatan Kemajuan Islam or Department of Islamic Development Malaysia (JAKIM). JAKIM is responsible in regulating, formulating and authorizing all aspects of Halal affairs, including issuing the Halal certification to the applicant or existing Halal-certified companies. Nonetheless, given this national Halal authority has various functions and tasks to be handled in relating to Halal affairs at national level has made JAKIM faced some limitations to have proper policy and monitoring due to lack of expertise and adequate Halal personnel to carry out thorough assessment at firm’s production system (Matulidi, Jaafar and Bakar, 2016; Badruldin, Mohamed, Sharifudin, Rezai, Abdullah, Abd Latif and Mahayidin, 2012). These flaw attributes may open an opportunity to food manufacturers for being neglected in halal compliance, which this malpractice may cause the existing halal-certified companies fail to sustain its Halal status (or Halal certification may be revoked). Given the compliance to Halal guidelines and application for Halal certification is such a merely voluntary practice, hence it is essential to have good governance mechanisms at firm level to improve its performance on the basis of its capabilities in sustaining its Halal certification and Halal-related guidelines and requirements.

In the conventional governance, governance can be defined as ‘an integration of individuals and institutions, public and private, in managing the public (common) affairs’ (Weiss, 2000). According to Gregory and Simms (1999), effective governance is imperative to promote efficient use of resources and it assists in increasing firm’s responsiveness towards fulfilling societal obligations as well as improving firm’s long-term performance. In Islam, there is no dichotomization between ethical practices and commercial activities in business affairs (Nik Hassan, 2002), thus dictates that internal governance factors are functioning as leaders and trustees to serve organization for holistic betterment (Bardai, 2002). As far as well-beings of consumers and other firm’s stakeholders are concerned, halal food responsibility lies on the shoulders of firm’s internal governance organs to monitor their firm’s overall performance. Most of the motivations of the SMEs to venture into Halal compliance practices are due to perceived benefits that could reflect to the positive outcomes of business (Ab Talib, Abdul Hamid and Ai Chin, 2015). Unlike in the large companies where the agency problem is prevalently occurred due to control and ownership are held by different parties, however this phenomenon is rarely happened in the context of SMEs as they are run by family business with higher concentration of ownership (Umran, Johl and Ibrahim, 2015; Claessen, Djankov and Lang, 2000). In fact, top management at the helm of Chief Executive Officer (CEO) of SMEs also plays a complementing role with board of directors in overseeing the business operation and adherence to sets of standards and procedures for the benefits of its stakeholders (Fotopoulos, Psomas, and Vouzas, 2010; Nik Wan, Abu Bakar, Razak and San, 2014). Consistent with the business pendulum, firms are no longer viewed as profit-motive firms, but they are expected to perform social needs and expectations which ultimately could give positive reciprocal effects between the firm and its stakeholders (Freeman, 1984).

Several prior studies which examined the effects of compliance with Halal requirements through securing Halal certification have proven that such ethical compliance has positive effect to business performance (Ab Talib, Ai Chin and Fischer, 2017; Yusuf, Oyelakin, Abdul Shukor and Ahmad Bustamann, 2017). However, such compliance practices are largely driven by the mimetic motive and institutional factors (Ab Talib, Md Sawari, Abdul Hamid and Ai Chin, 2016). External motivations on Halal compliance may be not able to sustain longer rather than being spurred by firm’s internal governance mechanisms. Based on the Halal guidelines as stated in the Halal Assurance System (HAS), it outlines a pre-requisite of internal Halal committee (IHC) as an additional organ of the firm’s internal governance that is responsible to ascertain that each Halal guideline is adhered for securing of halal certification, consistency of compliance of Halal food procedures are successfully fulfilled and prevent the non-conformance to the Halal guidelines. However, having an IHC in addition to the existing governance mechanisms may vary across firms as companies need to bear for extra costs. Concerning this matter, thus this study attempts to examine the extent of performance evaluation of Halal-certified food companies in Malaysia and also to investigate whether there are significant associations between the internal governance mechanisms and performance evaluation of the Halal-certified food companies in this preliminary study. The review of literature pertaining to the Halal compliance and top management’s responsibility is further discussed in the next section.
2. LITERATURE REVIEW

2.1 Conventional governance vs Islamic governance

The terminology of ‘governance’ is derived from a Greek word “kyberman” which means to steer, guide or govern (Abu Tapanjah, 2009). Based on the definition of Organization for Economic Co-operation and Development (OECD) (1999), governance is a ‘set of relationships between a company’s management, board, its stakeholders and other stakeholders’. This buzzword of governance has been widely known and largely used in the public listed companies as a ‘corporate governance’ (CG) as a way for improving the performance, transparency and disclosure of companies in this elite group economy. According to Dusuki (2011), the conventional approach to CG has focused mainly on the principal–agent relationship (in an agency theory) between the managers and the shareholders (principals) of corporations in delegating tasks of management to managers (agents) in fulfilling at one-side interests. As the realm of CG has been widely debated and deliberated to suit with the current phenomenon and fulfill interest of various parties, the traditional shareholder value-centred view of CG has been shifted to CG structure that protects the interests of a wider circle of stakeholders (Dusuki, 2011; Mat Dangi 2013, Hasan, 2009). The extant literature suggests that good CG practices rely on how well companies manage the diverse expectations and interests of various stakeholder groups.

As Halal industry brings the religious values and emphasizes on social benefits, this is in line with the fundamental concept of the Islamic corporate governance which lies on equal treatment and mutual benefits of ummah (people). Based on concept of fair and justice. Islamic corporate governance accentuates the function of a leader as ‘Khalifah’ and trustee as a servant of Allah (God) in ingeniously managing and governing resources in business activities for the benefits of the stakeholders (Dusuki, 2011; Mat Dangi 2013, Hasan, 2009; Lewis, 2005). Islamic governance which shades under an umbrella of Islamic framework, provides proper guidelines in conducting (business) activities on the basis of human-to-human relationships and human-to-god relationships that is associated with the elements of Islamic practical systems; faith and beliefs, morality and ethics and Shariah principles (Saroni, 2008). Choudhury and Hoque (2006) highlighted the insights of governing process that considers both social and economic values based on the four key principles of the governance conduct from an Islamic view; principle of unity of knowledge, principle of justice and fairness, principle of productive use of resources and principle of circular use and relations between the three former principles.

2.2 Governance of SMEs and Halal industry

Although the principles of Islamic governance provide an ideal governance framework which promotes high ethics values and moral principles in business conducts, however the real nature of the business environment is highly dominated by non-Muslims. In the context of SMEs, governance practices are still lacking and at infancy stage, given the flaw attributes of the SMEs and weak regulations and enforcement by the SMEs’ regulatory bodies (Huay and Salman, 2013). Since Halal industry forms a part of SMEs-typed companies, Halal regulatory body (JAKIM) is responsible in monitoring and regulating the Halal compliance amongst SMEs through providing proper guidelines in the Halal Assurance System (HAS) 2011 by introducing the function of IHC as an essential organ of a company that play significant roles in overseeing the implementation of Halal compliance at firm level. For instance, Md Noor and Noordin (2016) present a conceptual framework of halal governance structure at an institutional level (JAKIM) being as the main player in issuing Halal certification (HC) which consists of operational and governance aspects throughout the certification process. At the governance layer, it is proposed the role of HC coordinator whose function is to address halal governance matters and involves in auditing role on halal certification bodies under a purview of Islamic advisor. They proposed a revised halal governance structure to be included the functions of certified food technologist or technical auditor on inspection of product’s contents and the appointment of certified Shariah auditors and surveillance auditors for site inspection and monitoring matters.

Although there are number of studies have been undertaken on the governance, however governance matters are given more focus on the large companies. Unlike the large-typed companies, there are few studies have been documented on the internal governance of small-medium type companies especially focusing on halal industry, as this industry is at growing stage and requires various supports from relevant and related parties. At firm level, the implementation of halal procedures is subject to the voluntary action of companies and such implementation of halal compliance may be undermined by the internal management due to lack of understanding and knowledge on halal affairs. For instance, Khan, Khan and Haleem (2019) have identified that weak support from internal management has caused the poor enforcement and compliance of Halal procedures and guidelines. Even though there are strong external governance roles at national level which is functioning to motivate and encourage the potential and existing halal-certified companies to continuously
comply with the Halal standards and procedures, however the utmost important roles lie on the internal governance mechanisms as the critical factors that could influence the effective implementation of halal food management systems. Their study also found that top management commitment, customer focus, supplier management, halal training and policy and procedures constitute as essential elements in the halal implementation.

Most of the prior studies on halal governance are intensively confined on external governance by the government authorities (Mohd Noor and Noordin, 2016; Saad, Abd Rahman and Muhammad, 2016; Shafii, Zubir and Rahim, 2018; Noordin, Mod Noor and Samicho, 2014). Md Noor and Noordin (2016) deliberated on the current ecosystem of halal governance accentuates more on the external factors of market demands and competition rather than the internal factors of governance which involves the business strategy and corporate culture at firm level. Given the Halal industry experiences the unstandardized governance system at each state level, their study also suggested to enhance the efficiency of halal governance certification through the aspects of political, economic and institutional dimension of governance, improve a number of experts and personnel of halal certification and segregate roles into operational and governance functions.

It is realized that there are only few studies have been undertaken to examine and describe the roles of internal governance mechanisms in the halal compliance (Rahim, 2017; Khan, et.al., 2019; Ahmad, Ungku Zainal Abidin, Othman and Abdul Rahman, 2018). Consistency in halal compliance practices is important to assist in securing and sustaining Halal certification for long-term. Unlike in previous performance-related studies which emphasize the financial aspect, this study accentuates the non-financial aspects as a performance evaluation of Halal food sector. For instance, Rahman, Tareq, Yunanda and Mahdzir, (2017) which measured the performance of Halal industry, however the performance measurement is focused on financial evaluation. Based on the stakeholder theory, as the Halal sector mainly focuses on the Halal supply chain’s flow of activities to ensure the food integrity, there are several elements to be taken into account to determine the performance of Halal-certified companies especially in relation to Halal compliance practices including supplier selection, production process that comply with Halal guidelines, Halal training, commitment of workers and company’s policy (Ahmad, et.al., 2018) that concerning not only on the profit motive but deliver ethical values through business activities for the well-beings of the stakeholders (Freeman, 1984). Thus, it is important to have strong and supportive internal governance mechanisms to ensure that indications of persistence in halal compliance is in place. Although the company’s management is perceived as lack of knowledge and understanding of halal matters which lead to the non-compliance of violation of halal implementation, reliance on the external governance structure could not be a promising factor that food-producing companies could adhere to the Halal standards. The external governance is only functioning to bridge the gap on the lack of implementation of halal compliance at firm level. In fact, Rahim (2017) argued that the roles of internal governance are still at infancy stage and the function of internal halal governance including top management, board of directors, internal halal executive/ committee shall be strengthened and acknowledged in order to ensure the effective implementation of halal compliance at firm level. Rahim (2017) also advocated that internal halal governance system is crucial to minimize the likelihood of non-compliance and assist in the effectiveness of Halal operational system. Given the above deliberation of limited prior studies and findings, thus it leads to the following hypotheses development:

H1: There are significant association between the internal governance mechanisms and performance evaluation of Halal-certified companies.

H2(a): There are significant association between the internal governance mechanisms and customer focus dimension of performance evaluation of Halal-certified companies.

H2(b): There are significant association between the internal governance mechanisms and supplier management dimension of performance evaluation of Halal-certified companies.

H2(c): There are significant association between the internal governance mechanisms and halal training dimension of performance evaluation of Halal-certified companies.

H2(d): There are significant association between the internal governance mechanisms and employees’ commitment dimension of performance evaluation of Halal-certified companies.

H2(e): There are significant association between the internal governance mechanisms and policy and procedures dimension of performance evaluation of Halal-certified companies.

3.0 RESEARCH METHODOLOGY

3.1 Data Sampling and Data Collection Procedure

This preliminary study is a quantitative in nature, in which it was carried out at the first stage of data collection involving Halal executives/managers who are responsible with their company’s Halal affairs and/or operational managers who are well-versed with operating matters of Halal-certified companies. The sample of companies
were Halal-certified companies which are situated in the vicinity of Klang-Valley (Kuala Lumpur and Selangor), as both locations are major cities and constitute the highest number of food-related companies. The data of companies was retrieved from JAKIM, with the list number of companies as of 31 December 2018 in Kuala Lumpur and Selangor was 22 and 82 companies, respectively. There were 50 respondents that have expressed their willingness to respond towards the questionnaire. After collecting the questionnaires from the respective respondent, it has been identified that there were 5 only unusable questionnaires due to some incomplete responses of the questionnaire. Overall, only 45 usable questionnaires that can be utilized in this preliminary study. Furthermore, reliability and normality tests have been tested prior to descriptive and inferential analyses are performed, and both preliminary tests were found satisfy for the subsequent analysis. Since the data of the study is found unevenly distributed at less than 5%, therefore the appropriate of subsequent analysis is the utilization of non-parametric statistic (i.e. Spearman bivariate correlation).

3.2 Measurement of variables

In order to meet the objective of the study, the questionnaire was divided into two sections: demographic profiles of the respondent and company and the measurement of independent and dependent variables (i.e. internal governance mechanism and performance evaluation). The questionnaire employs Four-point Likert scale as it eliminates the neutral level which offers opportunity the respondents to answer neither range of agree nor disagree statement (Dumas and Redish, 1999). As far as the Halal food is concerned, the reason behind the usage of Four-point Likert scale is to encourage the respondents to provide reliable and truth opinion on the real practice or implementation of Halal compliance among the Halal-certified companies. There are two variables constitute in the study; independent variable and dependent variable, which comprises of top management’s commitment, supports from BODs, internal halal committee and CEO’s commitment (independent variables); whilst performance evaluation acts as the dependent variable, with several dimensions which underpinning the performance evaluation variable including customer focus, supplier management, halal training, employees’ commitment and policy and procedure of the company.

4. DISCUSSION OF FINDINGS

Table 1: Descriptive Analysis of Company’s Profile (n= 45)

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of employees</td>
<td>&lt; 20 employees</td>
<td>10</td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>20 – 75 employees</td>
<td>12</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>76 – 100 employees</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>101 – 150 employees</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>151 – 200 employees</td>
<td>18</td>
<td>40.0</td>
</tr>
<tr>
<td>Category of product</td>
<td>Processed food</td>
<td>25</td>
<td>55.6</td>
</tr>
<tr>
<td></td>
<td>Ready-to-eat food</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>Confectionery</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>Beverage</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>Frozen Food</td>
<td>6</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>Supplement-related product</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>Ownership</td>
<td>Muslim</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td></td>
<td>Non-Muslim</td>
<td>31</td>
<td>68.9</td>
</tr>
<tr>
<td>Company age</td>
<td>1 – 5 years</td>
<td>5</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>6 – 10 years</td>
<td>16</td>
<td>35.6</td>
</tr>
<tr>
<td></td>
<td>&gt; 10 years</td>
<td>24</td>
<td>53.3</td>
</tr>
</tbody>
</table>

Table 1 above depicts the descriptive analysis of company’s profile, in which majority of the respondents were from medium-typed companies which are in the range of not more than 200 employees (40%), while the second highest was among the small size companies with a range of 20-75 employees (26.7%), and the remaining respondents were largely from a small-typed companies. Most of the respondents were from companies which mainly involved in producing processed foods (55.6%), bakery-based food (6%) and frozen food (6%). Majority of the food producers were largely owned by non-Muslim manufacturers. This is consistent with the prior studies which conjectured that business environment is considerably dominated by non-Muslims (or non-Malays) and there is no circumvention in producing food-related products among the different ethnics/religions as long as food production is in compliance with stipulated national authority’s Halal
guidelines and requirements. In addition, majority of the companies have been established and are operating in more than a decade in the food industry.

**Table 2: Descriptive Analysis of Respondents’s Profile (n= 45)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>8</td>
<td>17.8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>37</td>
<td>82.2</td>
</tr>
<tr>
<td>Age</td>
<td>&lt; 30 years</td>
<td>11</td>
<td>24.4</td>
</tr>
<tr>
<td></td>
<td>31 – 40 years</td>
<td>26</td>
<td>57.8</td>
</tr>
<tr>
<td></td>
<td>41 – 50 years</td>
<td>8</td>
<td>17.8</td>
</tr>
<tr>
<td>No of years working in current company</td>
<td>1 – 5 years</td>
<td>19</td>
<td>42.2</td>
</tr>
<tr>
<td></td>
<td>6 – 10 years</td>
<td>12</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>&gt;10 years</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td>No of years working in food industry</td>
<td>1 – 5 years</td>
<td>12</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>6 – 10 years</td>
<td>13</td>
<td>28.9</td>
</tr>
<tr>
<td></td>
<td>&gt;10 years</td>
<td>20</td>
<td>44.4</td>
</tr>
</tbody>
</table>

Table 2 above depicts the descriptive analysis of the respondents’ profile, as majority of the respondents were female (82.2%) with age between 31-40 years old (57.8%) who are in the midst of developing their working experience in this food industry. Most of them were well-experienced in the food industry as they have been working in the current working place between 1-5 years (42.2%) and have been in the food industry for more than 10 years (44.4%). This implies that the respondents have gained a substantial amount of job experience and get similar experiences in the field of food industry at few numbers of food companies in the same industry.

**Table 3: Response of Dependent Variables**

<table>
<thead>
<tr>
<th>Main Theme</th>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
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<tr>
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<td>3.71</td>
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<td>12</td>
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<tr>
<td></td>
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<td>-</td>
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<td>3.49</td>
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<tr>
<td></td>
<td>Item 4</td>
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<td>3.62</td>
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<td>Item 5</td>
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<td>31</td>
<td>3.69</td>
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<tr>
<td></td>
<td>Item 6</td>
<td>-</td>
<td>-</td>
<td>11</td>
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<td>3.76</td>
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<td>Supplier Management (SM)</td>
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<td>-</td>
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<td>16</td>
<td>28</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Item 2</td>
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<td>Halal Training for employees (HT)</td>
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<td>-</td>
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<td>16</td>
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<td>11</td>
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<td></td>
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<td></td>
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<td>-</td>
<td>4</td>
<td>29</td>
<td>12</td>
<td>3.20</td>
</tr>
<tr>
<td>Employees’ commitment (EC)</td>
<td>Item 1</td>
<td>-</td>
<td>-</td>
<td>21</td>
<td>24</td>
<td>3.53</td>
</tr>
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<tr>
<td></td>
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<td>-</td>
<td>1</td>
<td>29</td>
<td>15</td>
<td>3.31</td>
</tr>
<tr>
<td>Policy and procedure (P&amp;P)</td>
<td>Item 1</td>
<td>-</td>
<td>-</td>
<td>18</td>
<td>27</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Item 2</td>
<td>-</td>
<td>-</td>
<td>31</td>
<td>14</td>
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<td>Item 4</td>
<td>-</td>
<td>-</td>
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<td>25</td>
<td>3.56</td>
</tr>
<tr>
<td></td>
<td>Item 5</td>
<td>-</td>
<td>-</td>
<td>29</td>
<td>16</td>
<td>3.36</td>
</tr>
</tbody>
</table>
Based on the Table 3 above, majority of the respondents were agreed that their companies are highly emphasized on strengthening customer focus through ascertaining for cleanliness, comply with Halal management system, and display Halal logo on products and label of food ingredients. They were also agreed that their companies are aware with the supplier status in order to ensure that their sources of food materials are derived from the Halal-certified suppliers. However, there were only a small number of companies which were unable to confirm their supplier’s Halal status. The supplier’s Halal status in an utmost important in the Halal issues where the food sources are primarily derived from. In addition, majority of the respondents were agreed that their companies equipped their employees with better Halal knowledge and understanding through attending Halal training and/or workshops. However, there were only a small number of companies which did not provide halal training for the employees due to unable to bear for higher training costs. Nonetheless, all the respondents were agreed that their companies complied with Halal standards and their motive and mission of Halal compliance were to exude that they cared for people’s well-beings. Majority of the companies have top management team that delivers their awareness on the Halal matters through the establishment of Halal committee, which aims to ensure that Halal guidelines are in compliance among the firm’s employees and showed their high commitment towards Halal compliance. However, there were still a small number of companies that did not have Halal committee at firm level due to high costs of implementation and perceived that manifestation of Halal commitment is an arduous task.

Table 4: Spearman Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>P&amp;P</th>
<th>CF</th>
<th>SM</th>
<th>EC</th>
<th>HT</th>
<th>Performance evaluation (PE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top mgt</td>
<td>**.000</td>
<td>**.009</td>
<td>**.0041</td>
<td>**.004</td>
<td>**.001</td>
<td>**.000</td>
</tr>
<tr>
<td></td>
<td>(.668)</td>
<td>(.500)</td>
<td>(.403)</td>
<td>(.539)</td>
<td>(.625)</td>
<td>(.640)</td>
</tr>
<tr>
<td>BODs</td>
<td>*.002</td>
<td>.137</td>
<td>.056</td>
<td>*.019</td>
<td>**.006</td>
<td>**.004</td>
</tr>
<tr>
<td></td>
<td>(.569)</td>
<td>(.300)</td>
<td>(.38)</td>
<td>(.455)</td>
<td>(.522)</td>
<td>(.549)</td>
</tr>
<tr>
<td>IHC</td>
<td>**.000</td>
<td>**.017</td>
<td>*.025</td>
<td>*.029</td>
<td>**.009</td>
<td>**.001</td>
</tr>
<tr>
<td></td>
<td>(.757)</td>
<td>(.465)</td>
<td>(.440)</td>
<td>(.428)</td>
<td>(.500)</td>
<td>(.609)</td>
</tr>
<tr>
<td>CEO</td>
<td>*.012</td>
<td>.114</td>
<td>.103</td>
<td>*.022</td>
<td>**.006</td>
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<tr>
<td></td>
<td>(.637)</td>
<td>(.239)</td>
<td>(.246)</td>
<td>(.341)</td>
<td>(.523)</td>
<td>(.523)</td>
</tr>
</tbody>
</table>

Note:
** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

From the Table 4 above, it depicts that majority of the relationships between the internal governance mechanisms and performance evaluation and each components of performance evaluation of Halal-certified companies have positive and significant associations between the variables. However, only the associations between BODs and customer focus and supplier management, and between CEO and customer focus and supplier management failed to have positive and significant link between them. These results denote that BODs and CEO only have certain influences on the policy and procedures of companies in doing halal compliance practices, motivate employees’ commitment and halal training. Nonetheless, top management and internal halal committee play significant roles in monitoring, motivating and supporting for the overall performance evaluation of companies towards halal compliance practices as well as each component underpinnings the performance evaluation of companies. This study is unable to relate with the similar studies in the breadth of Halal industry since there is no empirical studies have been undertaken in assessing between the link of internal governance mechanisms and performance of Halal food companies, to date.

Table 5: Regression Analysis

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.528*</td>
<td>.279</td>
<td>.207</td>
<td>.010*</td>
<td></td>
</tr>
</tbody>
</table>

| a. Predictors:(constant) – CEO, TopMgt, IHC, BOD |
| b. Dependent variable: PE |

Table 5 above shows the results of regression analysis that is used to explore the relationship between the predictor(s) and dependent variables, and the results seem contradicted to the results of correlation analysis.
which fail to find the significant associations between the tested variables (sig. value at more than 5%). Since this is a preliminary study which is undertaken with a number of sample of companies is less than 50, this implicitly seems to suggest that this small sample of companies was unable to generalize the whole population and calls for additional number of samples to allow the results to produce a relative generalization of the samples as being recommended by Tabachnick and Fidell (2007).

5. CONCLUSIONS

This preliminary study is undertaken in order to gain an initial insight and understanding on the level of performance evaluation among Halal-certified companies in their compliance to the Halal-related guidelines and requirements, and to examine whether the internal governance mechanisms of SMEs are able to exert influence towards the performance evaluation of the companies. Being the essential governance factors within the company, the functions of top management, CEO, board of directors and internal Halal committee from the view of stakeholder theory are perceived as crucial mechanisms that are responsible in overseeing and steering all the operational activities in the halal food production to be under safety control and in compliance with Halal-related standards and guidelines for the benefits of the firm’s constituencies. This is imperative to gain their stakeholders’ confidence and trust towards not only on the integrity of food production, but also attributes to the firm’s business awareness and sustainability. From the findings, it can be concluded that majority of the governance factors plays significant roles in exerting influence towards the performance evaluation pertaining to Halal compliance and Halal-related process from the upstream to downstream of Halal-supply chain activities. Nonetheless, the existing studies on governance and Halal compliance amongst SMEs are still under-researched and it is suggested that future researches shall be undertaken to scrutiny the functions of ownership factors and integration between external and internal mechanisms in the Halal pursuits which are essential in promoting the performance evaluation of companies in capabilities to sustaining in Halal compliance at firm level, either in empirical and qualitative studies. Since this is a preliminary study, further number of samples is required to produce the reliable and generalization of the whole population from the larger samples of companies.

REFERENCES


Author’s Biography

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WOMEN ON BOARDS AND FIRM PERFORMANCE IN MALAYSIA - POST IMPLEMENTATION PERIOD

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ABSTRACT

In 2011, the Malaysian Cabinet approved a policy that by 2016, the board of directors of all listed companies in Malaysia should consist of at least 30% women. This research examines the relationship between the existence of women on boards of directors and Malaysian listed companies’ performance after the effective implementation of the policy. This research also examines the qualifications of women directors, women directors on audit committees, women directors as CEOs or Chairman, their age, tenure and independence. All of these features are examined in relation to return on assets (ROA). The study utilises resource dependence theory as the basis to explain the relationship between women on boards and firm performance. To achieve the research objectives, the annual reports of the top 100 public listed companies from 2016 to 2018 are examined using panel data analysis. The results show that there is a significant positive curvilinear relationship between women on boards and firms’ financial performance. When examining women in audit committee, it is found that there is a significant negative curvilinear relationship with firm performance. Furthermore, this study finds that there is a significant positive relationship between women as CEOs or Chairman and firm performance. This research contribute to the existing literature on women on boards from the perspective of a developing nation. The results could motivate listed firms in Malaysia to appoint more qualified women as members of the boards in order to not only adhere to the government policy but also gained benefits in term of company performance.

KEYWORDS: Women directors, firm performance, public listed companies, women audit committee.
TRACK 5B
BUSINESS
FACTORS INFLUENCING SUSTAINABLE WASTE MANAGEMENT BEHAVIOUR OF ACADEMIC STAFFS

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¹,²Faculty of Business, Economic & Social Development, Universiti Malaysia Terengganu
(*Corresponding author: marhana@umt.edu.my)

ABSTRACT

There is a lack of research on sustainable waste management behaviour (SWMB) among academic staffs. Hence, the objective of this study is to examine the effect of attitude, subjective norm, and perceived behaviour control on SWMB. This study employed the theory of planned behaviour (TPB) as the underlying theory. The sample for this study consisted of 252 academic staffs from the top three sustainable universities in Malaysia listed by the UiGreenMetric in 2018. The academic staffs were surveyed by using an online and self-administered survey. The data were analyzed by using SmartPLS 3.2.8. The results showed that attitude, subjective norms, and perceived behavioural control have a positive effect on SWMB. This study makes significant contributions to both theory and practice. The study fills in the literature gap and supports the TPB theory. This study provides empirical evidence on the effect of main TPB variables namely; attitude, subjective norms, and perceived behaviour control on a new variable which is SWMB through a quantitative research approach to explore all three of the 3Rs to study academic staffs’ waste management behaviour in the campus. From the managerial perspective, the results of this study provide empirical evidence on factors that affect SWMB among academic staffs. This information is crucial to managers and policy makers in order to plan for strategies to engage academic staffs with SWMB. Managers and policy makers should focus on conducting more campaigns on sustainable waste management for academic staffs. The campaigns would be able to enhance academic staffs’ attitude, subjective norm and perceived behavioural control towards practicing SWMB for a more sustainable campus in the future.

KEYWORDS: sustainable waste management behaviour, attitude, subjective norms, perceived behavioural control, theory of planned behaviour
INFLUENCE OF TA’AWUN (MUTUAL COOPERATION) ON RESPONSIBLE CONSUMPTION BEHAVIOR AMONG RESIDENTS OF A UNIVERSITY ACCOMMODATION

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ABSTRACT

Collective responsibility works with mutual cooperation among citizens. The world will be peaceful, prosperous, and justice if all citizens collectively work to achieve a sustainable world. This study explores the efforts by a group of responsible consumption advocacy in a university to create responsible consumption behaviour among residents of a university accommodation. Since the establishment of the university accommodation in 1997, the residents have wasted more than 1 tonne of food weekly. Nobody cares or bothers to correct this irresponsible behaviour. This advocacy group worked with the management of the accommodation and residents’ committee to create responsible consumption behaviour for the residents with several joint programmes within six months. The advocacy group has facilitated various responsible consumption activities on mutual cooperation with all 320 unit leaders of the accommodation, staff of the accommodation management, and municipal council. A total of 600 out of 1280 residents participated in the activities within six months. After the completion of 30 engaging activities, the advocacy group approached three staff from the management and six unit leaders of the accommodation through personal interviews. The main objective of the personal interview is to obtain the views of the management and residents of the accommodation on the influence of ta’awun in engaging with people for responsible consumption activities. The results of the personal interview showed that mutual cooperation is essential to sustain collectivism in educating people to be responsible for consumption. This study has immediate implications for the practice of mutual cooperation between the management of the accommodation and the residents with family values, trust, and bonding instead of adversarial for the sake of live and livelihood. As for the policy, the local authority to provide community programs with wholesome, holistic, and inclusiveness neighborhood.

KEYWORDS: Ta’awun (mutual cooperation), Responsible consumption, University accommodation

1. INTRODUCTION

In this section, it provides a description of the project. Next, it states the purpose of the project and specifies the problem statement. While stating the significance of the project, it also provides operational terms for this paper.

Food waste has been a serious issue in Malaysia. An NGO named Poverty Pollution Persecution (2019) reported a total of 16,688 tonnes daily of food being wasted by Malaysians. The number will increase by more than 20% during festive seasons. In terms of value, every Malaysian has thrown food worth more than RM3,000 yearly. In terms of landfills to dump the waste, about 300 sites or equivalent to the size of Negeri Sembilan state. Food waste constitutes more than 50% of the solid waste at the landfills.

This paper argues that we have to stop food waste. Firstly, food is our basic need that should not be wasted. Secondly, our land should not be used to dump our food waste, especially when good lands can be used for housing and public infrastructure. Thirdly, wasting food means wasting our money. We can use our savings for our future or for the development of our society.

In this paper, we concentrate on responsible consumption behaviour among customers of accommodation in a university.

This project is very important for the university community because it can be used to show the role model to society. As the leader of the sustainable development agenda, which is in line with Islamic teachings, this university should be a role model to all. The ideal outcome of responsible food consumption will be zero food waste. Excessive eating is not good either because this can cause health problems such as obesity, diabetes, and heart problem.

We are using several terms in this paper to ensure common references, such as responsible consumption, residents, café, accommodation, and sustainable development. For us, responsible consumption means we have to know the reason for consumption. For example, we have to ask why we eat. Do we have to eat a lot? Residents in our project refer to those who are occupying the residents more than 6-months and they are
frequenting the café of the accommodation to buy food as take away or dine in. Our scope in this project will be residents or occupants of accommodation in one of the accommodations. Based on the problem related to consumption lifestyle, this study intends to explore qualitatively the context through a personal interview with the management of the accommodation and representative of the residents to provide the meaning for such problematic consumption styles. The feedback from the informants will not for generalization, but to understand the contexts of consumption lifestyle.

2. LITERATURE REVIEW

In our literature survey, we have identified several aspects: the drivers for irresponsible consumption, commercialisation factors, moral obligation, religious effect, national policies, and propositions.

Drivers for irresponsible consumption. Irresponsible consumption does not occur spontaneously. There are many reasons for irresponsible consumption, namely, lack of campaigns (Kasavan et al, 2019; Ahamad & Ariffin, 2018), active commercialization advertisement (Kasavan et al, 2019; Pae, 2016), and trending lifestyle (Nam & Hwang, 2019; Kamenidou, 2019). Needless to say, the strong influence of external factors deserves counter-campaigns.

The lack of campaign for responsible consumption leads to over food consumption and food waste. According to Kasavan et. al. (2019), while the commercial campaign is very active, there is a lack of campaigns to be responsible for spending and consumption. However, Ahamad & Ariffin (2018) argued that university students are not spared from irresponsible food consumption although university students are exposed to knowledge tradition. Knowledge without a good attitude and strong conviction in practice will have no impact on the responsibility of consumption.

Active commercialization advertisement has an impact on over consumption of food. Nam & Hwang (2019) argued that consumers who lack a sense of responsibility always became victims of over consumption (Pae, 2016; Ahamad & Ariffin, 2018). In fact, lack of responsibility for own consumption led to addiction (Pae, 2016; Kamenidou et al, 2016).

Trending lifestyle among consumers is another driver for over consumption, particularly addictive food consumption. As young consumers, university students are easily influenced by consumptions lifestyle or curiosity to follow others (Nam & Hwang, 2019; Kamenidou et al, 2019). In that sense, university students lost their conscience to practice what they learned (Ahamad & Ariffin, 2018).

In conclusion, irresponsible consumption led to addictive, over consumption, a trendy lifestyle, and deactivated knowledge and virtue.

Commercialisation factors. Profit maximization is always the main bottom line for for-profit entities. Commercialisation and commoditization are always drivers for profit maximization. Over consumption of food or food, addiction is attributable to aggressive commercialization (Anderson & Anderson, 2020), consumptive behavior (Papargyropoulou et al, 2019; Lopez-Fernandez, 2020), and materialistic lifestyle (Choi & Johnson, 2019; Anderson & Anderson, 2020).

The commercial sector has never stopped encouraging consumers to overspend on every product and service. Food commercialization has been very dominant (Lopez-Fernandez, 2020; Poverty Pollution Prosecution, 2019; Papargyropoulou et al, 2019). According to Lopez-Fernandez (2020), marketers have been assisting customers to subscribe to addictive and overspending lifestyle as part of consumption behavior. The commercial approach to consumption has not been encouraging consumers to practice food saving and judicious spending (Papargyropoulou et al, 2019).

Apparently, consumers tend not to be rational in consumer decision making in the presence of active and aggressive marketing activities. The dominance of materialism and hedonism instilled by the commercial sector has led to irresponsible consumption (Anderson & Anderson, 2020; Lopez-Fernandez, 2020). According to Anderson & Anderson (2020), the profit maximization motive has encouraged marketers to intensify aggressive marketing with a huge budget. The short-term thinking companies have made both producers and consumers irresponsible in consumption and production (Choi & Johnson, 2019; Jermsittiparsert et al, 2019).

Moral obligation. A moral obligation should be common sense to all consumers. Consumers have no reason to waste food due to over consumption or addiction to food consumption (Amirudin & Gim, 2019; Gunawan, Permatasari & Tilt, 2020). The moral obligation has been developed at various levels of education since childhood (Song & Kim, 2018; Schlaile, Klein & Bock, 2018; Golob et al, 2019).

There seems to be a chain reaction. Food producers overuse resources in production due to the increasing demand for food consumption. As an encouragement to consumers to keep consuming food, the producers convince the consumers that they do not need to worry about food waste due to easy access to food sources globally (Amirudin & Gim, 2019; Golob et al, 2019).
University students should practice judicious spending and responsible consumption. There have been less pull and push factors to make university students over consume and waste food. According to Poverty Pollution Prosecution (2019), 17,000 tonnes of daily food waste in 2020 will need the size and capacity of Kuala Lumpur Twin Towers to dump all food waste. On average, each individual consumer in Malaysia throws food waste amounting to RM3,000 yearly. If half of the Malaysian population wastes food then in total, approximately RM48 million would have been wasted. On top of that, the local authorities have to pay for waste management and landfill for more than RM10 million yearly. In this regard, producers and consumers should have moral obligation instead of driving for over consumption (Golob et al, 2019). There is an urgent need for local authorities and university management to work together in addressing food waste at universities. It is timely for aggressive calls on collective responsibility in educating consumers about responsible consumption. The university community must adapt to responsible consumption (Rada et al, 2020; Golob et al, 2019; Gunawan, Permatasari & Tilt, 2020). An indifference to responsible consumption cannot be allowed to persist (Amirudin & Gim, 2019). Every consumer and producer should be ethical and socially responsible (Song & Kim, 2018). Consumers should not be selfish but to think about the consequences on others (Schlaile, Klein & Bock, 2018). Consumers have unhindered freed to make their own decision. However, freedom should be exercised with judicious spending and consumption (Amirudin & Gim, 2019). All parties have to participate in this collective responsibility which has yet to be ubiquitous (Gunawan, Permatasari & Tilt, 2020). Producers and consumers should embrace the moral obligation of responsible consumption (Golob et al, 2019), whereas consumers should also think about the consequences of their action (Schlaile, Klein & Bock, 2018). Food consumption among students needs the attention management of the university and cooperation with all stakeholders (Rada et al, 2020). They need to practice ethical values and absorb the spirit of social responsibility for personal growth and development (Song & Kim, 2018), realizing that greediness and irresponsible behavior should be avoided due will lead to bad consequences (Schlaile, Klein & Bock, 2018).

Religiosity effect. Religion plays a very important role to educate people to consume responsibly. Religion invites its followers to be empathetic to others to save food for others (Davari, Iyer & Strutton, 2017). Consumption behavior should be consistent with religious teachings (Hwang, 2018). In fact, religion has a role in economic and consumption behavior (Kirchmaier, Prufer & Trautmann, 2018). Green behavior could be practiced by both consumers and producers (Ogiemwonyi & Harun, 2020).

In the Islamic perspective, the big picture about responsibility is explained by the Tawhidi paradigm. The Tawhidi paradigm explains the duties and responsibilities of humans as servants and vicegerents of Allah (Belhadi & Merdaoui, 2017; Furqani, 2017). The trust (amanah) in the duties (masuliyah) exits in the dual roles (Muflih, 2018; Rauf et al, 2019. Trust implies that man should not cause injustice (zalim), imbalance, and harm to people and the planet (Sarif & Ismail, 2020). Ta’awun. Literally, the meaning of ta’awun is mutual cooperation. Technically, ta’awun refers to the social and economic relationship among individuals and groups to attain mutual objectives. The religious meaning (epistemology) and scope (ontology) of ta’awun from the Quran limits cooperation into righteousness (al-birr) and piety (al-taqwa), as Allah mentioned in Surah al-Maidah verse 2, “And cooperate in righteousness and piety, but do not cooperate in sin and aggression. And fear Allah ; indeed, Allah is severe in penalty.”

Righteousness is in any virtue and kindness for humanity and the environment, and piety refers to refraining from committing sins and aggression. Thus, ta’awun is not just about inviting for cooperation, which is natural to human relationship, but also limiting the cooperation into benefits with wholesome, inclusiveness, sustainable, equitable, and reputational (Al-Qurtubi, 2006; Al-Sa’di, 2007; Al-Jaza’iri, 2007; Ibn Kathir, 2000).

The limitation of ta’awun into righteousness and piety is due to the nature of human tends to commit sins and aggression. Allah mentioned in Surah Saad, verse 34, “And indeed, many associates oppress one another, except for those who believe and do righteous deeds - few are they.” The concept of ta’awun begins with the good intention (salimah aqidah), correct ritual or ’ibadah (sahihul ’ibadah), aims to get the pleasure of Allah (mardatillah), and to bring good things (naft’un lighairihi) (Al-Qurtubi, 2006; Al-Sa’di, 2007; Al-Jaza’iri, 2007; Ibn Kathir, 2000).

Ta’awun is driven by faith (’aqidah), ruling (Shari’ah), and ethics (akhlaq). Cooperation is implicit in achieving goodness (al-birr) and piety (al-taqwa), but strongly prohibited in the cause of sins (al-thim) and hostility (al-udwan) (Chapra, 2001; Ahmad, 2020). The promotion of responsible consumption provides a positive impact on society in enhancing socio-economic goodness and integrity (Basbeth & Sachrowardi, 2015; Ahmad, 2020; Ilma, 2020).

National Policies on Responsible Consumption. Malaysia has been implementing its economic policies known as the 5-year Malaysia Economic Plan. This plan outlines the development of the country for 5 years.
Malaysia Economic Plan has a permanent agenda, that is to maintain national unity and to provide sufficient economic opportunities for businesses and employment. While consumer spending can encourage domestic economic growth through the spending multiplier effect, consumers are advocated to be judicious in spending and consumption.

Based on the above discussion about the factors that might induce consumers to spend irresponsibly, this study argues a proposition that irresponsible consumption can be corrected with adequate awareness, provision of education and training, encouragement and continuous advocacy of responsible consumerism, and enforcement of relevant authorities.

3. METHODOLOGY

This study uses constructionism, a paradigm from qualitative research that derives phenomenon, problem (ontology), and understanding (epistemology) from the context, instead of hypothesized the situation with research problem and hypotheses. Positivism in the quantitative study examined the situation with predetermined research questions and hypotheses for the sake of verifying and confirming the hypotheses. This is contradictory to constructionism. This study does not intend to confirm the consumption behavior of the residents and the reaction of the management of the accommodation. This study aims to explore qualitatively with the constructionism paradigm through a personal interview with the management of the accommodation and the residents about the influence of ta’awun in responsible consumption activities.

The use of a personal interview with constructionism has been done in many studies in the past to ground the phenomenon from the reality instead of testing the phenomenon (for example, Schultze & Avital, 2011; Peticca-Harris, deGama, & Elias, 2016; Easterby-Smith, Thorpe, Jackson, & Jaspersen, 2018; Horst, Järventie-Thesleff & Baumann, 2019).

The informants of the study are the management of the accommodation. The selection of the management is reasonable due to their role as caretaker of the accommodation. This study called them as ‘management.’ Another set of informants are the residents of the accommodation. The study approached the management to get their consent to participate in this study. There are not many of them. All of them gave their consent. The study set a date and time for the interview session. The study did not use structured questions. They were asked a question about consumption behavior among residents. Then, the study asked questions based on the answers given. The selection of the informants among residents was based on purposive. Another word, the study has approached the leaders among the residents for the interview. They agreed and the study set a date and time for the interview. The study did not use structured questions. They were asked a question about consumption behavior among residents. Then, the study asked questions based on the answers given. Each interview took between 30-40 minutes, at the venue decided by the informants.

The study used note taking without any audio recording due to the request of the informants. The study showed the notes of the interview to the informants for verification. There is no specific test for reliability and validity. The study referred to the interview question and the protocol of the interview to qualitative researchers. The study improved the interview question and protocol after getting feedback from the qualitative researchers.

The selection of the informants was purposive due to the involvement of the informants in the project. This is consistent with the views of Peticca-Harris et al (2016), who believe that the first thing in the qualitative interview method is to gain access to the informants, which can be very challenging. The dynamic process in qualitative personal interviews enables deep sharing between informants and researchers (Ponelis, 2015; Bengtsson & Fynbo, 2018; Cassell, 2018; Horst et al, 2019).

The process of qualitative studies goes beyond the interview session. After the interview, the informants were contacted to verify the interview transcripts and results for verification (Ponelis, 2015; Bengtsson & Fynbo, 2018; Horst et al, 2019). The study approached independent researchers to validate the verified interview transcripts and analysis. This validation process is essential for qualitative results (Schultze & Avital, 2011; Peticca-Harris et al, 2016; Easterby-Smith et al, 2018; Horst et al, 2019).

4. RESULTS AND DISCUSSION

R is the code used for residents, whereas M represents management.

The advocacy for responsible consumption is necessary to live with mutual cooperation between management and residents of the accommodation. According to Management 1 (M1), the cooperation between the management and residents has been limited to facilities of the accommodation.

Our residential management is decided to join the advocacy of responsible consumption to enhance our existing campaigns and activities for our residents to avoid food waste, to save water and electricity. We have been encouraging a green attitude among the residents. We shared the statistics about food waste and bills of water and electricity.
There is formal engagement between the management and the residents. However, the engagement has been narrowed down to benefit the residents. M2 said:

*There is a joint-management committee between the management and the residents’ representatives. The green agenda has been included in the meeting. However, the green agenda has not been seriously discussed. Residents were more interested in bargaining about accommodation rental, facilities in the accommodation, and parking spaces. Everything is about value for money.*

There is also an adversarial relationship between the management and the residents. M3 argued that the adversarial relationship is due to the perception that the management an enforcement unit. M3 mentioned:

*Management is seen as wardens instead of associates in managing the accommodation. Residents always talked about their rights. Not much of duties and their roles in keeping the accommodation in good condition.*

Residents are pleased to have the advocacy for responsible consumption, but they preferred the management to incorporate the responsible consumption into the management practice. According to Residents 1 (R1), both parties should be responsible for the usage of utility.

*They have been talking about saving water and electricity. But the reality is that the management is not proactive in the maintenance of the building. Some lights at the building are seen on for 24 hours, day and night. They should install some regulators to the switch. As for water waste, it is due to leakage. The residents made reports, but the management took a very long time to repair.*

Residents realized the importance of responsible consumption. R2 said:

*The management should be careful in awarding the tender of the café. The café did not take proactive action in reducing food waste. The café management wasted a lot of food. I think they did not plan well what to cook and how much. They can’t simply cook without checking the preference of the residents. I think the management should organize a meeting between the café owner and the residents if everyone is serious about reducing waste.*

There is a need to have a continuation after some campaigns and activities. R3 mentioned:

*This campaign is good. Both the management and the residents should be involved actively. The organizers for the programme can help us to organize responsible consumption. But if we are not serious about that, we will go back to square one, back to business as usual.*

The responsible consumption activities have been very engaging between the organisers and the participants. The management representatives argued that the cooperation between the management and the residents should be on a perpetual and not seasonal basis. For example, the residents are willing to participate in responsible consumption activities beyond the routines. In reality, the management wanted to cooperate beyond just maintenance of facilities. In doing so, the management wanted the residents to have continuous engagement in giving and working for the solutions (M1 and M2). However, both parties should build trust in the relationship (M3). Indeed, the influence of *ta’awun* on responsible consumption from the residential management perspectives has been limited to formal, standard, and routine instead of informal and beyond the routines. While formalization is essential, the organic situation in the residential context should subscribe to more organic interaction. According to Sarif & Ismail (2020), a family (*usrah*) approach of mutual cooperation that is based on knowing (*ta’aruf*), understanding (*tafahum*), and protection (*takaful*) can complement the formal mutual cooperation between the management and the residents.

The residents’ representatives contended that all activities should give benefit to both parties, not just for routine matters such as maintenance and discipline of the residents (R1 and R2). In doing so, both residents and the management should have trust and transparent communication and discussion (R3). According to Muflih (2018), the Islamic teaching has incorporated all essential components, namely faith (*aqidah*), religiosity (*ibadah*), and morality (*akhilak*), to make a deed perpetual and humanized. Indeed, Nam and Hwang (2019) argued that sharing a spirit that is beyond just personal interest is sustainable. Ogiemwonyi & Harun (2020) contended that mutual cooperation is a reflection of green behavior.

Trust, trustworthiness, credibility, and transparency are essential components of mutual cooperation (*ta’awun*) (Furqani, 2017; Ilmia, 2020; Sarif & Ismail, 2020). Furqani (2017) argued that responsible consumption is about having morality in consumption, which has been in the Islamic teachings. Any omission of three components of Islam, namely faith (*aqidah*), religiosity (*ibadah*), and morality (*akhilak*), will contribute to deficiency in conducts and deeds. Ilmia (2020) contended that the roles of humans as servants and vicererents of Allah require humans to work on mutual cooperation for goodness (*al-birr*) and piety (*al-taqwa*). When enjoying of goodness is on individualism, the impact of goodness is limited to the individual only. Sarif
and Ismail (2020) proposed the adoption of ulu al-albah approach to mutual cooperation (ta’awun) to achieve sustainability.

4. IMPLICATIONS

The implication for the practice of the findings is mutual cooperation (ta’awun) between management and residents can help reduce adversarial relationships. Both parties should participate and engage on a perpetual basis. Both parties could organize regular study circles (usrah), visits (ziarah), and communal physical exercise (riadah). By doing this, there will be an enhancement in ta’awun.

The implication for the policy will be to include community elements in resource planning, budget, and activities. The top down mechanism with the silo approach can be replaced with a management-by-objective and collective approach.

5. CONCLUSION

This study intends to explore qualitatively the context through a personal interview with the management of the accommodation and representative of the residents to provide the meaning for problematic consumption styles. The feedback from the informants is not for generalization, but to understand the contexts of consumption lifestyle. The informants argued that the influence of mutual cooperation (ta’awun) in responsible consumption activities is actually through routines and non-routines approaches. The informants also mentioned that formalization and routines provide the baseline for interaction between the management and the residents of the accommodation. Eventually, both of them reached the level of mutual cooperation through regular study circles (usrah), visits (ziarah), and communal physical exercise (riadah). The mutual cooperation for goodness (al-birr) and piety (al-taqwa) is based on knowing (ta’aruf), understanding (tafahum), and protection (takaful) to reach the outcome of trust, trustworthiness, credibility, and transparency. Indeed, the mutual cooperation with collective responsibility manifests sustainability in educating people to be responsible for consumption.

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1-16.


**Author’s Biography**

Puteri Qartinie Kamardin is currently pursuing a Doctoral Degree (at the stage of proposal defense) in Business Administration. The main research focus is consumer behaviour. She has completed a Bachelor’s Degree in Business Administration and a Master’s Degree in Business Administration, specialization in Islamic Banking & Finance from International Islamic University Malaysia in 2015 and 2016, respectively. Her research interest areas include consumer behaviour, marketing, and behavioural finance.

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Yusof Ismail has been a faculty member of Kulliyyah of Economics and Management Sciences at International Islamic University Malaysia since 1986. He obtained his BS in Finance and MBA in Management and Marketing from the USA, and embarked on research into strategy in the UK. He teaches and researches into strategy, Islamic management, human resource management, and business ethics. He is associated with the Islamic perspectives technical committee and working committees with SIRIM (a national organization in industrial research to fulfill the industry needs by blending new innovations with quality and standards).

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COMMUNITY ENGAGEMENT TOWARDS COASTAL TOURISM DEVELOPMENT IN PANTAI SENOK, KELANTAN

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ABSTRACT

Residents’ personality and their perspectives about community and those visiting can play an important role in forming overall support for tourism development. This study examined how residents’ welcoming nature, emotional closeness, sympathetic understanding, community commitments influence residents’ attitude toward supporting tourism development among community of Senok, Kelantan. To test the theoretical framework, survey data were collected from 200 respondents of coastal community living in three villages namely Kampung Pantai Senok, Kampung Senok and Kampung Cherang Laut, Kelantan. Multiple regression analysis was utilised to assess the proposed model. Results revealed that community commitment and welcoming nature were the strongest factors influencing residents’ attitudes while sympathetic understanding is weakly associated with towards tourism development in Senok, Kelantan.

KEYWORDS: Welcoming nature, Emotional closeness, Sympathetic understanding, Community commitments, Tourism development.
KAJIAN ISU DAN MASALAH SOSIAL DALAM KOMUNITI DI TERENGGANU, MALAYSIA

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ABSTRAK

Keluarga di Terengganu menghadapi pelbagai cabaran baru terutamanya dalam arena sosial dan ekonomi. Antara cabaran yang dialami oleh institusi kekeluargaan di Terengganu adalah struktur keluarga yang dinamik, mengimbangi keluarga dan kerjaya, memenuhi keperluan ekonomi, keibubapaan anak-anak kecil dan remaja, serta kelemahan dalam hubungan perkahwinan dan keluarga. Kajian ini bertujuan menganalisis isu dan masalah sosial yang wujud di kalangan komuniti terpilih di Terengganu, Malaysia. Dengan menggunakan teknik kualitatif untuk pengumpulan data, data temubual dikumpul dengan menggunakan kaedah Perbincangan Kumpulan Berfokus bersama dua (2) kumpulan iaitu kumpulan pertama yang terdiri daripada 9 orang penduduk dan kumpulan kedua yang terdiri daripada 7 orang pemimpin. Kajian ini menggunakan instrumen perbincangan secara separa berstruktur di mana setiap perbincangan mengambil masa anggaran 90 minit. Analisis kajian menunjukkan isu dan masalah sosial di kalangan komuniti terpilih di Terengganu adalah 1) sumber pendapatan penoreh getah, petani dan pengait kelapa sawit, perniagaan, dan ibu tunggal, 2) isu kesedaran penduduk dan penyertaan penduduk terhadap aktiviti-aktiviti komuniti, 3) isu aktiviti belia dan sukan, 4) isu merokok, lumba haram dan salah guna dadah, 5) isu kecurian, 6) isu pembuangan bayi, 7) penderaan kanak-kanak dan keganasan rumah tangga, 8) isu kebajikan warga asing, 9) isu hubungan antara jiran. Walaupun masalah dan isu-isu sosial wujud di komuniti tersebut, namun melalui dapatan kajian, wakil pemimpin dan penduduk bersama-sama bersetuju bahawa masalah dan isu-isu sosial ini tidak berada pada tahap yang membimbangkan.

KATA KUNCI: masalah sosial, sumber pendapatan, isu kesedaran, komuniti, kualiti hidup
TRACK 5C
ECONOMICS
DOES SUKUK BECAME A CRUCIAL ROLE IN THE ECONOMIC GROWTH OF INDONESIA?

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ABSTRACT

Indonesia is one of the countries which owned a massive Muslim population. As a Muslim country, Indonesia has a significant opportunity for sharia investment Indonesia compared to other countries. There are various varieties of sharia investment exist in Indonesia, and one of them is Sukuk. Sukuk has massive improvement in Indonesia. In the first semester of 2019, Indonesia becomes the 2nd biggest Sukuk publisher globally, reaching almost 18 percent compared with the world's total Sukuk. This research investigates the correlation between Sukuk and Indonesian Economic growth using inflation as a control variable. Using Error Correction Models (ECM), this research found no correlation between outstanding Sukuk's total number with economic growth. This result suggests that since Indonesia still has an enormous opportunity to maximize the benefit of Sukuk to develop the country, the government needs to expand economic activity using Sukuk as the funding source.

KEYWORDS: sukuk, growth, ECM.

1. INTRODUCTION

Indonesia is the country with the largest Muslim population globally, with 209.12 million people in 2010 or 87.2 percent (Global Religious Futures, 2020). Then, in 2020, the number of Muslims in Indonesia is estimated to reach 229.62 million or 87 percent. The sizeable Muslim population in Indonesia is also extraordinary in developing the Islamic financial industry, Sukuk, which has high-speed growth (Najeeb et al., 2017). A high Muslim population in a country is closely related to the Sukuk market and a large economy (Smaoui and Khawaja, 2017). In other words, Sukuk is one of the critical instruments in developing Islamic financial markets and resource mobilization (Jobst et al., 2008; Wilson, 2008). The Islamic financial market can thrive if most Muslims in Indonesia take the opportunity to invest in Sukuk.

Sukuk as sharia bonds are financing instruments in the Islamic capital market in the form of certificates or proof of ownership based on Sharia law. The holder will receive a certificate of proof of ownership and periodic return payments on the principal amount invested and get the principal back at maturity (Abdullah & Nayan, 2020). Sukuk has proven to be a large source of funds worldwide due to its unique characteristics, including energy companies in the US (Abdel-Khaleq and Richardson, 2006). Apart from energy companies, Abdel-Khaleq and Richardson (2006) also stated that Sukuk also provides billions of dollars in capital that can be used for infrastructure projects, private companies, and the government. The same thing was stated by Hasan, R. et al. (2019), that Sukuk is an instrument for financing projects for a country for a certain period. Shapoor et al. (2015) and Alswaidan (2013) state that Sukuk is a new alternative for investing in world financial markets, seen from many demands and offers made by the government and the private sector. A large amount of supply and demand is because Sukuk has a low risk for investors and is also a cheap source of funds for companies (Rafay et al., 2017).

Sukuk is the second largest investment asset of the Islamic financial industry's total assets in the world at the end of 2019 (IFSB, 2020). In recent years, there has been a significant increase in the growth of Sukuk in several countries with a Muslim majority population (Schmidt, 2019). Based on Moody's data, Indonesia is the world's second-largest sukuk issuing country in the first half of 2019, with an issuance value of US $ 15 billion of the total world Sukuk issuance of US $ 87 billion. It means that Sukuk has an essential role in the development of the Islamic financial industry in Indonesia. The vital role of Sukuk, one of which can be seen from the positive influence of the Sukuk market on the economic growth or development of a country (Nayan and Norsiah, 2014; Abdelrahman, 2019; Al-Raeai et al., 2018; Mitsaliyandito et al., 2018; Smaouia and Nechi, 2017). In Indonesia, Sukuk values' development shows a positive trend or an increase every year, as shown in figure 1.
Based on the data, the outstanding Sukuk value has increased significantly in 2018 and 2019, amounting to 6.28 trillion in 2018 and 7.8 in 2019. This increase indicates that the number of enthusiasts for Sukuk in Indonesia is increasing. However, the value of economic growth based on Bloomberg data at the same time (quarter 4) from 2011 to 2019 showed a decline (negative). Based on the phenomenon of the outstanding value of Sukuk, economic growth and the results of previous research studies, this study aims to determine the role of Sukuk in the Indonesian economy, especially in economic growth.

2. METHODOLOGY

This study uses quarterly data from economic growth, the value of outstanding Sukuk, and inflation in Indonesia for 2011: Q1 - 2020Q1. Data sources come from the Bloomberg Database and Bank Indonesia. The purpose of this analysis is to analyze the effect of Sukuk and inflation on economic growth. The method used in this study is the ECM (Error Correction Model), which is based on the results of the stationarity and cointegration tests. Based on the Granger Representation Theorem, if the dependent variable and the independent variable are co-integrated, in short-term relationship between the two variables can be expressed in the form of an Error Correction Model (ECM) (Astuti and Saputro, 2018). The steps taken in the ECM method, according to Widarjono (2009), are:
   1. Stationarity Test, using Augmented Dickey-Fuller (ADF).
   2. Cointegration test with Engle-Granger Cointegration Test.
   3. Estimated Error Correction Model (ECM).

3. FINDINGS

The first step in the testing carried out is the stationarity test. In this study, all variables are not stationary at the level and stationary at the first difference level. This stationarity test is needed to determine the average and variance of consistent data over time. Besides, data that is too large during the observation period will tend to approach the average value (Engle and Granger, 1987).

Table 1: Unit Root Statistic

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF statistics (Probability)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
</tr>
<tr>
<td>Growth</td>
<td>0.9604</td>
</tr>
<tr>
<td>Inflasi</td>
<td>0.1931</td>
</tr>
<tr>
<td>SukukO</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Note: All variables have a significant probability with α = 5% so that all variables are stationary at the 1st different level.
Furthermore, the cointegration test aims to determine the possibility of a long-term equilibrium relationship between variables. Based on table 2, all variables (economic growth, inflation, and Sukuk) in the model have a long-term cointegration relationship. The long-term cointegration relationship can see from the trace statistic value, which is greater than the critical value, implying that the dependent variables are collectively in the long run and deviation from the long-term equilibrium path will be corrected (Ahmad et al., 2012).

Table 2: The Johansen Co-integration Tests

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Test Statistics</th>
<th>Critical Values (0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trace</td>
<td>Max-Eigen</td>
</tr>
<tr>
<td>r = 0</td>
<td>121.8384</td>
<td>106.8608</td>
</tr>
<tr>
<td>r = 1</td>
<td>14.97768</td>
<td>12.71818</td>
</tr>
<tr>
<td>r = 2</td>
<td>2.259502</td>
<td>2.259502</td>
</tr>
</tbody>
</table>

Then, to determine whether the model is valid or not, it is necessary to test the residual error correction (error correction term). The t-statistic results and the ECT probability value below α = 0.05 indicate that the ECM error correction model is valid.

Table 3: Error Correction

<table>
<thead>
<tr>
<th>Variable</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(INFLAS1)</td>
<td>-0.107100</td>
<td>0.9154</td>
</tr>
<tr>
<td>D(SUKUKO)</td>
<td>0.426224</td>
<td>0.6728</td>
</tr>
<tr>
<td>RESID01(-1)</td>
<td>-5.528589</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

The test results above have passed the classical assumption test. Then, based on the data processing results above, the model used in this study is as follows.

Long Term Model

\[ \text{Growth}_t = \beta_0 + \beta_1 \text{Sukuk}_t + \beta_2 \text{Inflasi}_t + \epsilon_t \]

\[ \epsilon_t = \text{Growth}_t \beta_0 + \beta_1 \text{Sukuk}_t + \beta_2 \text{Inflasi}_t \]

Short Term Model

\[ \Delta \text{Growth}_t = \alpha_0 + \alpha_1 \Delta \text{Sukuk}_t + \alpha_2 \Delta \text{Inflasi}_t + \alpha_3 \epsilon_t \]

After the above tests are carried out, the next step is to examine the long-term and short-term effects of Sukuk and inflation on economic growth. In testing the long-run effect, the probability value of inflation and Sukuk is more than 5%, indicating no long-term effect of these two variables on economic growth. Furthermore, in testing the short-term effect, the ECM model results in the co-integrated variables, and the error correction is valid. However, the probability value of Sukuk and inflation variables, which is more than 5%, indicates that the two variables in the short term do not significantly influence growth.

Table 4: Long Term and Short Term Impacts

<table>
<thead>
<tr>
<th>Variable</th>
<th>Long Term Impacts</th>
<th>Short Term Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-Statistic</td>
<td>Prob.</td>
</tr>
<tr>
<td>Inflasi</td>
<td>-0.021172</td>
<td>0.9832</td>
</tr>
<tr>
<td>SukukO</td>
<td>-0.672842</td>
<td>0.5056</td>
</tr>
</tbody>
</table>

The results of this study contradict several previous researchers, who state that there is a positive and significant effect of Sukuk on economic growth ((Nayan and Norsiah, 2014; Abdelrahman, 2019; Al-Raeai et al., 2018; Mitsaliyandito et al., 2018; Smaouia) and Nechi, 2017). However, this study's results are in line with Echchabi et al. (2018), which states that Sukuk financing has no significant effect on economic growth in GCC (Gulf Cooperation Council) countries. Additionally, Echchabi et al. (2016), in previous research, also stated that the issuance of Sukuk has a significant effect on the gross domestic product (GDP) and gross capital formation (GDP). However, not for Saudi Arabia and the GCC (The Gulf Cooperation Council). This phenomenon indicates that they need efforts to improve the Sukuk development strategy in Indonesia. The aggregate role of investment in supporting economic growth is also classified under the household consumption category.
In terms of the distribution of expenditure GDP based on constant prices, the value of investment (capital formation) ranged from 30 percent in 2011-2019. The distribution means that most of the importance of economic growth is driven by household consumption. Thus, motivation is needed to increase investment, including in Islamic bonds (Sukuk). Of course, increased investment will increase employment opportunities for the community and help boost economic excitement. Thus, there is a need for improvement and strategic innovation in the development of Sukuk in Indonesia.

According to Achsien (2003), there are many challenges faced in developing Islamic bonds in Indonesia, including socialization to investors, opportunity costs, aspects of liquidity, and regulations or legislation. Furthermore, Iqbal & Mirakhor (2007), challenges and several issues in the development of the Sukuk market include:

1. Small-scale institutions find it difficult to issue Sukuk; not all Islamic banks can issue Sukuk due to the lack of large-scale assets.
2. Cost efficiency is a competitive disadvantage compared to conventional bonds.
3. In the Sukuk floating rate, pricing still refers to conventional benchmarks so that from the obligor's point of view, there is no cost advantage in issuing Sukuk.
4. Institutional investors and banks tend to hold the Sukuk until maturity so that the secondary market for the Sukuk is not liquid and increases transaction costs.
5. Adverse selection due to additional charges.

Ascarya & Yumanita (2008), in their research, also mentioned that one of the obstacles in the development of Sukuk in Indonesia is the development of Islamic economic, human resources that have not been well managed.

4. CONCLUSION

The development of the outstanding value of Sukuk every year (2011-2019) has increased, but economic growth in the fourth quarter shows a decline. Most studies state that Sukuk has a positive role in economic development. However, in Indonesia, the Sukuk part of Indonesia does not affect economic growth, either in the long or short term. In terms of GDP distribution, household consumption is still largely dominated. Thus, it is necessary to increase and encourage investment, including policy innovation. One of the policies that can be implemented is to increase the Sukuk marketing strategy at all levels of society and the use of Sukuk. Because at this time, only large companies and the government can issue Sukuk. Meanwhile, in Indonesia, some people still work in the informal sector by relying on SMEs. Additionally, enhancing human resource capacity within Sharia and disseminating information, and increasing digital financial literacy are also needed to increase public participation in Sharia financing.
ACKNOWLEDGEMENTS

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INFLUENCING FACTORS OF TECHNICAL INEFFICIENCY ELECTRIC AND ELECTRONIC MANUFACTURING INDUSTRY IN MALAYSIA

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ABSTRACT

The Electric and Electronic (E&E) manufacturing industry is one of the important sectors in Malaysia that contributes to the Gross Domestic Product (GDP). However, the rapid development of this sector globally demands that the E&E manufacturing industry to be more competitive and have strategies to increase the quantity of value-added using existing inputs. This study aims to identify the level of technical efficiency (TE) and the determinants of technical inefficiency in the E&E manufacturing industry in Malaysia in 2015 obtained from the Department of Statistics Malaysia (DOSM) using data at the firm level. The research methodology employed is Stochastic Frontier Analysis (SFA) by Transcendental Logarithm or Translog approach. The result of the study shows the overall level of TE in the E&E manufacturing industry in Malaysia is 0.720 percent. At the same time, the determinants of technical inefficiency, namely wage rate, information and communication technology (ICT) expenditure, and research and development (R&D) expenditure, have a negative and significant impact on the technical inefficiency of the E&E manufacturing industry in 2015. The findings showed that the E&E sector still needs to increase investment, especially from the aspect of human capital as well as the level of technology and innovation.

KEYWORDS: Technical Efficiency, Electric & Electronic (E&E) Manufacturing Industry, Firms, Stochastic Frontier Analysis (SFA), Transcendental Logarithm (Translog)

1. INTRODUCTION

Efficiency can be defined as input usage competency affected by the technics of production, strategic management, technological innovation, and employee competency (Fahmy-Abdullah et al., 2017). Technical efficiency (TE) shows firms’ capability to provide maximum output from a set of inputs (Farrell, 1957; Fahmy-Abdullah et al., 2018). While, Porcelli (2009) stated that TE's level is equivalent to one, and any score less than one is considered as technical inefficiency. It is vital to focus on the determinant factor of technical inefficiency to achieve accurate TE (Fahmy-Abdullah et al., 2019). There is a need for a detailed and specific assessment of the industry’s production output, and an outline of the real condition of the firms’ present performance makes researchers and policymakers interested in studying TE (Amornkitvikai & Harvie, 2010).

The Electrical & Electronics (E&E) manufacturing industry is the largest contributor to the country’s total export and contributes to its GDP (Department of Statistics Malaysia, 2018). E&E export contributed 44.7 percent for the country's largest manufacturing export sector and exporting worth RM343 billion, representing 36.7 percent of Malaysia's total exports. Singapore, United States, China, Hong Kong, Japan, Germany, Mexico, India, Europe, and the United Arab Emirates are among Malaysia's major export destinations. It clearly describes the potential and integrity of the development in the E&E manufacturing industry as a catalyst that drives and leads the country's economy (Bank Negara Malaysia, 2015). Moderate growth in key economic sectors in 2015 affect the GDP, due to slower domestic demand led to the development of the E&E manufacturing industry by 4.9 percent compared to 6.2 percent in 2014 (Bank Negara Malaysia, 2015). The focus on component assembly alone causes this industry's value-added to be lower than other countries that are more prone to high value-added activities in research, development, and production (Department of Statistics, 2018). However, globalization and free trade can expand markets (Fahmy-Abdullah et al., 2017), create business opportunities MITI (2014), and increase national productivity (Vincent et al., 2014). Still, the fact is that globalization has demanded the ability of local firms in the E&E manufacturing industry to undertake initiatives and strategies to improve the technical efficiency of this industry to be a more significant contributor to the national economy (Productivity Report, 2017/2018). The E&E manufacturing sector in Malaysia is the largest contributor and influential sector to the country’s GDP, where the manufacturing industry needs to increase higher levels of TE (Khalifah & Zakiah, 2017). Suppose the existing industry is not ready to increase
the level of TE. In that case, it will certainly not improve the momentum of the country's economic growth as an impact of globalization openness (Adhikary, 2011).

Based on previous studies, Fahmy-Abdullah et al. (2019) stated that there are still fewer studies related to efficiency in the E&E industry in Malaysia compared to other sectors. Past research by Radam et al. (1999), Ismail et al. (2007), and Rozilee (2010) have used data at the industry level and do not take into account the determinants of technical inefficiency in determining the level of TE. The study conducted by Sulaiman (2012) does not consider selecting technical inefficiency to obtain TE values. Meanwhile, Iajiri & Ismail (2014) only focus on the efficiency of the E&E manufacturing industry in general. Khalifah et al. (2015) used industry-level data but did not use cross-sectional data at the firm level causes the TE obtained is not significant. Battese & Coelli (1995) stated that data at the firm level play an important role in getting more accurate TE values if considering the determining factors of technical inefficiency. Mohd (2005) also stated that measurement problems that can affect aggregate data at the industry level could be overcome using data at the firm level. Tingley et al. (2005) indicated that estimation utilizing the firms’ data is more accurate because further analysis considers the factors influencing TE can be assessed more significantly and accurately. Therefore, based on the problems and gaps, an effort is taken to determine the level of TE and identify the factors that influence the determinants of the inefficiency of E&E manufacturing industry techniques in Malaysia.

2. LITERATURE REVIEW

Technical efficiency refers to a firm that can minimize input and maximize output (Kumbhakar & Lovell, 2000). The value of technical efficiency in the manufacturing industry increases at 0.01 percent per year as the firm's performance measures the efficiency to reflect its behavior (Rozilee, 2010). In recent years, assessment of TE is a popular indicator in the field of economics, which then become the focus of researchers to study empirical methods and approaches in specific areas (see Farrell (1957); Kumbhakar, Ghosh, & McGuckin, 1991; Huang & Liu, 1994; Coelli & Battese, 1995; Alias et al., 1999; Ismail & Tendot. Abu. Bakar, 2008; Mohd Noor & Liew, (2014); Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018; Idris et al., 2018) and (Hamdan et al., 2018). In TE's measurement, the efficient output production frontier's indicator level is by taking into account the input is at the frontier line. Farrell (1957) has assumed that the constant return based on YY ‘isoquant line is the production boundary at an efficient level. The isoquant line will indicate the minimum set of inputs between output units to obtain one production unit. Therefore, the TE can be achieved by combining the input above the isoquant lines and the combined input point above or to the right of the isoquant lines such as point P is not up to the TE level in production. While the ratio of OR or OP is the TE level and AE production at point P that represent OS or OR ratio. In addition, the isocost line which is CC’ act as an objective function to minimize costs. Overall efficiency is equivalent to OR or OP x OS or OR = OS or OP.

![Figure 1](Illustration of efficiency measurement Farrell (1957))

Sources: Illustrations that have been inscribed back from Murillo-Zamorano (2004) and adapted by Fahmy-Abdullah et al. (2017)

Previous research by Mahadevan (2000) in measuring the level of TE sub-industry in Singapore found that most sectors in the industry do not use resources and technology efficiently, resulting in output not being able to produce at the maximum level. Margono & Sharma (2006) measure TE's level by considering the factors of technical inefficiency being at a moderate level influenced by external disruptions such as economic instability, distance, company ownership status, and capital. Past research conducted by Le, Vu, & Nghiem (2018) found
a comprehensive increase in the manufacturing industry; however, several other manufacturing sectors showed moderate TE levels. Also, China and Vietnam studies measuring TE in the manufacturing industry. Research by Lam & Shiu (2004) has been conducted found that the level of efficiency measurement of firms and industrial sectors in China is high. In Vietnam, it has been found that firm TE in the manufacturing industry is at a moderate level, although the manufacturing industry sector is the highest GDP (Amornkitvikai & Harvie, 2010; Le & Harvie, 2010). In the context of local studies, the study of TE in Malaysia is very low on the E&E industry, which uses data at the firm level in measuring the level of TE (Abd Ghafar & Ismail, 2015). Although, past studies more towards the manufacturing industry as a whole instead of not consider the determinants of technical inefficiency in detail such as (Sulaiman & Ismail, 2007; Gimba, Tsen, & Kogid, 2010), local researcher Ismail & Tendot. Abu Bakar (2008) found that the average TE for the sample taken was moderate. Besides, Zainal Abidin (2005) conducted a micro-level survey on 310 Malay firms in the services sector by using SFA showed an efficient intermediate level for the industry studied. From 2010, the SFA method began to gain attention and grow from local researchers because the findings obtained were more accurate and detailed in their study Radam et al. (2010); Ismail, Mohd Noor, & Zainal Abidin (2014); Fahmy-Abdullah et al. (2017); Khalifah & Jaafar (2017); Fahmy-Abdullah et al. (2018) and Latif et al. (2018). Past studied by Hamdan et al. (2018) to increase the industry’s efficiency in competition to continue expanding and helping its economic growth. This study’s approach uses SFA to see TE of furniture industry firms in Malaysia is at a high level. However, the labor wage factor affects the technical inefficiency of this industry. The variables that affect the determinants of technical inefficiency consist of education level, wage rate, communication and information technology (ICT), training or skills, firm size, research and development (R&D), and capital-labor ratio. Studies conducted by Sulaiman & Ismail (2007) and Ismail & Tendot. Abu Bakar (2008) show that labor with an educational background is essential in influencing the determinants of technical inefficiency in managing the firm operating process starting from input to output. Wage rates also motivate employees to improve productivity, quality continually, and efficiency to firms (Hamzah, Sulaiman, & Md Noor, 2011). Ismail et al. (2014) explained the importance of ICT could influence the TE firm's improvement. Besides, Hamdan et al. (2018) stated several previous studies show that ICT expenditure among manufacturing industry firms is significant in developing countries. Fahmy-Abdullah et al. (2017) state a firm needs to invest in the development of human capital in the organization, such as training and upgrading employees’ skills level as one of the essential long-term assets. The firm’s size is one of the critical factors that affect the TE level (Fahmy-Abdullah et al., 2017). However, Seguin & Floro (2003) have stated that firm size’s technical inefficiencies vary according to the sectors and industries involved due to environmental differences and implementation methods. R&D strives to stimulate firm growth by creating innovative products and services in production processes at optimal levels (Department of Statistics, 2018). Latif et al. (2018) state that measuring the effectiveness of R&D is crucial in determining whether the expenditure in development affects firm efficiency or vice versa. A study of the manufacturing industry by Hamdan et al. (2018) states R&D to human capital and internally is often focused on problem-solving and methods for cost reduction that can be done to improve a firm's efficiency. Empirical research by Rogers (2006) and Lööf & Heshmati (2006) found that R&D contributes significantly to enhancing the TE and productivity of firms, thus positively impacting firms and countries. R&D activities need to be diversified, such as increasing the use of expertise, providing green technology infrastructure, and enhancing cooperation between local and international firms as well as the involvement of local universities (Fahmy-Abdullah & Basri, 2018). The capital-labor ratio known as capital intensity, this ratio is usually a key pillar in ensuring a higher level of technological consumption level (Fahmy-Abdullah et al., 2017). Capital according to Fahmy-Abdullah et al. (2018) is a key factor in stimulating the growth of the output process and productivity of employees towards the firm. Fahmy-Abdullah et al. (2017) has conducted a study that the capital-labor ratio has the effect of reducing the level of technical inefficiency that helps firms to increase the value of TE to a higher level.

3. METHODOLOGY

3.1 Stochastic Frontier Analysis (SFA)

The model used in this study is the SFA model as an approach to obtain TE values and identify the determining factors of technical inefficiency using data at the firms’ level. In general, SFA serves to estimate production benchmarks, cost, and profit that maximize output to optimize costs, minimize cost demands, and high yields through the need for output resources and inputs that consider other contingencies (Hamdan et al., 2018). Moreover, the sample of firms showing below the boundary level is inefficient. However, to overcome this, firms need to improve and make changes in terms of management, education level, skills, technology, and productivity in the study of Hamdan et al. (2018) and Latif et al. (2018) so that a firm is above the level of efficiency boundaries. The SFA model also serves to identify relevant correlation to obtain a variety of efficiency according to the objectives set by a firm. Past studies using the SFA model to estimate the TE by
local and international scholars (Rozilee, 2010; Fu et al., 2011; Chu & Kalirajan, 2011; Karunaratne, 2012; Abd Ghafar & Ismail, 2015; and Fahmy-Abdullah et al., 2018). SFA approach that takes into account other factors such as external interference that is expected or not expected to gives better and more accurate results (See Ismail & Tendot. Abu. Bakar (2008); Abd Ghafar & Ismail (2015); Tingum & Ofef, 2017; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018). Several factors influence TE's consistency and can solve problem assumptions from budgeting and aggregation to time series studies at the industry level, biased and incomplete. SFA also acts as a measure for technical inefficiency, identify random shocks and even beyond.

To test the null hypothesis showed no significant technical inefficiency is rejected (Abdullah et al., 2017) and Fahmy-Abdullah et al. (2018) as well as tests that have been carried out in the study (see Abdullah et al., 2018; Hamdan et al., 2018; Latif et al., 2018). Thus, this study concentrates on the secondary data received from Department of Statistics Malaysia (DOSM) in 2015. The data provided by DOSM is based on an economic survey every five years, which will be the duration used for this study. The original SFA model demonstrate that the description of the production model for cross-sectional data with error conditions improvised by Fahmy-Abdullah et al. (2017) and Fahmy-Abdullah et al. (2018) from Aigner et al. (1977) has two elements which are random effect \( v_i \) and non-negative random variable \( u_i \) where refer to equation that identified as technical inefficiency which to find the outcome of technical inefficiency in production output. An easy and flexible model has established by Førsund et al. (1980), Coelli & Battese (1995) and Kumbhakar & Lovell (2000) to measure technical inefficiency. Furthermore, Fahmy-Abdullah et al. (2018) identify the technical inefficiency get better accuracy of the TE level on the sample by using this model. Coelli & Battese (1995) has using the SFA models by presume that random variables gives effect on firms through the following Battese & Coelli Model specifications:

\[
Y_i = B_i \beta + (v_i - u_i), \quad i = 1, 2, ..., N \tag{1}
\]

\( Y_i \) is the logarithm’s production for firm \( i \),

\( B_i \) is vector \( k \times 1 \) multi quantity input for firm \( i \)

\( \beta \) is a vector of the unknown parameter

\( v_i \) random variables are assumed to be independent and identically distributed as \( N(0, \sigma_v^2) \) random variables, independent of the non-negative

\( u_i \) non-negative random variables, which are assumed to be independent and identically distributed truncations (at zero) of the i.i.d \( N(u_i, \sigma_u^2) \) distribution.

\( N \) represents the number of sample firms for which observations are available

The SFA method is assessed by the maximum likelihood estimation (MLE) defined in equation (1) obtained using the computer software called FRONTIER 4.1. SFA is different from other analyses. For example, Ordinary Least Squares (OLS) adopted a simple regression analysis to find the average cost function's best function. Therefore, SFA acts to estimate the frontier function found in the sample by differentiating the error components from the technical inefficiency will give more accurate results. FRONTIER 4.1 is capable of analyzing efficiently, frequently, and variance (\( v_i - u_i \)) analysis compared to the OLS method provides a more detailed impact (Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018; Hamdan et al., 2018; Latif et al., 2018). The MLE estimation has contributed significantly to detecting technical inefficiency from the total variance (Coelli & Battese, 1995; Coelli et al., 1998; Kumbhakar et al., 2000).

Hence, \( \sigma_v^2 \) dan \( \sigma_u^2 \) with \( \sigma^2 = \sigma_v^2+\sigma_u^2 \) such that \( \gamma = \sigma_u^2 / (\sigma_v^2+\sigma_u^2) \) (Coelli, 1996) was derived using Battese & Broca (1997) parameter adopted in Fahmy-Abdullah et al. (2017) and Fahmy-Abdullah et al. (2018) study. \( \gamma \) has a value between zero and one, and these values indicate a standard that deviates from the frontier line due to interruption of the amount of one such deviation is a technical inefficiency (Tran, Grafton, & Kompas, 2008). If \( H_0 : \gamma = 0 \) is rejected, this indicates deviation from the actual data in the frontier function due to technical inefficiency. The null hypothesis showed no significant technical inefficiency is rejected. To test the null hypothesis, Generalized Likelihood-Ratio – LR, can be tested by applying statistical testing as below:

\[
\lambda = -2 \left[ \ln[L(H_0)] - \ln[L(H_1)] \right] \tag{2}
\]

\( L(H_0) \) and \( L(H_1) \) acts as a function of probability to null and alternative hypotheses on a test. If the LR hypothesis test is analyzed, it is equivalent to \( (H_0, \delta = 0) \) can be rejected. The basic model without factor will be used based on the model Battese & Coelli (1988) as well as tests that have been carried out in the study (see Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018; Hamdan et al., 2018; Latif et al., 2018). This model has been widely applied in most previous studies in estimating and determining the value of TE. The effect on the actual findings of TE can be obtained with more consistency. The TE’s output value of the - \( i \) firm is defined as the ratio of actual output to potential output Coelli et al. (2005) as follows: 

\[
\text{TE}_i = \frac{\text{Output}_i}{\text{Potential Output}_i}
\]
TE_i = E [exp(-u_i)]

If the range of TE is 0 to 1 and the firm is at TE = 1, this indicates that the firm’s production boundary is at an efficient level. Next (1 - TE) is the firm’s actual production gap and optimal production (Chavas & Aliber 1993; Fahmy-Abdullah et al. 2017; Fahmy-Abdullah et al. 2018) achievable and able to move the firm to the border through input adjustment. It is also because u_i variables are not negative, so the TE range as above makes it technically efficient.

SFA approach provides several advantages to the findings related to efficiency are analyzed. SFA has flexible features and is easily adaptable to external or environmental variables (Coelli et al., 2005). Hence, SFA is a model that can build a parametric boundary Coelli et al. (2005); Amornkitvikai & Harvie (2010) , Fahmy-Abdullah et al. (2017), and Fahmy-Abdullah et al. (2018) consider stochastic errors or its environmental factors that can estimate TE and technical inefficiencies based on certain assumptions. SFA will filter and test the sample first by trying the effects of technical inefficiency to detect and identify the factors of the firm’s technical inefficiency (Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018). Some functions of the SFA approach can identify inconsistent data when it is analyzed. SFA can explore the structure, study the determining factors and performance of the manufacturer.

4. MODEL SPECIFICATION

4.1 Transcendental Logarithm (Translog)

This study uses three input variables, namely capital (M), employee (B), and intermediate input (II), while one output variable is selected according to the suitability of the model in equation (1). This set of variables according to the data in the E&E manufacturing firms industry derived from DOSM. Use of the data firm from 2015 is broken down into 13 sub-industries at the three-digit level according to MSIC 2000 and MSIC 2008. This study uses the Translog approach as follows;

\[\ln Y_i = \beta_0 + \beta_1 \ln M_i + \beta_2 \ln L_i + \beta_3 \ln II_i + \frac{1}{2} \beta_4 (\ln K_i)^2 + \frac{1}{2} \beta_5 (\ln L_i)^2 \]

\[+ \frac{1}{2} \beta_6 (\ln II_i)^2 + \beta_7 (\ln K_i \times \ln L_i) + \beta_8 (\ln K_i \times \ln II_i) + \beta_9 (\ln L_i \times \ln II_i) + (v_i - u_i), \]

\[i = 1, 2, ..., N \]

With:
\(\ln Y_i\) is the logarithm for the total output for the firm \(i\)
\(\ln M_i\) is the logarithm for the total asset for the firm \(i\)
\(\ln L_i\) is the number of workforces for the firm \(i\)
\(\ln II_i\) is the intermediate input for the firm \(i\)
\[i = 1, 2, ..., N\] is the number of firms
\(v_i = i.i.d\) with \([N(0, \sigma^2_i)]\)
\(u_i =\) non-negative random variables, which are assumed to be independent and identically distributed truncations (at zero) of the \([N(\mu, \sigma^2)]\).

This study evaluated the TE data obtained from DOSM, and the value of TE gained is based on 2015. Also, the effect of the technical inefficiency model is as follows;

\[u_i = \delta_0 + \delta_1 \ln(M/B)_i + \delta_2 \ln(LAT)_i + \delta_3 \ln(TPP/B)_i + \delta_4 \ln(TPA/B)_i + \delta_5 \ln(U/B)_i + \delta_6 \ln(ICT)_i + \delta_7 \ln(R&D)_i + \delta_8 (DFSME)_i \]

With:
\(\ln(M/B)_i\) is a logarithm for the capital cost ratio (M) and number of labor/capital intensity for the firm \(i\)
\(\ln(LAT)_i\) is a logarithm for the total labor training cost (LAT) for the firm \(i\)
\(\ln(TPP/B)_i\) is a logarithm for the ratio between labor force with STPM (Sijil Tinggi Persekolahan Malaysia), Diploma and equivalent to the total of labors employed for the firm \(i\)
\(\ln(TPA/B)_i\) is a logarithm for the ratio between labor force with advanced diploma, bachelor degree, and equivalent to the total of labors employed for the firm \(i\)
\(\ln(U/B)_i\) is a logarithm labor wage rate (U) for the firm \(i\)
\(\ln(ICT)_i\) is a logarithm total spending cost for communication and information technology for the firm \(i\)
\( \ln(R&D) \), is a logarithm expenditure research & development for the firm \( i \) (DFSME), is the size of the firm based on the dummy for the firm \( i \) year - \( t \) with small-size firm = 1, other = 0, \( i \) is 1, 2, ..., 300 (is the number of the firm for research's year)

5. SOURCES OF DATA

Data used in this study were retrieved from the E&E manufacturing industry firms in Malaysia, obtained from DOSM, inline research needs and objective involves dependent and independent variable. There is 30 percent of the total aggregate data in DOSM being selected in this study and categorized into thirteen sub-industries in the 3-digit level of MSIC 2000 and MSIC 2008. Based on the original data obtained from DOSM, the screening process once again carried out with some firms dropped due to lack of information categorized incomplete like output or unquoted capital and the number of employees not meeting the purpose of small and medium firms less than five employees or 0. Incomplete data-driven interrupt of sample analysis (SME, 2019). Overall, 587 firms involved in this study are based on the 2015 Economic Census which conducted every 5 years. All of this variable in the value of Ringgit Malaysia (RM) in 2015. The sub-industries involved areas in Table 1.

Table 1: E&E Manufacturing Sub-Industries in Malaysia

<table>
<thead>
<tr>
<th>No.</th>
<th>E&amp;E Manufacturing Sub-Industries</th>
<th>MSIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manufacture of electronic components and boards</td>
<td>261</td>
</tr>
<tr>
<td>2</td>
<td>Manufacture of computer and device equipment</td>
<td>262</td>
</tr>
<tr>
<td>3</td>
<td>Manufacture of communications equipment</td>
<td>263</td>
</tr>
<tr>
<td>4</td>
<td>Manufacture of consumer electronics equipment</td>
<td>264</td>
</tr>
<tr>
<td>5</td>
<td>Manufacture of measuring equipment, test driving, and control, watches and clocks</td>
<td>265</td>
</tr>
<tr>
<td>6</td>
<td>Manufacture of radiation equipment, electro, and electro-therapeutic</td>
<td>266</td>
</tr>
<tr>
<td>7</td>
<td>Manufacture of optical instruments and photographic equipment</td>
<td>267</td>
</tr>
<tr>
<td>8</td>
<td>Manufacture of electric motors, generators, transformers, and electricity distribution and control apparatus</td>
<td>271</td>
</tr>
<tr>
<td>9</td>
<td>Manufacture of batteries and accumulators</td>
<td>272</td>
</tr>
<tr>
<td>10</td>
<td>Manufacture of wiring and wiring devices</td>
<td>273</td>
</tr>
<tr>
<td>11</td>
<td>Manufacture of electric lighting equipment</td>
<td>274</td>
</tr>
<tr>
<td>12</td>
<td>Manufacture of domestic appliances</td>
<td>275</td>
</tr>
<tr>
<td>13</td>
<td>Manufacture of other electrical equipment</td>
<td>279</td>
</tr>
</tbody>
</table>

(Sources: Economic Census 2011 and 2016, DOSM)

6. DATA ANALYSIS

The study used computer software FRONTIER 4.1 as well as using Microsoft Office Excel (MS Excel) 2016 to analyze the data obtained from DOSM and has screening according to the objectives and needs of the study, which is to identify the TE level of the firm in the E&E manufacturing industry. Next, analyze the independent variables data to determine the determinants that influence the level of TE. After completion of the filtered data, it will be processed using FRONTIER 4.1. FRONTIER 4.1 uses Fortran77 programming language, which the specification that specializes in providing an estimation of the stochastic frontier production. FRONTIER acts as a medium for calculating TE's firm estimate obtained from either the Cobb-Douglas or Translog functions. Also, MS Excel 2016 helps structure and design tables, analyze and calculate data uniformly with the format used by FRONTIER 4.1. FRONTIER 4.1 software, through the Translog approach, can analyze the data of the firm's TE level and the entire E&E manufacturing industry as well as identify the determinants of the firm's technical inefficiency that affect the TE level simultaneously.
7. RESULT AND DISCUSSION

There are 587 E&E manufacturing firms in 2015 that were selected in this study. Table 2 below shows the descriptive statistics of variables in SFA estimation. This table shows the average total output of the E&E manufacturing industry worth RM489 million with a min-sum of RM4 million to a maximum of 15 billion. The capital of the industry average spending is RM86 million, with a minimum amount is between RM7,000 to RM2.7 billion. The average of workers employed was 683 people where the number of workers employed within 5 to 14,579. Meanwhile, the average for intermediate input is RM389 million, with a minimum amount of RM139,000 for one worker. The average ratio of employees with education with the degree or equivalent is 0.103 percent, a range within 0 to 1 percent compared to the average of ratio middle education such as STPM, diploma or equivalent 0.146 percent with minimum 0 to 0.895 percent. Workers should continuously gain knowledge and skills to help industries grow, reducing dependence on foreign specialists (Ministry of Finance, 2020).

Besides, the average cost of employee training is RM245,000, with an expense between RM0 to RM1.1 million on E&E firms. The average firm spent on research and development (R&D) is RM6 million, where the spending within RM0 to RM1 billion. The average next wage rates are RM25 million, with a minimum of RM11,000 and a maximum of RM498 million. The firms also spent RM1.8 million on information communication technology (ICT) with minimum spending of RM1,000 to RM114 million. Small, medium-sized enterprise (SME) volume shows 32 percent of the firms involved in this study are medium-sized firms.

Table 2: Summary Descriptive Statistics of the variables, 2015

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symbol</th>
<th>Mean/Average</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>RM</td>
<td>489.376</td>
<td>4,211</td>
<td>15,815,213</td>
<td>1402800.084</td>
</tr>
<tr>
<td>M</td>
<td>RM</td>
<td>86,654</td>
<td>7</td>
<td>2,708,129</td>
<td>259044.851</td>
</tr>
<tr>
<td>B</td>
<td>Number</td>
<td>683</td>
<td>5</td>
<td>14,579</td>
<td>1324.218</td>
</tr>
<tr>
<td>II</td>
<td>RM</td>
<td>389.579</td>
<td>1.585</td>
<td>12,809,033</td>
<td>1172137.053</td>
</tr>
<tr>
<td>K/L</td>
<td>Ratio</td>
<td>139.14</td>
<td>0.130</td>
<td>8.576</td>
<td>444.745</td>
</tr>
<tr>
<td>TPA</td>
<td>Ratio</td>
<td>0.103</td>
<td>0</td>
<td>1</td>
<td>0.122</td>
</tr>
<tr>
<td>TPP</td>
<td>Ratio</td>
<td>0.146</td>
<td>0</td>
<td>0.895</td>
<td>0.112</td>
</tr>
<tr>
<td>LAT</td>
<td>RM</td>
<td>245</td>
<td>0</td>
<td>11621</td>
<td>1015.492</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>RM</td>
<td>6605</td>
<td>0</td>
<td>1047937</td>
<td>47908.442</td>
</tr>
<tr>
<td>U</td>
<td>RM</td>
<td>25,875</td>
<td>11</td>
<td>498,535</td>
<td>56170.190</td>
</tr>
<tr>
<td>ICT</td>
<td>RM</td>
<td>1,894</td>
<td>1</td>
<td>114,919</td>
<td>7931.301</td>
</tr>
<tr>
<td>DSME</td>
<td>Dummy</td>
<td>0.32</td>
<td>0</td>
<td>1</td>
<td>0.468</td>
</tr>
</tbody>
</table>

Notes: Y= Output; M= Capital; B= Labour; II= Intermediate input; K/L= Ratio capital-labour; TPA= Ratio of employees’ qualification level STPM, Diploma or equivalent; TPP= Ratio of employee’s qualification level degree or equivalent; LAT= Employees training expenses; R&D= Research and Development expenditure; U= Wage rate; ICT= Information and communication technology cost; DSME= Dummy for small medium firm’s size

Table 3: Generalized Log-Likelihood Tests of Hypothesis, 2015

<table>
<thead>
<tr>
<th>Hypothesis Null</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Effect Technical Inefficiency (H0 : γ = δ0 = δ1 = δ8 = 0)</td>
<td></td>
</tr>
<tr>
<td>Statistical LR</td>
<td>245.951**</td>
</tr>
<tr>
<td>Critical Value</td>
<td>19.384**</td>
</tr>
<tr>
<td>Result</td>
<td>H0 Rejected</td>
</tr>
</tbody>
</table>

Notes:**significance level 1% and based on Kodde & Palm (1986) schedule.

The purpose of the Hypothesis test is to the determinant effect of technical inefficiency (H0: γ = 0) in the
E&E manufacturing industry. If $H_0 : \gamma = 0$ rejected, this leads to real data from frontier function due to technical inefficiency. Hypothesis null is no existing effect technical inefficiency rejected as followed. $H_0 = \text{No existing effect on technical inefficiency}$ or $H_1 = \text{existing effect on technical inefficiency}$. The value of statistical LR is testing hypothesis null, $H_0 : \gamma = 0$ in 2015. LR test was more significant than the critical value on significance level 1% (19.384). The crucial value in table 3 shown the existing effect of technical inefficiency consistently. This testing is vital to ensure the existence of technical inefficiency effects in firms. Next, another test process identifies determinant factors technical inefficiency firms based on data obtained from DOSM.

Table 4 shows the parameters using the Translog production function approach, referring to the hypothesis in 2015. The result has demonstrated E&E manufacturing industry variable ln capital, ln intermediate input, ln labour, ln intermediate input, ln capital x ln intermediate input, and ln labour x ln intermediate input is significant with the level of significance 1% and 5%. On the other hand, it shows three variable ln labour, ln capital, ln capital x ln labour have no significant relationship with E&E manufacturing firms. Overall, the gamma parameter ($\gamma$) show positive and meaningful values. This result proves that technical inefficiency has had a significant impact on the level and change of production in E&E manufacturing industries. Sigma value of squared ($\sigma^2 = \sigma_v^2 + \sigma_u^2$) is also substantial and indicating firms not operating efficiently.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameter</th>
<th>Coefficient of MLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>$\beta_0$</td>
<td>3.963*** (10.545)***</td>
</tr>
<tr>
<td>ln Capital (M)</td>
<td>$\beta_1$</td>
<td>4.378*** (1.055)</td>
</tr>
<tr>
<td>ln Labour (B)</td>
<td>$\beta_2$</td>
<td>-0.013 (-0.169)</td>
</tr>
<tr>
<td>ln Intermediate Input (II)</td>
<td>$\beta_3$</td>
<td>0.524 (8.891)***</td>
</tr>
<tr>
<td>(ln Capital)$^2$</td>
<td>$\beta_4$</td>
<td>0.006 (1.538)</td>
</tr>
<tr>
<td>(ln Labour)$^2$</td>
<td>$\beta_5$</td>
<td>0.0918 (5.653)***</td>
</tr>
<tr>
<td>(ln Intermediate Input)$^2$</td>
<td>$\beta_6$</td>
<td>0.062 (6.757)***</td>
</tr>
<tr>
<td>ln Capital x ln Labour</td>
<td>$\beta_7$</td>
<td>0.007 (1.133)</td>
</tr>
<tr>
<td>ln Modal x ln Intermediate Input</td>
<td>$\beta_8$</td>
<td>-0.010 (-2.004)**</td>
</tr>
<tr>
<td>ln Labour x ln Intermediate Input</td>
<td>$\beta_9$</td>
<td>-0.051 (-6.319)***</td>
</tr>
<tr>
<td>Sigma-squared</td>
<td>$\sigma^2 = \sigma_v^2 + \sigma_u^2$</td>
<td>0.027 (14.325)***</td>
</tr>
<tr>
<td>Gamma</td>
<td>$\gamma$</td>
<td>0.405 (4.021)***</td>
</tr>
<tr>
<td>Log-Likelihood</td>
<td></td>
<td>245.951</td>
</tr>
</tbody>
</table>

(Notes: representative level of significant * = 10%, ** = 5% and *** = 1%. Value in ( ) is value of t statistical)

In 2015, the level of TE in the E&E manufacturing industry was at a high level. Table 5 shows that the average TE level is 0.720, almost all firms operate at a high level to produce optimum output. This result also supported the Annual GDP National Account Report 2016, E&E manufacturing firms remained as the critical engine of growth for the manufacturing sector at 8.6% following external improvement demand (Productivity Report, 2016/2017).

<table>
<thead>
<tr>
<th>Firm</th>
<th>Average total of TE</th>
</tr>
</thead>
<tbody>
<tr>
<td>587*</td>
<td>0.720</td>
</tr>
</tbody>
</table>

(Notes: * data from the Economic Census 2015)
Table 6 shows the result of the technical inefficiency variable, the negative means obtained from the analysis there is an increase in the variable, so the reduction to technical inefficiency of the E&E manufacturing industry. Besides that, if its positive sign is obtained, it indicates an increase in firm technical inefficiency. This result indicates the percentage point of the normal distribution on 2 sided test.

### Table 6: Result of Technical Inefficiency Determinants Factors for E&E manufacturing Industry in Malaysia

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameters</th>
<th>Coefficient 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>$\delta_0$</td>
<td>1.702*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.726)***</td>
</tr>
<tr>
<td>Ln M/B ratio</td>
<td>$\delta_1$</td>
<td>0.095</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.535)</td>
</tr>
<tr>
<td>Ln LAT expenses</td>
<td>$\delta_2$</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.042)</td>
</tr>
<tr>
<td>Ln TPP ratio</td>
<td>$\delta_3$</td>
<td>-0.042</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-0.385)</td>
</tr>
<tr>
<td>Ln TPA ratio</td>
<td>$\delta_4$</td>
<td>-0.081</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-1.025)</td>
</tr>
<tr>
<td>Ln Wage ratio</td>
<td>$\delta_5$</td>
<td>-0.136</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-5.976)***</td>
</tr>
<tr>
<td>Ln ICT expenses</td>
<td>$\delta_6$</td>
<td>-0.025</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-3.578)***</td>
</tr>
<tr>
<td>Ln R&amp;D expenditure</td>
<td>$\delta_7$</td>
<td>-0.008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.646)***</td>
</tr>
<tr>
<td>Dummy SME size</td>
<td>$\delta_8$</td>
<td>0.010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.358)</td>
</tr>
</tbody>
</table>

(Notes: representative level of significant * = 10%, ** = 5% and *** = 1%. Value in ( ) is value of t statistical)

Based on table 6, the result shows the variable technical inefficiency, negative sign obtained from the analysis result if there are increasing to the variable, decreases on technical inefficiency of E&E manufacturing industry. On the other hand, a positive sign obtained shows increasing technical inefficiency. Three variables react from the test are determinant factors for wage rates, ICT, and R&D expenditure have significant negative effects from this result level of technical inefficiency, which can be reduced. Wage rates can reduce the determining factor of technical inefficiency when wage rates increasing by 1%, so that the technical inefficiency will reduce to 6%. Wage rates a vital factor for workers as self-motivation and self-esteem to the increasing level of productivity hence achieved organization objectives like rising output, production at an optimum level, and boosting the domestic economic cycle (Liew, Mohamed, & Mzee, 2012).

ICT factors also reduce the level of technical inefficiency where it can be reduced if the increase of ICT factor happened by 1%, the technical inefficiency will be reduced by 3.6%. Ismail et al. (2014) stated that investment in ICT is vital for boosting up firms’ TE levels with ICT wide connection within other firms also will avoid any obstacles circumstances, indirectly lead to firm TE. ICT investment is important to increase TE Firm in terms of supply chain & processing (Hamdan et al., 2018). Lastly, increasing expenditure on R&D by 1% will increase technical inefficiency by 2.6%. Previous analysis result by Idris et al. (2018) shown firms had invested in R&D for product development as long-term investment get positive returns and contribute to increasing firm-level TE. Also, continuous R&D on production and services helps to stabilize growing firms’ TE levels in industries (El Salam El Rayyes & Valls-Pasola, 2013).

### 8. CONCLUSIONS

This study aims to identify and determine the factor of technical inefficiency in the E&E manufacturing industry in Malaysia. In this study, 587 data firms were involved and obtained from DOSM in 2015. Based on the results through the Translog production, the efficiency of E&E manufacturing industries is high with a value efficiency of 0.720 percent. Furthermore, the result shows that wage rates, ICT expenses, and expenditure on R&D play an important role in reducing the technical inefficiency of a firm. The E&E manufacturing industry is an important industry for the country; the development of this industry contributes to national
economic growth. Therefore, the appropriate methods and approaches can show the actual level of efficiency. SFA is an alternative approach to defining benchmarks TE measurement of a firm in the industry that can help the industry achieve an efficient output level at the maximum level as a whole. The SFA helps to measure the level of TE by considering factors that influence technical efficiency. Where it can be enhanced by firms, governments through policies, and industry players. The SFA's ability to provide the level and technical inaccuracy facilitate the researchers, governments, private sector, and others to identify and enhance the industry at a higher level to stimulate economic growth.

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REFERENCE


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PENGELUARAN BERSIH DI KALANGAN IKS MELALUI KONSEP PERKONGSIAN DI MALAYSIA

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ABSTRAK

Pengeluaran Bersih (Cleaner Production-CP) adalah inisiatif berbentuk pencegahan yang menjadi pelengkap kepada peraturan alam sekitar serta meningkatkan persaingan perniagaan. Kertas kerja ini bertujuan membincangkan pelaksanaan CP di kalangan IKS dan faktor-faktor yang mempengaruhi perkongsian dengan agensi pelaksana (JAS, SIRIM). Ini diikuti dengan kajian kes pengalaman sebuah firma IKS yang terlibat dalam program CP. Hasil kajian mendapati, pelaksanaan CP masih baru dan bergerak pelahan di Malaysia yang didominasi oleh halangan kos, pengetahuan, teknologi. Berdasarkan kajian kes, industri yang telah melaksanakan CP menyatakan kejayaan kerjasama dengan Jabatan Alam Sekitar ditentukan oleh faktor kepercayaan, pertukaran maklumat dan komitmen kedua-dua pihak. Selain dapat meningkatkan produktiviti pengeluaran, CP juga berupaya mengurangkan penggunaan tenaga elektrik, air dan sisa pencemar dalam masa yang singkat. Penggunaan instrumen CP perlu diberi perhatian oleh kerajaan yang menunjukkan kesan segera berbanding kaedah penguatkuasaan peraturan alam sekitar dengan menyediakan arah tuju yang lebih jelas terutama bagi membantu Industri Kecil dan Sederhana kearah matlamat pengeluaran hijau.

KATAKUNCI: Pengeluaran bersih, perkongsian dan pengeluaran hijau
DAYA TAHAN PEMILIKAN EKUITI BUMIPUTERA PASCA LIBERALISASI PASARAN MODAL DI MALAYSIA

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ABSTRAK
Pelaksanaan liberalisasi pasaran modal mulai 27 April 2009 merupakan sebahagian daripada perlaksanaan Dasar Liberalisasi Sektor Kewangan yang komprehensif bertujuan untuk mewujudkan keterbukaan dan mengurangkan perlindungan meliputi syarat-syarat khas bersifat afirmatif serta meningkatkan daya saing dan daya tarikan pasaran Modal Malaysia terutamanya kepada pelabur asing. Pelaksanaannya telah mengakibatkan perubahan drastik dan menyeluruh dari segi pemilikan ekuiti, terutamanya syarat pemilikan ekuiti Bumiputera di bawah garis panduan Jawatankuasa Pelaburan Asing (FIC) yang telah wujud sejak 38 tahun yang lalu sebagai sebahagian daripada strategi mencapai objektif pengagihan semula ekuiti dengan sasaran pegangan ekuiti 30% oleh Bumiputera, 40% bukan Bumiputera dan 30% lagi adalah warga asing. Setelah 40 tahun pelaksanaan tindakan afirmatif, Bumiputera masih gagal mencapai 30% pemilikan ekuiti di mana sehingga tahun 2011, hanya 23.5% pemilikan ekuiti dimiliki Bumiputera berbanding 39.6% ekuiti yang dimiliki oleh bukan bumiputera. Ini menimbulkan persoalan bagaimana daya tahan pemilikan ekuiti di kalangan Bumiputera setelah berakhirnya perlaksanaan tindakan afirmatif di Malaysia. Bagi membuktikan objektif kajian, kajian ini akan melaksanakan analisis siri masa bagi tempoh 1969 hingga 2019 menggunakan pendekatan Autoregrasi Lat Tertabur (ARDL) bagi melihat hubungan antara pemboleh ubahn–pemboleh ubahn yang di kaji. Dapatan kajian menunjukkan perlaksanaan tindakan afirmatif mempunyai hubungan dalam pemilikan ekuiti Bumiputera dalam jangka masa pendek, namun bagi jangka masa panjang ia memerlukan pertumbuhan ekonomi yang tinggi dan stabil.

KATA KUNCI : Daya Tahan, Ekuiti, Liberalisasi Pasaran Modal, Tindakan Afirmatif
TRACK 5D
BUSINESS
RISK MANAGEMENT ANALYSIS ON THE EXPENDITURE CYCLE OF POWER PLANT OVERHAULS

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¹,² Faculty of Economy and Business, University of Indonesia, (Trywijayanti58@yahoo.com)

ABSTRACT

The research aims to provide an overview of the risk management process and risk mitigation on the expenditure cycle in the Unit of the Power Plant maintenance. The research strategy using a case study with a qualitative approach. The analysis method using content analysis with research instruments by observation and interviews. This research is motivated by audit findings in 2019 and the absence of risk management in the expenditure cycle. The risk management framework uses ISO 31000: 2018. The results of the study show that there are 185 identified risks in the expenditure cycle. There are 136 risks (73.51%) with a moderate risk category and 49 risks (26.49%) with a high-risk category. Risk mitigation is carried out at high risk and at moderate risk that is acceptable with KRI conditions. This study provides risk mitigation and recommendations for implementation. The benefit of this research is that the results can be used as a basis for conducting risk-based audits and as a reference for implementing risk management in the Power Plant Maintenance Industry.

KEYWORDS: Risk Management, Internal Control, Expenditure Cycle

1. OVERVIEW

In 2020 the Government of Indonesia targeting to achieve an electrification ratio of 100% in all regions in Indonesia (Kompas, 2020). One of the ways to access energy is to maintain health during a pandemic. PT PLN (Persero) as a State-Owned Enterprise engaged in the electricity sector had synergized with subsidiaries to support the program. PT PLN synergized with XYZ. XYZ is engaged in the Power Plant sector which seeks to create the right strategy in increasing the availability, reliability, and efficiency of Power Plant machines. The obstacle faced by XYZ is a decrease in performance due to old machine conditions (XYZ, 2007). The Overhaul is an activity to repair and recondition a power plant engine so the machine can operate in standards (Ardam & Health, 2015). Specialized in systematic and planned overhaul, managed by a unit of maintenance called XYZ UJHAR (Unit Jasa Pemeliharaan). XYZ 2019 financial report showed that the total maintenance costs more than 15% of the total business costs. Overhaul activities absorb more than 80% of total maintenance costs. The high cost of overhaul requires UJHAR to carry out cost-effectiveness and proper controls to prevent risks.

XYZ UJHAR requires materials and services from vendors in the process of planning, preparing, and executing an overhaul. The expenditure cycle is an important activity because this activity is the factors supporting an overhaul. To achieve the overhaul target, demand due to the best quality, quantity, time, and cost. In determining and reviewing internal controls that have been running effectively and efficiently, risk management is needed to assess the controls that have been implemented (Pickett, 2010).

In 2019 there were internal audit findings related to the expenditure cycle, there was an inconsistent implementation of procurement monitoring, warning letters were not given to suppliers who were late in delivering materials/services, and there were trade payables to companies whose payments had not been made in one period. Another issue is a demand for new materials after the overhaul is complete. XYZ UJHAR has not analyzed risk management in the expenditure cycle.

Risk management in the expenditure cycle can create the risk of fraud if not managed properly. So that the problem is formulated as follows:
1. How to implement risk management on the expenditure cycle in the XYZ UJHAR?
2. How to treat risk on expenditure cycle in the XYZ UJHAR?

This study aims to provide an overview of the risk management process in the expenditure cycle at XYZ UJHAR and provide risk mitigation in areas that require handling.
2.2 Internal Control

The Committee of Sponsoring Organizations of The Treadway Commission (COSO) (2013) explains that Internal Control is a process that involves directors, management, and personnel in the company, by providing adequate guarantees to design objectives, effectiveness and efficiency, level of reliability of financial statements, and compliance with applicable laws and regulations. The internal control framework consists of all regulations, work routine arrangements, and specific controls in achieving organizational goals. The internal control framework is used as a powerful business tool to improve company performance to create good corporate governance (GCG) (Pickett, 2010).

In achieving company goals, an internal control system must be attached to every activity. Giving responsibility clearly to each employee is very important so that control over the process and results of their work can be exercised. Control effectiveness will run if there is cooperation from all company stakeholders, thus creating a good governance system. A review of the effectiveness of internal controls can be carried out through a risk management process. XYZ can determine the effectiveness of the controls that have been made.

2.3 Risk Management

Based on ISO 31000: 2018 risk is an event that occurs and had an impact on achieving organizational goals that can be measured from the likelihood of occurrence and the impact that can affect its objectives. Sources of risk can come from internal or external. Internal sources include human resources, infrastructure, business processes, etc. External sources include law, technology, socio-culture, politics, natural events, etc. COSO (2004) explains that risk is an event that can affect the achievement of company goals. Mulyawan (2015) explains that risk is an event some possibilities can be profitable or are called opportunities and can also result in deviations or uncertainties that can be detrimental.

The advantages of risk management are increased confidence to achieve organizational goals, there are effectively and efficiently processes that can implement them cost-effectively (AS / NZS, 2004).

2.4 Expenditure cycle

The expenditure cycle is a series of activities when there is a request to buy a good / service with the last process being a payment made by the company (Romney & Steinbart, 2015). Based on the explanation by Wilkinson, Cerullo, Raval, and Wong-On-Wing (2000) that the three business activities that underlie the expenditure cycle activities are ordering goods, supplies and services, receiving goods, storing goods, and making payments. To achieve good corporate governance, control of the expenditure cycle must be carried out effectively. In this cycle, risk identification is required for every activity to reduce fraud.

2.5 Conceptual Framework

![Conceptual Framework](image)

Source: ISO 31000:2018, the data is processed (2020)

Figure 2.1: Conceptual Framework

The framework in Figure 2.1 is a way of thinking in obtaining research results by taking the first steps, namely research planning in the analysis unit, namely XYZ UJHAR by making a research schedule, conducting initial interviews to find problems that occur at XYZ UJHAR, and conducting problem formulation. After obtaining the problem formulation, the next step is to carry out a risk management process by the ISO 31000: 2018 framework.
Determining the context and criteria for risk management using the ISO 31000: 2018 framework by the PT XYZ criteria context policy. From the context of the existing criteria, the risk identification process is carried out by conducting interviews with respondents who understand the business processes in their working area by digging up information about the activities carried out, the likelihood of risk, the impacts, and the controls that have been exercised. The results of identified risk carried out by a risk assessment by the risk owner or supervisor for each field. The risk assessment uses PT XYZ’s risk policy parameters.

3. RESEARCH METHODS

The research strategy used is the case study method (case study) with descriptive analysis, to explain the phenomena that occur by conducting descriptive analysis in risk management. In obtaining relevant data, primary and secondary data sources are used. Primary data is obtained from direct interviews with sources and observations. Secondary data is obtained from government regulations, internal regulations, company policies, and documents generated from the process.

The study was conducted by observing each activity and related documents in the expenditure cycle. Observations on activities include the main activities in the expenditure. This activity is carried out in the field of Engineering Performance, Resource Planning, Inventory Control, Logistics, and in the field of Finance and Accounting. Documentation observation is carried out by studying documents resulting from activities such as purchase request documents, procurement documents, financial documents, and documents that become references in each activity such as Directors’ Decrees including guidelines and authority for procurement process procedures, implementation risk management policy, etc.

Interviews were conducted by conducting direct interviews with respondents using semi-structured techniques, namely giving open questions, but there were still limitations to the questions and using the written interview method, namely communicating with respondents in writing by giving questions and respondents filling in answers. The results of the written interview were then re-confirmed the answers to obtain certain answers. Interviews are conducted in four stages, the first stage is extracting information on issues that occur in the company by conducting direct interviews with respondents who understand the company's business processes, the second stage by conducting direct interviews with respondents who understand business processes in each field to obtain information on risks that can arise in every activity in the expenditure cycle, sources of risk, as well as an internal control that the company has implemented to reduce risk, the third stage is by conducting written interviews with risk owners to obtain an assessment of the risks that have been identified, and the last stage is to carry out direct interviews with management for discussion of risk treatment.

The research This study uses literature sources in theory and methodological studies using a qualitative content analysis approach. Content analysis is an analysis that is influenced by natural interpretations using analysis in answering the “how” and “why” questions of the existing text. The unit of analysis is an object that will be used as an observation in research. The unit of analysis in this study uses a single unit analysis with the object of research is the XYZ Power Plant Maintenance Unit (UJHAR). XYZ UJHAR is a kind of XYZ’s Unit that is engaged in overhaul and maintenance.

4. ANALYSIS

4.1 Risk Identification

Identification is carried out in each part and activity in the expenditure cycle and identification of the factors that cause their occurrence and impact. There are 185 risks from each process.

<table>
<thead>
<tr>
<th>Field</th>
<th>Activity</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Performance (EP)</td>
<td>Making TOR (Term Of Reference)</td>
<td>7</td>
</tr>
<tr>
<td>Resource Planning (RP)</td>
<td>Making Budget of overhauls</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Making Purchase Requisition</td>
<td>8</td>
</tr>
<tr>
<td>Inventory Control (IC)</td>
<td>Appointment of Procurement Officials</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Making HPE (Harga Perhitungan Engineering/ Engineering calculation price)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Making Work Plan and Terms</td>
<td>5</td>
</tr>
<tr>
<td>Logistic</td>
<td>Procurement Planning</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>The Procurement Process using the Open Tender method</td>
<td>46</td>
</tr>
</tbody>
</table>
4.2 Risk Analysis

This analysis measures the level of likelihood of the occurrence of risk (likelihood), measures the impact that occurs, measures the level of risk, identifies control tools for each risk. The following is the XYZ criteria parameter policy.

4.2.1 Moderate Risk Level

From the risk analysis that has been carried out, there are 136 risk posts with moderate categories. Management of risk at a moderate level based on XYZ's risk appetite is acceptable by monitoring the Key Risk Indicator (KRI) by the risk owner. Moderate levels of risk include:

1. **Engineering Performance**
   a. The specifications on the TOR refer to a particular brand.
   b. Directing the procurement of materials/services to certain suppliers
   c. Specifications for material requirements do not exist in the market.

2. **Resource Planning**
   a. Mark-up the budget for personal advantage.
   b. Material planning is not as needed.
   c. Procurement requests are not adjusted to the budget.
   d. Requests for repair/modification of tools that are not needed.
   e. Request for materials/services directly to suppliers because of urgent needs.
   f. Demand for materials/services does not have a budget.

3. **Inventory Control**
   a. The procurement executor does not have procurement competence.
   b. Manufacture of HPE refers to one of the suppliers.
   c. Mark up the value in the HPE Compilation.
   d. Provide HPE information to suppliers.
   e. There is no competency of procurement planning staff in calculating HPS and conducting market research.
   f. The schedule for making RKS backdate / not following the realization.
   g. Duration The procurement process was too short.
   h. The length of authorization from the relevant officials, thereby reducing the duration of the procurement process.
   i. The mistake in selecting the procurement process method.
   j. Passing documents on supplier registration.
   k. Lack of supplier selection qualifications.
   l. The duration of the supplier registration process.
   m. Inactive suppliers can follow the procurement process.
   n. Companies that have legal disputes can register their suppliers with the company.

4. **Logistic**
      1) Procurement officials have not received training/training on the procurement process.
      2) Providing information on HPS prices to suppliers.
      3) Mark up HPS.
      4) Specifications and HPS refer to certain brands.
      5) The calculation of HPS does not take into account taxes.
6) The determination of HPS is not according to the market price standard.
7) HPS is not authorized by the competent official because it is done manually.
8) Incomplete procurement documents.
9) The schedule for the procurement process is not following SK XYZ.
10) The differences in the content of PR and TOR are different.

b. Ordering Materials / Services
1) Open Tender Process
   1. Information on procurement announcements is not uploaded on the XYZ website.
   2. The time frame for the procurement announcement and Aanwijzing is too fast.
   3. The time period between aanwijzing and document entry is too fast.
   4. Changes in aanwijzing schedule due to the busy schedule of users.
   5. Aanwijzing is not done due to limited resources.
   6. Announcements are only given to certain suppliers.
   7. Suppliers are suppliers that are subject to blacklist sanctions.
   8. Suppliers are suppliers that are under court/bankruptcy supervision.
   9. Provider does not fulfill tax obligations and passes administration.
   10. There is a conflict of interest between the registrant and the implementing official of the procurement.
   11. Unclear users in explaining the scope of work.
   12. Unclear material described in aanwijzing.
   13. No participant submitted an offer.
   14. Receiving import documents whose cover does not comply with the procurement provisions.
   15. Receiving entry documents that are past the entry deadline.
   16. The documents offered are fictitious documents.
   17. Receiving bid administration documents that do not comply with the requirements.
   18. Receiving bidding technical documents that do not comply with the requirements.
   19. The lowest participant bid price is higher than the HPS.
   20. Receiving technical bid documents whose scope does not match the request.
   21. Participants do not have experience in doing service work.
   22. The provider does not have competent personnel/experts in carrying out service repairs.
   23. Carry out procurement without ensuring the work budget.
   24. The value procurement process is above the value of the budget assessment.
   25. Carry out a procurement process that does not have a budget value.
   26. Cooperation with suppliers by not negotiating prices on individual interests.
   27. Mark up prices for individual interests.
   28. There is no negotiation price agreement because the price is above the HPS.
   29. Price negotiation by negotiating the scope of work.
   30. Did not issue a winner determination letter.
   31. Announcement of winners is not given to all participants.
   32. The appointed material/service provider resigns.
   33. Appointment of providers of low quality.
   34. Changes to the work plan/needs plan.
   35. Fictitious implementation guarantee document.
   36. The details of the contract content are insufficient.
   37. Administrative errors in contracting.
   38. The length of the contracting process.

2) Direct appointment
   1. The duration of the procurement process is very short.
   2. The absence of adequate qualification documents.
   3. Inviting suppliers that have low quality.
   4. Inviting certain suppliers out of personal interest.
   5. Limited information on suppliers who are competent in a particular job.
   6. Unclear users in explaining the scope of work.
   7. Scope of work that was not delivered during aanwijzing.
   8. The unclear material described in aanwijzing.
   9. Changes in the scope of work for bringing participants' opinions.
   10. The documents offered are fictitious.
11. Clarification and technical and administrative evaluation are not carried out.
12. Receiving administration documents of unsuitable bids.
14. Carry out a procurement process whose value is above the value of the stipulated budget.
15. Carry out a procurement process that does not have a budget value.
16. Inaccurate price negotiation process.
17. Errors in calculating the number of materials and services.
18. Negotiations were not carried out in detail on the price of the work.
19. There is a mark-up of negotiated prices for personal gain.
20. Appointment of providers for interventions from other parties.
21. Make appointments to suppliers that have low quality.
22. Appoint suppliers who have legal disputes.
23. Administrative errors in contracting.
24. The length of the contract creation process.

3) Direct Procurement Process
1. The contents of PR and TOR are different.
2. Carry out a procurement process whose value is above the value of the budget assessment.
3. Carry out a procurement process that does not have a budget value.
4. Inaccurate price negotiation process.
5. Miscalculation of the number of materials and services.
6. Negotiations were not carried out in detail on the price of the work.
7. Negotiated price mark-up for personal gain.
8. Limited price quotes from suppliers so that prices are not competitive.
9. Make appointments to suppliers that have low quality.
10. Lack of adequate supplier monitoring.
11. Administrative errors in making contracts.
12. The length of the contract creation process.

5. Receipt of materials by the warehouse
1. Receipt of material is not following the specifications and quantity stated in the contract.
2. Receipt of documents is incomplete and not following the Contract / PO / SPK.
3. The low value of the warehouse
4. Not calculating late fees.
5. Inventory theft.
6. It takes a long time to make a BA because no team accepts the job.
7. Monitoring of material arrival is not carried out adequately.

6. Acceptance of Services
1. Receipt of work documents is incomplete and not following the contract / PO / SPK
2. Not calculating late fees
3. Accept a job with low quality.
4. SLA assessment is not carried out based on actual in the field
5. The process of making the Minutes takes a long time due to the absence of a team receiving the work
6. Errors in acceptance of work in the system
7. The quality of the supplier’s work is low

6. Finance and Administration
1. Wrong document contents on the invoice.
2. Receiving invoices that are not following company rules.
3. Wrong in invoice numbering.
4. Error in doing the three-way matching.
5. Correction of the invoice value is not recorded accurately.
6. Deviation between the AO determined and the realization.
7. Availability of money limits at banks is limited.
8. Make direct payments for fictitious jobs.
9. Duplicate payments in the direct payment process.
10. Obstruct the payment process to a supplier to get a reward from the supplier.
11. Errors in loading.
12. Recordings are inaccurate.
13. The finance-accounting query cannot display valid data.
4.2.2 High Risk Level

Based on the risk analysis, there are 49 risk items with a high category. Based on XYZ's risk appetite, it is necessary to reduce the risk level using risk mitigation and every risk is acceptable if the handling is considered effective. In making action plans in mitigation, mitigation monitoring must be carried out on each KRI (Key Risk Indicator). The following are risks that have a risk level in the high-risk category.

1. Engineering Performance
   1. Making specifications on material requests is incomplete.
   2. The specifications for the request for repair services are incomplete, so some parts are not repaired.
   3. There is no lead time in Making TOR.
   4. The description of the number of material requests for service work is not clear.

2. Resource Planning
   1. Cost realization exceeds budget planning (cost overrun).
   2. The absence of an adequate budget planning review from the relevant official.
   3. Monitoring reviews of budget realization are not carried out consistently.
   4. The duration of procurement planning time is too short.
   5. Improper material quantity planning so that there is a lack/excess of material requirements.
   6. Demand for materials/services does not take into account the duration of the procurement.
   7. No PR creation lead time.

3. Inventory Control
   1. Obtaining inaccurate pricing information.
   2. HPE is too low.
   3. The duration of obtaining price information.
   4. There is no lead time on IC activity.

4. Logistics
   1) Material / Service Order Planning.
      5. Procurement documents are late.
      6. The procurement process has not been carried out openly.
      7. Error in the contents of the RKS received by the Procurement.
   2) Ordering Materials / Services
      1. Participants are an integral part of the owners of capital/management with other participants.
      2. There is an unhealthy business competition among auction participants.
      3. Scope of work that was not delivered during aanwijzing.
      4. Changes in the scope of work for bringing participants' opinions.
      5. Negotiations were not carried out in detail on the price of the work.
      6. The price of the designated provider is much lower than the HPS.
      7. Delay in extending the implementation guarantee (bank guarantee).
      8. Provider does not understand the contents of the contract.
   2) Direct Appointment Process
      1. The absence of adequate request and TOR.
      2. Conduct procurement without ensuring the work budget.
      3. The price offered is high because of an emergency.
      4. Insufficient details of the contract contents.
      5. The provider does not understand the contents of the contract.
   3) Direct Procurement Process
      1. The duration of the procurement process is very short.
      2. The date of receipt of procurement documents is different from the process schedule made in the IC field.
      3. The absence of adequate request and TOR documents.
      4. The details of the request were not clearly spelled out.
      5. Conduct procurement without ensuring the work budget.
      6. Inadequate detail of the contract contents.
      7. The provider does not understand the contents of the contract.

5. Receipt of materials by the warehouse
   1. Late delivery of materials.
   2. Stacking material in the warehouse (high inventory in the warehouse).
   3. Not issuing a warning letter for material delays.

6. Acceptance of Services by the BAPP Team
   1. Acceptance of work not following the specifications on the contract.
2. The amount of work material left over from the supplier.
3. Monitoring of service acceptance is not carried out adequately.
4. Not issuing a warning letter for material delays.

7. **Finance and Accounting**
   1. The budget is not realized on time
   2. The loading journal was not carried out adequately
   3. Recording errors from other fields
   4. The recording process is not following PSAK

### 4.3 Risk Evaluation

Risk evaluation is carried out by mapping the level of risk in the risk matrix, determining risk priorities, and the response to be taken. Creating a risk matrix based on risk parameters XYZ. Determining Risk Priorities, Determining Response.

![Figure 4.1 Risk Matrix of Expenditure Cycle](image)

Based on Figure 4.1, there are 49 items (26.49%) with a risk level in the high category and 136 items (73.51%) with a risk level in the moderate category. Risks with a high-risk level get a greater priority than those with a moderate risk level. At the same level of risk, risks with a higher potential impact are prioritized.

Based on Figure 5.1 the Risk Matrix of the expenditure cycle, the priority of risk in handling can be determined, namely the risk with risk code A.3 (making specifications on material demand is incomplete), A.5 (no lead time in making TOR), C.7 (duration of obtaining price information), C.11 (risk of no lead time on IC activity), and risks that have a high-risk category.

Based on the risk analysis, there are 49 risks with a high level of risk. For risks that have a high-risk level based on XYZ's risk treatment parameters, the risk level must be reduced using risk mitigation and any risk can be accepted if the handling is considered effective. In making action plans in mitigation, monitoring must be carried out on each KRI (Key Risk Indicator).

### 4.4 Risk Treatment

There are 136 risks with a moderate risk level. Based on XYZ's risk appetite can be accepted by monitoring the Key Risk Indicator (KRI) by the Risk owner. There are 49 risks with a high-risk level. For risks that have a high-risk level based on XYZ risk treatment parameters, risk level reduction must be carried out using risk mitigation. Each risk can be accepted if the handling is considered effective. Monitoring and reviewing by PIC of activities at least every month.

Monitoring from risk owners is carried out periodically at least every quarter and monitoring is carried out from time to time by risk management.

Monitoring and reviews are carried out on risk descriptions, risk targets, KRI as well as plans and realization of risk treatment and its effectiveness.

### 4.5 Risk Mitigation
In high risk areas, risk mitigation is made to reduce the occurrence and impact on each risk. Risk PIC is carried out by the risk owner. Proposal for risk mitigation is carried out by standardizing the form with review and updating of documents consistently according to the needs of the relevant officials (for example: material requests, making TOR, RKS, contracts, etc.), creating a mailing list containing the entire list of registered suppliers at PT XYZ to make it easier to obtain price information for HPE manufacturing, standardize leadtime for each activity, create monitoring that is integrated with the system by adding several applications according to unit needs, as well as training to improve competence and GCG implementation. The risk reduction target with a risk matrix after the mitigation proposal in Figure 4.2

Figure 4.2 Risk Matrix of Expenditure cycle after Risk Mitigation

5. CONCLUSION AND RECOMMENDATION

Risk management analysis was carried out in the expenditure cycle and there were 185 identified risks. There are 136 risks (73.51%) with a moderate risk level with acceptable risk handling and 49 risks (26.49%) with a high-risk level and must be carried out by mitigating risks and each risk is acceptable if the handling is assessed effectively.

The following are some of the risk mitigation measures undertaken
1. Standardization of lead time in each field Standardization of formulas in all documents
2. Making a mailing list requesting price information
3. Integrated system monitoring Conducting SCM meetings
4. Competency training
5. Socialization/refreshment related to corruption to internal and external parties
6. Coordinating with the head office regarding the E-Procurement system

PT XYZ can implement the risk mitigation provided and be consistent in conducting a continuous review of the risk analysis that has been carried out to avoid and reduce risks that can occur in the expenditure cycle activities. Risk management analysis can be used by risk-based audits to provide assurance that activity processes have been carried out correctly and in accordance with company regulations. The implementation of risk mitigation proposals has to support by all stakeholders of the entire program. It is necessary to motivate employees to be able to support the implemented strategy. This motivation can be in the form of rewards for achieving increased performance. Employees must also understand the understanding of the problems that are happening, the risks that can occur, and the impacts that are caused so that employees and management can work together in carrying out the strategies they make.
6. LIMITATION

This research is limited time in research so that the research is conducted only in one unit of analysis, suggestions for further research are to be able to research the entire expenditure cycle at the Power Plant by researching the Expenditure cycle there is a Unit of Power Plant.

REFERENCES


Author’s Biography

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KESELAMATAN PENGANGKUTAN PELANCONGAN MARITIM DI WILAYAH ECER: ISU, CABARAN DAN PENYELESAIAN

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ABSTRAK


KATA KUNCI: Pengangkutan Maritim, Pelancongan, ECER & HIRARC.
TOWARDS A GREATER UNDERSTANDING THE RESPONSE OF MARITIME SMEs TO THE FACTORS OF E-ACCOUNTING (EA) ADOPTION: INTEGRATING QUANTITATIVE AND QUALITATIVE METHODS

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ABSTRACT

Small and medium enterprises (SMEs) rely on accounting information systems in managing financial and economic decisions. E-Accounting (EA) can facilitate the company's bookkeeping, accounting and financial affairs effectively and may prevent companies from experiencing difficulties in financial management. The weakness of this aspect is one of the reasons for the fall of an SME. Even though EA is widely used in business and is a common tool in financial management, factors shaping the EA adoption are narrowly researched. The maritime industry that will drive the Malaysian economy in the future depends on SMEs. This study integrates quantitative and qualitative methods to identify the factors influencing the E-accounting adoption among Malaysian maritime SMEs. By applying the DTOE (Decision-maker-Technological-Organizational-Environmental) framework, the quantitative component of this study revealed a high rate of response to the organizational factor as the determinant of EA adoption. The qualitative component emphasized the organizational factor associated with an EA adoption in light of the factor. The concerning outcome was that the organizational factor with themes of inventory, transaction, financial source, technological source and manpower influenced the owner-managers of maritime SMEs to implement the EA at their organizations. Furthermore, Goods and Services Tax (GST) compliance was the emerging factor that was found from qualitative data analysis (QDA) but not covered in the research framework of this study and thus, needs further empirical study. This is the major finding from the QDA analysis.

KEYWORDS: e-accounting (EA), decision-maker, technological, organizational, environmental.

1. INTRODUCTION

The inauguration of the Malaysian Shipbuilding & Ship Repair Industry Strategic Plan 2020 (SBSR 2020) and identification as Entry Point Project under the Economic Transformation Program (ETP) are evidence of the importance of the maritime industry under transportation banner, especially in creating further growth towards achieving the nation’s development aspirations. Information and communication technology (ICT) (Azammi, 2011) and small and medium-sized enterprises (SMEs) (Bass & Siebert, 2007) are the best strategies to promote the goal. Malaysia has many advantages and features that can be leveraged upon to make it as internationally competitive oil and gas nation. It has generated revenue of RM8.36 billion which attracted RM0.33 billion in investment and provided more than 35,000 jobs opportunities for the year 2013 (MIGHT, 2015).

Accounting information system (AIS) can help businesses, particularly SMEs to manage short-term problems in areas such as costing, expenditure and cash flow, by providing information to support monitoring and control and operate in a dynamic and competitive environment (Ismail & King, 2005). The transformation in information technology (IT) and information systems (IS) has elicited several issues that need to be carefully addressed, particularly in the context of SMEs. E-accounting (EA) refers to electronic accounting, a term used to describe any accounting system that relies on computer technology for capturing and processing financial data in organizations (Amidu, Effah, & Abor, 2011; Noronha & Kulkarni, 2012).

SMEs accounted for the majority of businesses in many countries in the world as they create new business, increase employment opportunities, develop innovative product ideas, and raise productivity (Samujh, Twiname, & Reutemann, 2012). SME define with the alternative criteria either employ less 200 employees or turnover less than RM50 million (SME Corporation Malaysia). Regrettably, a study by Fatoki (2012) found a high failure rate among SMEs, especially new SMEs operated which correlated with poor financial management. Mwakujonga & Bwana (2013) exposed a large number of SMEs’ managers have dumped an important role of preparing and using financial information in decision making. Thus, they are encouraged to deploy the EA in their operations for better performance. Few attempts have been made to study the usage of EA especially in the context of SMEs sized in Malaysia (e.g Ali, Rahman, & Wan Ismail, 2012; Amelia, Fariha, & Azliza, 2014).
Nonetheless, while researchers for many years have considered the factor influencing many types of IT adoption such as e-commerce, e-business and RFD at firm level, the involvement of SMEs on EA adoption for maritime industry in Malaysia remain relatively unexplored. This mixed method study attempts to identify the experience of maritime SMEs in light of factors influencing the EA adoption. The specific questions addressed are follows:

1. What is the factor affecting the EA adoption among maritime SMEs?
2. How does the factor encountered by maritime SMEs to adopt the EA?

The next section provides a brief literature on EA studies, theory and the factors towards EA adoption. The section is followed by an explanation of the research method and the analysis of the result in detail includes the qualitative themes. The last section is conclusion.

2. LITERATURE REVIEW

In the context of this study, e-accounting (EA) adoption defined as the adoption of information technology in the accounting process that using a computer (hardware and software) to record, process, store data and produce report whether using software purchased in market or developed by the company. That means the IT is used creatively and is not a ‘white elephant’ (Thong & Yap, 1995). EA adoption plays a crucial role to the firm to ensure all financial data is well managed and can be used to make decisions. Thus, that business can be well taken care of and improving the performance of companies, especially SMEs.

The maritime industry included oil, gas and offshore is undergoing continuous changes in technology and regulations. It is necessary that this industry is always up-to-date with the latest to stay in business and be competitive. Study by Amelia et al. (2014) indicated that most of Malaysian SMEs include in maritime industry use UBS Accounting Software as the system is easy to operate and applicable to all types of businesses. At international level, the world’s most important maritime countries and territories such as Japan, Germany, China, Norway, U.S, Hong Kong and Singapore have adopted specific maritime accounting system. For example, a Norwegian company produces NetLedger Maritime Accounting that offers the internet based accounting system ledger, accounting services, payroll services and consulting services to the maritime industry which suit with most maritime segments, ranging from tankers, chemicals, lightering, gas, LNG, liner, general bulk, reefer, offshore supply and heavy lift use widely in Europe, Asia and the US. Meanwhile, Marine Accounting Software produced by Norcomms at Singapore is designed for multi-company, multi-group and multi-currency accounting. It supports voyage accounting and analysis, running cost reporting and cash flow analysis including accruals which suitable for ship management, ship owning, ship holding groups, operators, agents, bunker trader and others.

2.1 TOE Framework

Technological-Organizational-Environmental (TOE) framework (Tornatzky & Fleischer, 1990) identifies three aspects of an enterprise context that influence the process by which it adopts and implements a technological innovation. This framework as originally presented, and later adapted in IT adoption studies, provides a useful analytical framework that can be used for studying the adoption and assimilation of different types of IT innovation. It has a solid theoretical basis and the potential of application to IS innovation domains. Thong (1999) proposed a model for small business in adopting IT / IS. He extracted owner-manager from organizational context as it plays a very significant role to make decision for organization operation. Decision maker’s characteristic is a key adoption predictor of DTOE model (Awa, Eze, Urieto, & Inyang, 2011). Wan Ismail & Azwadi (2013) adopted the model in their study on computerized accounting information system (CAIS) employment for Malaysian SMEs in multiple industries. Thus, this study will extend their model in different setting specifically in maritime industry.

2.2 Technological (T)

It is reasonable that organizations think the advantages of adopting any innovation (Wang, Wang, & Yang, 2010). It also must has high compatibility with business culture and strategy (Wang et al., 2010). The complexity of innovation must take into account since it can prevent the successful implementation (Tornatzky & Klein, 1982). It may take users a long time to understand and implement the technology (Wang et al., 2010). Hence, EA is expected to be able to give organizations greater competitive advantage, compatible with the company and easy to use.
2.3 Organizational (O)

Malaysian maritime industry cluster comprising three main sectors: ports and terminals, shipping services and ship industry (Othman, Bruce, & Hamid, 2011). Oil and gas sector also included in maritime cluster as it supports the shipping sector. Each cluster has its own business transaction processing complexity and inventory which could affect the EA adoption. The decision to adopt any technology acquire company to consider on financial, technology infrastructure and manpower (Kuan & Chau, 2001). In addition, SMEs are needed to meet adequate resources of technological and financial, prior to adopt the EA.

2.4 Environmental (E)

Every day, reports can be found in accounting and financial publications about computer related data errors, incorrect financial information, violation of internal controls, thefts, burglaries, fires and sabotage (Abu-Musa, 2006). So, organizations should be aware of the potential security threats that might challenge their EA and implement the relevant security controls to prevent, detect and correct such security breaches as it is related with financial data which are private and confidential. Beside, Thong, Yap, & Raman (1994) stated that vendor support traits as technical support during and after IS implementation and efficient training of human resources must be considered by firm to adopt the IS.

2.5 Decision-maker (D)

The decision-maker will adopt such technology if they are IT savvy (Thong & Yap, 1995). Unfortunately, they are lacking in specialized IT knowledge and technical skills as they are more concentrated on how to run the business. Many of them rejected the IT because they had no idea and exposure of the IT benefits. They also will support the innovation adoption at their organization if they believe the benefits are more than uncertainty threat (Thong & Yap, 1995). Moreover, manager with knowledge in accounting did not hesitate to make innovation in their accounting system and tend to utilize technology that give them more benefit related to accounts work such as bookkeeping.

2.6 Theoretical Framework

The central theme of this study is EA adoption (Figure 1). The variance of EA is calculated by the independent variables which are decision-maker, technological, organizational and environmental. Based on the above framework, the research further attempts to address (5) hypotheses as listed below:

H1A: There is a significant relationship between decision-maker (D) and the EA adoption of maritime SMEs.
H1B: There is a significant relationship between technological (T) and the EA adoption of maritime SMEs.
H1C: There is a significant relationship between organizational (O) and the EA adoption of maritime SMEs.
H1D: There is a significant relationship between environmental (E) and the EA adoption of maritime SMEs.
H2: All the contexts (DTOE) are able to explain the factor influencing EA adoption of maritime SMEs.

3. METHODOLOGY

The study was handled in the form of mixed method studies (the integration of quantitative and qualitative approach) by applying sequential explanatory mixed methods design. Quantitative as a leading method using questionnaire and qualitative method shed light on the significant results in quantitative method via interview and open-ended survey.

3.1 Quantitative Approach

A total of 450 owner-managers of maritime SMEs in Malaysia involving in this study included Sabah and Sarawak which proportional stratified random selected based on Malaysian Marine and Offshore Industries
Directory (MMOID) as a sampling frame. The survey questionnaire as the research instrument was structured into three separate areas (A, B and C) and distributed to the respondents by mail. The Likert scale seven point (strongly disagree to strongly agree) are designed to the question from section B to C while section A is using the nominal scale. Section A concentrates on the demographic profiles of the respondent. Section B was designed to investigate to what extent items measuring each variable can be the determinants of the EA adoption factors of maritime SMEs. Section C is related to the EA adoption be as a dependent variable. The statistical software package for social sciences (SPSS) version 21 was used to compute all the data gathered from the questionnaire to analyze mean, standard deviation, reliability value and multiple regressions (inferential).

3.2 Qualitative Approach

The owner-managers who participated in the quantitative component of the study were asked if they would be willing to participate in an interview in order to more fully explore their experiences. Interviews were conducted on 6 respondents who agreed to be interviewed at their premises face-to-face. At that point, it is suggested that theoretical saturation will have occurred (Creswell, 1998). The sessions were audio taped to ensure accuracy of data. Interview data was transcribed and analyzed for themes with the aid of computer program (ATLAS.ti). In the initial stage, open coding allowed for development of broad categories, after which selective coding allowed the researchers to attempt to develop a meaningful narrative of the perceptions of the owner-managers of maritime SMEs on the significant factors.

4. RESULTS

There were 103 responses received from 450 questionnaires distributed. The response rate should be more than 10% to avoid sample bias for mail distribution method (Hussey & Hussey, 1997). The response rate for this study of 22.8% means that the sample bias was avoided and the responses received represent the population adequately and appropriately.

**Table 1: Reliability Test Result**

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Decision-maker (D)</td>
<td>0.933</td>
</tr>
<tr>
<td>2.</td>
<td>Technological (T)</td>
<td>0.947</td>
</tr>
<tr>
<td>3.</td>
<td>Organizational (O)</td>
<td>0.909</td>
</tr>
<tr>
<td>4.</td>
<td>Environmental (E)</td>
<td>0.854</td>
</tr>
<tr>
<td>5.</td>
<td>EA adoption (EA)</td>
<td>0.953</td>
</tr>
</tbody>
</table>

The Cronbach’s alpha attempting to indicate how well the items in a set are positively correlated to one another. Based on the results tabulated in Table 1, all the values for the variables were found to be reliable for the study as the instrument has high reliability (Pallant, 2010). The analysis indicates the Cronbach Alpha for DTOE and EA variables are 0.933, 0.947, 0.909, 0.854 and 0.953 each.

4.1 Maritime SMEs Responses

**Table 2: Mean Value for Research Variable**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision-maker</td>
<td>5.80</td>
<td>0.9</td>
</tr>
<tr>
<td>Technological</td>
<td>5.56</td>
<td>0.8</td>
</tr>
<tr>
<td>Organizational</td>
<td>5.35</td>
<td>0.8</td>
</tr>
<tr>
<td>Environmental</td>
<td>5.12</td>
<td>0.9</td>
</tr>
<tr>
<td>EA adoption</td>
<td>6.13</td>
<td>1.1</td>
</tr>
</tbody>
</table>

The mean values for all the variables investigated were computed for the purpose to determine the perception level of the maritime SMEs towards the decision-maker, technological, organizational and environmental. Table 2 revealed the compute values were 5.80 for decision-maker, 5.56 for technological, 5.35 for organizational and lastly 5.12 for environmental, even though, the finding through mean analysis indicated that most of the respondent had a positive view. Based on the study by Thong (1999) on IS / IT adoption, organizational factor has more influence the small business to adopt the innovation while the least factor appeared to be on environmental.
4.2 Factor Influencing the EA Adoption

Table 3: Correlation Result

<table>
<thead>
<tr>
<th></th>
<th>D</th>
<th>T</th>
<th>O</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>0.588**</td>
<td>0.552**</td>
<td>0.661**</td>
<td>0.408**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 3 showed the relationship between decision-maker and technological towards EA adoption are in the category of the moderate (0.588, 0.552) and organizational is high (0.661). Further analysis on the environmental towards EA adoption, the result displayed the level of strength is low moderate (0.408). The result also showed the significant value between decision-maker, technological, organizational and environmental with EA adoption (p <0.05).

Table 4: Result of Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>D</td>
<td>0.13</td>
<td>1.02</td>
<td>0.31</td>
<td>0.36</td>
</tr>
<tr>
<td>T</td>
<td>0.17</td>
<td>1.49</td>
<td>0.16</td>
<td>0.38</td>
</tr>
<tr>
<td>O</td>
<td>0.38</td>
<td>2.59</td>
<td>0.01</td>
<td>0.30</td>
</tr>
<tr>
<td>E</td>
<td>0.12</td>
<td>1.29</td>
<td>0.20</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Adjusted R Square: 0.444; Sig. F Change: 0.000

Multiple regression analysis was applied to identify which independent variable is significant to predict the outcome of the dependent variable (EA) adoption. This is essential as the result of regression is an equation that represents the best prediction of dependent variable from several independent variables. The above Table 4 suggested that there was no element of multicollinearity in the data. Any variable that has tolerance value of 0.2 or less; and VIF value higher than 5 indicate a problem with multicollinearity (De Vaus, 2002). Out of four independent variables, only one variable has a significant relationship with the EA adoption among maritime SMEs. The organizational is the best predictor that contributes to the EA adoption among maritime SMEs based on the value of 0.38. The R-square value of 44.4% indicated that all the four constructs were able to explain their relationship with the EA adoption among maritime SMEs, and they were significant that is at 0.000.

5. QUALITATIVE THEMES

Appearing from qualitative data analysis (QDA), there were five themes; inventory, transaction, financial source, technological source and manpower coded from transcription to explain the mechanism behind the Organizational factor that confirmed in quantitative analysis. Goods and Services Tax (GST) compliance was the emerging factor that was found from qualitative analysis (QDA) but not covered in the research framework of this study. This is the major finding from the QDA analysis. The following quotes of participants exemplified these themes.

5.1 Inventory

The inventory of maritime business in terms of large, complex and uncontrollable stock, stockpiling and luxurious stock had affected the owner-manager to adopt EA. The owner-manager of two maritime clusters which are oil and gas cluster and ports and terminals cluster claimed that his maritime business has large, complex and uncontrollable stock. It involved many offshore activities.

*Our company involved with offshore structuring, construction of offshore and offshore ships. The accounting system is more detail with large inventory.*

Other respondent stated that using EA will ease the inventory management in maritime business.

*In terms of stocks, now we look at the account number to know how much the stock balance is. Previously we have a lot of files to open. Now just enter the company’s name, the balance and details will appear based on the month we choose. Now I have fewer files. If*
you can see, like stock you must record how much in and out for everything in order to know the balance. Now it's going easy. The EA can update the stocks, just enter the codes.

The respondent from oil and gas cluster declared he has luxurious stock such as petrol, diesel and gas. They must be managed carefully in order to determine the cost and price.

Our stock is not cheap. Sometimes we stock up to the maximum of RM300,000 if we know that the price of stock is going up. The value in terms of money is very much and need to be controlled carefully. If the variance is high, much different, that's our income. If we argue either accounting is wrong or the stock is wrong, we have to measure it. EA can detect quickly logical things to us. Sometimes we feel our oil is cheap but expensive in reality. What's wrong, we have a wrong accounting or someone has wrong oil. That kind of thing can be double checked. That's a good thing.

5.2 Transaction

Maritime organization transactions in terms of maritime business type, a lot of transactions, payments and documents recorded were the reason why the maritime businesses made the decision to use EA. The owner-manager from ship industry cluster commented that maritime business transaction relied on the type of maritime cluster that are ship industry, shipping services, ports and terminal, offshore oil and gas or combined clusters: “It is based on business type”. Parallel with the view, the respondent from offshore oil and gas cluster business alleged that the transaction of maritime cluster has pushed him to accept the EA: “In terms of maritime cluster, I think it affects the use of EA”. The transaction occurred in maritime firms related to the type of maritime business either ship industry or shipping services or ports and terminals or oil and gas cluster or the combination of the clusters concerning the EA adoption.

The statement was supported by other respondents. As maritime businesses have many transactions involved daily, it's hard to do it manually. It is difficult to track a transaction, especially for long-term transactions. Repairing the ship or building a new boat has its own code for each job for easy access. There are various transactions for a ship either for ship repairing or building a new one.

Every ship has a job name and job number. Although the yard is the same, the job number has many different numbers such as job number for repair, job number for new ship building, job number for maintenance yard and job number for salary. 'There will be many problems if there is no EA at the yard because too many parties are involved with shipyard. If there is no system, you get into trouble when you try to trace anything. There are so many things to search one by one.'

Two respondents suggested that they could demand the payment from their clients using EA: “The firms that upgrade their accounting system can get faster payment from their clients. For example, you could get the payment in one week whereas without the system, it will maybe take 2 to 3 weeks to get it. The system quickens the collection of payment process”. It is easy if the company has a proper record of the transactions and the customers (accounts receivable and account of debtors). The customers would enjoy the trade discount if they make the payment on time. The details could be accessed easily using EA and could decrease the occurrence of bad debts.

Maritime SMEs were influenced to adopt the EA system to administer all their transactions appropriately by recording all the documents based on each project. Two male respondents specified that maritime firm’s transactions were recorded based on projects. For example, transaction for docking yard has job numbers and jobs for ship building. The charges for each different procedure such as repairing ship services involve many transactions. They particularized the transactions that are charged in their maritime business: “Different types of ships have different charges. The sizes of vessels are not the same. The charges are sometimes calculated on how long the sizes of the ships are and the date of completion. Let’s say if you want to sit for 1 day or fewer than 24 hours, you’ll be charged with another rate. If you stay more than 24 hours, another rate is charged.” All these transactions are needed to be charged and recorded properly.

5.3 Financial Source

Organization readiness from financial resources readiness is in terms of implementation and maintenance cost, license cost and training cost. Maritime business must have fund in order to adopt the EA: The respondent indicated that the domain of financial source plays the important role in implementing the EA. The organization must spend some money in order to fund for the technology. Quoting one of the respondents, “Sometimes it is
very costly to adapt new technology changes.” However, it is a worthwhile investment and a reasonable one: “Reasonable cost that less than RM2,000 includes annual fee plus cover upgrade version (maintenance).”

Other maritime owner-manager moaned because a lot of money was being used for preparation to adopt the EA system. However, he is still happy with the charge: “The start-up cost was about RM16,000.” His maritime’s firm is ready for the training cost of the employees to master the skill using EA.

The company is willing to send them for training and spend for the cost because we have invested RM16,000 and we want it to be successful. So, you have to push it.

5.4 Technological Source

Organization readiness from technological resources readiness is in terms of software and hardware provision and evolution. The respondent stated that they must be well prepared for the technology that is related to EA. They must have accounting software and computer to run the EA and the software is always being updated.

We must buy the software and must have a computer. Then you have to upgrade your computer and the software. Upgrade the software version.

The argument was supported by other participant: “The computers need to be upgraded.”

5.5 Manpower

A final theme regarding to organizational factor was the manpower of maritime SMEs. Organization readiness from manpower readiness aspect is in terms of providing EA training and recruitment. Five respondents highlighted that they provided in-house training, external training and practiced knowledge sharing for their staff. Preparation for EA implementation will take some time even a few years to master. It is not a process that could be learned instantly.

If the staff has experience in using the software, it is an advantage for him. If not, training will be provided by the existing staff. We send them for training as the system is constantly upgrading. When there is something new, we have to go for training.

Moreover, during the recruitment, the maritime SMEs are interested in selecting candidates with experience and knowledge of EA. But, they still receive the non-qualified manpower. The employees need basic accounting knowledge and improvise.

We really want employees who have the experience. Now the workers are easily exposed to IT and they are fast learners. Most of all accounting systems require the same basic features. We just need to improvise ourselves.

5.4 Goods and Services Tax (GST)

GST compliance was the evolving factor from QDA process. The compliance to GST in association with using EA was raised by all the respondents during the interview sessions. The situation before and after the implementation of the GST are different. Prior to GST, the company can still operate without EA. But after the GST, they need EA to facilitate GST compliance and meet Custom requirements. Therefore, it is necessary for daily business dealings involving GST.

After the GST is implemented, EA system is a necessity for any company if the company is registered as a GST company but if the company is small, they can choose not to register as a GST company. They can choose to still use the manual system or have the EA system. However, they will deal with the GST company which means that the supplier must follow the Customs requirement.

Many maritime activities are involved with GST and they must comply with the rules set by the government. The respondents from ship industry and shipping services cluster justified: “Sometimes, customers are worried to trade because they said, “You don’t have GST, how would you want to trade, we want to buy but we are afraid and fear that your oil is not original”. These are among the feedbacks that we get from our customers.” Hence, maritime companies need to use the EA system in order to meet the requirements of Customs authorities and Customs affairs related to GST.
The owner-manager from ship industry cluster argued that it is difficult to do business or be compliant if the company does not adopt the EA system since all maritime business activities involve GST: “In terms of GST, we are compliant because if we do not have the system, we cannot do business too. We sell, and all our activities use GST include selling oil, we do the work like marine vessels have the GST too. So, if there is no system, there will be a big problem”. Moreover, the female respondent from other ship industry cluster pointed out the organization’s need to comply with government laws and regulations or else they will be charged with a fine: “Companies have to follow the rules of the government on the GST implementation. Companies that qualify the GST but are not registered can be fined. So, we had to use EA to facilitate the work and comply with regulations.”

From the quotes, the use of the EA system facilitates dealings with the preparation of documents for GST as opposed to manuals. Maritime SMEs need to comply with the rules set out to avoid being fined.

6. DISCUSSION

The results reveal that organizational is discovered to be the key determinant toward the EA adoption in Malaysian SMEs in maritime industry. Thong (1999) also reported that organizational characteristic appeared to influence the IS adoption significantly among small business. The overall result revealed that 44.4% of four predictors were able to be explained and significant in establishing the factors influencing the EA adoption among maritime SMEs. The mean analysis indicated that most of the respondent closely had a positive view on all four predictors. Decision-maker, technological and environmental as the predictors do not have a significant relationship towards the EA adoption among maritime SMEs. However, by exploring of the strength of their relationship, as well as the linear association, they still significantly contribute towards EA adoption of maritime SMEs.

Outcomes from the qualitative data analysis enlighten that source of financial, technological and manpower as the domains in organizational factor inducing the maritime SMEs used in the EA system. They need to have the financial source in order to fund all the cost relating to the EA implementations which includes license cost, training cost and maintenance cost. From the readiness of technological source, the maritime firms must provide the accounting software and hardware (computer) to support the EA usage. The software and hardware must be updated in order to suit with the latest version of technology. The maritime SME employers also should provide qualified human resource to operate the EA system. They are proud to provide training for their staff either in-house training or external training in order to upgrade their EA skills. They interested in selecting candidates with experience and knowledge of EA. However, they still recruit individuals who have no knowledge of EA.

Maritime industry with four clusters has different type of inventory and many transactions for each cluster of maritime business. Maritime inventories are large, complex and uncontrollable, stockpiling and luxurious. Those aspects make the maritime SMEs move from manual to electronic accounting. Moreover, maritime business’s transaction related with maritime cluster type, handling a lot of transactions in different activities daily, payment from customer those need to be managed and recorded properly. They need the EA system in order for their operation to run smoothly.

One issue that emerged from QDA is that it inductively proposed the research model should be extended by including GST compliance as a separate factor. This is the major finding from the QDA analysis. The maritime business engages with GST and must compliant with government laws to avoid penalty. EA system makes the process easy. In scope of TOE framework, the GST compliance can be seen as part of the environmental context. However, this study does not cover the compliance aspect as the major finding for QDA analysis as the new emerging factor from inductive approach.

7. CONCLUSION

As a consequence, the organizational perspective in position of organizational readiness and maritime cluster plays a significant role in inducing the Malaysian maritime SMEs to adopt EA at their organization. However, the different type of innovation, scope, industry and setting may contribute different factors in technology adoption for organization. Meanwhile, regarding the qualitative findings, the financial source, technological source, manpower, inventory and transaction were being thoroughly explained as for the reasons behind the confirmed factor. Furthermore, GST compliance was the emerging factor that was found from QDA motivating the EA adoption but not covered in the research framework of this study and thus, needs further empirical study. It is recommended that future EA adoption studies should consider other maritime nations and other industries as well and apply qualitative method to irradiate the irrelevant results.
REFERENCES


ABSTRACT

E-hailing is the advanced technology apps providing transportation and logistics service to millions of users across the globe. Young consumers contribute to the highest use of e-hailing. The main reason is due to the increased usage of mobile apps-based by young consumers. The purpose of this study is to provide empirical understanding on the relationships between perceived service quality, perceived valued, satisfaction and loyalty among young consumers who use e-hailing services in Malaysia. A set of questionnaires have been collected from 305 young consumers via Google form. A convenience sampling technique was employed to recruit the respondents. Multiple regression analysis was used to analyse the relationships between variables. The results of this research indicate all hypotheses were shown significant relationships exclude the relationship between safety and perceived value. This study can assist e-hailing service providers to implement a better strategy to improve the quality of service by boosting customer satisfaction, which indirectly would increase their customers’ loyalty. The originality of this research is to highlight on technology perceived service quality and its influenced on perceived value, satisfaction and loyalty among young consumers.

KEYWORDS: E-hailing, Young Consumers, Perceived Value, Service Quality, Satisfaction, Loyalty
TRACK 6A
ZAKAT AND TAXATION
THE PRIORITY STRATEGY IN AGRICULTURE SECTOR ACTIVITY BY AMIL ZAKAT INSTITUTES

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²Institut Daarul Qur’an, Indonesia, sanimoza3@gmail.com

ABSTRACT

The economic empowerment efforts of people especially farmers are at high risk and difficult to implement properly. However as a social responsibility, as well as helping the government to reduce poverty, the Amil Zakat Institute (LAZ) that collected zakat funds, infaq and alms (ZIS) from the communities, continues to make a determined effort to empower farmers. Only a few of LAZ have successfully played this role, due to some challenges such as: modeling, the implementation of productive farm activities, the sale of farm products, and the development of farmers, those must be faced and overcome. This study aims to know the main problem, the solution, and the priority strategy in agricultural programs by LAZ in effort to improve the welfare of farmers through productive LAZ. The study uses a mix method, which is a combination of qualitative and quantitative methods by using Analytic Network Process (ANP) as a data analysis method. Data will collected from 3 (three) LAZ namely: LAZ-PPPA Daarul Qu’ran (through the Daqu Agrotechno Program), LAZ-Dompet Dhuafa (through the Indonesia Healthy Farm Program) and LAZ-Al-Azhar (through the Real Farmers Program), that analyzed in period year 2019. This study finds that ZIS utilization for productive programs by applying the maqoshid sharia principle to the ZIS arrangement, obtaining improved agricultural development policies with better performance in order to achieve falah (the welfare of farmers). This research recommends that BAZNAS to be cooperates with those LAZs to implement the programs of agriculture to decrease the poverty of Indonesia farmers.

KEYWORDS: Amil Zakat Institute, Zakat, BAZNAS, Farming, Maqoshid sharia
INNOVATIVE ZAKAT DISTRIBUTION PRACTICES OF MALAYSIAN ZAKAT INSTITUTIONS DURING THE COVID-19 PANDEMIC AND THEIR SOCIO-ECONOMIC IMPACT

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¹Universiti Sains Islam Malaysia, ²International Islamic University of Malaysia
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ABSTRACT

Malaysia has declared three stages of COVID-19 Movement Control Order (MCO): preventive, conditional and recovery. Stage I, preventive, comprised four phases from 18 March to 3 May; stage II, conditional, from 4 May to 9 June; and stage III, recovery, from 10 June to 31 December. Zakat institutions are urged to play a more significant role in helping those affected by the MCO, especially the indigent and needy. Nevertheless, the COVID-19 pandemic has affected many people, increasing the number of asnaf, including ibn al-sabil, al-gharimin and al-riqab. To date, Malaysian zakat institutions have distributed zakat funds to eligible recipients beyond the existing asnaf to mitigate the repercussions of the COVID-19 pandemic and for their socio-economic sustainability. The Malaysian government has also allocated a special grant to all zakat institutions since the first MCO. The study examines the zakat distribution practice of zakat institutions throughout Malaysia during the pandemic. Using secondary data, this study showed that the pandemic has affected the zakat distribution approaches, necessitating rapid, efficient and fair distribution of zakat to various recipients, including the indigent and needy, those who lost income, COVID-19 frontline workers, hospitals, affected students and COVID-19 taskforces. It is therefore essential to introduce innovative zakat distribution practices to those affected by the pandemic. Future studies could suggest new strategies to boost zakat collection, so that zakat institutions may contribute more innovatively and significantly for the socio-economic sustainability of the asnaf during and after the COVID-19 pandemic.

KEYWORDS: Zakat institutions, Zakat distribution, COVID-19, socio-economic impact.

1. INTRODUCTION

The coronavirus disease 2019, or widely known as COVID-19, broke out in Wuhan, Hubei province of China in late 2019. On 12 January 2020, the World Health Organisation (WHO) confirms the new disease and issues several guidelines and precautions to mitigate its spread. Not long after, it spread to multiple countries and was declared as a pandemic. In response to the pandemic, the Malaysian government enforced the Movement Control Order (MCO) from 18 March 2020 to break the COVID-19 chain. This difficult decision has affected many sectors and aspects, but especially socio-economic, from the individual and household income to the national economy and international trade. The MCO is a critical decision that aims to relieve the community and country from the outbreak.

Malaysia has declared three stages of MCO: preventive, conditional and recovery. Stage I, preventive, comprised four phases from 18 March to 3 May; stage II, conditional, from 4 May to 9 June; and stage III, recovery, from 10 June to 31 December. Zakat institutions are urged to play a more significant role in helping those affected by the MCO, especially the indigent and needy. Nevertheless, the COVID-19 pandemic has affected many people and increased the number of asnaf (beneficiaries), including ibn al-sabil, al-gharimin and al-riqab. To date, Malaysian zakat institutions have distributed zakat funds to eligible recipients beyond the existing asnaf to mitigate the repercussions of the COVID-19 pandemic and for their social and economic sustainability. The Malaysian government has also allocated a special grant to all zakat institutions since the first MCO for personal sustenance, to supplement household income and to strengthen the socio-economic of the ummah.

The Malaysian government has delivered economic stimulus packages to remedy the substantial economic disruption caused by the pandemic. Zakat also offers similar benefits and it is expected to improve the socio-economic decline of the public. Zakat institutions are among the first to aid the public, especially those affected by the MCO. As of 4 May 2020, almost RM200 million of zakat funds have been distributed to asnaf nationwide. This amount exceeded the collections of existing zakat schemes. This paper aims to examine the zakat distribution practices during the MCO. The remainder of this paper is structured as follows: The next section reviews related studies on zakat institutions, followed by the presentation of the research methodology.
Next, the results are presented and discussed. The final section concludes the paper with recommendations, limitations and suggestions for future studies.

2. ZAKAT INSTITUTIONS IN MALAYSIA

2.1 Overview

In Malaysia, Islamic affairs are the exclusive jurisdiction of the state government. The State Islamic Religious Council (SIRC) acts as the sole trustee of Muslim revenues: waqf (endowment), zakat and mal. There are 14 states in Malaysia and each has an independent zakat institution that collects zakat from eligible Muslims and distribute it for social, education, economic and human development and religious affairs. Zakat institutions play a substantial role in national and global socio-economic development (Wahyu & Anwar, 2020). Masruki (2020) discusses various zakat-funded programs that have produced many competent entrepreneurs. Success stories of zakat are regularly published in newspapers: zakat for children of asnaf who excel in education, zakat to subsidize home construction and zakat to subsidize medication cost like dialysis and other critical illness.

With the high expectations of stakeholders of zakat institutions (Masruki et al., 2016), some SIRCs have corporatized their zakat function to improve its efficiency and reduce negative perceptions of the public, as reported in local newspapers. There are at least two governance structures of Malaysian zakat institutions: i) non-corporatized, which means that the institution is directly under the SIRC or a separate entity that is still directly governed by the SIRC and ii) corporatized, which means that the institution is either responsible for: a) collection only or b) both collection and distribution. Table 1 presents the governance structures of zakat institutions in each state.

Table 1: Governance structure of Malaysian zakat institutions

<table>
<thead>
<tr>
<th>Governance Structure</th>
<th>Zakat Institution</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporatized</td>
<td>Lembaga Zakat Selangor (LZS)</td>
<td>Selangor</td>
</tr>
<tr>
<td></td>
<td>Perbadanan Baitulmal Negeri Sembilan (PBNS)</td>
<td>Negeri Sembilan</td>
</tr>
<tr>
<td></td>
<td>Lembaga Zakat Negeri Kedah (LZNK)</td>
<td>Kedah</td>
</tr>
<tr>
<td></td>
<td>Pusat Zakat Melaka (PZM)*</td>
<td>Melaka</td>
</tr>
<tr>
<td></td>
<td>Pusat Pungutan Zakat Wilayah Persekutuan (PPZ)*</td>
<td>Wilayah Persekutuan</td>
</tr>
<tr>
<td></td>
<td>Zakat Pulau Pinang (ZPP)*</td>
<td>Pulau Pinang</td>
</tr>
<tr>
<td></td>
<td>Pusat Kutipan Zakat Pahang (PKZP)*</td>
<td>Pahang</td>
</tr>
<tr>
<td>Non-corporatized</td>
<td>Majlis Agama Islam &amp; Adat Melayu Terengganu (MAIDAM)</td>
<td>Terengganu</td>
</tr>
<tr>
<td></td>
<td>Majlis Agama Islam Kelantan (MAIK)</td>
<td>Kelantan</td>
</tr>
<tr>
<td></td>
<td>Majlis Agama Islam dan Adat Melayu Perak (MAIPk)</td>
<td>Perak</td>
</tr>
<tr>
<td></td>
<td>Majlis Agama Islam dan Adat Istaadat Melayu Perlis (MAIP)</td>
<td>Perlis</td>
</tr>
<tr>
<td></td>
<td>Majlis Agama Islam Johor (MAIJ)</td>
<td>Johor</td>
</tr>
<tr>
<td></td>
<td>Tabung Baitulmal Sarawak (TBS)</td>
<td>Sarawak</td>
</tr>
<tr>
<td></td>
<td>Pusat Zakat Sabah (PZS) Majlis Ugama Islam Sabah</td>
<td>Sabah</td>
</tr>
</tbody>
</table>

* Zakat collection only

Wahid et al. (2017) found that the zakat distribution pattern differs between corporatized and non-corporatized institutions. Nevertheless, this is likely irrelevant during today’s challenging time of COVID-19 pandemic. Every zakat institution has provided aid to the public in many ways using the collected zakat funds.

2.2 Types of Zakat

Zakat is a religious duty imposed on independent Muslims and their wealth, so long as it fulfills three criteria: he has full ownership of the wealth, its value has exceeded a minimum threshold and he has owned the asset for a year. The minimum threshold is defined by the fatwa committee of each SIRC. If those conditions are fulfilled, Muslims are required to pay their zakat dues to an amil entrusted with zakat collection. Essentially, the power of zakat management is vested in SIRC on behalf of the Sultan and Ruler. The Ruler is the main administrator of zakat in each state and he appoints the SIRC to collect and distribute zakat within the state in accordance with state laws. Consistent with the practice of Prophet Muhammad S.A.W., the amil is appointed to collect zakat. Qardawi (1990) suggests that zakat collection should be controlled by the Ruler of the Muslim state.

In principle, zakat can be divided into two types. The first is zakat al-fitr (self), an obligatory charity of less than RM10 imposed on every Muslim. Its obligation begins from the start of Ramadan and ends before
the Eid al-Fitr prayer (a prayer prior to the festival of breaking fast). The second is zakat on wealth, which is obligatory for Muslims whose wealth is above the nisab (minimum threshold). Zakat al-fitr imposes a fixed rate on every Muslim. In contrast, the conditions of zakat on wealth vary by type. Table 2 shows the types of zakat on wealth and their specific conditions.

Table 2: Types of zakat on wealth

<table>
<thead>
<tr>
<th>Zakat on wealth</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zakat on business</td>
<td>2.5% of zakat-able assets of the business. Zakat-able assets refer to the value of current net assets and short-term investments as indicated in the statement of financial position.</td>
</tr>
<tr>
<td>Zakat on savings</td>
<td>2.5% of total savings regardless of their purpose. But the savings balance has to reach the minimum amount (nisab) for a complete one-year period (haud).</td>
</tr>
<tr>
<td>Zakat on EPF (Employees Provident Fund)</td>
<td>2.5% of the total savings for the year of EPF withdrawal (if the amount is above the nisab).</td>
</tr>
<tr>
<td>Zakat on shares</td>
<td>2.5% of the lowest share value in a given year, after deducting debts or loans from the value.</td>
</tr>
<tr>
<td>Zakat on income</td>
<td>2.5% of a person’s zakat-able income.</td>
</tr>
<tr>
<td>Zakat on gold and silver</td>
<td>2.5% of the value of gold that has been stored for a year (if above the nisab of 85 grams for gold and 595 grams for silver). Jewelleries made from other materials, like diamonds and pearls, are exempted from zakat.</td>
</tr>
</tbody>
</table>

As the table shows, zakat institutions collect zakat funds from diverse sources. The projected collection for each type of zakat in a given year is estimated based on past collections. A significant increase in zakat collection would increase the amount of distributed zakat, thus helping more asnaf, particularly during the challenging period of MCO. The MCO has affected many people beyond the existing asnaf, necessitating a broader definition of asnaf in line with the changing time and situation (Masruki, 2020; Wahid et al., 2010).

2.3 Zakat Beneficiaries (Asnaf)

The basic principle of zakat distribution has been outlined in the Quran (9:60):

> “Alms are for the poor and the needy and those employed to administer the zakat funds and for those whose hearts have been reconciled to truth and for those in bondage and for those in debt in the cause of Allah and for the wayfarer”.

This verse indicates that there are eight beneficiaries who are entitled to zakat:

i. Faqir (the indigent): Those possessing neither wealth nor means to survive. However, in practice, this group is defined by the SIRC.

ii. Miskin (the needy): Those with insufficient means of livelihood to meet their basic needs. Like faqir, SIRC may define their own criteria for the needy group.

iii. Amil (zakat administrators): Any person or organization appointed by the zakat institution to collect and distribute zakat.

iv. Muallaf (the convert or sympathizer to Islam): Recent converts to Islam. They are given zakat to strengthen their faith and to develop a sense of belonging.

v. Al-riqab (the emancipated slave): Those who are freeing themselves from the bondage of slavery.

vi. Al-gharimin (debtors): Those who are in debt and need assistance to meet their basic needs.

vii. Fi sabillah (those serving the cause of God): Those who strive in the cause of Allah for the betterment of the community. Those who have sacrificed for the love of God by building and developing public infrastructure, defending oppressed Muslims and sponsoring students’ educational expenses.

viii. Ibnu al-sabil (wayfarers stranded during a journey): Travelers who are unable to continue their journeys because of the lack of cash, vehicle breakdown, or other such reasons.

Table 3 summarizes the asnaf and their definitions, as well as the objectives of zakat distribution for each group. These objectives act as indicators of whether the collected zakat has been distributed effectively, that is, whether the zakat distribution has fulfilled the stated objectives.
Table 3: Summary of zakat beneficiaries (asnaf)

<table>
<thead>
<tr>
<th>Beneficiaries (asnaf)</th>
<th>Definition (subject to SRIC’s own definition)</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faqir</td>
<td>Indigent and needy Muslims who are permanent residents, single parents and have insufficient household income due to the large number of dependents</td>
<td>To help them meet their basic needs</td>
</tr>
<tr>
<td>Miskin</td>
<td>Disbursement includes any associated costs, such as administration and training expenses</td>
<td>To collect and distribute zakat funds</td>
</tr>
<tr>
<td>Amil</td>
<td>Eligible to a conducive home for recent converts</td>
<td>To administer the affairs of new Muslim converts</td>
</tr>
<tr>
<td>Muallaf</td>
<td>Assistance to pursue education, usually children of zakat recipients</td>
<td>To free the beneficiary from the shackles of slavery</td>
</tr>
<tr>
<td>Al-riqab</td>
<td>Assistance for outstanding basic needs bills, such as food, utilities and house rental</td>
<td>To settle outstanding basic needs debts, enabling the beneficiaries to independently meet their basic needs</td>
</tr>
<tr>
<td>Al-gharimin</td>
<td>Religious programs, madrasah assistance, youth engagement, public education, asatizah (educators) and community development</td>
<td>To fund those serving in the cause of Allah for the betterment of the community</td>
</tr>
<tr>
<td>Ibnu al-sabil</td>
<td>Financial, food and return fares to home</td>
<td>To assist travelers on a permissible journey to return home</td>
</tr>
</tbody>
</table>

The eight groups are defined by the Quran to prevent the misappropriation of zakat. Nonetheless, some situations still require the interpretation of SIRC, which is typically based on Islamic precedents. SIRC should enhance its accountability for the various Islamic resources they are entrusted with, so as to bridge the gap between the rich and the poor. SIRC is accountable to a wide range of stakeholders (Masruki et al., 2016), especially zakat payers, hence demonstrating its accountability would encourage more zakat payment (Wahid et al., 2017).

Wahyu & Anwar (2020) assert that zakat can be used for consumptive and productive purposes. They find that in Indonesia, zakat, in the form of food aid, was mainly distributed to remote areas during the pandemic. Low-income earners make up almost half of job losses due to the pandemic (Lemieux et al., 2020). In Malaysia, low-income earners are the B40 group. Accordingly, most zakat assistances are given to B40 and similar groups. The same study also shows that those affected are mostly employees in public-facing roles like accommodation and food services, in addition to youth, hourly and non-union workers. Therefore, policy makers, especially the relevant ministry, should address the demand and supply sides of labor to develop human resources.

2.4 Special Zakat Allocation for COVID-19 MCO to Zakat Institutions

The Minister in the Prime Minister’s Department (Religious Affairs), Datuk Dr Zulkifli Mohamad Al-Bakri, said that zakat funds have been distributed to zakat institutions specifically to help affected asnaf during the pandemic. Table 4 shows the zakat allocation, which amounted to RM171.84 million as of 12 April 2020. This amount did not include collections from other zakat schemes. The extension of the MCO term has pressed the government to take care of citizens’ needs during the pandemic continuously and seriously, especially by overcoming local viral outbreak and reviving household and national economies. There are many possible factors that determine the zakat allocation shown in the table: amount of collected zakat, number of asnaf in the state and local socio-economic level. Lemieux et al. (2020) defined socio-economic characteristics as the number and age of children in the home, age, gender, education and job characteristics such as industry, occupation, job tenure and daily/hourly or salaried pay. Understanding these characteristics could optimize zakat collection and fundraising. This, in turn, could contribute to the projection of zakat collection, in addition to federal and state government allocations, that can be distributed to the beneficiaries.
Table 4: Special Zakat Allocation of COVID-19 MCO

<table>
<thead>
<tr>
<th>State</th>
<th>Zakat Institution</th>
<th>Million (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilayah Persekutuan</td>
<td>Majlis Agama Islam Wilayah Persekutuan dan Pusat Pungutan Zakat (PPZ)</td>
<td>34.41</td>
</tr>
<tr>
<td>Terengganu</td>
<td>Majlis Agama Islam &amp; Adat Melayu Terengganu (MAIDAM)</td>
<td>20.2</td>
</tr>
<tr>
<td>Kedah</td>
<td>Lembaga Zakat Negeri Kedah (LZNK)</td>
<td>16.7</td>
</tr>
<tr>
<td>Selangor</td>
<td>Lembaga Zakat Selangor (LZS), MAIS</td>
<td>15</td>
</tr>
<tr>
<td>Pulau Pinang</td>
<td>Zakat Pulau Pinang (ZPP)</td>
<td>14.52</td>
</tr>
<tr>
<td>Perak</td>
<td>Majlis Agama Islam dan Adat Melayu Perak (MAIPk)</td>
<td>14.35</td>
</tr>
<tr>
<td>Kelantan</td>
<td>Majlis Agama Islam Kelantan (MAIK)</td>
<td>12.6</td>
</tr>
<tr>
<td>Johor</td>
<td>Majlis Agama Islam Johor (MAIJ)</td>
<td>7.4</td>
</tr>
<tr>
<td>Sarawak</td>
<td>Tabung Baitulmal Sarawak (TBS)</td>
<td>6</td>
</tr>
<tr>
<td>Sabah</td>
<td>Bahagian Zakat &amp; Fitrah/Pusat Zakat Sabah (PZS) Majlis Ugama Islam Sabah (MUIS)</td>
<td>6</td>
</tr>
<tr>
<td>Negeri Sembilan</td>
<td>Perbadanan Baitulmal Negeri Sembilan (PBMains) MAINS</td>
<td>4.3</td>
</tr>
<tr>
<td>Melaka</td>
<td>Zakat Melaka &amp; Majlis Agama Islam Melaka (MAIM)</td>
<td>4.26</td>
</tr>
<tr>
<td>Perlis</td>
<td>Majlis Agama Islam &amp; Adat Istiadat Melayu Perlis (MAIPs)</td>
<td>3.98</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>171.84</strong></td>
</tr>
</tbody>
</table>

Source: bharian.com.my dated 12 April 2020

3. METHODOLOGY

Several keywords (“COVID-19”, “zakat”, “State Islamic Religious Councils”) were used to search for and compile the research data. The search period was limited to early December 2020. All news containing these keywords were gathered from local newspapers and social media and websites of the zakat institutions and SIRCs. The compiled data were analyzed using content analysis to accomplish the research objective, that is, to examine the zakat distribution practices of zakat institutions during the COVID-19 pandemic.

4. RESULTS AND DISCUSSION

This study found that there were numerous methods of zakat distribution during the MCO. Zakat distribution, in fact, has become increasingly frequent. The zakat institutions took immediate actions to ease the burden of those affected. The impact of the special zakat allocation following the COVID-19 outbreak was significant. During the pandemic, zakat institutions have extended their assistance to those beyond the current asnaf. The asna[1] definition has been broadened to include a wider range of recipients, particularly those affected by the MCO, such as hawkers, street traders and job losers, especially from vulnerable industries like tourism (Uğur & Akbıyık, 2020). The definition also included other industries that have witnessed high rates of terminations, such as airlines, leisure services, oil and gas, auto parts and equipment and restaurants.

The next section discusses the zakat distribution practices of zakat institutions during the COVID-19 pandemic. The analysis focused on the utilization of zakat funds by Malaysian zakat institutions. The results are discussed according to four targeted recipient groups: the indigent and needy, those who lost income, frontline workers, hospital, students, mosques and COVID-19 taskforces.

4.1 Targeted Recipient Groups

4.1.1 The Indigent (Faqir) and Needy (Miskin)

MAIWP, a zakat institution located in the central region, allocated RM12.1 million for 24,196 asnaf, or RM500 per household, on top of an advanced monthly zakat payment amounting to RM9.67 million to ease their burden during the MCO. Using the same approach, another central region, Selangor, gave RM500 per household for
9,000 faqir, miskin and muallaf for a total of RM4.5 million. It also granted a total monthly allowance of RM30.5 million to faqir, miskin, muallaf and registered al-gharimin. A total of 14,909 beneficiaries received food assistance, in addition to house rental, dialysis and COVID-19 medication support. According to Wahid et al. (2010), al-gharimin is typically low in number in most states. Because they also suffer losses, those affected by natural disasters, such as flood, could be considered as al-gharimin (Wahid et al., 2017).

In the northern state of Perak, MAIPk, in cooperation with several local strategic partners, allocated RM11.95 million to ease the burden of citizens and to help those by the MCO. Around RM11.1 million came from zakat itself, while the remaining amount was collected from corporate zakat payers. In another northern state, Pulau Pinang, MAINPP allocated a one-off cash assistance of RM500 for the poor and needy traders and street hawkers, as well as the hardcore poor. Meanwhile, Perlis, being a small state with a small population, seemed to be privileged. MAIPs exempted the rentals for all tenants of rental houses, shops and bazaars for three months, on top of additional initiatives that benefited the asnaf and small traders. The total amount was RM343,317. It also allocated RM2.61 million to directly credit a monthly aid of RM200 to 13,091 asnaf and those affected by MCO.

In the southern state of Melaka, MAIM likewise assisted zakat recipients with food, daily necessities and cash. It granted an emergency food aid allowance of a minimum of RM50 to asnaf B40 and maximum of RM100 to non-ASNAF B40 who were cut off from food supply. In the same region, Johor’s MAIJ received RM5.7 million from the economic stimulus package. The fund was allocated to those affected by the MCO other than the current asnaf. These included the indigenous people, street hawkers, the disabled and stranded tabliz and university/college students. MAIM also granted an additional monthly food aid of RM100 to 8,640 faqir, miskin and muallaf. Monthly food aid was credited in advance to the bank accounts of 653 existing asnaf for a total of RM335,520.

In the east coast state of Terengganu, MAIDAM distributed the zakat seven days earlier than usual. The total allocation was RM17 million for 23,000 recipients. It allocated RM50,000 for basic food ingredients such as rice, cooking oil, sugar, flour and canned mackerel to 2,500 affected people. It formed an on-call zakat team to take immediate response to the problems faced by the asnaf and those in need. In Pahang, MUIP granted RM200 annually to 9,664 asnaf for a total of RM1.92 million. Additional zakat of RM200 was given to 3,030 asnaf, amounting to RM606,800. In Borneo, Sabah had a high number of asnaf. PZS-MUIS distributed RM150 monthly zakat to 9,414 existing asnaf for a total of RM1.4 million, while granting RM100 to 33,000 faqir, miskin and muallaf, with a total amount of RM3.2 million.

Using different channels, LZNK distributed food assistance through 578 mosques to benefit 173,400 family in need. The food pack contained 5 kg of rice, 2 canned mackerel and a bottle of soy. The total was RM9.7 million. Similarly, MAIK Kelantan provided 9,015 faqir and miskin with a total monthly zakat of RM3.5 million, as well as food supplies in cooperation with the state government, which amounted to RM316,000. For muallaf, the total was RM224,000. Negeri Sembilan (PBMains) distributed food vouchers to the asnaf and those affected by COVID-19. Sarawak (TBS) established food distribution centers in Kuching; in other areas, food was delivered through selected shops. A total of 1,756 asnaf registered for monthly aid and during the pandemic, this number has grown steadily (Ibrahim, 2020). This study indicates that while the targeted recipients were largely similar (i.e. the indigent and poor), the distribution of zakat has been innovative and effective across all states and the recipients have been broadened to include those affected by the pandemic.

4.1.2 Lost Source of Income

In the central region of Selangor, MAIS allocated RM9.5 million of zakat funds for 20,000 affected small traders and B40 households, who were considered as fi sabillallah. The Kuala Lumpur City Hall (DBKL) permits residents to temporarily open their stalls anywhere in Kuala Lumpur, Putrajaya and Labuan to allow them in earning a living during the MCO period (The Star, 2020). Besides the affected traders, zakat was also given to employed, daily waged workers who are unable to survive because their employers had to suddenly stop operations, particularly those employed in an industry heavily affected by COVID-19 (Uğur & Akbıyık, 2020).

Accordingly, in Kedah, LZNK allocated more than RM7 million for those affected asnaf. In Pulau Pinang, MAINPP prioritized small business owners who lost their sources of income, such as night market, street and residential area vendors; barbers; and clothes (other than boutique) and food and beverage retailers, whose main incomes were affected by the COVID-19 pandemic. They were given a one-off grant of RM500 per household. The total amount was RM2.5 million, which came from tawassaf (special) funds. Before the assistances were given, the beneficiaries’ applications had been verified by the village mosques to ensure that they were really in need. Similarly, in Perak, MAIPk allocated a special capital turnover of RM2 million to small traders affected by the MCO. Another new group of recipients was those who lost jobs in Melaka. These were mostly volunteered cleaners and they were given a sum of RM75,140 by MAIM. In general, most states
always considered those who lost their income due to the outbreak, as found in Borneo (TBS, MUIS), central (PBMain, MAIWP), southern (MAINJ, MAIM) and east coast regions.

4.1.3 Frontline Staff and Hospital

MAIWP allocated RM3.27 million to seven hospitals treating COVID-19 for the purchase of medical equipment and medication, such as a BiPAP machine (RM80,000), ventilator (RM150,000), home ventilator (RM90,000) and other equipment ranging from RM5,000 to RM20,000. Selangor and Negeri Sembilan also showed their commitment to assist hospitals. LZS Selangor allocated RM1 million to hospitals and district health offices in Selangor to procure personal protective equipment (PPE) suits and deliver food aid. PBMain did the same, but they included those quarantined at home.

In Sabah, PZS-MUIS contributed an additional fund of RM1.4 million to the Ministry of Health (MOH) on 9 November 2020. The special aid was also extended to 56 frontline worship-friendly staff. They were each given RM500. In Terengganu, MAIDAM, through the State Health Department, sponsored medical equipment for COVID-19, as well as food aid for frontline staff and their family as a token of appreciation for their sacrifices. COVID-19 patients were given one-off payment. Pahang’s MUIP bought 20 sets of oxygen machine and screening equipment for two hospitals treating COVID-19.

Likewise, in Melaka, MAIM gave hospitals treating COVID-19 stand fans and sanitizers, as well as vitamin C and daily food for frontline staff, including those at quarantine centers, to support them in combating the pandemic. In Perak, MAIPk allocated RM1 million for medical equipment and treatment for COVID-19. It also contributed RM500,000 to appreciate frontline workers, including those from the Ministry of Health (MOH), police force (PDRM) and the army (Malaysian Armed Forces). This indicates the seriousness of all zakat institutions, as well as other public and private agencies, to support the MOH to break the chain of COVID-19 (Shah et al., 2020).

4.1.4 Students, Mosques and COVID-19 Taskforces

Other special recipients during COVID-19 were overseas students, mosques and COVID-19 taskforces. For instance, MAIDAM provided food aid to students in Egypt and Jordan. Local students were also assisted during the pandemic. MAIPk contributed RM100,000 for students stranded in campus and were cut off from food supply. The same amount was also allocated for overseas students in Jordan, Indonesia and Egypt. PZS-MUIS granted a one-off grant of RM100 to 325 students in Egypt.

For mosques, MAINPP allocated a special aid of RM400 to every mosque and surau for cleaning and sterilization purposes as a precautionary measure to break the chain of COVID-19. In Perak, MAIPk contributed RM1.5 million to every mosque and surau for the procurement of healthcare accessories for public use, such as masks, gloves and hand sanitizers. One-hundred mosques in Sabah were given a special aid of RM3,000 each. MAIK contributed RM603,000 to mosques in big cities and districts and RM224,000 to religious teachers and muallaf.

To date, Sabah recorded the highest number of confirmed COVID-19 cases (Statista, 2020). Accordingly, PZS-MUIS provided a special aid of RM1,000 to the family of deceased COVID-19 patients. On the other hand, MUIS allocated RM1,000 for every COVID-19 patient. Due to the seriousness of COVID-19, an emergency fund should be reserved to prepare for unprecedented incidents. For example, MAIPk has allocated RM710,000 as a contingency fund, to be used for unexpected needs caused by COVID-19. In fact, some zakat institutions have channeled their zakat funds to state government to reduce the spread of the virus and recover the declining socio-economic situation.

In summary, this study revealed that a variety of zakat assistances were distributed rapidly and efficiently in all states, demonstrating the significant roles of zakat institutions to mitigate the socio-economic impact of COVID-19 (Ibrahim, 2020). They have taken precautionary actions to break the COVID-19 chain and ensure the community is free from this pandemic. Such tremendous efforts indicate that all parties, including zakat payers with the support of the Malaysian government, have played their respective roles to help the nation to face a global socio-economic crisis. Innovative zakat distribution practices could enhance the effectiveness of zakat distribution (Masruki, 2020). Effectiveness, here, relates to the congruence between the distribution practices and the identified objective for each beneficiary of COVID-19 zakat. Table 5 summarizes the zakat distribution practice and zakat objective for every asna category.
There were various mechanisms used by zakat institutions to channel the zakat funds to those affected. These include mosques and suraus, COVID-19 taskforces at the district office and selected shops. The assistances were delivered via direct transfer to the recipients’ bank accounts, food voucher for basic groceries at selected shops and basic food package of rice, cooking oil, flour, sugar and canned mackerel. Those affected by COVID-19 may directly contact the zakat institution to apply for relevant assistances. All information is available on the website of the zakat institution. Considering the size of Sarawak, TBS provided even more accessibility by using three platforms. First is the Jejak Asnaf Versi 2 application, which can be downloaded from the Apple Appstore or Google Playstore. Users can apply for various assistances and suggest other eligible recipients. Second is the Baitulmal Kamek portal (https://pelanggan.tbs.org.my) and third is the institution’s email (admin@tbs.org.my).

This study revealed that the zakat institutions used different mechanisms to channel zakat funds to those affected by the COVID-19 pandemic. The distinctive socio-economic level of each has characterized the needs of the asnaf. The zakat institutions have played their roles to break the chain of COVID-19, easing the burden of those affected, regardless of race and religion and supporting frontline workers in combating the COVID-19 outbreak. The study showed that the pandemic has necessitated rapid, efficient and fair distribution of zakat to various recipients, such as the indigent and needy, those who lost income, COVID-19 frontline workers, hospitals, affected students and COVID-19 taskforces like the police, army and other volunteers.

### 5. CONCLUSION

This study described the zakat distribution practice to the indigent and needy, those who lost income, frontline workers and hospitals and other recipients like students, mosques and COVID-19 taskforces. The study indicates that zakat institutions are urged to play more significant roles in helping those affected by the MCO, especially the indigent and needy. Nevertheless, the COVID-19 pandemic has affected many people, increasing the number of other asnaf groups, including ibn al-sabil, al-gharimin and al-riqab. To date, Malaysian zakat institutions have distributed zakat funds to eligible recipients beyond the existing asnaf to mitigate the negative effects of the COVID-19 pandemic and for the social and economic sustainability of various recipient groups. Looking at the alarming economic trends in other countries, effective measures must be taken to improve the socio-economic situation following the pandemic. Accordingly, the Malaysian government has set as its main economic agenda the breaking of COVID-19 chain. To remedy the socio-economic repercussions of COVID-19, the government has announced a number of initiatives, such as the provision of special grants to zakat institutions, which has led to innovative zakat distribution practice. The zakat funds, therefore, were able to benefit citizens throughout the country, regardless of their race and religion. Zakat collection has been increasing and so its distribution is expected to support households to withstand the current global economic crisis. The findings in this study should be taken with caution as they were based on secondary data. Future studies could verify these results through empirical investigations. The effectiveness of zakat distribution can be examined empirically through a robust analysis. Nevertheless, this study is timely to provide an avenue for future COVID-19 pandemic related research in relation to Islamic social finance.

<table>
<thead>
<tr>
<th>Recipient (asnaf)</th>
<th>Distribution</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigent and needy</td>
<td>Basic food ingredients such as rice, flour, cooking oil and canned mackerel, as well as cash</td>
<td>To help them meet their basic needs</td>
</tr>
<tr>
<td>Those who lost their income</td>
<td>Treated as needy; included small business traders, daily waged and salaried workers who lost their jobs in affected industries; houses damaged by storms</td>
<td>To ease the burden of al-gharimin</td>
</tr>
<tr>
<td>Frontline staff and hospital</td>
<td>Cash allowance and daily food aid to frontline staff and their family; medical equipment to selected hospitals treating COVID-19</td>
<td>To appreciate frontline staffs and their family and to support hospitals</td>
</tr>
<tr>
<td>Students and COVID-19 taskforces</td>
<td>Cash allowances; flight tickets to return home; appreciation for taskforce and volunteers</td>
<td>To help ibn al-sabil, al-riqab and fi sabiliullah</td>
</tr>
<tr>
<td>Mosques and suraus</td>
<td>Delivery of food and basic needs to affected residents through mosques; cash allowances to mosques and suraus for sanitizing and cleaning purposes</td>
<td>To appoint village masjid as the amil and to break the chain of COVID-19</td>
</tr>
</tbody>
</table>

4.2 Mechanisms of Zakat Channels

Table 5: Zakat distribution for COVID-19 asnaf
REFERENCES


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COVID-19: THE ROLE OF ZAKAT COMPLIANCE IN ASSISTING THE ECONOMIC DEVELOPMENT

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ABSTRACT

The virus was found in Wuhan, China and spreading quickly in country around the world. World Health Organization announced that the disease as the worldwide pandemic. Covid-19 has influenced individual daily activity, economic, social life and religious activities. Besides tax, zakat is also one of the important economic resources for the country. The proper distributions of zakat help in increasing the quality of individuals life and at the same time, improving the economics of the country. This study explores on the zakat compliance and economic development. The economic development is divided on four elements that undergoing changes during Covid-19 which are standard of living, employment, education and tourism. The economic downturn during Covid-19 could not control the standard of living in society. Same goes with the rise of unemployment rate in March 2020, transformation of learning and teaching basis and huge losses faced by tourism industries. Hence, zakat assisted in recuperating Malaysia’s economy. Zakat assured a minimum standard of living for Muslims. Furthermore, zakat distributed to the families that unaffordable for basic needed, education, health, capital to initiate business and others. However, majority companies in tourism industry unable to cope with financial issues which was influenced the decline of zakat compliance by companies. Lastly, conclusion was made to support the exploration of this study.


1. INTRODUCTION

In the end of year 2019, country over the world was surprised with the new respiratory disease called coronavirus disease (Covid-19). It also slowing down the economy of the country. Many people who are affected by this disease get sick or lead to death. The case was reported increasing and some of the country taking preventive measures by lockdown or partial lockdown to reduce the number of cases. The virus was detected in Malaysia from the travelers that come from China which was in January 2020. Malaysia’s government announced for the movement control order on 18 March 2020 in order to control the local transmissions. The economics of the country was also affected since many business activities unable to continue.

According to the statistics imposed by Outbreak.MY (2020) as of September 29, there are 62 640 594 infected cases, 1 460 133 are death and 42 769 885 are recovered. Table 1 shows 10 top countries with the highest numbers of Covid-19 cases as of September 29, 2020. United States ranked first with the highest number of infected cases (13,610,357) followed by India (9,393,039), Brazil (6,290,272), Russia (2,269,316), France (2,208,699), Spain (1,646,192), United Kingdom (1,605,172), Italy (1,564,532), Argentina (1,413,375) and Colombia (1,299,613). Nevertheless, the recovered statistics for Spain and United Kingdom were not revealed by their government after March 22, 2020.

Table 1: Top 10 countries with the highest number of Covid-19 cases

<table>
<thead>
<tr>
<th>Country</th>
<th>Infected</th>
<th>Death</th>
<th>Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>13,610,357</td>
<td>272,254</td>
<td>8,041,239</td>
</tr>
<tr>
<td>India</td>
<td>9,393,039</td>
<td>136,733</td>
<td>8,802,267</td>
</tr>
<tr>
<td>Brazil</td>
<td>6,290,272</td>
<td>172,637</td>
<td>5,562,539</td>
</tr>
<tr>
<td>Russia</td>
<td>2,269,316</td>
<td>39,527</td>
<td>1,761,457</td>
</tr>
<tr>
<td>France</td>
<td>2,208,699</td>
<td>52,127</td>
<td>161,137</td>
</tr>
<tr>
<td>Spain</td>
<td>1,646,192</td>
<td>44,668</td>
<td>N/A</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1,605,172</td>
<td>58,030</td>
<td>N/A</td>
</tr>
<tr>
<td>Italy</td>
<td>1,564,532</td>
<td>54,363</td>
<td>720,861</td>
</tr>
<tr>
<td>Argentina</td>
<td>1,413,375</td>
<td>38,322</td>
<td>1,242,877</td>
</tr>
<tr>
<td>Colombia</td>
<td>1,299,613</td>
<td>36,401</td>
<td>1,197,204</td>
</tr>
</tbody>
</table>

Source: Outbreak.MY (September 29, 2020)
Next, there are 64,485 infected cases, 357 are death and 52,647 are recovered as of September 29, 2020 in Malaysia. Table 2 shows 5 top states with the highest numbers of Covid-19 cases. Sabah ranked first with the highest number of infected cases (28,155) followed by Selangor (13,295), Kuala Lumpur (5,594), Negeri Sembilan (4,742) and Kedah (2,480). The Covid-19 cases in Malaysia was still controllable, although there was increasing number of infected cases daily.

Table 2: Top 5 states in Malaysia with the highest number of Covid-19 cases

<table>
<thead>
<tr>
<th>Country</th>
<th>Infected</th>
<th>Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sabah</td>
<td>28,155</td>
<td>209</td>
</tr>
<tr>
<td>Selangor</td>
<td>13,295</td>
<td>27</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>5,594</td>
<td>19</td>
</tr>
<tr>
<td>Negeri Sembilan</td>
<td>4,742</td>
<td>8</td>
</tr>
<tr>
<td>Kedah</td>
<td>2,480</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Outbreak.MY (September 29, 2020)

This phenomenon of Covid-19 impacted several factors of economic development such as standard of living, employment, education and tourism. The economic downturn during Covid-19 could not control the standard of living in society. This led to several incentives given Malaysia’s government to society like, Provident Fund Employees, States Fund, National Higher Education Fund (PTPTN) and others. Besides that, there are increasing numbers of unemployment in March 2020 compared to last March 2019. This is because Covid-19 caused companies shut down and workers layoffs. Then, Covid-19 has affected education industry as well. There are closed of schools, colleges and universities in order to avoid dissemination of virus. Thus, the traditional way of teaching and learning are transformed into digital. This digital platform caused burdened to some parents and students as they need to prepare electronic gadgets and electronic medium which was internet. On the other hand, tourism industry through the challenges during Covid-19. A lot of tourism companies such as airlines, hotels, restaurants, malls and so on incurred huge losses.

Regarding to the impacted factors of economic development, there are assistance of government, non-government bodies, public and also zakat institution to revive the condition of society and country’s economy. Zakat collection is one of the important sources in the development of Muslim society. Individuals who have surplus money will help the needy, and consequently it will reduce the gap between the rich and the poor. One of the purposes of zakat was to generate economic activity and assures a minimum standard of living for Muslims. Moreover, zakat will be distributed to the families that unaffordable for basic needed, education, health, capital to initiate business and others. Therefore, this study will explore on the zakat compliance in assisting economic development in Malaysia by emphasizing on the several determinants such as standard of living, employment, education and tourism during the pandemic Covid-19. This study has been supported by the latest researchers likewise (Raies, 2020; Yasn and Erlanda, 2020).

2. ZAKAT COMPLIANCE

Zakat collection is one of the important sources in the development of Muslim society. Individuals who have surplus money will help the needy, and consequently it will reduce the gap between the rich and the poor. In the context of economic, it will boost purchasing power among the Muslim society which were poor and needy. The available goods and services become more economical for them in fulfilling their needs and wants (Ahmad, 1977). Presently, many studies have been conducted to examine the determinants of zakat compliance behavior (Azman & Bidin, 2019; Bidin, Idris, & Shamsudin, 2009; Mokhtar, Mahomed, & Hashim, 2018; Othman, Yusuff, Saufi, & Hafsha, 2017).

The purpose of this study is to escalate the amount of zakat collection by drawing more interest of zakat payers in paying zakat directly to the zakat institution. Less zakat collection is because of the low compliance behavior among individual Muslim. Regarding that, the issues need to be solved in order to maintain or increase zakat collection. There are many studies conducted to investigate the factors of zakat compliance behavior (Azman & Bidin, 2015; Bidin, Idris, & Shamsudin, 2009; Heikal, Khaddafi, & Falahuddin, 2014; Mokhtar, Mahomed, & Hashim, 2018; Othman, Yusuff, Saufi, & Hafsha, 2017). However, there was limited study emphasized on the determinants of zakat compliance in the context of economic development. Thus, this study review on the four elements of economic development which are standard of living, employment, education and tourism on how these factors influence zakat compliance especially during Covid-19.
3. ECONOMIC DEVELOPMENT

Economic development involved economy of a country, social, environment, policies, technology and others. This study emphasized on the elements of economic development that are most affected during pandemic of Covid-19. Thus, standard of living, employment, education and tourism of a country are discussed in this study.

3.1 Standard of Living

3.1.1 Standard of Living and Economic Development during Covid-19

The standard of living is a measure of the material perspectives of a national or regional economy. It calculates the amount of goods and services produced. The standard of living contained fundamental elements such as income, gross domestic product (GDP), life expectancy, and economic opportunity. The standard of living is closely related to quality of life, which involved determinants such as economic and political stability, political and religious freedom, environmental quality, climate, and safety. Therefore, the application of technology is one of the economic opportunities to raise the standard of living society during Covid-19. There were data mentioned by the Ministry of Education in Malaysia, the highest percentage of digital learning implementation among students are from Selangor (29.6%), followed by the Federal Territories of Putrajaya (17.5%) and Penang (17.4%), whereas the lowest percentage of digital learning implementation among students are Kelantan (0.8%), Pahang (0.9%) and Perlis (1.1%) (Sinar Harian, 2020).

However, the economic downturn during Covid-19 could not control the standard of living in society. The closest example is political instability and environmental issues which are factors that contribute to the poor standard of living. Malaysia also experienced a change of government during Covid-19. Thus, the Economic Action Council was established to address various economic problems. The council has reviewed and reviewed the stimulus package announced by the previous Prime Minister, Tun Dr. Mahathir Mohamad, announced several initiatives aimed mainly to alleviate financial problems due to the increase in COVID-19 cases and the implementation of MCO by the government. Among the key initiatives announced are the following.

<table>
<thead>
<tr>
<th>Incentives</th>
<th>Amount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provident Fund Employees</td>
<td>RM 500</td>
<td>55-year-old members for 12 months from 1 April 2020</td>
</tr>
<tr>
<td>States Fund</td>
<td>RM 130 million</td>
<td>13 state governments providing assistance to business owners and hawkers, assisting COVID-19 patients and families, as well as the front line</td>
</tr>
<tr>
<td>National Higher Education Fund (PTPTN)</td>
<td></td>
<td>delayed until 30 September 2020</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>RM 600 million</td>
<td></td>
</tr>
</tbody>
</table>

Source: Shah et al., (2020)

3.1.2 Standard of Living and Zakat Compliance

Same goes to the zakat institution, zakat able to assist society in distributing zakat to help poor and needy during this pandemic. According to Takril and Othman (2020), zakat system is practiced since the prophet hood. It is an ancient and the most effective system of wealth-sharing. The system was confirmed to generate economic activity and assures a minimum standard of living for Muslims. Moreover, zakat is a symbol of Islamic economic justice that ensured equal distribution on wealth. This statement was supported by Saad and Foori (2020) mentioned that zakat received by the poor assist them to improve their standard of living, namely in fulfilling their darurriyat (essential) and hajiyiyat (complementary) needs, which form the minimum quality of life. Another study confirmed that household of income that consist of three dimension which are daharurriyat, hajiyiyat and tahsiniyyat show a significant relationship with intention in paying zakat on income (Doktoralina & Bahari, 2017). Therefore, the funds received enable them to boost their lives as well as influence the payment of zakat.

3.2 Employment
3.2.1 Employment and Economic Development during Covid-19

Employment is defined as the labor force participations that involve in the economic activities to produce goods and services. In other word, employment is where the amount of the labor force that have jobs, searching for job and waiting for company selection. Then the individual income generated lead to country’s output or generally known as economic growth. Based on Lautzenheisen (2020), policymakers and economists emphasized on determinants to measure economic development such as higher property values, higher per capita income, an improved distribution of income, lower poverty rates, and most importantly, increasing of employment. However, the number of jobs creation is the main determinant for economic development.

Nevertheless, during the pandemic of Covid-19, country is facing the issues of unemployment. So, this pandemic will affect directly the economic development of Malaysia. According to key labor statistics released by the Department of Statistics (2020), unemployment in Malaysia is 3.9 percent which indicated 610,500 people unemployed in March 2020. In the same month last year, the unemployment was 521,300 thousand people (Malaysiakini, 2020). The most sector that impacted was agriculture (21.9%), followed by services (15.0%) and industry (6.7%). The escalating of unemployment rate was impacted by Movement Control Order (PKP) imposed. The data also exposed that 53.4 percent still working but having payment reduction.

Besides, this issue of unemployment related with an increasing of university students that unable to convery, fresh graduates secure job, closing of companies and workers layoffs. The unemployment category for the youth age group of 15 to 30 years recorded the highest unemployment rate of 6.9 percent followed by 31 to 45 years (1.4 percent) and 46 to 64 years (1.1 percent). One of the reasons why the unemployment of the youth age is the highest is because of majority of the companies cut their cost by reducing employees during pandemic. Thus, the youths are surviving to find job. Some of them are doing business as an initiative for being self-employed (Shaari, Rahim and Noor, 2020). Also, this initiative was encouraged by government in order to prevent from high unemployment and stunted economic development. Ahmed, 2019 and Nguyen, 2018 supported that government strongly cultivated youths to get involved in business and entrepreneurship which was a subset of the self-employed.

3.2.2 Employment and Zakat Compliance

On the other hand, Zakat which was one of the initiatives in Islamic way capable to assist country on dealing with the unemployment. For example, Zakat will be distributed to the families that unaffordable for basic needed, education, health, capital to initiate business and others. Raies (2020), supported that the main goal of zakat is to alleviate poverty through assistance to the poor and the needy, in order to achieve socioeconomic. Furthermore, the result of the study revealed that subsidizing education to poor society by Zakat levied on rich society wages able to diminish unemployment especially who are educated.

3.3 Education

3.3.1 Education and Economic Development during Covid-19

Education is among the important determinant of zakat compliance since education will stimulate the economic development of the country. In the context of this study, education means the process involved during teaching and learning. There are several implications on education was highlighted due to the pandemic of Covid-19 such as continue the learning process via online during the school disclosure and teachers become more prepared to support the digital learning (Schleicher, 2020). The traditional process of education has been transformed to embed also a digital education. The transformation process of education has the positive impact to the economic since more people learn in becoming more computer literacy. The increasing number of people explore the latest technology will also influence the individual in paying zakat via online, thus avoiding the individual from being infected and spreading of the disease. It will create the positive economic development for the country because more people will conduct the payment via online and increasing the number of paying zakat.

3.3.2 Education and Zakat Compliance

Besides, the amount of zakat collected were distributed to help the students who are come from the family that have low-income earners and affected by Covid-19 pandemic. This is to reduce the burden of parents in continuing their daily expenses. For example, Persatuan Alumni Maktab Sultan Ismail (ISMAILIAN) distribute the zakat funds amounting of RM16,168 to helps the students from Maktab Sultan Ismail (Sinar Harian, 2020). Majlis Agama Islam Wilayah Persekutuan (MAIWP) also provided exemption from fees for Islamic Education Kindergartens (Kindergartens) and Child Care Centers (Nurseries) run by the council. The
exemption given benefits almost 6,000 parents with the amount spending of RM1 million (Berita Harian, 2020). The last example is zakat fund was also given to university students especially the students who are come from the family B40 and those who are on campus during the Conditional Movement Control Order (Berita Harian, 2020). These evidences show clearly the important of zakat collection in enhancing the economic development of the country. Previous study also showed that education showed a positive and significant relationship with zakat payment (Ahmad, Md. Nor, & Daud, 2011). This implies that better education received will influence the person in paying zakat on wealth.

3.4 Tourism

3.4.1 Tourism and Economic Development during Covid-19

Tourism influence economic growth. This is because more demand through higher tourist arrivals is associated with economic growth in two ways. First, tourists spend money on lodging, meals, attractions, shopping, transportation, souvenirs, and entertainment. This spending goes directly to firms (investments, profits), households (wages, tips, services) and government (fees, taxes, goods and services). Second, tourist arrivals through demand spur indirect effects on the GDP through productivity spill-overs, such as when international hospitality firms establish themselves in a destination bringing high skilled staff, knowledge, and new ideas (Croes et al., 2021). On the other hand, several literatures mentioned the significant relationship between tourism and economic growth (Lin, Yang and Li, 2019; Croes, 2013).

Ministry of Health constantly updating to society about the outbreak from time to time. It is essential for the society to get information about new cases, new deaths and recovery cases. The purpose is to give awareness to people about the outbreak, so that they able to protect themselves and family members and indirectly reducing numbers of infected cases. Besides, the MOH advice society to keep healthy and clean especially, to wash their hand correctly or use hand sanitizer and stay at home. Furthermore, it is better for workers to work from home for non-essential services to avoid movement of the society.

Hence, these new norms affected the tourism industry as well. Majority transportation companies, hotels, travel agency and other related companies unable to proceed business activities. The reasons are because the imposed of Movement Control Order (MCO), fear with unhealthy environment, society facing job losing and income and less customer demand. For example, government has banned some flights since February 2020. Air Canada, Air France, Air India, Air New Zealand, America Airlines, British Airways and many others are the affected airlines (Reuters, 2020). The national airlines, Malaysia Airlines (MAS) also has no choice but to allow cancellations with full refunds (The Star, 2020). In addition to that, it has cancelled more than 2,000 flights since the travel restriction was initially imposed by the government. The ticket refunds put many airlines including MAS at risk of losing more money.

3.4.2 Tourism and Zakat Compliance

In Indonesia, the government provides an allocation of funds called the poverty budget. Programs included in the poverty budget include the family of hope program, food subsidies (rice for the poor), school operational assistance, health operational assistance, public health insurance, National Community Empowerment Program (PNPM) for urban and rural area, rural infrastructure, tourism, village funds, community business credit and cooperative empowerment, low-cost electricity programs, and low-cost housing programs. Furthermore, almost all of these poverty reduction programs are parallel with the spending required for zakat (Yasni and Erlanda, 2020). A study by El-Gohary (2020) stated that one of Muslim friendly tourism characteristics is hotels and other tourism companies should follow zakat principles. In the context of zakat compliance, hotels and other tourism companies that fulfilled the requirement of paying zakat on business have to comply to the shariah requirement. Islamic tourism is defined as conducted activity, event, and experience undertaken in a state of travel that is in accordance with Islam (Islamic Tourism Centre of Malaysia, 2015). Thus, tourism is among the business that linked with zakat and economic development. During the pandemic of Covid-19, majority companies in tourism industry unable to cope with financial issues which was influenced the decline of zakat compliance by companies. This showed that, if the tourism industry rise, the zakat collection from tourism related company high. This will revive back the economic condition of a country.

4. CONCLUSION

The important of zakat funds in assisting the poor and the needy cannot be argued anymore. Every individual Muslim should perform the obligation of paying zakat in increasing the collection of zakat in Malaysia. This study was conducted to emphasize on the four elements of economic development which are standard of living, employment, education and tourism influence zakat compliance especially during Covid-19. This information
will assist zakat institutions in finding ways and propose the strategic planning to attract more zakat payers in complying to pay zakat. Thus, zakat institutions must ensure that zakat funds are optimized wisely in improving the economics development of the country.

There are some limitations in this study. This study reviews the important determinants of zakat compliance in the context of economic development. Therefore, it is proposed that future research to extend this research by investigating the relationship of standard of living, employment, education and tourism towards zakat compliance behavior.

REFERENCES


THE IMPOSITION OF SUGAR TAX IN MALAYSIA: WILL IT IMPROVE HEALTH?

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ABSTRACT

The Malaysian government has executed the imposition of sugar tax which is seen as a tool to combat unwavering health issues faced by societies these days. It is believed that the imposition of such tax was not part revenue generation agenda but more on promoting a healthy lifestyle since the increase of obesity and diabetes levels. However, does the imposition of the sugar tax is a bold decision or wronged decision by the government? It is still too early to make any conclusion on the effect of such tax since the implementation just took about 6 months which is still too short. But it is worth to look into past experience of the earlier country that imposed sugar tax. It is believed that sugar tax is the best policy for reducing sugar consumption and further overcome the worrying health issue faced by most of the countries in the world. It is hoped that this article will shed light on the importance of sugar tax implementation by the Malaysian government.

KEYWORDS: sugar tax, health issue, Malaysia
TRACK 6B
BUSINESS
ENGAGE YOUR CUSTOMERS DURING THE PANDEMIC: THE IMPACT OF SOCIAL MEDIA-INSTAGRAM USAGE TO MICRO-SMALL MEDIUM ENTERPRISES (MSMEs) IN INDONESIA

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ABSTRACT

The Covid-19 pandemic has hit many enterprises in Indonesia, especially on the micro-small medium scale. Various kinds of Indonesian government policies in reducing the spread of the covid-19 virus, such as the implementation of the pembatasan sosial berskala besar (PSBB) or large-scale social restrictions, are often followed by the impact of business continuity on MSMEs. Along with the implementation of that policy, many MSMEs are competing to digitalize its businesses in their buying and selling transactions. Optimization of the use of social media is used to retain old buyers and attract new markets. This study aims to determine whether optimizing and utilizing the use of social media, which focus on Instagram, maximally can help MSME in maintaining their business in the pandemic era. A qualitative approach with a 45-day observation method for selected MSMEs in Indonesia is carried out in forming some unique themes related to strengths and weaknesses that arise from Instagram utilization activity. The effectiveness of using Instagram could be obtained through several activities, such as customer engagement optimization, content highlight, and popular brand benchmarking.

KEYWORDS: social media-Instagram utilization, MSMEs, customer engagement, content marketing
ARMCHAIR RECRUITMENT: THE SILVER BULLET FOR UNIVERSITY MARKETING DURING PANDEMIC

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ABSTRACT

Covid-19 pandemic has significantly disrupted our life as a whole. It has had a significant impact on the educational sector and imbalanced all related stakeholders’ positions. Researchers have focused on fast digital transformation, technological adaptation into the academia, its impact, the advantages, and problems to adapt the technology for better adjustment to cope up the crisis in this sector. However, few have focused on university marketing, which is the relatively least studied area in the educational sector by academic researchers, especially during the pandemic. The sharp decline in enrollment of students in post-secondary institutions and cuts in educational funding has become a severe issue for many higher educational institutions (HEI’s) and their survival. With this challenge, HEI’s are trying to focus on its marketing strategy to recruit more students shortly to minimize loss if not get back the numbers like it was before. This perspective paper aims to add knowledge already given on this topic by presenting understandings of the challenges and the opportunities that the pandemic poses to the tertiary level of education. The study is exploratory, and we have used content analysis to interpret the data collected from different sources. The results imply the need for reformation of methods for university marketing by focusing more on armchair recruitment specially for international students. Developing countries like Bangladesh should follow other countries’ examples, especially countries like Malaysia that use digital platforms for university marketing. Interaction processes in different channels by the ongoing digital transformation for sustainable development will also help the HEI’s to compete at the international level.

KEYWORDS: COVID-19, Armchair recruitment, University marketing, Bangladesh.
PATIENTS SATISFACTION LEVEL TOWARDS HEALTHSCAPE DURING COVID-19

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ABSTRACT

In the face of the unprecedented Covid-19 pandemic, this study aims to examine patients' satisfaction level towards healthscape in Malaysian private healthcare. Healthscape in terms of facilities and physical environment is critical in preventing transmission and infection of Coronavirus. This paper identifies six patients' satisfaction factors in the healthscape, that is, service personal conduct and cleanliness, service delivery, facilities, maintaining social distancing, sanitizer for hand cleaning, upgraded safety service and accessibility. Using a questionnaire survey of targeted 150 respondents in Klang Valley, the preliminary results of 100 respondents were included in the study (median age: 39 years; 35% male; and 65% female). Out of the 100 respondents, 80 respondents completed the patient satisfaction survey. Based on the report, 20 of the surgeries were urgent cases, while 60 were general healthcare check-up. The results show that upgraded safety service and accessibility are the most important factors associated with customer satisfaction during Covid-19. This study identified new dimensions relevant to patient satisfaction during covid-19. The findings provide important managerial implications in response to the covid-19. The healthcare sector is playing a critical role in managing the pandemic. Hence, healthcare providers could effectively respond to Covid-19 by making extensive efforts in collaboration and innovation.

KEYWORDS: Patients satisfaction, healthscape, COVID-19.

1. INTRODUCTION

The emergence of the novel, Coronavirus disease 2019 (COVID-19) from China, and its rapid global spread poses a global health emergency in 2020. According to the World Health Organisation (WHO), as of 02 December 2020, 63,360,234 confirmed cases of COVID-19 globally, including 1,475,825 deaths. There have been 10,878,115 confirmed cases in South-East Asia; of these, Malaysia recorded 67,169 confirmed cases and 363 deaths. In response, to minimise community transmission of COVID-19 the World Health Organization (WHO) has announced in March 2020 to practice social distancing of maintaining at least one meter from each other and to wear masks as a standard practice. While in Malaysia, MySejahtera mobile application was developed by the Government to aid in managing the COVID-19 outbreak in Malaysia.

The term “healthscape” originating from the domain of servicescape, the role of the health care physical or tangible environment, including the facility, affects patients' perception, satisfaction, and behavioral intention (Hutton and Richardson, 1995). Patient satisfaction refers to the degree to which patients are pleased with healthcare, both outside and inside healthcare facilities (Alkureishi et al., 2016). The extent to which patients are satisfied with the healthscape in Malaysian private healthcare is critical during the COVID-19. Various measures to prevent Coronavirus's transmission and infection have been implemented to safeguard the health and improve patients, visitors, and staff's confidence. Such as strict safety precautions practice, social distancing guideline and practice, sanitising shared space, provision of hand sanitisers and others.

Healthcare service providers have realised the importance of the physical environment to enhance their service quality. The importance of patient’s satisfaction towards healthscape would provide insights into various healthcare aspects, including the level of understanding and the effectiveness of care (Berkowitz, 2016). Ultimately, understanding the patients’ satisfaction allows healthcare providers to improve healthcare services and patient outcomes (Gill and White, 2009; Busse, 2013). In the face of the unprecedented COVID-19 pandemic, healthscape in terms of facilities and physical environment is critical in preventing Coronavirus transmission and infection. Hence, this study aims to examine patients' satisfaction level towards healthscape in Malaysian private healthcare during COVID-19.

This study addresses the gap by identifying new dimensions relevant to patient satisfaction for a unique healthcare experience during COVID-19. The findings provide critical managerial implications in response to the COVID-19. The remaining organisation of this paper is as follows. Section 2 reviews literature, Section 3 explains data, Section 4 interprets results, and Section 5 concludes findings.
2. LITERATURE REVIEW

Healthscape studies as a combination of ‘atmospherics’ and ‘servicescape’ (Hutton and Richardson, 1995) have gain momentum in different healthcare sectors, such as public hospital (Chun and Nam, 2019), private hospital (Sahoo and Ghosh, 2016), and dentistry (Hsu and Hsiao, 2019). Many studies have been conducted to examine the healthcare service quality on patient satisfaction (Choi et al., 2005; Rad et al., 2010; Murti et al., 2013; Chen et al., 2016; Kwateng et al., 2019; Zaman et al., 2020). The findings suggested private healthcare facilities often provide a higher level of attention and care than public healthcare facilities (Kwateng et al, 2019). Also, service attitudes of doctors and nurses, and expenditure and environment were found to have significant impact on patient satisfaction (Chen et al., 2016).

Besides service quality, Sahoo and Ghosh (2016) identified six healthscape motives, such as ambience and facility, appealing decoration, location and look, service delivery, service personnel conduct and cleanliness, and upgraded safety service. The results suggested that ambience and facility, appealing decorations, location and look, and service delivery were the most significant factors associated with customer satisfaction. Besides, Hsu and Hsiao (2019) examined the client-centered healthscape design in facilitating a green dentistry supply chain. Using a Kansei engineering-based approach, the results suggested the five positive emotions, that is, comfortable, cozy, hopeful, tender, and thoughtful were the most significant factors associated with revisit intention.

Moreover, using a conjoint analysis-based approach, Suess and Mody (2017) examined hospitality healthscape to understand patient responses to hotel-like rooms. The study found that the two most significant factors were high-end material finishes and hospitality-certified healthcare staff. Their findings have significant marketing implications for healthcare providers to enhance patient experience. Apart from the patients’ perspective, Han, Kang and Kwong (2018) examined the role of healthscape towards medical staff satisfaction, in particular the Intelligent Healthscape Quality (IHQ). The results suggested as a multidimensional space, intelligent healthscape quality have a significant impact on medical staff satisfaction.

Although many studies have been conducted to examine the impacts of healthscape on patient satisfaction, as rapid changes in healthcare measures are taking place throughout the COVID-19, the effects of healthscape on patients’ satisfaction have not been carefully studied. It is crucial to understand how patients perceive healthscape, and to what extent they are satisfied with the healthscape. Ultimately, this could provide a better understanding and improve the quality of Malaysian private healthcare services.

3. METHODOLOGY

A quantitative approach was used to obtain the objectives of this study. Structured interviewer-administered questionnaire was conducted in the 2nd and 3rd week of the MCO. The target sample size was 150 in Klang Valley. Using a questionnaire survey of targeted 150 respondents in Klang Valley, the preliminary results of 100 respondents were included in the study (median age: 39 years; 35% male; and 65% female). Out of the 100 respondents, 80 respondents completed the patient satisfaction survey. Based on the report, 20 of the surgeries were urgent cases, while 60 were general healthcare check-up. Two main platforms used in this survey were social media (Facebook and Instagram), Whatsapp and Wechat. The questionnaire consisted of two main themes, first the patients were asked about their socio-demographic information. 2nd part is patients’ satisfaction in the private clinic during Covid-19. Patients are required to provide their opinion towards the healthscape of the hospital, such as service personal conduct and cleanliness, service delivery, facilities, maintaining social distancing, sanitiser for hand cleaning, upgraded safety service and accessibility.

For this study, the collected data were analysed using the Statistical Package for the Social Sciences (SPSS), version 26. In this study, researches only preliminary analysis about patients’ satisfaction factors in the healthscape. Further analysis will be discussed in the next research in future.

4. RESULTS AND INTERPRETATIONS

This is the first stage of the our study, therefore descriptive analysis is presented as below table. A total of 100 participants participated in this study during 2nd and 3rd week of RMCO. Based on the total, about 65% were female and 65% were Chinese. Most of the respondents are fall between B4 and M2 group medium income group which RM4,501 – RM6,000.
Table 4: Frequency Table on Social-demographic Background of Respondents

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>35</td>
</tr>
<tr>
<td>Female</td>
<td>65</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>20 - 25</td>
<td>18</td>
</tr>
<tr>
<td>26 - 35</td>
<td>15</td>
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<tr>
<td>36 - 45</td>
<td>36</td>
</tr>
<tr>
<td>Above 45</td>
<td>31</td>
</tr>
<tr>
<td><strong>Races</strong></td>
<td></td>
</tr>
<tr>
<td>Bumiputra</td>
<td>20</td>
</tr>
<tr>
<td>Chinese</td>
<td>65</td>
</tr>
<tr>
<td>India</td>
<td>10</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
</tr>
<tr>
<td>Less than RM2,500</td>
<td>7</td>
</tr>
<tr>
<td>RM2,501 – RM3,500</td>
<td>23</td>
</tr>
<tr>
<td>RM3,501 – RM4,500</td>
<td>28</td>
</tr>
<tr>
<td>RM4,501 – RM6,000</td>
<td>30</td>
</tr>
<tr>
<td>RM6,001 – RM7,500</td>
<td>10</td>
</tr>
<tr>
<td>Above RM7,501</td>
<td>2</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>14</td>
</tr>
<tr>
<td>Primary and Secondary School</td>
<td>33</td>
</tr>
<tr>
<td>Graduates</td>
<td>38</td>
</tr>
<tr>
<td>Master and above</td>
<td>15</td>
</tr>
</tbody>
</table>

In the 2nd part of questionnaire about the factors of healthscape, this study found out about 60% of the patients are strongly agree to service personal conduct and cleanliness (mean=6). Which this included staff welcome, toilet cleanliness and waiting area cleanliness especially during Covid-19. This result can be justified by Sahoo and Ghosh (2016). Among the factors, service delivery is the least agreed which only 20% strongly agree to facility provided by private clinic such as care room, waiting chairs and waiting area (mean=4). Facility - from responded strongly agree that thermometer, record book and MySejahtera Code are play very important role in customer satisfaction level during Covid-19 (mean=4.5). 100% of respondents are strongly agree with hand sanitizer should provided in the waiting area as well as treatment room (mean=6.5). Maintaining social distance is the 2nd strongly agree among the respondent (mean=6.5). The last factor, upgraded safety service and accessibility are in neutral among respondents (mean=3). This might due to during Covid-19, all patients are consent about the hygienist and cleanliness instead of the safety and security measures.

5. CONCLUSION

In the face of the unprecedented Covid-19 pandemic, this study aims to examine patients’ satisfaction level towards healthscape in Malaysian private healthcare. Healthscape in terms of facilities and physical environment is critical in preventing transmission and infection of Coronavirus. This paper identifies six patients’ satisfaction factors in the healthscape, that is, service personal conduct and cleanliness, service delivery, facilities, maintaining social distancing, sanitiser for hand cleaning, upgraded safety service and accessibility. Using a questionnaire survey of targeted 150 respondents in Klang Valley, the preliminary results of 100 respondents were included in the study (median age: 39 years; 35% male; and 65% female). Out of the 100 respondents, 80 respondents completed the patient satisfaction survey. Based on the report, 20 of the surgeries were urgent cases, while 60 were general healthcare check-up. The results show that upgraded safety service and accessibility are the most important factors associated with customer satisfaction during Covid-19. This study identified new dimensions relevant to patient satisfaction during covid-19. The findings provide important managerial implications in response to the covid-19. However, this study is limited to provide a preliminary analysis about patients’ satisfaction factors in the healthscape.

From an economic perspective, COVID-19 presents the most significant challenge for the global economy. However, the healthcare sector is playing a critical role in managing the pandemic. Hence, healthcare providers could effectively respond to Covid-19 by making extensive efforts in collaboration and innovation. At the same time, the public is advised to embrace the new normal to balance health and economy and to adhere to the guidelines of the Ministry of Health Malaysia. That is, to continue to remain vigilant, to avoid the “3Cs” and practice the “3Ws”. Avoid close conversations, crowded places and confined spaces. And to wash hands...
frequently with soap and water, wearing facemasks in public areas and warn self and others to avoid shaking hands, stay at home, regularly clean and disinfect common areas, and seek early treatment if symptomatic while entering into a long battle ahead.

REFERENCES

DUTY OF CARE IN THE ERA OF COVID-19 PANDEMIC: A THREAT TO THE SUSTAINABILITY OF PRIVATE HEALTHCARE IN MALAYSIA

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ABSTRACT

Covid-19 has changed Malaysian’ daily lives as the nation prepares to enter a new normal in transforming its lifestyle and financial choices. This pandemic has triggered public health crisis, global economic upheaval and financial disruption in particular private health care provider when the Malaysian policy makers focuses on ‘flattening the curve’ of Covid-19. This inevitably reduces the demand of health care and creating new costs leading to some providers to scale back their businesses which ultimately affects the viability of the private healthcare itself. Therefore, this social legal study will explore what are the fundamental factors in which the pandemic causes financial strains to the private health care provider and how it impacts healthcare provider in delivering duty and standard of care towards patients. The finding of this study will indicate several factors such as deferring elective surgeries and out-patient treatment, lockdowns, increased financial Covid-19 expenditures costs such as personal protective equipment (PPE), test kit, isolation treatment area and most significantly the campaign to reignite telemedicine, a virtual consultation with patient which poses as a threat to the sustainability of the private healthcare as the Telemedicine Act 1997 has its own shortcomings that need to be addressed. In order to move forward, it is proposed the relevant ministry to implement appropriate payment models and to assign a critical task for the policy maker to plan for more transparent, accountable and strategic plan and the pressing need to revisit the Telemedicine Act 1997 in order for the sustainability of private healthcare provider in Malaysia.

KEYWORD: Duty of care, Covid-19, Private Healthcare, telemedicine
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FINANCE
DETERMINANTS OF NON-PERFORMING LOAN AMONG MICROENTERPRISES IN MALAYSIA. A CONCEPTUAL STUDY DURING COVID-19 PANDEMIC.

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ABSTRACT

Microenterprises play an important role in socio-economic development in Malaysia. The development of microenterprises has been a key strategy of the government to help ensure equitable and balanced economic growth. Various financial assistance offered by the government and Bank Negara Malaysia (BNM) to support microenterprises financing, however critical issues of non-performing loans still prevail. High non-performing loans (NPLs) are problematic because they impair bank balance sheets, depress credit growth, and delay economic recovery. Recently, COVID-19 pandemic outbreaks have led many countries to impose travel restrictions and movement controls and the small business sector is one of the most directly affected by the movement's control order. Entrepreneurs experience business cancellation and reduced their business income, then contribute to the higher NPLs. The objective of this study is to focus on the determinants of non-performing loans (NPLs) among microenterprises in Malaysia. Firm characteristics, loan characteristics, and past credit behaviour are the factors that influence NPLs. Specifically, this study will be useful to improve the supervision and governance by banks or microfinance institutions in monitoring the potential microenterprise borrower to reduce the quantity of NPLs.

KEYWORDS: Microenterprise, Non-performing loans, microfinancing.

1. INTRODUCTION

In Malaysia microenterprises are a small business entity registered with the Companies Commission of Malaysia, or if not registered, obtained licenses or permits from the relevant local councils to conduct business. Based on the report, from the total of 907,065 SMEs in Malaysia, 693,670 (78.7%) are micro-enterprises (SmeCorp, 2019). Microenterprises are mostly involved in the Services, 809,162 establishments (89.2%) followed by Manufacturing, 47,698 (5.3%), Construction, 39,158 (4.3%) and Agriculture, 10,218 (1.1%). Under the services sector, the majority of microenterprises are in the Retail (49.6%); 21% Provision stores owners; 5% Vendors involved in the retail sale of vegetables; and 4% Mini-market owners; Restaurants (15.6%); 44% Food stalls owners/hawkers; 19% Restaurants business owners; and 15% Coffee shops owners; Transport (6.5%); 44% Motor vehicle workshop owners; and 32% Taxi services business owners. Microenterprises play an important role in socio-economic development in Malaysia. From the social development point of view, microenterprises have been used as a strategy towards poverty reduction and ultimately improve the income inequality issues. As a result, today, the largest constituents of microentrepreneurs were represented by low-income individuals. While, on economic contribution, microenterprises formed about 76.5% of business establishments in Malaysia (SmeCorp, 2019). These microenterprises play an important function in the SMEs supply chain and they are exploring the market niches that larger firms are not able to undertake effectively.

Recently, COVID-19 pandemic outbreaks have led many countries to impose travel restrictions and movement controls. In Malaysia, the small business sector is one of the most directly affected by the movement’s control order. The impact is more significant among microenterprises than its larger counterparts. Entrepreneurs experience business cancellation or closure and reduced income due to the closure of several supporting sectors such as retail and transportation. Moreover, due to this pandemic, the microenterprise also facing critical issues on late payments or default in loans due to no business can operate during the outbreak. Loan defaults have been addressed by the loan officer and microfinance institutions regarding the high rate of default by their customers which most of the institutions are not achieving the internationally accepted standard of the portfolio at risk of 3% which is a cause of concern to their business (Korankye, 2014). Loan default by definition is a failure to repay the loan according to the terms and agreement (Yahon, 2013). According to Adam, et al., (2011), incidents of default in the financial institution when observed will increase the risk to the
lenders. This can be supported from the graph shown below where the increasing trend of impaired financing or NPLs in micro-financing during the pandemic period due to the loan defaults.

![Microfinancing Statistic](image-url)

Source: Monthly Bulletin of Bank Negara Malaysia

**Figure 1. Microfinance Statistic**

The above statement can be supported by a NPLs graph. A NPL is a loan in which the borrower is in default and has not paid monthly interest and interest payments for a specified period. The graph shows that a decreasing trend in repayment loans by borrowers thus leads to an increasing trend of non-performing loans.

2. **FINDING OF LITERATURE**

The literature review includes relevant literature to gain insight about non-performing loans (NPLs) within the bank industry. It covers theoretical reviews and empirical studies that show light on the causes of loan default within the banking industry.

2.1 **Theoretical Review**

2.1.1 **Credit Assessment Theory**

Credit analysis is the first step in the process to make a solution to fit the customer's needs. The assessment starts with an understanding of the customer's needs and capacities to ensure there is a good fit in terms of the supporting solution. Credit assessment is the most important safeguard to ensure the underlying quality of the credit is granted and is considered an essential element of credit risk management. The credit quality of exposure generally refers to the borrower's ability and willingness to meet the commitments of the facility granted. It also includes default probability and the anticipated recovery rate (Saunders & Cornett, 2003). Credit assessment thus involves assessing the risks involved in financing and thereby anticipating the probability of default and recovery rate. Credit analysis is used by the credit official to evaluate a borrower's character, capital, capacity, collateral, and the cyclical aspect of the economy, or generally referred to as the five C's (Shingjergji, 2013).

2.2 **Empirical Studies**

Generally, non-performing loans (NPLs) are known as bad debt when there is a default in three months of payment as stated in the loan agreement. The most common definition according to the International Monetary Fund, a loan that does not generate any interest and principal for a minimum of 90 days or three months is considered as NPLs. Moreover, NPLs have been a hindrance to economic stability and the growth of economies in a country (Karim, Chan & Hassan, 2010). In credit risk management, NPLs are considered as a common proxy to measure the risk and impacts towards the banking institutions, Koju et al. (2018) and it also signals future losses for the banks (Reinhart and Rogoff 2010, Vouldis and Louzis 2018). Besides, the level of NPLs is attributable to many factors towards banks and businesses such as poor credit policy, lack of regular monitoring of obligors, unskilled credit approvers, economic recession, and high interest spreads to cause high NPLs (Koju et al. 2018). Thus, it shows that NPLs are likely to impede economic growth and reduce economic efficiency in the short and long term. According to Messai and Jouini, 2013, the minimizations of NPLs are necessary for improving economic growth and it will give an impact on the resources that are bounded in unprofitable areas. At the same time, Bebczuk & Cavallo (2016) states that the ability of a bank to maintain its
financial obligations and stability depends on customer’s capability and willingness to repay their debts, which is influenced by the economics policy and regulations from the central bank. Besides that, the NPL issue is often cited as one of the potential risks that may cause economic and financial instability in Malaysia. NPLs brought some banks in Asia to bankruptcy during the crises in the 1990s. According to the Financial Stability Institute, addressing the problems of NPLs is a continuing challenge. Andrew Crockett (2003) argues that initially NPLs may not seem to have a serious negative effect. Banks remain liquid, and depositors retain their confidence in the system. Over time, however, the size of the problem is growing, especially if banks are allowed to accrue interest on their NPLs.

Dogan (2013) has defined the term firm characteristics as factors that are mostly under the control of management which includes firm size, liquidity, leverage, sales growth, and firm age. Moreover, it has been supported by McCann and McIndoe-Calder (2012) studies who found that typical financial ratios, such as the ratio of the loan to total assets, the current ratio, leverage ratio, liquidity ratio, and profitability ratio, are proven to be significant predictors of loan default. This study has used unique borrower-level balance sheet information for a cross-section of 6,000 Irish SME loans to tests the determinants of default at the micro-level. They further investigate beyond average effects of the above-mentioned variables by repeating the analysis across seven sectors of economic activity, and across the quintiles of the firms’ size, loan exposure, and credit quality distributions. The results suggest that different warning signals can be identified, particularly for smaller firms and borrowers with small versus large loans. However, the length of time the borrowing firm's owner or manager has been with the firm mitigates the likelihood of default. A previous study also found that excessive leverage would affect the firm’s cash flows as a lot of it will be directed towards paying outstanding debt and interest expense. This could adversely affect the firm's performance as the firm lacks residual cash flows to invest in prevailing business opportunities (Chen, 2011). While focusing on the size as a firm characteristic, Gaud et al. (2005) put into view that large firms are highly leveraged due to the large stability with cash flows that are less volatile and are likely to benefit from economies of scale that accrue after the issue of securities at the market. However, excessive leverage can cost the firm heavily during hard economic times when firms are not able to deliver adequate cash flows to repay the debt (Mostafa and Boregowda, 2014). Nevertheless, smaller firms may not be able to acquire more debt as they lack collateral for high-level debts. Generally, the management is entrusted with making all decisions on behalf of the principal and as such shapes the firm characteristics of an organization. For instance, they make decisions on the leverage levels of a firm and also the initiatives to hold enough capital to absorb potential losses from economic crises. Decisions on asset quality are also made by the management. The management ought to make these decisions with a focus on maximizing shareholders' wealth. However, this is not always the case. For instance, the management could pursue excessive leverage and misuse the cash raised to pursue risky ventures which could lead to a massive loss of shareholders' wealth (Nyabaga and Matanda, 2020). As a result, the decisions on corporate financing as explained by the trade-off theory shape the firm's characteristics.

Loan characteristics can be considered as one of the determinants of NPLs among microenterprises in Malaysia during the COVID-19 pandemic. According to Mirpourian, Caragliu, Maio, Landoni & Rusina (2016), loan characteristics are less focused on by the researcher. Most of the researches are focusing on the borrowers' characteristics as compared to the loan characteristics. Muthoni, Lewa, Mutuku, Riro, and Kamau (2017) have defined loan characteristics as the factors related to loan accessibility and its repayment. Loan characteristics can be measured by loan size, repayment mode, repayment period, and cost of the loan. This research will focus on the purpose of the loan, loan maturity, and loan amount. The purpose of loan applied by the microenterprise is mainly for their businesses. According to Mirpourian, Caragliu, Maio, Landoni, and Rusina (2016), the purpose of a loan is for income-generating activities. The purpose of the loan is significantly related to NPLs as Kitabo and Kim (2014) found a significant relationship between the purpose of loan and loan repayment rate. Mukono (2015), has included the purpose of the loan as one of the determinants of loan characteristics towards loan repayment and resulted in a negative relationship. Muhammad, Bambale, Ibrahim, and Sulaiman (2019) stated the problems with the purpose of the loan that can affect loan repayment due to moral hazards. The borrowers have the intention of using the funds not according to the main purpose of the loan.

The loan amount is one of the loan features that can affect loan repayment performance. The loan amount has a significant relationship towards the likelihood of default in Microfinance Institutions, while higher interest rates will increasing the chances of default due to the higher amount to be repaid which the principal plus interest (Muthoni, Lewa, Mutuku, Riro & Kamau, 2017). According to Jiménez and Saurina (2002), a larger amount of loans implied a lower risk as compared to medium and short-term loans. This is maybe due to the borrower of the larger loans amount are usually a large company as their operation can be studied properly as compared to the lower amount of loans which applied by a smaller company which very little information can be studied. Supported by Mirpourian, Caragliu, Maio, Landoni, and Rusina (2016), regardless of the amounts of the loan, the interest rates charge towards the borrowers are equal. According to their study on non-profit microfinance institutions in India, the borrowers are entitled to a higher amount of loan if they
can repay their current loan. The increasing amount of loan entitled by the borrowers known as the loan limit and their study showed a positive relationship between the loan limit and the performance of the repayment. Jiménez and Saurina (2002) had mentioned that loan maturity has influenced NPLs among the companies. Hence, it might show a similar impact on NPLs among microenterprises in Malaysia. According to Muthoni, Lewa, Mutuku, Riro, and Kamau (2017), their study showed a positive significant relationship between loan maturity and the chances of default in Microfinance Institutions. Supported by Glennon and Nigro (2005), NPLs on small businesses are time dependent where the effect would be higher when the loan has longer maturity. However, the default behavior varies over the life of the loan. The tendency of default by a small company for longer maturity of loans is more sensitive to economic conditions than medium and shorter maturity of loans. Jiménez and Saurina (2002) found the importance of the screening process done by institutions in reducing the NPLs rate. Supported by Muthoni, Lewa, Mutuku, Riro & Kamau (2017), the level of NPLs in Bosnia and Herzegovina had to reach a high level resulted from advanced loans permitted by the Micro Finance Institutions to the borrowers in terms of increasing the maximum loan amount and widening the loan purposes during the crisis.

The behavioral variables define the relationship between the customer and the bank. According to Kocenda and Vojtek (2009), the behavioral variable defines the behavior of customers' accounts towards the bank. Bank-related variables are an example of the number of previous loans and the number of resources. The variable number of the previous loan describes whether the customer has had consumer credit or any other loans from any bank earlier. Dinh and Kleimier (2007) found the default to be least frequent for repeat borrowers. This can be supported by Steenackers and Goovaerts (1989), where they found the number of previous credit to be significant determinants of default. Marjo (2010), uses empirical observations on consumer credit behavior to study the determinants of default in Finland. He founds both social demographical and behavioral variables have a significant effect on default. Thus, it shows that loan characteristics, firm characteristics, and past credit behaviour should be an important determinant of NPLs among microenterprises during the COVID-19 pandemic in Malaysia.

3. IMPACT OF PANDEMIC TOWARD MICROENTERPRISE

With the outbreak of the COVID-19 pandemic, the economic stability around the world encounters some challenges. Generally, most of the microfinance enterprise has been impacted by the COVID-19 crisis either directly or indirectly. Direct implications were due to the mandatory or self-imposed closures of business activities or the decision to temporarily discontinue their business for personal reasons. The indirect impacts involve the consequences of the mandatory closures due to the COVID-19 pandemic which caused the disruption of the supply chains and decreased the demand for certain products and services offered by the microenterprise. Nevertheless, many businesses suspended their activities during the state of emergency, and the service sector (in particular street vendors, restaurants, hairdressing, beauty salons) was the most affected. Shops, market trading activities, personal transport, and construction were among the segments that were first in line to close or substantially reduce the scope of their activities. To a certain extent, Malaysia's small business sectors are affected by this present situation and lead to failure of repayment of a loan or late payment of a loan. In September 2020, the ratio of non-performing loans (NPLs) in Malaysia is at 1.4%, which is a record low ratio since 2005 (CEIC, 2020). The Malaysian government had given an automatic moratorium for businesses and households for six months and it has caused to record low ratio. Starting from October 2020, households and businesses are required to pay back their loans and Bank Negara Malaysia (BNM) expected that NPLs to rise because the present economic environment is unstable and more businesses are suffering the loss of income (The Edge Market, 2020). Thus, their business revenues from sales have reduced substantially and directly will give an impact on the repayment of loans.

In Malaysia, the small business sector is one of the most directly affected by the movement's control order due to the pandemic outbreak. The impact is more significant among microenterprises. There have been several reports in the media about the impact of the MCO on small businesses. Microentrepreneurs, for example, experience loss of daily income due to disruptive supply chains resulting from the closure of supporting sectors, besides lack of workers and declining in cash reserves (Fabeil et al., 2020). Bourleitidis, K. & Triantafyllopoulos, Y. (2014) in the study mentioned that microenterprises are the first and the most important victims of a prolonged economic crisis. They may suffer disproportionately from economic downturns, because of their limited financial resources and dependence on banks' lending, paying such high-interest rates. This is supported by Ahmad Raflis et al. (2020) stated that statistics show that the financial risks of microenterprise are already visible during the third and fourth quarter of 2019, due to the average debt-to-equity ratio stood at 25% and interest coverage ratio of only 4.6 times (BNM, 2020). Thus, the impact of immediate shocks scenarios on business stability is unavoidable. Based on Theedgemarkets.com (2020) online survey on sustainability among 15,627 Malaysian SMEs reports that most enterprises are very tight in their cash flow and
expected to have no cash inflow for at least three months after MCO due to various obligations such as staff salary, rental, and other statutory payments.

Most of the government initiative is in assisting small enterprises during COVID-19 by directly injecting funds, providing loans and extending the moratorium were intended to support business operation (Jason, 2020). However, Jason (2020), views small enterprise businesses need more fund assistance to operate a business with cash flows rather than loan application. Additionally, to support the above survey finding, (RAM BCI) also came out with the survey regarding loan moratorium extension, and the result from it shows almost 90% need an extension beyond the expiry date of 30 September 2020, as cash flows remain tight. More than half of the firms surveyed said that without an extension, they would face negative repercussions of either having to scale down or cease operations, or even default on their loan. The BCI survey suggests that the extension of the loan moratorium is most useful to bigger enterprises as they may have heftier loan commitments; up to 85% of larger enterprises needed an extension, as opposed to 69% of microenterprises. However, the impact of not having an extension is more detrimental to the latter. Some 20% of microenterprises stated they would have to shutter their operations, compared to just 8% of SMEs (Ram.com, 2020). These measures proved that they need good support systems from the government and financial institutions to help them to navigate their business operation smoothly and well credit management through this difficult situation.

4. RECOMMENDATIONS AND CONCLUSIONS.

Generally, most of the microenterprises have been affected by the COVID-19 crisis. The current pandemic gives pressure on the microenterprise to get back to the normal condition. They have faced many challenges to find and adapt to the new environment. Most of their business activities interrupted and give an effect on business revenues. The non-performing loans (NPLs) will keep on increasing due to the failure on repayment of loans. Factors of firm’s characteristic, loans characteristic, and customer past credit behaviour significantly affect NPLs based on empirical studies. Moreover, microenterprises had to adapt its internal operations to new circumstances. Thus, this paper aims to propose some suggestions for microenterprise.

- Implementation of a business continuity plan: Usually these often ignored and forgotten procedures found their use during the crisis to adjust the organization to the new conditions and reassign responsibilities differently than during normal operations
- Debt rescheduling during the initial months of the COVID-19 crisis followed by introducing new options of emergency loans: Loan rescheduling and the internal moratorium on loans. Most rescheduling was on a month-to-month basis leaving the microenterprise with an option to request loan repayments as soon as the clients were resuming their business activities.
- Strengthen knowledge management, education, and learning to ensure that microenterprises can learn from the current events and build their capacities based on the best practices emerging from the crisis.

COVID-19 pandemic outbreaks have given effects on microenterprise business activities. Most of the entrepreneurs experience business cancellation and reduced their business income, this leads to failure on repayment of loans than contribute to the higher NPLs. Factors of firm’s characteristic, loans characteristic, and consumer past credit behaviour are the factors that influence non-performing loans (NPLs). Due to the new norm practices and adapting to the new environment, few alternatives need to be taken by microenterprise to survive during the pandemic. Apart from that, the government has also proactively introduced Economic Stimulus Packages to cushion the impact of COVID-19 and reinvigorate economic growth. These entire packages will give benefits and advantages to the microenterprise to survive during this outbreak.

REFERENCES


DOES FINANCIAL, NON-FINANCIAL INFORMATION, AND RELIGIOSITY MATTER ON PERFORMING LOAN IN ISLAMIC FINANCIAL INSTITUTIONS?

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ABSTRACT

This research aims to analyze the impact of financial, non-financial information, and bank consumers' religiosity towards Islamic Banking performing loan. The data is used cross-section and analyzed with moderate regression analysis (M.R.A.). This research indicates that financial and non-financial information partially influence the performing loan in Islamic Bank. The result is Adjusted R Square's value of 31% while the remaining influence by other factors. However, religiosity as a moderating variable has no impact on performing loans in an Islamic bank. Simultaneously, the overall independent variables have a significant influence on performing loans in Islamic Bank.

KEYWORDS: financial information, non-financial information, consumer’s religiosity, performing loan, Islamic Banking

1. INTRODUCTION

In Islamic banking, information about customers is essential in determining whether murabahah financing is approved or not. Customer data needs to be obtained as deep as possible before deciding to approve or reject funding. Information is the main component in the assessment of an application for equity participation. Thus, this information consists of 2 types, namely, financial and non-financial information.

Financial information consists of economic data, which generally includes profit/loss statements, balance sheets, changes in financial position reports, and notes to financial statements. In the main requirements for applying for a financing loan, this accounting information's availability is usually the main thing for prospective debtors to provide it. An attachment regarding the overall financial position report will make it easier for banks to analyze prospective debtors' feasibility from a financial aspect. Moreover, when the financial statements can be trusted and have quality with an independent opinion, checks and verify the financial statements' feasibility.

Non-financial information is other information that is not related to financial data. These statements include additional general information about the company, the amount of collateral that will be pledged if the application is approved, and the amount of capital participation submitted by the debtor to be used as business capital. Non-financial information in itself is crucial information for banks as a complement to financial information and is also included as a consideration in approving financing requests to prospective borrowers.

The procedure system for analyzing Islamic banks’ provision of Financing is almost the same as conventional banks. The factors needed as the primary data for analysis of financing provision are financial information and non-financial information. Muhammad (2002) has other criteria, apart from financial and non-financial information, consisting of the Sixth C's (Character, Capacity, Capital, Collateral, Condition, and Constraint). Other information that needs to be considered in approving financing applications in Islamic banks is customer religiosity.

According to Khalil et al. (2000) in Muhammad (2005), religious information is required by the Bank to assess a prospective debtor’s feasibility for Financing. The Bank’s required information is not information submitted by potential debtors or information obtained through a financial data search. Still, religious information is information obtained through specific procedures or techniques to be marginalized in qualitative measurements.

So far, existing research offers several rationality-based explanations about bank risk-taking, such as financial and non-financial information. However, researchers often ignore one potentially significant predictor: people's innate attitudes toward risk (Adhikari and Anup, 2015). This predictor variable is contained in the aspect of religiosity, which has the potential to influence the quality of Financing.

Several studies that consider religious aspects, including Yuliana (2015), found that the religiosity factor moderates the social capital factor towards profit/loss returns. Nurlinda (2018) states that simultaneously religiosity and customer perceptions significantly affect choosing an Islamic bank.
Religious customers are assumed to act honestly, work hard, be disciplined, and are willing to bear the consequences of a business agreement. Religiosity is related to less honesty, less hardworking, undisciplined, and inconsistent in making business agreements. Therefore, this research will examine the relationship between financial and non-financial information towards performing loans with religiosity as a moderator variable.

2. METHODS

In this study, the research approach focused on quantitative research. This research is a descriptive study highlighting the relationship between research variables and tests the formulated hypotheses under the stated research objectives. This paper researched one of the Islamic financial institutions in Malang City, East Java, in 2020.

2.1 Data collection technique

1. Primary data, namely, data obtained directly from the field and relevant research sources. Example: questionnaire
2. Secondary data, namely data obtained from tracing financial data from the object of research
3. Information, namely data obtained through interviews with respondents

2.2 Research Variables and Research Instruments

The research variable consisted of 2 independent variables (dependent variable), the dependent variable (independent variable), and the moderating variable (moderate variable). The following are the variables and indicators contained in this study.

Financial information (X.1)

1. Profitability
   a. R.O.I., a ratio that indicates the level of efficiency achieved by the company's leadership in managing all funds invested in the company (X1.1).
   b. Return On Equity is a ratio that describes management's efficiency of funds that have been invested by the owner of the company (X1.2)

2. Financial Leverage
   a. Debt Worth / Equity Ratio, the ratio between the number of loans and own capital (X1.3)
   b. Debt / Assets Ratio (X.1.4), the percentage of the total assets of the company that is financed with equity loans
   c. Interest Coverage ratio, the company's ability to raise funds from the results of their business operations to meet their maturing obligations (X.1.5)

3. Financial Liquidity
   a. Current Ratio, company assets that are expected to be cashed back quickly (current assets) with company liabilities that will mature in less than one year (X.1.6)
   b. Quick Ratio, current assets will be deducted by inventory (X.1.7)
   c. Cash Ratio, company assets that can be disbursed quickly (liquid), be it cash or securities (X.1.8)

4. Activity
   a. Average Collection Period, the average number of days used by the company to collect accounts receivable from customers (X.1.9)
   b. Inventory Turn Over, company management skills in overseeing the amount of inventory of materials, semi-finished and finished goods required for smooth business operations (X.1.10)
   c. Cash To Cash Cycle, the cash cycle describes cash circulation in the company's operations. The faster the cash turnover, the better the company's financial condition (X.1.11)

5. Quality of Financial Statements
   a. The influence and quality of the auditor's opinion, consisting of 5 quality levels that indicate the quality of the company's recording system (X.1.12)
   b. The date of issuance of the balance sheet assesses the level of accuracy of the company is reporting its financial statements (X.1.13)
   c. Annual balance sheet and loss/profit date, showing the quality level of the company in preparing financial statements on time (X.1.14)
   d. Number of attached annual report periods, looking at trends in the financial statements bound by the company (X.1.15)
Non-financial information (X2)

1. General Company Information
   a. The age of the company provides an overview of the ability of company management to cope with various changes in economic, business, social, and political conditions that have occurred both at the national and international levels (X2.1)
   b. Main manager education, the learning process of an individual which is one of the variables that affects the vision and mission of a person (X2.2)
   c. Manager's experience illustrates his ability to manage a business so that it can maintain the survival of the company (X2.3)
   d. Product diversification is offered, the company's ability to reproduce and sell various products. If consumers no longer like one product, other products are expected to provide benefits (X2.4)
   e. Marketing area describes the successful marketing of the company's products. The wider the marketing area, the more successful the marketing of the products is so that the greater the profits are obtained (X2.5)

2. Value of the financing guarantee
   a. Collateral for securities, the value of the collateral as collateral is in the form of corporate securities (X2.6)
   b. Accounts receivable collateral, collateral value pledged as company receivables (X2.7)
   c. Other guarantees, collateral value, pledged as collateral for company certificates and others (X2.8)
   d. Asset collateral, the collateral value is pledged as company assets (X2.9)

3. Requested Financing
   a. The amount requested is the number of funds the prospective debtor wants to borrow (X2.10)
   b. The payback period, the length of time the funds will be used as working capital (X2.11)
   c. Source of refund, the Bank expects to pay off their Financing and two conventional sources of funds, namely primary and secondary sources of funds (X2.12)

4. Good relations between the company and the Bank
   a. The period the company becomes a customer of the Bank. It proves the closeness of the excellent relationship that exists between the Bank and the customer, and from this good relationship creates mutual trust between the two (X2.13)
   b. The Bank's perception of the previous collaboration, the existence of past cooperation can be used as a particular benchmark by the Bank to assess potential borrowers (X2.14)

Religious Information (X3)

1. Business Ethics
   a. Not doing moral hazard, avoiding actions that ignore ethics and morals by doing activities outside the contract/contract agreement (X3.1)
   b. Not making Adverse selection, avoiding actions that ignore ethics and morals by hiding information required by the Bank as a feasibility assessment (X3.2)

2. Honesty
   a. Collaborative relationships with colleagues, relationships in transactions, and honesty in doing business (X3.3)
   b. The attitude and character of the company leader in society, the surface outside the company, whether the company leader gets a positive assessment in the community, especially his honesty (X3.4)

3. Trust
   a. The principle of ownership, ownership, which is also the less fortunate's right, helps in both financial and non-financial aspects. The parameter is zakat, which is the mandate to spread prosperity on earth by helping others by setting aside a portion of the profit to distribute welfare (X3.5)
   b. Accountability in financial reporting, the mandate that is charged seen from the economic aspect in the responsibility for preparing financial statements / Accountability (X3.6)
   c. Fulfillment of obligations on time, the level of someone being able to carry out the mandate seen from fulfilling their commitments in doing business. For example: is he able to pay off his obligations (debts) to parties that have receivables against him (X3.7)

2.3 Data Analysis Techniques

The method used for analysis is a moderate regression analysis (M.R.A.).
3. RESEARCH DISCUSSION

3.1 Data Description

This study uses primary data in the form of perceptions from respondents who know about the process of banking financing or Islamic bank employees. In more detail, the respondent is an employee of the financing analysis unit at the Islamic bank unit or sharia cooperative in Malang City. Respondents were drawn from 10 different companies. The questionnaire was distributed online using a google form, which was addressed to respondents who answered voluntarily. The respondent's answer is to get the variables X1, X2, X3, and Y1. Approximately 50 respondents successfully answered questionnaires with solutions that were considered valid.

X1 is the respondent's answer about customers' financial information (mudharib) who apply for Financing, in the form of a score of 1 to 100, where 100 indicates the highest score. X2 is the respondent's answer about the non-financial information of customers (mudharib) who apply for Financing, in the form of a score of 1 to 100, where 100 indicates the highest. X3 is information or religiosity preferences of customers who submit Financing according to credit analyst preferences, in the form of a score of 1 to 100.

Y1 is the respondent's answer, which shows the financing quality after two years of payment/installment financing. After the financing analyst approves, the financial institution records customer payments/installments for two years. A value of 100 indicates good quality of installment payments, no delays/delays or jams. If there is a delay of 1 installment, then the score drops to 23/24 or 96. If there is a delay of 2 installments, the score drops to 22/24 or 91. And so on. In this study, Financing's quality is not coded as current, substandard, doubtful, and non-performing. Respondents are from the Islamic commercial bank unit and local credit banks, and small cooperatives in Malang City. Data that has been successfully processed statistically is in the appendix.

3.2 Empirical Result and Discussion

This study uses two equations, with regression analysis with moderating variables. The first equation is:

\[ Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + \epsilon \]

Where:
- \( Y_1 \) is the performing loan,
- \( X_1 \) is financial information,
- \( X_2 \) is non-financial information.

This equation tests whether the two variables X affect Y without the moderating variable X3, namely information on religiosity. The second equation is:

\[ Y_1 = \alpha_2 + \beta_3 X_1 + \beta_4 X_2 + \beta_5 X_3 + \beta_6 X_1 X_3 + \beta_7 X_3 + \epsilon \]

\( X_1 X_3 \) is the interaction between \( X_1 \) and the moderating variable \( X_3 \). The \( X_2 X_3 \) is the interaction between variable X2 and the moderating variable X3. After the statistical process has been carried out, the results are given in Table 1 below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Probability (Dependent Variable Y1)</th>
<th>Coefficient</th>
<th>Std Error</th>
<th>T-Stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.754</td>
<td>-6.275</td>
<td>19.933</td>
<td>-0.315</td>
</tr>
<tr>
<td>X1</td>
<td>0.026</td>
<td>0.378</td>
<td>0.165</td>
<td>2.297</td>
</tr>
<tr>
<td>X2</td>
<td>0.000</td>
<td>0.759</td>
<td>0.184</td>
<td>4.135</td>
</tr>
</tbody>
</table>

Table 1, namely the analysis results without involving moderating variables, is known that the variable X1, namely financial information, and X2, non-financial data, positively and significantly affect Financing (Y1) with a probability value below 0.05. The F stat value also shows that this variable's significance impacts Financing (Y1) quality with a probability value far below 0.5, namely 0.000. The R-squared value 0.311 shows
a 31% variation in the loan performance, in the form of timeliness of payments (no delay or loss) is influenced by the interpretation of variables $X_1$ and $X_2$.

This study's results are in line with a survey conducted by Alandejani and Asutay (2017) in the Gulf countries that found that both financial and non-financial information, including the characteristics of companies' specific business sectors financed by Islamic banks, cause high loan risk. Knowledge of the different financial sectors affects the financing structure and impacts Islamic banking's long-term risk (Abdul-Rahman et al., 2017). So, symmetrical financial and non-financial information will improve financing quality through a more rational assessment of customer conditions.

These findings also support the research results by Firmansyah (2014), which examined the impact of liquidity on non-performing financing in 36 Islamic banks and Islamic B.P.R.s in Indonesia. These studies indicate that the higher the financial information represented by the liquidity variable (quick ratio) positively affects financing's quality in Islamic financial institutions. It means that the more liquid the funding for a company is, the more flexible it is to channel the financing with a higher frequency in building a financial portfolio. In this research, adequate financial information quality will prevent financial institutions from occurring liquidity risk due to asymmetric information on each financing channeled. Complete financial details will prevent financial institution actors from the chance of making the wrong decisions in the form of adverse selection and moral hazard. In a crisis, adverse selection will depress asset prices and possibly reduce public confidence in financial institutions (Kirabaeva, 2010).

Following the research hypothesis and financial and non-financial information, it is necessary to test religiosity as a moderating variable. This test is needed to see further the impact of religiosity on the quality of financing. The dimension of religiosity has received attention from many researchers. Yuliana (2015) stated that the religiosity factor moderates the social capital factor on murabaha returns. Also, Nurlinda (2018) says that simultaneously religiosity and customer perceptions significantly affect choosing a sharia bank. This study analyzes religiosity as a moderating variable on financial and non-financial information variables on financing quality. The results of the Moderating Regression Analysis (M.R.A.), where the religiosity aspect is used as a moderating variable, is described in the table as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Probability</th>
<th>Coefficient</th>
<th>Std Error</th>
<th>T-Stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Y_1$</td>
<td>0.521</td>
<td>-64.806</td>
<td>100.124</td>
<td>-0.647</td>
</tr>
<tr>
<td>$X_1$</td>
<td>0.978</td>
<td>0.025</td>
<td>0.893</td>
<td>0.028</td>
</tr>
<tr>
<td>$X_2$</td>
<td>0.084</td>
<td>1.363</td>
<td>0.770</td>
<td>1.770</td>
</tr>
<tr>
<td>$X_3$</td>
<td>0.409</td>
<td>1.159</td>
<td>1.389</td>
<td>0.834</td>
</tr>
<tr>
<td>$X_1X_2$</td>
<td>0.702</td>
<td>0.005</td>
<td>0.012</td>
<td>0.386</td>
</tr>
<tr>
<td>$X_1X_3$</td>
<td>0.273</td>
<td>-0.012</td>
<td>0.011</td>
<td>-1.110</td>
</tr>
</tbody>
</table>

R-squared 0.457  
Adjusted R-Squared 0.395  
F-Statistics 7.393  
Prob (F-statistic) 0.000

Table 2 shows the results of statistical analysis involving moderating variables. Although it can increase R squared to 0.395, all variables, namely $X_1$, $X_2$, $X_3$, $X_1X_2$, and $X_2X_3$, have no significant effect on $Y_1$. It shows that the religiosity information obtained from the perception of financing analysts when customers submit has no impact on financing quality, which can be known after two years of ongoing funding.

This result is slightly different from some previous studies, Kagaretnam et al. (2015), which states that more religious individuals have a greater risk aversion. Additionally, previous literature documented a positive relationship between religiosity and financial accounting transparency and the timely recognition of bad news. Given the nature of trustworthiness or timely recognition of future loan losses, religiosity can limit excessive risk-taking through enhanced internal and external monitoring.

On the other hand, this study is also in line with Hilary and Hui's (2009) research, which looked at the relationship between religiosity and financing risk in the United States. The study found that many Catholic or Protestant populations in an area negatively predicted risk-taking by non-financial firms. It means that information related to religiosity has not been able to predict the quality of financing. Whether a person is religious or not, whether a person is religious does not represent the quality of the funding obtained, whether smooth or experiencing default.

There are several reasons the religiosity information does not significantly affect financing’s quality in Islamic financial institutions. First, related to the level of the respondent's knowledge of the limited religiosity conditions of customers. It can happen considering the respondent's information on the state of religiosity that
the customer has is not deep. Therefore, several variables such as honesty, business ethics, and trust cannot be fully describing due to respondents’ level of recognition of each customer who proposes Financing is still relatively limited. Second, the absence of documentation of aspects of religiosity in the administration of Islamic financial institutions. The history of the element of religiosity is the realm of the mudarib and shahibul maal individuals, so this aspect is never recorded in financial institutions’ administration. The absence of detailed documentation regarding religiosity’s condition makes this variable subjective because there will be bias in some customers who are personally known by respondents who are employees of Islamic financial institutions.

4. CONCLUSION

Based on the results of the study, the conclusions that can be drawn from this research include:

1. Variations influence without the use of moderating variables, variations in Financing quality, in the form of timeliness of payments (no delay or loss) in financial and non-financial information. Following some of the research results, financial and non-financial information can explain Financing’s high and low quality in Islamic financial institutions.
2. Transparent financial and non-financial information will prevent sharia financial actors from the risks of asymmetric information, moral hazard, and adverse selection of sharia financing activities.
3. The statistical analysis results involve moderating variables. Although it can increase the R squared, all variables, namely financial information, non-financial information, and religiosity information, as moderating variables, cannot affect financing quality. It is shown that the religiosity information obtained from the perception of financing analysts when customers submit does not affect Financing quality. Therefore, with the conclusion above, Islamic financial institutions need to pay close attention to any information, both financial and non-financial, owned by mudarib and shahibul maal. It is done to improve the quality of Financing. The Financial Services Authority, as a stakeholder, needs to ensure that any process of financing Islamic financial institutions requires disclosure of information, both financial and non-financial. As the monetary authority, Bank Indonesia needs to supervise various transactions related to financial and non-financial information carefully. The existence of a financial crisis in many countries was due to stakeholders' delay in seeing market symptoms, which was evident from Financing’s quality. Further research is needed to see further the religious information variable that has influenced Financing’s quality in several previous studies.

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DOES THE BANKING CREDIT SERVICES INFLUENCE THE WILLINGNESS TO BORROW THROUGH PEER TO PEER LENDING PLATFORM IN INDONESIA

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ABSTRACT

This study aims to evaluate whether current bank services affect debtors' willingness to borrow through P2P lending. P2P lending has grown rapidly in Indonesia since 2016 and is expected to become a competitor that will erode the banking industry market. The number of credit loan distributed by fintech lending in Indonesia until December 2019 is IDR 81.50 trillion. Specifically, this study evaluates banking services in the form of a loan ceiling, repayment period, and interest rates. The unit of analysis in this research is borrowers who have established a financing commitment with banks. The research was conducted quantitatively using a survey method by submitting a questionnaire using a 5-Likert scale. The data were processed using the regression method with the help of SPSS software. The study was conducted in 2020. The impact of the Covid-19 pandemic was also evaluated to present a more comprehensive picture.

KEYWORDS: peer to peer lending, credit, bank services, willingness to borrow.
FINANCIAL LITERACY, PERCEPTION AND SOCIAL INTERACTION: YOUNG ADULTS’ READINESS TO ADOPT STOCK INVESTMENT

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ABSTRACT

Limited stock market participation in both developed and developing economies remains a puzzle that continues to attract both theoretical and empirical research. In Malaysia, the capital market regulators in collaboration with other government agencies have been actively promoting investment literacy through nationwide campaigns, targeting the public and universities’ students. Motivated by this national agenda, this paper examines the determinants of stock investment readiness among young adults, focusing on the role of financial literacy, perception, and social interaction. Using a survey dataset collected from 500 undergraduate students in Malaysia, we observe that the financial literacy score and investment readiness level are low among Malaysian undergraduates, particularly those from the Malay and Indian ethnic groups. Results of ordered probit regression show a significant influence of financial literacy, perceived benefits and complexity of stock investment, internet-sourced information, and financial advisors on students’ readiness to invest in stocks. These findings are robust to controlling for demographic factors and potential endogeneity problems arising from measurement error and omitted variables bias. This study highlights the importance of financial literacy and the role that financial advisors play in promoting awareness on investment among the youth.

KEYWORD: financial literacy; stock market participation; social influence; information channel; adoption readiness

1. INTRODUCTION

Limited stock market participation in both developed and developing economies remains a puzzle that continues to attract both theoretical and empirical research. Since a seminal work by Haliaossos and Bertaut (1995), a growing literature shows a set of important factors that explain households’ decision to invest in stocks. Among others, Bonte and Filipak (2012) document that households’ investment decisions are strongly related to their awareness of financial assets, such as shares, bonds, and mutual funds. Balloch et al. (2015) and Van Rooij et al. (2011) find a positive relation between financial literacy and the probability of stock investments. Another line of research documents a minimal impact of financial literacy on financial investment participation when other factors such as peer-effects and social interaction are considered (Duflo & Saez, 2004; Fernandes et al., 2011; Georgarakos and Pasini, 2011). In this paper, we examine the factors that explain readiness to adopt stock investment among young adults in Malaysia.

Young adults today are more likely to face complex financial decision-making and hence are prone to financial distress after graduating their college or university programs due to study loan commitment, inflationary environment and rising competition in the job markets (Archuleta, Dale, and Spann, 2013). Significant number of bankruptcy cases reported among young adults in Malaysia raise some cause for concern regarding the well-being of this population. The government’s mission to get more young people, especially Bumiputeras1, to participate in the stock market has been challenged by their lack of awareness on investment and low financial literacy (Sabri and MacDonald, 2010).

Beginning in 2014, the government embarked on a proactive approach to foster an investment savvy population that young Malaysians should consider investing in stocks and mutual funds as a supplementary source of income. Mindful of the needs of financial literacy and investment knowledge among the general public, government agencies and professional bodies have been taking the initiatives to engage the community and university students via their outreach programs. Among others, most notable examples include InvestSmart® and ‘My Money and Me’ workshop. Securities Commission Malaysia launched its InvestSmart® program in June 2014, which is a comprehensive investment literacy outreach campaign under the Investor Empowerment initiative. This campaign aims to develop confidence among potential investors in

1 Malays and other indigenous people in Peninsular and East Malaysia.
the capital market investment as well as to create informed retail participation. Malaysian Financial Planning Council (MFPC) similarly conducts its ‘My Money and Me’ workshop nationwide including in universities to increase the level of financial capability and literacy among Malaysian citizens.2

It is half a decade since the launch of investment literacy nationwide campaign, yet virtually no published research has examined the state of Malaysian undergraduates’ readiness to consider stock investment. Our study attempts to fill this knowledge gap by examining this issue using a survey data collected from college and university students in Malaysia.

Employing a dataset of 500 completed questionnaires, we compute the financial literacy score from the 17 quiz-type questions and find that the average score (correct answers) for our sample is 8.57 or 50.4 percent, which is below the desired level as far as undergraduates sample is concerned. We perform multiple regressions using ordered probit estimator and find that financial literacy, perception over benefits and complexity of stock investment, and internet as well as financial advisors’ influence are statistically significant determinants of undergraduates’ readiness to adopt stock investment. To ascertain the economic significance of these variables, we address for potential endogeneity concerns associated with financial literacy measurement and omitted variables bias. Our robustness tests yield confirming results.

The rest of this paper is structured as follows. Section 2 reviews related literature and develops the hypotheses. Section 3 describes the measurement of variables, data collection, and the model estimated in this study. Section 4 presents and discusses the results, followed by concluding remarks in Section 5.

2. LITERATURE REVIEW

Stock market participation among retail investors is a desired economic outcome for the capital market regulators. Nonetheless, limited participation in the stock market is a worldwide phenomenon (Guiso, Sapienza, and Zingale, 2008). In this section we review related literature to inform our test of readiness to adopt stock investment.

2.1 Financial Literacy

Financial literacy helps individuals taking informed actions through strategies that mitigate risk such as accumulating savings, and diversifying asset portfolio. Recent theoretical work by Spataro and Corsini (2017) demonstrates that financial literacy reduces the costs managing risky assets such as stock investment. Consistently, Jappelli and Padula (2017) show in their intertemporal consumption model that financial literacy acquired early in life is positively correlated with stock market participation and hence larger share of risky assets allocated in the individual’s portfolio in later periods of life. A growing number of studies offers evidence on the importance of financial literacy in individual’s decision to invest in stocks. Using the US survey dataset, Balloch, Nicolae, and Phillip (2015) find that stock market literacy strongly influences stock market participation. Thomas and Spataro (2018) explore this relation on a dataset obtained from nine European countries (Austria, Germany, Sweden, Netherland, Italy, France, Denmark, Switzerland, and Belgium). Controlling for endogeneity of financial literacy and human capital, they document a positive influence of financial literacy on stock market participation. Almenberg and Widmark (2011) investigate this relation using a random sample of 1,300 Swedish adults aged 18 to 79 and find that financial literacy are strongly correlated with stock market participation after controlling for other individual characteristics such as age, income and education. Arrondel et al. (2015) and Mauricas, Darškuvienë, and Mariničėvaite (2017) document similar finding from French and Lithuanian sample, respectively.

Previous studies also report a positive relation between financial literacy and intention to invest in stocks (Sivaramakrishnan, Srivastava, and Rastogi, 2017) and stock holding among individuals in emerging Asian economies (e.g. Loke, 2015; Mouna and Anis, 2017; Pan, Wu, and Zhang, 2020; Xia, Wang, and Li, 2014).

While academics generally agree to the importance of financial literacy at a young age, limited research has explored the level of financial literacy among this population. Volve et al. (2002) examines investment literacy among online investors using the US survey dataset of which young investors under 30 years old represent about 63 percent. They find that young investors have lower investment literacy compared to old investors. Closely related to our paper, Khan, Tan and Gan (2019) examine the impact of advanced financial literacy among Malaysian Gen Y investors and find that this investor base exhibits a medium level of financial literacy. Gen Y investors with certain demographic characteristics and ethnicity, especially young, Chinese and highly educated investors, possess a relatively higher level of advanced financial literacy.

Based on the review discussion above, we formulate the following hypothesis for this research:

H1: Young adults with higher financial literacy are more likely to be ready to adopt stock investment.

2 The modules incorporate multitude of financial topics including cash flow management, risk management and of course, investment planning.
2.2 Perception towards stocks investment

Perception or belief can form one’s attitude and action. Households have diverse perceptions on stock investment which consequently influence their decision to invest in stocks (Guiso, Sapienza, and Zingales, 2008; Georgarakos and Inderst, 2010). Given the risk-return tradeoff among different asset classes, it is not surprising that public generally perceives stocks as risky and complex assets. Raut (2020) argues that individuals’ perception over the ease or difficulty to handle stock investment will determine their intention to invest in such a risky asset.

In an early study on retail mutual funds investors, Alexander, Jones, and Nigro (1997) find that college graduates significantly perceive one can lose money in a stock fund. Recent study by Kaur and Kaushik (2016) however shows that risk perception for equity funds investment had no influence on the investment decision. Dobni et al. (2015) focus on the concept of stock market image and presents a six-dimension scale for measuring it. They observe a heterogenous perception of retail investors towards the stock market, ranging from highly positive to highly negative. They suggest that the most positive perception over stock investment were held by those who are better informed about stock investment. Consistently, Raut (2020) find that individuals’ perceived ability to control stock investment is positively related with their intention to invest in stocks. Thus, we state the following hypothesis:

H2: Young adults’ perception on stock investment significantly influences their readiness to adopt stock investment.

2.3 Social interaction

Individuals’ elaborative thoughts on subjective norms are perceptions on whether they are expected by their friends, family and the society to perform the recommended behaviour. Social interaction serves as an information channel in instance where individuals rely on information obtained from their social networks in their thought process (informational effect). In another instance, social interaction may directly influence an individual’s behaviour (social multiplier effect). As far as the stock market participation is concerned, the informational effect as well as the multiplier effect of social interaction suggest that more sociable individuals are more exposed to information about the stock market, and therefore are more prepared to consider stock investment (Liang and Guo, 2015).

Scientifically, friends and family have been shown as important agents that can significantly influence individuals’ attitude towards investment and stock market participation (Gerrans et al., 2018; Li, 2014; Liu, Zhang, and Yang, 2014; Raut, 2020; Sivaramakrishnan, Srivastava, and Rastogi, 2016). In a market characterized by lack of investment platform and investment awareness, a recent study depicts that the influence of peers and family members significantly explains the intention of an individual to participate in the stock market (Raut, 2020). Further, van Rooij et al. (2011) observe that individuals with high levels of basic literacy obtain information from formal channel such as financial advisers and they can therefore make better financial decision-making, specifically participating in the stock market. Therefore, we hypothesize the following:

H3: Social interactions significantly influence the readiness to adopt stock investment.

3. METHODOLOGY

3.1 Questionnaire Design

A self-administered questionnaire was designed consistent with the suggestions by previous studies. Our questionnaire consists of five parts where the first part covers demographic and socioeconomic background such as gender, program enrolled at the university, race, and parents’ combined income. The second part measures the respondent’s financial literacy which contains 17 quiz-type multiple choice and true-or-false questions. These questions are adapted from Balloch, Nicolae, and Philip (2015) and van Rooij et al. (2011). The third part captures the respondent’s perception on stock investment in terms of complexity and benefits, which includes a seven-point interval scale. This measure is adapted from Dobni and Racine (2015) and Sivaramakrishnan, Srivastava and Rastogi (2017). Adapting from several studies (e.g. Gerrans et al., 2018; Liu, Zhang, and Yang, 2014; Liang and Guo, 2015), the fourth part asks about the sources of information as well as social influence on stock investment. The final section measures the respondent’s readiness to adopt stock investment. This measure was adapted from previous studies that explore technology adoption readiness (e.g. Thakur and Srivastava, 2014). The list of main variables and their respective measurements and sources is provided in Appendix I.
Since the set of items in the third and fifth parts were modified from previous studies to fit our context, they were subjected to validity and reliability test. For the content validity of the items, we obtained review and suggestions from certified financial planner and expert researcher in this area. Following their recommendations, some of the items were further modified. Pre-testing of the instrument was done before conducting the survey. According to Conroy (2016), a sample size of 30 can measure reliability using Cronbach’s alpha considering the scale items have strong correlations. The Cronbach’s alpha for the constructs exceed 0.7 (untabulated), hence indicating the reliability of the measurement.

3.2 Sampling and data collection

Our data derive from a survey administered both online and through field work using a convenience sampling technique. Geographical areas of 14 Malaysian states were covered. Roscoe’s (1975) rules of thumb suggests that sample size ranges between 30 to 500 is appropriate for most research. We obtained a list of respondents from selected higher education institutions through the help of university students’ representatives. Questionnaires were then distributed to the pre-contacted students who volunteered to participate in this survey. 500 questionnaires were distributed to areas within our reach; 247 completed questionnaires were returned, with a 49.4 percent response rate. To supplement this data, we also distribute an online form of questionnaire to other geographical areas including Sabah and Sarawak. We managed to collect 500 responses altogether.

The characteristics of our sample are tabulated in Table 1. 56 percent of our respondents are female students. Across three major ethnics, Malay respondents represent almost 70 percent, followed by 21 percent Chinese students and 9.6 percent Indian students. Nearly 40 percent of our respondents enrolled in Business, Economics and Management programs. Finally, a large portion of our respondents came from low to middle income group.

### Table 1. Characteristics of the sample

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>281</td>
<td>56.20</td>
</tr>
<tr>
<td>Male</td>
<td>219</td>
<td>43.80</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>334</td>
<td>66.93</td>
</tr>
<tr>
<td>Chinese</td>
<td>106</td>
<td>21.20</td>
</tr>
<tr>
<td>Indian</td>
<td>48</td>
<td>9.62</td>
</tr>
<tr>
<td>Others</td>
<td>12</td>
<td>2.40</td>
</tr>
<tr>
<td><strong>Area of study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art and Humanities</td>
<td>136</td>
<td>27.20</td>
</tr>
<tr>
<td>Business, Economics</td>
<td>198</td>
<td>39.60</td>
</tr>
<tr>
<td>and Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering and Technology</td>
<td>119</td>
<td>23.80</td>
</tr>
<tr>
<td>Math and Science</td>
<td>40</td>
<td>8.00</td>
</tr>
<tr>
<td>Others</td>
<td>7</td>
<td>1.40</td>
</tr>
<tr>
<td><strong>Parents’ combined monthly income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than RM2,000</td>
<td>144</td>
<td>28.80</td>
</tr>
<tr>
<td>RM2,001 - RM6,000</td>
<td>208</td>
<td>41.60</td>
</tr>
<tr>
<td>RM6,000 - RM10,000</td>
<td>86</td>
<td>17.20</td>
</tr>
<tr>
<td>RM10,001 and above</td>
<td>62</td>
<td>12.40</td>
</tr>
</tbody>
</table>

3.3 Model

To examine the role of financial literacy, perception, and social influence in determining young adults’ readiness to invest in stocks, we estimate an ordered probit regression which captures the discrete and ordinal nature of the dependent variable (READINESS). The model specification takes the following form:

\[
READINESS_i = \alpha + \beta_1 FLSCORE_i + \beta_2 PERC\_BENEFIT_i + \beta_3 PERC\_COMPLEX_i + \beta_4 SOCIAL_i + \beta_5 CONTROL_i + \epsilon_i
\]

where READINESS is a degree of adoption readiness that takes a discrete value between 1 and 5 with 1 being “not ready” and 5 being “highly ready”. FLSCORE is a total number of correct answers scored by the
respondent, PERC_BENEFIT and PERC_COMPLEX are mean scores of seven-scale items capturing the respondent’s perception on the benefit and complexity of stock investments, respectively. SOCIAL is a vector of factor variables representing the respondent’s social interactions from which they obtain information about stock investment. Finally, CONTROL is a vector of demographic factors.

4. RESULTS AND DISCUSSION

4.1 Descriptive analysis

Table 2 reports the summary statistics for financial literacy score (hereafter FLScore) and Readiness index across respondents’ demographic factors. The mean and median financial literacy score for our sample are 8.57 and 8, respectively (untabulated). Of the 500 respondents, only three of them managed to answer all 17 questions correctly (Appendix B). We observe the variation in FLScore across demographic factors. Male respondents have a higher average FLScore and Readiness index compared to female respondents. Consistent with Khan, Tan, and Gan (2019), Chinese respondents score higher on financial knowledge, and they have a higher degree of readiness compared to other ethnics. Students enrolled in Business, Economics and Management programs have a higher average FLScore, followed by those enrolled in Math and Science programs. These two groups of students also have higher degree of readiness to invest in stocks. Further, students came from middle to upper middle-income group have higher average FLScore and readiness index.

Table 2: Summary statistics of FLScore and Readiness index across demography

<table>
<thead>
<tr>
<th></th>
<th>FLScore</th>
<th>Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Dev</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>8.13</td>
<td>2.59</td>
</tr>
<tr>
<td>Male</td>
<td>9.15</td>
<td>3.43</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>8.15</td>
<td>2.66</td>
</tr>
<tr>
<td>Chinese</td>
<td>10.09</td>
<td>3.61</td>
</tr>
<tr>
<td>Indian</td>
<td>8.00</td>
<td>2.89</td>
</tr>
<tr>
<td>Others</td>
<td>9.00</td>
<td>3.67</td>
</tr>
<tr>
<td>Area of study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art and Humanities</td>
<td>7.58</td>
<td>2.34</td>
</tr>
<tr>
<td>Business, Economics</td>
<td>9.37</td>
<td>3.20</td>
</tr>
<tr>
<td>Engineering and Technology</td>
<td>8.21</td>
<td>2.83</td>
</tr>
<tr>
<td>Math and Science</td>
<td>9.33</td>
<td>3.74</td>
</tr>
<tr>
<td>Others</td>
<td>6.86</td>
<td>1.95</td>
</tr>
<tr>
<td>Parents’ combined monthly income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than RM2,000</td>
<td>8.08</td>
<td>2.70</td>
</tr>
<tr>
<td>RM2,001 - RM6,000</td>
<td>8.62</td>
<td>3.24</td>
</tr>
<tr>
<td>RM6,000 - RM10,000</td>
<td>8.99</td>
<td>2.90</td>
</tr>
<tr>
<td>RM10,001 and above</td>
<td>8.97</td>
<td>3.11</td>
</tr>
</tbody>
</table>

4.2 Empirical results

To test the hypotheses for the influence of financial literacy, perception, and social interaction on the readiness to adopt stock investment, we estimate multiple ordered probit regressions. The main results are presented in Table 3. Specification (1) is the base results, while specification (2) includes the demography controls. Results show that FLScore is positive and statistically significant at 1 percent level. However, the magnitude impact of financial literacy on students’ readiness to invest in stocks is somewhat small. Students’ perception of the benefit or usefulness and complexity of stock investment are positively associated with their adoption readiness. This finding is consistent across specifications.

We find a weak evidence of the influence of parents on students’ readiness to invest in stocks, consistent with the view of undergraduates’ transition to independence from parents’ influence on their financial matters (Archuleta, Dale, and Spann, 2013). Our results show that information obtained from friends or peers is negatively related to students’ readiness to invest. As a comparison, Sivaramakrishnan et al. (2017) find that information and perception of peers on stock holding do not influence investment intention. Consistent with Liang and Guo (2015), we obtain a statistically and economically significant coefficient for internet. Therefore,
students that obtain information about stock investment from internet sources are more likely to be ready to adopt stock investment.

Results for several control variables are consistent with our descriptive analysis. Specifically, students who came from middle to upper middle-income group, and those who enrolled in Business, Economics and Management and Math and Science programs are more likely to be ready for stock investment. Regarding ethnicity, Indian students are less ready to consider stock investment compared to Chinese students (base case).

### Table 3: Regression results of investment readiness model

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>t-stat</th>
<th>(2)</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLscore</td>
<td>0.097***</td>
<td>(5.513)</td>
<td>0.081***</td>
<td>(4.330)</td>
</tr>
<tr>
<td>Perc_benefit</td>
<td>0.311***</td>
<td>(5.504)</td>
<td>0.331***</td>
<td>(5.742)</td>
</tr>
<tr>
<td>Perc_complex</td>
<td>0.168***</td>
<td>(3.309)</td>
<td>0.151***</td>
<td>(2.941)</td>
</tr>
<tr>
<td>Parents</td>
<td>0.079*</td>
<td>(1.865)</td>
<td>0.068</td>
<td>(1.569)</td>
</tr>
<tr>
<td>Friends</td>
<td>-0.105**</td>
<td>(-2.037)</td>
<td>-0.092*</td>
<td>(-1.783)</td>
</tr>
<tr>
<td>Internet</td>
<td>0.135**</td>
<td>(2.328)</td>
<td>0.129**</td>
<td>(2.152)</td>
</tr>
<tr>
<td>Financial advisor</td>
<td>0.090*</td>
<td>(1.849)</td>
<td>0.085*</td>
<td>(1.717)</td>
</tr>
<tr>
<td><strong>Demographic factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-0.081</td>
<td>(-0.768)</td>
<td>-0.081</td>
<td>(-0.768)</td>
</tr>
<tr>
<td>RM2,001 - RM6,000</td>
<td>0.174</td>
<td>(1.392)</td>
<td>0.174</td>
<td>(1.392)</td>
</tr>
<tr>
<td>RM6,001 - RM10,000</td>
<td>0.346**</td>
<td>(2.210)</td>
<td>0.346**</td>
<td>(2.210)</td>
</tr>
<tr>
<td>RM10,001 and above</td>
<td>0.123</td>
<td>(0.721)</td>
<td>0.123</td>
<td>(0.721)</td>
</tr>
<tr>
<td>Malay</td>
<td>-0.106</td>
<td>(-0.823)</td>
<td>-0.106</td>
<td>(-0.823)</td>
</tr>
<tr>
<td>Indian</td>
<td>0.006</td>
<td>(0.033)</td>
<td>0.006</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Other races</td>
<td>-0.965**</td>
<td>(-2.683)</td>
<td>-0.965**</td>
<td>(-2.683)</td>
</tr>
<tr>
<td>Business, Economics and Management</td>
<td>0.303**</td>
<td>(2.327)</td>
<td>0.303**</td>
<td>(2.327)</td>
</tr>
<tr>
<td>Engineering and Technology</td>
<td>0.175</td>
<td>(1.235)</td>
<td>0.175</td>
<td>(1.235)</td>
</tr>
<tr>
<td>Math and Science</td>
<td>0.351*</td>
<td>(1.729)</td>
<td>0.351*</td>
<td>(1.729)</td>
</tr>
<tr>
<td>Other areas of study</td>
<td>0.562</td>
<td>(1.342)</td>
<td>0.562</td>
<td>(1.342)</td>
</tr>
<tr>
<td>Pseudo R-sq</td>
<td>0.093</td>
<td></td>
<td>0.106</td>
<td></td>
</tr>
</tbody>
</table>

This table presents the results of ordered probit regression. The dependent variable is Readiness index. t-statistics are in parentheses. *, ** and *** denote significance at the 1, 5 and 10 percent level, respectively.

### 4.3 Robustness

As a robustness check, we replicate the specifications in Table 3 and re-run with robust variance estimator. This option is robust to model misspecification when observations are independent. For brevity, we do not tabulate the results that are quantitatively similar with those of Table 3 as far as main variables are concerned.

Further, we cannot rule out the potential bias in our estimation due to endogeneity issues, which according to a lengthy debate in the literature, arise mainly from the measurement error of financial literacy and omitted variables (Stolper and Walter, 2017). Based on a meta-analysis of the relationship between financial literacy and financial outcome, Fernandes et al. (2014) infer that non-instrumented regression models overestimate the effect of financial literacy on financial behavior, reflecting endogeneity bias. Researchers generally acknowledge that finding the right instruments to address endogeneity problems are difficult. As such, the choice of IVs for this purpose should rely on theoretical basis or strong economic judgements to support the identification selection (Stolper and Walter, 2017).

To control for endogeneity problems, we employ an extended ordered probit regression that allows us to account for endogenous covariate (i.e. financial literacy) in a non-linear model setting. Jappelli and Padula (2013) argue that initial stock of financial literacy acquired by individuals is an appropriate instrument for current financial literacy. Adapting from previous studies (e.g. Arrondel et al., 2015; Jappelli and Padula, 2013), we employ two instrumental variables (IVs) that depict financial knowledge and behaviour of the respondent’s parents in the first stage regression of financial literacy model. The first IV is an equally weighted index variable ranging from one to four that indicates whether respondents’ parents have taught them about credit cards, debt/loans, budgeting, and savings. The second IV is a dummy variable equals to one if respondents’

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3 The measurement error problem arises because the ‘true’ financial literacy cannot be observed from non-experimental data collection (Jappelli and Padula, 2013).
parents engage them in financial decisions, and zero otherwise. These IVs capture early financial knowledge that may influence current financial literacy, but unlikely to explain the readiness to invest in stocks.

Table 5 tabulates the results. For brevity, we only report the results for our variables of interest. As suspected, the correlation between the error terms of the first and second stage is statistically significantly different from zero (0.75), confirming the presence of endogeneity in our specification. We observe that our instruments – parents-related financial knowledge and training – are positive and economically significant. However, only parents-taught financial knowledge is statistically significant.4

Consistent with previous studies, FLScore appears with a positive sign, and this relation is economically and statistically significant, bolstering our main results. Therefore, we provide evidence that is in line with previous studies (e.g. Balloch et al., 2015; van Rooij et al., 2011; Xia et al., 2014) on the role of financial literacy in stock market participation. Echoing our previous results, perception towards stock investment has a significant positive influence on undergraduates’ readiness to adopt stock investment, consistent with recent evidence (Raut, 2020).

Respondents’ interaction with parents as well as financial advisors on matters pertaining to stock investment positively influence their readiness to adopt stock investment. Nevertheless, the positive effects of respondents’ interaction with parents and financial advisors seem to crowd out the effect of internet on their readiness to invest in stocks. Liang and Guo (2015) document that social interaction and internet are substitute to each other. In the context of our study, the robust results imply the importance of the ‘right’ and ‘trustworthy’ sources of information or influence when it comes to wealth planning.

### Table 5: Two-stage ordered probit regression

<table>
<thead>
<tr>
<th></th>
<th>(1) First-stage</th>
<th>(2) Second-stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLScore</td>
<td>0.331***</td>
<td>(8.735)</td>
</tr>
<tr>
<td>Perc_benefit</td>
<td>0.228***</td>
<td>(3.758)</td>
</tr>
<tr>
<td>Perc_complex</td>
<td>0.103**</td>
<td>(2.558)</td>
</tr>
<tr>
<td>Parents</td>
<td>-0.573***</td>
<td>(-5.171)</td>
</tr>
<tr>
<td>Friends</td>
<td>0.238*</td>
<td>(1.764)</td>
</tr>
<tr>
<td>Internet</td>
<td>0.332**</td>
<td>(2.383)</td>
</tr>
<tr>
<td>Fin_advisor</td>
<td>-0.456***</td>
<td>(-4.452)</td>
</tr>
<tr>
<td>Parents_taught</td>
<td>0.357***</td>
<td>(3.585)</td>
</tr>
<tr>
<td>Parents_engaged</td>
<td>0.227</td>
<td>(1.327)</td>
</tr>
<tr>
<td>Constant</td>
<td>8.909***</td>
<td>(13.691)</td>
</tr>
<tr>
<td>Demographic controls</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Correlation (errors: FLScore and Readiness)</td>
<td>0.751***</td>
<td>(6.06)</td>
</tr>
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</table>

This table presents the results of two-stage ordered probit regression. In the first stage regression, the dependent variable is FLScore. In the second-stage regression, the dependent variable is Readiness index. Urban is a dummy variable equals to one if the respondent came from urban area, and zero otherwise. Standard errors are heteroskedasticity robust. z-statistics are in parentheses. *, ** and *** denote significance at the 1, 5 and 10 percent level, respectively.

5. CONCLUSION

This paper explores young adults’ readiness to adopt stock investment. Using a survey dataset collected from Malaysian higher institutions, we provide several results that have important implication for research and policy makers. We provide evidence that young adults with higher financial literacy level are more ready to participate in the stock market, consistent with previous studies showing that advanced knowledge on stocks and the working of the stock market significantly explain investment decisions and intention (Khan et al., 2019; Sivaramakrishnan et al. 2015).

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4 Since the first-stage regression results suggest that Parents_engaged is perhaps an invalid instrument, we compare our results with and without the inclusion of this variable as the identifying restriction. Results shows no noticeable difference in the second stage regressions.
Our results with respect to the influence of perception and internet source on young adults’ readiness to participate in the stock market are robust to controlling for a set of demographic factors and after endogeneity concern is addressed. This indicates the norm of information acquistion through internet among young adults in this age, which might crowd out the flow of information from other sources such as family and friends. The information spread through internet channel is quicker and more accurate than those of social interaction channel (Liang and Guo, 2015) and thus are more trusted and preferred by this population. Hence, as our findings imply, government agencies and financial advisers should cater this group of future investor base through this channel. As we cannot guarantee that endogeneity problems are sufficiently mitigated through econometric approach, our results should be interpreted with cautions.

REFERENCES


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APPENDIX A

Variable Measurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness</td>
<td>An equally weighted index developed from the respondent's responses on five-item (Yes/No) questions capturing their readiness to consider stock investments.</td>
<td>Thakur and Srivastava, 2014)</td>
</tr>
<tr>
<td>FLScore</td>
<td>total correct answers out of 17 questions on stocks and stock holding, interest rate, and bonds (true false and multiple-choice questions)</td>
<td>Balloch, Nicolae, and Philip (2015) and van Rooij et al. (2011)</td>
</tr>
<tr>
<td>Social Influence/information channel</td>
<td>Dummy variables equal to: 1 if the respondent obtained information or communicate about stocks with his/her parents, zero otherwise; if the respondent obtained information or communicate about stocks with his/her friends, zero otherwise; 1 if if the respondent obtained information about stocks through internet, zero otherwise; and 1 if the respondent obtained information or communicate about stocks with a financial adviser, zero otherwise.</td>
<td>Gerrans et al., 2018; Liu, Zhang, and Yang, 2014; Liang and Guo, 2015)</td>
</tr>
<tr>
<td>Perceived benefits</td>
<td>Mean score of the respondent's responses on questions about their perception on stock investment benefits and complexity with a scale from 0 (strongly disagree) to 7 (strongly agree)</td>
<td>Dobni and Racine (2015) and Sivaramakrishnan, Srivastava and Rastogi (2017), Thakur and Srivastava, 2014)</td>
</tr>
<tr>
<td>Perceived complexity</td>
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</tbody>
</table>
TRACK 6D
TOURISM AND HOSPITALITY
DETERMINANTS OF ISLAMIC BRAND IMAGE TOWARDS HOTEL INDUSTRY IN MALAYSIA: A CONCEPTUAL PAPER

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ABSTRACT

The paper aim to identify the factors of Islamic brand image of hotel industry in Malaysia. From this main objective, it highlights to examine the impact of Islamic brand image to customer’s hotel choice and to explore an appropriate model of Islamic brand image of hotel industry in Malaysia. Absolutely, recent trends in modern tourism marketing have changed greatly, and study of a conceptual framework of Islamic brand image for the hotel industry is increasingly becoming considerable to keep leap with this change. By building a conceptual framework of Islamic brand image for the hotel industry, it will be a competitive advantage in the hotel and tourism market and directly it will enhance their overall image with long term sustainability. This conceptual paper will summarize the literature on currently prevailing concepts and approaches on Islamic brand image for the hotel industry. In this paper also discuss some interview result from consumer overview about their understanding toward Islamic brand image in hotel industry based on their knowledge, experiences and challenges in setting up this new concept of hotel brand image, and also indirectly to identify the conceptual framework of Islamic brand image, and therefore will assist the hotel industry to enhance their marketing efficiency and effectiveness.

KEYWORDS: Islamic Brand Image, Brand Image, Islamic Hotel, Tourism

1. INTRODUCTION

Tourism industry is a larger international industry with huge potential for growth. For many countries, it is an increasingly important source of income, employment and wealth. Besides that, it can be the largest of multinational activities which accounts for a larger share of foreign exchange receipts and export earning than any other industry. Sheller and Urry (2004) said that tourism is the largest industry in the world and emphasized the mobility produced by tourism in that it affects individually all around the world.

Malaysia is one of the Asia’s most popular tourist destinations. Malaysia was ranked the fourth top travel destination in Asia and the Pacific region, after China, Thailand and Japan, by the UNWTO World Tourism Ranking for the year 2019. Besides being an active business and meetings, incentives, conferences, and exhibitions destination, Malaysia also depends on its diversified cultural and natural heritage sites and entertainment infrastructure to attract a considerable leisure market.

In 2006, Malaysia took a universal approach towards halal goods and services because it realized that halal sector would be the new source for the country’s economic growth. From 2006 until now, Malaysia has synchronized its strategy on developing halal product and services industries. Currently, Malaysia is looked upon as a progressive Islamic and business friendly country especially in tourism industry for both Muslim and Non-Muslim world communities.

In order to attract more tourists to Malaysia, brand image play an important role for the tourism industry. Brand image for tourism industry construct a conceptual framework that creates differential effects on customer responses to the marketing of tourism industry. Considering Malaysia is an Islamic country, brand image toward Islamic perspective for tourism industry plays an important role as antecedents of brand image that assist tourism industry to keep touch within customers’ memory for long period of time. As the importance of Islamic brand image for the tourism industry for now to attract more Muslim or non-Muslim tourist it’s might be to engaged to develop construct the conceptual framework of Islamic brand image and enhance a good memory into customers mind in the perception of the tourism industry. The conceptual framework indicates of the antecedents of Islamic brand image for tourism industry especially in Malaysian hotel industry. From this, the conceptual framework of Islamic brand image for tourism industry will have great significance in today’s tourism marketing environment. Basically, the conceptual framework of brand image is one of the essential blocks of customer-based brand equity that underlies as perceptions about a tourism brand which reflected by the brand associations apprehended in customer’s memory (Keller,2008). From that, it is acknowledged that
the conceptual framework of Islamic brand image for tourism industry plays an important role as antecedents of brand image that supports tourism industry to keep touch within customers’ memory.

With this background, this paper will discuss a conceptual framework of Islamic brand image for the tourism and focus on Hotel industry. In this concept of study, the Islamic brand image framework for the tourism industry is developed through halal food; facilities and accommodation; service and operation. All these tools use as latent variable for this conceptual framework to explore the significance of the concept study in the tourism industry. Indeed, this conceptual framework uses valuable tools to construct the Islamic image of the tourism industry.

2. CONCEPT OF ISLAMIC TOURISM

In previous time, many researchers conducted in Islamic tourism in many countries such as Malaysia, Egypt, Iran and Saudi Arabia. They found that Islamic tourism is popular among Muslim tourists. Islamic tourism is one of the new phenomenon emerged from the growth of Halal industry (Zakiah et al., 2015). Islamic tourism is the travel activities of Muslim whereby the staying in places outside of their usual environment (Duman, 2013). According to Islamic Tourism Centre (2011), Islamic tourism involved any activity, event and experience undertaken in a state of travel that is in accordance Islamic rules such as good intention (niat), appreciation for greatness of Allah and strengthen faith and teaching.

Abdel-Sahib Al-Shakry (2007), explains what the meaning of “Islamic” in the context of tourism in nine points, which can be summarized in three main blocks: first, the revival of Islamic cultures and the spread of Islamic values; second, economic benefit for Islamic societies; and third the strengthening of Islamic self-confidence, identity and beliefs in the face of negative stereotyping in comparison to other cultures and lifestyles. Al- Hamarmeh & Steiner (2004) defined Islamic tourism in three main concept; economic, cultural and religious conservative.

Tragedy of Sept 11th in 2001 gave huge impact to tourism industry. International Organizations, governments and private business acted to prevent a possible collapse of this industry. They have been constructed to ignore the structural crisis and to concentrate all activities in short term measures and recovery plans. For instance, new international marketing strategies, campaign to improve image and encouraging domestic and intra-regional tourism (Al- Hamarneh & Steiner, 2004).

Undoubtedly, the relationship between Muslim and western nations also poor after this tragedy (Henderson, 2003). The tourist from Middle East avoided to travelling to US and Europe because the negative image of Arab Muslims among American people, which led to Muslims of Arab origins being unwelcomed in the US.

In different finding by Jabil (2010), he said that Sept 11th gives new dimension impact to religious tourism ideas towards emerges of Islamic tourism. In a few Islamic countries especially Middle East and North Africa, Islamic tourism is an alternative tourism and been practiced so many years. Egypt, Iran and Pakistan are the example of countries that taking a serious and special emphasis towards Islamic tourism in their tourism development agenda and plans. Nazifa (2011), also indicate that Sept 11th in US gave obvious huge impact to halal tourism market in Malaysia.

Besides that, tourist from Middle East to Europe and US dropped drastically after Sept 11th (Battour, Ismail, & Battor, 2010). This is because of the shift to another Muslim countries such as Malaysia. They are looking for hospitality can respect to their belief. In additions, after Sept 11th United Arab Emirates (UAE) has been increasingly attracting Muslim Middle Eastern tourist. In recent year, UAE has become a popular attraction for regional short term vacation. They find common culture a source of security and destination attractiveness (Al- Hamarneh & Steiner, 2004). Therefore, as Halal matters advancing tourism industry, many Muslims and non-Muslims countries are taking this opportunity to capture Muslims tourists market by providing the tourism products, facilities and infrastructures to cater their needs. For example, Dubai investment agencies have invested in Halal tourism through the introduction of Islamic hotels, which becoming increasingly popular, in the aim to profit from regional investments in tourism sector. This hotel serve only Halal foods, no Alcohol and provide women’s floor in order to provide a need of Muslims travellers (Battour, Ismail, & Battor, 2010).

3. WHAT IS ISLAMIC BRAND IMAGE?

Keller (2008) underlies that brand image has long been recognized as an important concept in marketing and although marketers have not always agreed about how to measure it, one generally accepted view is that brand image is consumers’ perceptions about a brand, as reflected by the brand associations held in consumer memory. Keller (2008) mentions in that creating a positive brand image takes marketing programmes that link strong, favourable and unique associations to the brand in memory. Meanwhile, brand image is the current of customer’s view about a brand. It can be defined as a unique bundle of associations within the minds of target
customers. Low and Lamb (2000) said brand image is the reasoned or emotional perceptions customer’s associates to specific brands.

Build a good and positive brand image is important as it is a perceived value of the product and services of the organization. The organization should highlight their mission and vision to have a positive brand image which are unique logo reflecting organization’s image, slogan describing organization’s business in brief and identifier supporting the key values. According to Ryu et.al (2012), developing a good perceived value is the goal of every service provider due its potential impact on repeat purchasing behaviour and profits.

As such, in developing strong brand image within tourism industry, many marketing and branding decision affect the Muslim consumer are usually based on a Western style (Zakaria and Abdul-Talib, 2010). Studies that look at marketing and branding decision processes from an Islamic perspective need to follow to the Islamic guidelines and standards to attract the Muslim consumer directly and also non-Muslim indirectly. Islamic brand image is too broad and more than halal. It has all these Islamic values and following the Islamic guidelines. Islamic brand consists of goods and services with quality and image related to Islamic economics, business, Islamic management and marketing or al-din as the universal and comprehensive way of life.

According to Mohd Yusof (2014), brand can be closely linked to emotions, even more so when religious is involved such as distinction becomes necessary for companies in Islamic markets understand a religious implication. The understanding of Halal and Islamic brands is very crucial and if Muslim consumers are not encouraging and nurture, the Islamic brands will be may remain as cultural products and the status of being Halal is temporal. Nevertheless, until now there seems to be no specific understanding of Islamic brand image term (Copinath, 2007), therefore, to avoid confusion and reduce the likelihood of improper use, the term Islamic brand image was analysed by several scholars. From Alserhan (2010) view, the true Islamic brands are Halal produced in an Islamic country and meant for Muslim consumers, meanwhile traditional Islamic brands originating produced in Islamic countries and targeting Muslim consumers, assumed to be Halal.

Islamic brand is also a brand that refer to the image of Islamic complied goods and services (Osman, C. A. 2012). It is not a brand that consist of prohibited elements such as alcoholic drinks, pork, harvest, and gambling or casino activities. Instead, they are goods and services with all mankind according to the purposes of Islamic Sharia as a basis. Islamic brand is image not only of halal goods that exclude what have been mentioned as Haram in Al-Quran and Al-Sunnah like alcohol drinks and pork but also of goods that are harmful to health.

4. CONCEPTUAL FRAMEWORK OF ISLAMIC BRAND IMAGE FOR TOURISM INDUSTRY

4.1 Concept of Halal Food & Beverage

The demand for Halal food is on the increase and is now widely accepted. According to Aniza, Noreina & Shakinah. (2013), the global market for Halal products today is an enormous and rapidly growing Halal is no longer related to religious obligation or observance, but it can be considered as the standard of choice for Muslims as well as non-Muslims worldwide. The Muslims’ awareness towards halal concept is also increase and this has opened the demand for halal foods in compliance with their religious requirement.

Halal food and beverage is main concerned of Muslims. In general, consumer’s attitude and behaviour towards food are determined by individual and environmental factors, such as marketing, information, situation and food specific properties. Religion is the potential factors that will shape consumption decision, especially among Muslim. According to Pettinger et al. (2004), religion can influence consumer’s attitude and behaviour in general, as well as food purchasing and eating habits in particular. For example, in Hindus societies, they are vegetarian and very strict with their food. Thus, religion play important role as one of the most influence factors in food choices (Dindyal, 2003).

Moreover, the religion factors on food consumption depends on the religion itself and on the extent to which individuals follow the rules and teaching of their respective religion (Rezai et. al, 2012). Besides that, as Muslims, they have to oblige to a set a dietary law intended to advance their well-being. According to Vermeir & Verbacke (2005), religious motives is not only determining of the Halal consumption but health, hygiene, being friendly to environment, respect for animals; welfare and social issues have also determining factors influencing it. The faith or belief of food are determined by in

According to Halal and Food Safety Institute, halal means permitted, allowed, authorized, approved, sanctioned, lawful, legal, legitimate or licit. In term for food for Muslims can be define as (1) free of, and not made of, or containing any part or substance taken or extracted from animal which re forbidden to be consumed by Muslims, according to Islamic laws; (2) not containing any substances, which is declared as filth according to Islamic Laws; (3) not prepared, processed, produced or manufactured using utensils, equipment and machinery which are not free filthy substances as directed by Islamic laws; and (4) during preparation, processing or storage, it should not come into contact or be in close proximity with any food which do not fulfil the requirements or any substances declared as being filth according to Islamic law.
In addition, Halal or permissible is essentially a way of life and is not solely confines to the types of food is a vital component for sustenance needed to lead a meaningful life (Rezai et al., 2012). Mohd Robin (2004) defines Halal as a general term which means permitted, allowed, authorized, approved, sanctioned, lawful, legal, legitimate or licit. The word ‘Food for Muslims’ or ‘Food certified Halal’ or having similar meanings can be defined as follows: anything not contaminated or made in part by substances derived from animals which are not allowed to be consumed by the Muslims or not containing substances which are declared as filth to Islamic laws. Halal is not just about what the Halal is but how it is prepared. It emphasizes safety, hygiene and wholesomeness of food, process attributes and “halalness” (Rezai et al., 2010; Rezai et al., 2012). In short, Halal is a typical belief process attribute even upon or after consuming the food. Nowadays, halal become a universal concept. As a product characteristics, Halal is refer to the nature, the origin and the processing method of the food, which entail similarities with organic food or food that is produced by taking into consideration animals’ welfare, sustainability issues, social justice and sustainable environment (Rezai et al., 2012). It is no longer a concept confined or restricted to the slaughtering of animals for the consumption of Muslims but encompasses products and services of the highest quality that meet the ever increasing awareness and needs of non-Muslim consumers in a demanding market.

In this study, halal food is one of the most significant elements of Islamic tourism especially to hotel industry in order to access to which is a concern for Muslim travellers. Halal food is the number one way of meeting the needs of Islamic travellers and is considered by many to be the top requirement. This is an extremely important part of Muslim culture and involves the preparation of food in accordance with Islamic law. For instance, hotel with halal kitchen serving halal food and beverages, should also be free of alcohol drinks and no pork (Rizal et al., 2013).

As early mention, their increase in awareness with the halal food make the opportunities to the hoteliers and marketers. The hoteliers and marketers need to understand how the consumers, construct their preferences according to their religious orientation as this will help support the selection of appropriate target markets and provide a basis for hotel marketing- controlling activities. Moreover, this will provides the hotel managers with the information necessary for successfully tailoring products to market segments by communicating the benefits of food with a segment (Aniza, Noreina, & Syakina, 2013). Moreover, hotel manager and hoteliers need to understand the actual requirement for Halal certificate and standard in order to capture the growing market. The Malaysian Halal food standard and certification program has been accepted and was used by FAO or Codex commission in the preparations of the Codex halal standard (Ahmad, 2004). Hence, it is also necessary for hotel in Malaysia to take a holistic approach in serving Muslims need and practices the procedure standard by comply with Halal certification. The halal certification can be used as a marketing tools in promoting the Halal service (Rajagopal et al., 2011). Zailani et al. (2011) added the hotels with Halal certification in their kitchen and premises can give an added value and competitive advantages to the hotels to attract not only the foreign but also the local customers.

In Malaysia, JAKIM is the authority body that give certified of Halal certification with cooperation with others government agencies such as State Islamic Religious Department (JAIN) and State Islamic Religious Council (MAIN). According to the statistics released by JAKIM, there were only 390 hotels awarded with Halal certification. The number of Halal certification of Hotel/ Kitchen Hotel/ Restaurant Hotel issued by JAKIM was 131 hotels and the other 259 hotels were issued by JAIN. From the statistics in 2011, the number of hotels in Malaysia is 1,574 including resorts, but only 366 hotels or less than 25 percent were awarded with Halal certification for food served in their premises.

There are important of halal certifications of the hotel because it effects the hotel performance (Rizal et al., 2013). Razalli et al. (2012) indicates that Halal certification process have a positive effect on six dimensions of hotel performance which are personnel qualification, employee motivation, multi- skillness of employees, efficiency, environmentally conscious and cost saving. From the study, Razalli et al. (2012) also argued that the well- established Halal certification practice can make the hotel achieve the green performance. In another study conducted by Marzuki, Hall & William (2012), they found that the Halal certificate is perceived to have a factor of customer trust and return visits. In addition, Halal certification practices must be aligned to the organizational or hotels objectives in order to be effectives. Marzuki et al. (2012) also argued that the Halal certification is very prevalent in hospitality industry such as hotels and restaurants.

4.2 Concept of Hotel Facilities & Accommodations

In recent years, the way people spend their vacations has many changes. They like to spend great times with family or friends while at the same time exploring several of traveller’s places all around the world. As the result, the tourism industry has seen an unprecedented growth. Hence, it is also given tremendous growth in accommodation facilities (Johnpaul, 2016). Johnpaul (2016) added comfortable hotels and accommodation facilities play a very important role in popularizing and attracting any tourist destination. For instance, if the tourists get enjoys the same facilities and feel comfort as they enjoy at their home, then they are bound to
become attached to the places. In contrast, if they end up at the place where the hotels and accommodation facilities are not satisfactory, it is quite likely that they might never return to the place.

Several scholars regard accommodation as a basic, functional business within tourism industry. Hotels constitute proportion as a sub-sector of tourism accommodations business. Hotel is considered as a commercial accommodation. The accommodation of the hotel is a provider of food and other services essential to the tourist experience. Besides that, the accommodations also include rooms, facilities such as spa, gym, restaurant and other services provided to the guests. Hani Lashin (2004) defined hotel as a place away from home that provides paid lodging, meals and other facilities for travellers and tourist for short term by maintaining the security. The facilities including spa centre, massage, tennis court, health club, conference room, banquet room, business centre, laundry service, in room entertainment, WIFI or fast internet, gift shop, saloon, signature outlet, bars, casino, valet parking, concierge, nightclub, cinema, shopping centre and travel desk. From the study, she agreed that most of the standard hotel’s profit comes from room department in term of prices and cost. The other facilities and accommodations as stated above are the complimentary as an added value for the guest and few of them are chargeable. Most of the facilities above also are a common facility provided in hotels except bars, casino and nightclub that cannot be applicable for Islamic & halal hotels.

Nowadays, most of the hoteliers, marketers, and business players pay greater attention to the notion of Islamic hotels, characterised by prayer facilities, halal food, a ban on alcohol and gender segregation for certain amenities (Henderson, 2016). The term “sharia compliant” is sometimes applied and is accurate for properties in conservative Muslim countries such as Saudi Arabia, which are already bound by Sharia law, whereas Dubai in the United Arab Emirates is less restrictive. Therefore, there are some attributes of facilities and accommodation of Islamic Hotel as explained by some scholars. According to Henderson (2003) and Al-Hamarneh & Steiner (2004), Islamic hotels have free- accommodations, no in- door disco or nightlife hotel, provide gender- segregated fitness and sport facilities to avoid free mixing between males and females, offer separate swimming pools and recreational facilities, availability of prayer- rooms on site, women floor and Islamic entertainment programs. The availability of prayer room is considered as one of the crucial facilities for Muslims. In some studies, other researchers discussed about the religious facilities and information such as the location of nearby mosques or prayer ties and nearby halal restaurant (Din, 1989); Zakiah & Fadilah (2013) indicated that the location of the hotel that near to mosque may influence Muslims tourist’s preferences when making hotel reservations.

Henderson (2016) clarified Muslims travelling for purposes of business must also be considered. Hoteliers should therefore be familiar with Muslim needs and address concerns about food and prayers as far as possible. This can be achieved by ensuring that menus are suitable, copies of the Quran are placed in hotel rooms and information about places of worship is readily available (New Strait Times, 2016).

In Malaysia, there are many existence hotels that provide some facilities and activities in line with the Islamic values. For example, during Ramadhan and fasting season, some hotels organize the Bazaar Ramadhan, Ramadhan Buffet for “iftar”, “sahur” meal and prayer room to perform solat tarawih (Junainah & Norazla, 2015). This guideline also stresses on the hotel services during Ramadhan month (SIRIM, 2014). It is pertinent to note that Muslim tourists especially form West Asia increasingly sensitive and wanted access to more sophisticated holiday destination. Besides that, as Malaysia towards the formation of Islamic Hotel, there are a few hotels currently serve basic facilities to fulfil the Muslim tourists’ need and it known as Muslims friendly hotel. For instance, PNB Darby Park Hotel and Putra Hotel, Kuala Lumpur.

4.3 Concept of Hotel Service & Operation

Understanding the hotel services and operations are not easy. Hani Lashin (2004) constructed hotel’s operation to six elements: room facilities, food and beverage, recreational facilities, banquet facilities, other facilities and safety and security. In this study, there are still no written formal requirement of classifications of Islamic hotels as it seems that the development and operation are similar with the operation of a standard hotels (Rosenberg & Choufany, 2009). Based on study conducted by Zakiah & Fadilah (2013), Islamic hotels can be defined as hotel that provides services in accordance with Sharia principles and to ensure the hotel operating and managed in accordance of Sharia principles. Norain et al. (2015) added Islamic hotel defines as a hotel that is governed by Sharia standard which go beyond the concept of dry and halal hotels. In additions, it is important to Islamic hotel having a standard because it will increase the customer confidence of the practicing of Sharia principles all the time whether in its products, instruments, operations, practices, and management (Sabtu, 2012; Junainah & Norazla, 2015). Therefore, the government had developed the Muslim Friendly Hospitality Service Requirements (MS2610:2015) in January 2015 (ITC, 2015). With the development of this standard, it gives a guideline to all players in tourism industry, especially the hoteliers. Moreover, by having this standard Malaysia is also one step ahead from other countries in terms of providing halal hospitality which is known as the heart of Halal tourism sector.
The Islamic hotel service and operations can be included operations, the human resource or staff management, financial management, and hotel’s interior and design as suggested by Rosenberg and Choufany (2009). For operations, the hotel must run and follow according to Sharia and Islamic laws. All the permissible elements need to be practices in the hotel operation. For example, the hotel can designate a special area restaurant not serving alcoholic beverages. Unmarried couples are not allowed to check in, which means that the hotel should request the marriage certificate upon checking in. Besides, the hotel should not allow any drug-dealing activities within its premises.

For the operating of staff management, the hotel must be predominantly with Muslims staff with a proper Islamic dress code (Junainah & Norazla, 2015). In addition, Islamic cultures often require female housekeeping and room staff. Dress codes in Islamic cultures are mainly concerned and therefore hotels must be sensitive to the concerns many Islamic travellers have. For example, practicing by De Palma hotel, there are compulsory for female staff to wear Muslim dress code which proper covering the area.

For financial management operation, Zakiah & Fadilah (2014) suggested that the funding operations of the Islamic hotel should adopt Sharia-compliant contract and the owners of the hotels or the hoteliers must pay their zakat. Stephenson et al. (2010) further added that as far as Islamic funding is concerned, the finance used to operate a hotel should be compliant with Sharia regulations and in fact, the hotel owner must contribute a proportion of revenue to Zakat (Charitable acts). On the other hands, the hotel development and the hotel operation should be financed through financial arrangement to fully respect the Sharia principle and Islamic finance rules.

For the hotel’s interior and design, the design of the hotel includes the building and decoration of the hotel should not display any art similar to human or display any form jewels which does not reflect any sign of symbol of living being and layout of furniture must meet the Sharia principles (Wan Shahida et al., 2011; Zakiah & Fadilah, 2013). Stephenson et al. (2010) provided extensive guidelines, focused more on the room interior in accordance to the Muslim needs such as prayer room, Qiblat directions, and toilet not facing to Mecca. In other words, it is simply about creating the right themes, ambiances, architecture, and any contingent support that would make the Muslim customers feel at ease during their stay (Rizal et al., 2013).

4.4 Concept of Sharia Compliant for Marketing Program

A marketing program is a coordinated and well-designed set of activities to achieve marketing objectives. Marketing objectives are strategic sales goals that fit the products’ strengths and are based on various characteristics of the product. One may follow different marketing programs according to the situation. In order to build strong customer relationships and maximize sales, the organizations follow different marketing, sales and loyalty programs (https://www.mbaskool.com/business-concepts/marketing-and-strategy-terms/10996-marketing-programs.html).

The marketing mix strategies for hospitality business are viewed as a cover up of support plan to provide the customer or visitor with satisfaction (Johnson & Weinstein, 2004). Hotel managers in the hospitality industry have been devising several marketing mix strategies in a bid to better their offerings. The hospitality industry provides services for people who are away from home regardless of whether it is for long or short periods of time. These services can vary according to the specific needs of both the person away from home and the organization operating those services (Baker et al., 2000).

The marketing mix is an important tool to help understand what the product or service can offer and how the manager plan for a successful product offering. The marketing mix is normally executed through the 4 P’s of marketing which are Product, Price, Promotion and Place.

The core product in the hotel industry is accommodation. The role of Hotel is to provide basic accommodation facilities such as a bed for the night and a room with a bathroom. The hotel services also require a fair combination of core and exterior services and make an innovation to their product or services to attract customers. Meanwhile, Muhammad (2009), specifically outline Shariah Compliant hotel (Islamic Hotel) as hotels where products, services offered, and financial transaction are fully obeyed Syariah principles, from serving halal food and beverages to implement all parameters of Islamic value for health, safety, and environment.

The marketing communication strategies and techniques all fall under the promotion heading. These may include advertising, sales promotions, special offers and public relations. Whatever the channel used, it is necessary for it to be suitable for the product, the price and the end user it is being marketed to. It is important to differentiate between marketing and promotion. Promotion is just the communication aspect of the entire marketing function.

Tourism operators and agencies have also caught on to the emergence of Islamic Tourism as evidenced from online tourism advertisement whereby they have started to include Islamic elements on their website such as prayer time, listing of Halal food suppliers, and Islamic travel tips to attract and provide information for the Muslim travellers (Hashim, Murphy, & Hashim, 2007).
In Malaysia, the opportunity of Malaysia hotels to provide some facilities and activities in line with the Islamic values indirectly have come into existence (Zakiah & Noorsalwati, 2014). For example, some hotels promote the traditional Halal food, organize the Bazar Ramadhan and Ramadhan Buffet. Other than that, the hotel management also can make promotion to the customer such as that the hotels have provide religious information such as the location of nearby mosque or prayer times and nearby Halal restaurants (Henderson, 2003).

Figure 1: A conceptual framework of Islamic Brand Images for Tourism Hotel Industry

5. RESULT AND ANALYSIS

There are 14 respondents that have been selected for this study to get some overview of definition Islamic brand image. A sample of respondent was aged between 21 to 30 years old, 31 to 40 years old and 41 to 50 years old. The main reason for selecting three different segments of respondents is to identify the similarities and differences of respondents’ perception toward Islamic brand image and Islamic brand image of hotel industry. The detail profiles of the respective respondents are illustrated in Table 1 as stated below:

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Age</th>
<th>Sex</th>
<th>Race</th>
<th>Religious</th>
<th>Occupation</th>
</tr>
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<tbody>
<tr>
<td>Y1</td>
<td>36</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Government</td>
</tr>
<tr>
<td>Y2</td>
<td>30</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Student</td>
</tr>
<tr>
<td>Y3</td>
<td>43</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Housewife</td>
</tr>
<tr>
<td>Y4</td>
<td>27</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Private</td>
</tr>
<tr>
<td>Y5</td>
<td>30</td>
<td>Female</td>
<td>Others (Arabian)</td>
<td>Muslim</td>
<td>Private</td>
</tr>
<tr>
<td>X1</td>
<td>31</td>
<td>Male</td>
<td>Malay</td>
<td>Muslim</td>
<td>Private</td>
</tr>
<tr>
<td>X2</td>
<td>22</td>
<td>Male</td>
<td>Malay</td>
<td>Muslim</td>
<td>Student</td>
</tr>
<tr>
<td>Y6</td>
<td>28</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Student</td>
</tr>
<tr>
<td>Y7</td>
<td>25</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Private</td>
</tr>
<tr>
<td>Y8</td>
<td>25</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Private</td>
</tr>
<tr>
<td>Y9</td>
<td>25</td>
<td>Female</td>
<td>Malay</td>
<td>Muslim</td>
<td>Private</td>
</tr>
</tbody>
</table>
**5.1 Discussion**

**Islamic Brand Image**

*a) Fulfilled the Sharia-compliance*

Most of the respondents agreed that the meaning of Islamic brand image is the products or services are appealing strictly on being Sharia-compliant. Respondent X4 stated that “Islamic brand image is a brand that promote and facilitate Islamic way of livings and facilitate them to produce, consume and live accordingly”. Respondent Y5 mentioned “it is related to behaviour and attitude as a Muslim lifestyle”. Respondent Y7 also mentioned that “brands that show the Islamic image in terms of appearance and sharia-compliance.”

*b) Islamic values and uniqueness*

Respondent Y1 affirmed that “Islamic brand image is product or services that show the Islamic values and it must have a uniqueness compared to conventional.” Respondent Y3 also mentioned that “Islamic brand image must carry Islamic values”. Respondent X5 voiced out that “the Islamic brand image is a symbol that shows a sign of Islam.” Respondent Y1 also added her opinion that, “the Islamic product in Malaysia is still unclear in the market”

*c) Good and safe to consume*

Most of the respondents agreed that the meaning of Islamic brand image is something good and safe to be consumed. Respondent Y2 said that “Islamic brand image is something good to be consume for Muslims”. Respondent Y4 stated that “it is confident and consumer feel secure to consume it.” Respondent X3 mentioned that “it must be pure, sincere and safe”.

*d) Halal issue*

Halal is most important issue when related to Islam consumers and Islamic products or services. Most of respondent agreed that Islamic brand image is something halal to be consumed. Respondents X1, Y2, Y7, Y8, and Y9 agreed with this statement. Meanwhile, respondent Y6 added that, “besides the halal, the product’s ingredients also must use natural and halal resources.”

**Islamic Brand Image of Hotel Industry**

*a) Fulfilled Sharia-compliance*

Many of the respondents agreed that Islamic brand image of the hotel industry must fulfilled Sharia-compliance. Firstly, most of the respondent mentioned of halal food and beverage serve in the hotel. Respondent Y3, Y5, Y6, Y7, Y9 and X4 stated that “the hotel with Islamic brand image must serve halal food and beverage with no alcohol drinks in their restaurant.”

Secondly, their mentioned that the Islamic brand image of hotel need to have rules restrictions. This mentioned by respondents Y2 and Y3. Moreover, Respondent Y2 opinion that “the hotel must regulate the Islamic rules especially the prohibited and permissible rules, for example some hotels have regulate the couple customers need show their married certificate to check-in, while the unmarried couple are strictly cannot stay in the hotel.”

Respondent X1 view of Islamic brand image of the hotel industry is “the operation of the hotel must be manage by the Muslim.” This support by respondent X2, he said that “the procedures and the management must according to Islam.”

Besides that, the hotel must have a Sharia-compliance staff or workers too. This stated by Respondent Y7. Moreover, Respondent Y3 also said that “the staff must cover their aurat either male or female.”

*b) Muslim-Friendly Facilities and services*

Most of the respondents agreed that Islamic concept of hotel need to have a Muslim-Friendly facilities. Respondent Y1, Y6, Y8, Y9 and X4 voice out the hotel with Islamic brand image must have prayer room or surau facilities for Muslim. Respondent X4 added “Besides the prayer rooms facilities, the environment of the hotel also must relate with Muslim culture.” Respondent Y2 and Y5 agreed that “the hotel must provide..."
Muslim prayer facilities such as prayer mat and azan time.” Respondent Y6 also added “the hotel must have an ablution place to ease the Muslim customers who stay in their hotel.” Separate facilities among the male and female also is one of the view perceptions when the hotel with Islamic brand image. Respondent X2 and Y8 affirmed that “the facilities of the hotel must be separate between male and female section such as the swimming pool and gym.”

Meanwhile, the service of the hotel also important to show that the hotel have Islamic brand image. Respondent X2 said that “as the hotel is Islamic, all the service also must follow the Islamic rules.” Respondent X3 proposed that “hotel with Islamic image, the service treatment and fairness to customers. He mentioned that “the Islamic brand image is an added value to the hotel, therefore, the service must be excellent.”

Besides that, all of activities in the hotel also must be control by the hotel management, so as not violate Islamic rules. Respondent X5 said “Halal brand that will show and notify that all the activities are in line with Islamic perspectives.” Respondent X2 added that “the hotel must control the social boundaries between male and female especially in using facilities provided in the hotel.”

REFERENCES


EXPLORING THE EFFECT OF ENVIRONMENTAL ATTITUDE, DESTINATION IMAGE, AND PERCEIVED SERVICE QUALITY TOWARD INTENTION TO SELECT SUSTAINABLE TOURISM DESTINATION: STATISTICAL EVIDENCE FROM SUMAI HOTEL & APARTMENT SDN. BHD.’S CUSTOMERS RESPONSES

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ABSTRACT

Urban tourism is an interesting product that are found in Terengganu. This study examines local tourist satisfaction in Kuala Terengganu especially near Batu Buruk Beach area the tourism destination in Terengganu, Malaysia. The dimensions of this is to study overall local tourist perception and the finding and results of the statistical analysis of the study based on the methods mentioned in the previous chapter. The aim of this study is to exploring the effect of Environmental Attitude, Destination Image and Perceived Service Quality toward intention to select sustainable tourism destination. The research is conducted using a quantitative method by obtaining response from the local tourist and hotel guests that stayed at Sumai Hotel and Apartment Sdn. Bhd. The raw data was analysed using inferential statistics to achieve the research objective by using the Statistical Package for the Social Sciences (SPSS) version 25.0.

KEYWORDS: urban tourism, local tourist, satisfaction, hotel guest, Survey Analysis

1. INTRODUCTION

Tourism is one of the world’s fastest growing industries and is a major source of income for many countries. Being a people-oriented industry, tourism also provides many jobs which have helped revitalise local economies. Tourism contributed RM84.1 billion to the national economy in the year of 2019. The Terengganu State is targeting 6.5 Million tourists by 2025, while the Malaysia government in 2020 will be having Septennial event for targeting 30 Million tourist and 168 Billion tourist receipts. But due to COVID-19, this event was cancelled. As reported by Malaysia Tourism Promotion Board, the tourist arrival for the period Jan – Sept 2020 decreased by 74.9%.

2. LITERATURE REVIEW

Sustainable Coastal Tourism Sustainability, and more precisely sustainable mobility and energy, can be attractors for tourism destinations themselves. Heslinga (2019)

Attitudes Eco-labels attract tourists with a higher level of ecological motivation, and this contributes to higher perception of all attributes referring to service quality and investment in the eco-label will probably improve the attractiveness and competitiveness in the tourist market. Bucar (2017)

Destination Image Tourists who have positive concern for environmental protection, weather changes and environmental effects are more likely to be engaged with a destination image of local cultural-environmental Sensitivity and thus have a higher intention to experience ecotourism and revisit. Huang (2019)

Service Quality Eco-labels attract tourists with a higher level of ecological motivation, and this contributes to higher perception of all attributes referring to service quality and investment in the eco-label will probably improve the attractiveness and competitiveness in the tourist market. Bucar (2017)

3. RESEARCH METHODOLOGY

This study employs a cross-sectional research design to investigate the objective of this research. This study design can be considered as a suitable approach since this study using the closed-ended questionnaire for measuring the targeted variables and this questionnaire were distributed to 353 respondents that basically stayed as a customers at Sumai Hotel and Apartment Sdn Bhd (Creswell, 2014; Saunders et al., 2009). As for measuring the effect of sets of independent variables (i.e. Environmental Attitude, Destination Image, and Perceived Service Quality) toward Intention to Select Sustainable Tourism Destination (i.e. Dependent
Variable), Multiple Linear Regression (i.e. MLR) was used by using the IBM-SPSS software. According to Kurtner et al (2008) and Ong and Puteh (2017), regression analysis has an assumption that need to be fulfilled in order to get an unbiased and valid result. The assumptions are: (a) the residuals of the regression model is normally distributed, (b) the residuals of the model have a constant variance (homoscedasticity), (c) there is no issue of multicollinearity, (d) there is linear relationship between independent variables and dependent variable, and (e) the present of the outlier in the regression model was minimum.

Before the analysis of MLR was conducted, Exploratory Factor Analysis (i.e. EFA) by using the Principal Axis Factoring (i.e. PAF) and Direct Oblimin rotation was conducted first. The purpose of conduct this analysis because this analysis can be used as a tool for validity and refinement of items used in this study (Hair et al., 2010). As for ensuring the covariance matrix among the items sufficient and not an identity matrix, Kaiser-Meyer-Olkin (i.e. KMO) index should be greater than .60 (Field, 2009) and also the Bartlett's Test of Sphericity should be significant (Pallant, 2010), hence the EFA analysis can be proceed. Thompson and Daniel (1996) suggested to use multiple criteria approached for determine the numbers of factor or variable should be extracted. In this analysis, only factors with eigenvalue greater than 1.00 are retained (Hair, et al., 2010; Tabachnick and Fidell, 2007). However, Watkins (2006) suggests that, if eigenvalues from Kaiser’s criteria exceed the parallel analysis simulated eigenvalues, that factor should be retained in the analysis. Besides that, the percentage of the variance explained should be more than 60.0% can be used for determine the numbers factor or variable should be extracted (Hair et al., 2010; Thompson and Daniel, 1996).

In terms of validity of the items, factor loading and communalities values should be more than .50 were considered as the practically significant contribution toward their respectively variable or factor (Hair et al., 2010). The reason by using .50 as the threshold because wants to get a highly confident and high adequate level about the variables extracted from this EFA was meaningful distinct variable and the items was valid. Lastly, internal test of consistency items grouped from the EFA will analysed by using Cronbach’s Alpha reliability test. Nunnally and Bernstein (1994) suggested that, the cut-off .70 and above can be used to indicate the groped items were reliable.

![Figure 1: Study Framework](image)

**4. ANALYSIS AND RESULTS**

4.1 Respondent’s Profile

Referring to the Table 1 below the distribution of the respondents based on the gender indicated that, about 78.5% of the respondents were male respondents, whereas 21.5% of the respondents were female respondents, hence it is indicated that, male respondents were the majority respondents that participated in this study. Besides that, majority of the respondents were Malay (97.7%) and also a married (65.7%) marital status.

On other hand, it is also can be concluded that, majority of the respondents participated in this study were in the ranged of 21 years old to 40 years old (50.7%), whereas respondents who are in the ranged of 41 years old and above (17.8%) can be considered as minority groups of age. In addition, in terms of nationality status, majority respondents that participated in this study were Malaysian (99.2%) citizens and most of the respondent’s having a monthly income around RM 100 to RM 5000 (58.9%). Respondent’s having a monthly income less than RM 1000 (21%) can be considered as the second highest groups of the monthly income among them.
Table 1: Respondents Profile

<table>
<thead>
<tr>
<th>Profile</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>76</td>
<td>21.5</td>
</tr>
<tr>
<td>Female</td>
<td>277</td>
<td>78.5</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>345</td>
<td>97.7</td>
</tr>
<tr>
<td>Chinese</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td>Indian</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-20 years old</td>
<td>111</td>
<td>31.4</td>
</tr>
<tr>
<td>21-40 years old</td>
<td>179</td>
<td>50.7</td>
</tr>
<tr>
<td>41 years old and above</td>
<td>63</td>
<td>17.8</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysian</td>
<td>350</td>
<td>99.2</td>
</tr>
<tr>
<td>Foreigner</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>232</td>
<td>65.7</td>
</tr>
<tr>
<td>Single</td>
<td>119</td>
<td>33.7</td>
</tr>
<tr>
<td>Not Answered</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Monthly Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than RM 1000</td>
<td>74</td>
<td>21.0</td>
</tr>
<tr>
<td>RM 1000 – RM 5000</td>
<td>208</td>
<td>58.9</td>
</tr>
<tr>
<td>RM 5001 – RM10000</td>
<td>66</td>
<td>18.7</td>
</tr>
<tr>
<td>More than RM 10000</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td>Not Answered</td>
<td>2</td>
<td>0.6</td>
</tr>
</tbody>
</table>

4.2 Assessment of Validity and Reliability Analysis

Table 2 shows the summary results of multiple criterions used for determining the number of variables should be extracted. The analysis indicated that, by referring to the eigenvalue, the analysis indicated that, there is four variables needed to extracts since only the first four eigenvalues were greater than 1.00 (i.e. 6.134, 3.727, 1.155 and 1.066) and also exceeded the first four simulated eigenvalues from the parallel analysis (i.e. 1.213, 1.195, 1.095 and 1.032). Besides that, it is also supported by the cumulative percentages of variance explained, where the cumulative percentage of variance explained for the factors to be extracted from these four variables structure were above 60% (i.e. 60.41%), hence it is confirmed that, four variables should be extracted.

Table 2: Multiple criteria for factors to be extracted

<table>
<thead>
<tr>
<th>Component Number</th>
<th>Eigenvalue (Kaiser’s Criteria)</th>
<th>Parallel Analysis Simulation Eigenvalue</th>
<th>Cumulative % Variance Explained</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.134</td>
<td>1.213</td>
<td>24.35</td>
<td>Accept</td>
</tr>
<tr>
<td>2</td>
<td>3.727</td>
<td>1.195</td>
<td>38.99</td>
<td>Accept</td>
</tr>
<tr>
<td>3</td>
<td>1.155</td>
<td>1.095</td>
<td>50.78</td>
<td>Accept</td>
</tr>
<tr>
<td>4</td>
<td>1.066</td>
<td>1.032</td>
<td>60.41</td>
<td>Accept</td>
</tr>
<tr>
<td>5</td>
<td>0.923</td>
<td>1.003</td>
<td>-</td>
<td>Reject</td>
</tr>
<tr>
<td>6</td>
<td>0.899</td>
<td>0.995</td>
<td>-</td>
<td>Reject</td>
</tr>
</tbody>
</table>

On the other hand, Table 3 shows the results of the EFA analysis for the twelve items by using the combination of PAF extraction method and Direct Oblimin rotation method. The KMO index for this analysis was .881 and the Bartlett’s Test for sphericity for this set of items was largely significance ($X^2$(190) = 3255.94, $p<.01$). Therefore, it can be concluded that, the covariance matrices for these twenty items were not identity matrices hence the items can be used for EFA analysis purposed.
By refereeing to the same table (i.e. Table 3), the analysis indicated that, all items were exceeding the threshold value of .50 (Range: .503 to .839) factor loading and also having communalities value for at least .50 (Range: .501 to .749) and were maintains at their respectively variables. In addition, all these four extracted variables having a similar group items and were names as Environmental Attitude (Cronbach’s Alpha = .751), Destination Image (Cronbach’s Alpha = .799), Perceived Service Quality (Cronbach’s Alpha = .889) and Intention to Select Sustainable Tourism Destination (Cronbach’s Alpha = .746). These grouped items can be considered as having an acceptable reliability level since all the Cronbach’s Alpha values were above .70. Therefore, all these twenty items can be considered valid and reliable for measuring the targeted variables in this study.

Table 3: Summary results of EFA

<table>
<thead>
<tr>
<th>Factors and Items Included</th>
<th>Factor Loading</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Attitude</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would be very sad if local cultures in Malaysia would lose some of their originality because of tourism development</td>
<td>.511</td>
<td>.501</td>
</tr>
<tr>
<td>It is important to protect the environment</td>
<td>.811</td>
<td>.711</td>
</tr>
<tr>
<td>In my opinion, it is important to conserve the natural resources</td>
<td>.839</td>
<td>.739</td>
</tr>
<tr>
<td>I am concerned about long-term of the environment</td>
<td>.793</td>
<td>.690</td>
</tr>
<tr>
<td>I care about reducing harm to the environment</td>
<td>.714</td>
<td>.586</td>
</tr>
<tr>
<td><strong>Eigenvalue = 3.727, % variance explained = 14.64%, Cronbach’s alpha = .751</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Destination Image</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The accommodation facilities in hotel in Malaysia are sufficient</td>
<td>.816</td>
<td>.749</td>
</tr>
<tr>
<td>Malaysia has leisure and rich facilities</td>
<td>.724</td>
<td>.703</td>
</tr>
<tr>
<td>The environment in Malaysia is clean and hygiene</td>
<td>.503</td>
<td>.516</td>
</tr>
<tr>
<td>The natural environment in Malaysia is protected in a good way</td>
<td>.605</td>
<td>.532</td>
</tr>
<tr>
<td>Malaysia offers historical and cultural attractiveness</td>
<td>.564</td>
<td>.501</td>
</tr>
<tr>
<td>Tourism in Malaysia is well planned</td>
<td>.774</td>
<td>.612</td>
</tr>
<tr>
<td><strong>Eigenvalue = 1.066, % variance explained = 9.63%, Cronbach’s alpha = .799</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived Service Quality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The tourism destination in Malaysia provides services in a timely manner</td>
<td>.753</td>
<td>.634</td>
</tr>
<tr>
<td>Quality of services of tourism in Malaysia is good value for money</td>
<td>.768</td>
<td>.659</td>
</tr>
<tr>
<td>Hotel operators in Malaysia provide a good warranty and always response to the tourist request</td>
<td>.815</td>
<td>.705</td>
</tr>
<tr>
<td>Tourism services in the sustainable tourism destination especially nature is reliable</td>
<td>.803</td>
<td>.673</td>
</tr>
<tr>
<td>The destination of hotel in Malaysia is safe and secure</td>
<td>.800</td>
<td>.659</td>
</tr>
<tr>
<td><strong>Eigenvalue = 6.134, % variance explained = 24.35%, Cronbach’s alpha = .889</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intention to Select Sustainable Tourism Destination</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am willing to travel and tour within the area of sustainable tourism destination</td>
<td>.580</td>
<td>.505</td>
</tr>
<tr>
<td>I am committed to travel and tour within the area of sustainable tourism destination</td>
<td>.606</td>
<td>.512</td>
</tr>
<tr>
<td>I am interested to have vacation within the area of sustainable tourism destination</td>
<td>.791</td>
<td>.661</td>
</tr>
<tr>
<td>There is high chance that I would travel and tour within the area of sustainable tourism destination</td>
<td>.770</td>
<td>.679</td>
</tr>
<tr>
<td><strong>Eigenvalue = 1.155, % variance explained = 11.79%, Cronbach’s alpha = .746</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: KMO-index = .881; Bartlett’s Test of Sphericity, $X^2 (190) = 3255.94$, $p < .01$.

4.3 Assessment of Multiple Linear Regression Analysis

A Multiple Linear Regression (i.e. MLR) analysis was performed for investigate the effect of Environmental Attitude, Destination Image and Perceived Service Quality toward Intention to Select Sustainable Tourism Destination. The analysis reported in Table 4 indicated that, Environmental Attitude ($B = 0.574$, $t = 11.314$, $p < .01$), Destination Image ($B = 0.129$, $t = 2.308$, $p < .05$) and Perceived Service Quality ($B = 0.165$, $t = 3.306$, $p < .01$) were positively significant influences toward Intention to Select Sustainable Tourism Destination.
Hence, it can be concluded that, if the average level of Environmental Attitude was high, then the average level of Intention to Select Sustainable Tourism Destination was also high, while controlling other factors to constant. The same conclusion can be concluded for the effect of Destination Image and Perceived Service Quality toward Intention to Select Sustainable Tourism Destination. Therefore, if the average level of Destination Image or Perceived Service Quality was high, then the average level of Intention to Select Sustainable Tourism Destination will also be going high, by controlling the respectively other variables.

Table 4: Summary Results of Regression Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>beta</th>
<th>t (p-value)</th>
<th>TOL, VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV: Environmental Attitude</td>
<td>0.574 (0.051)</td>
<td>0.487</td>
<td>11.314 (&lt;.01)**</td>
<td>0.998, 1.002</td>
</tr>
<tr>
<td>IV: Destination Image</td>
<td>0.129 (0.056)</td>
<td>0.147</td>
<td>2.308 (.022)*</td>
<td>0.456, 2.193</td>
</tr>
<tr>
<td>IV: Perceived Service Quality</td>
<td>0.165 (0.050)</td>
<td>0.211</td>
<td>3.306 (&lt;.01)**</td>
<td>0.457, 2.190</td>
</tr>
</tbody>
</table>

Model Summary: \( R^2 \text{adj} = .349, F (3, 349) = 63.771, p <.01, \) Dependent Variable: Intention to Select Sustainable Tourism Destination

Note: SE = Standard Error; B = Unstandardized Coefficient; beta = Standardized Coefficient; IV = Independent variable; t = t-statistic; TOL = Tolerance; VIF = Variance Inflation Factor; *p <.05; **p <.01.

On the other hand, the regression model in Table 4 indicated that, Environmental Attitude (beta = 0.487) gives a highest influence toward Intention to Select Sustainable Tourism Destination since it has a highest value of standardized coefficient regression (i.e. beta). Perceived Service Quality (beta = 0.211) was found as giving a second highest influences toward Intention to Select Sustainable Tourism Destination and lastly Destination Image (beta = 0.147). Besides that, these set of independent variables were able to explain about 34.9% \( (R^2 \text{adjusted} = .349) \) of variance towards Intention to Select Sustainable Tourism Destination, whereas the remaining 65.1% of Intention to Select Sustainable Tourism Destination total variation were explained by other factors.

In terms of model evaluation, the regression model reported in Table 4 indicated that, the regression model was fit to the data, since the ANOVA test was significant \( (F (3, 349) = 63.771, p <.01) \). Besides that, the multicollinearity problem in this regression model does not exist since the values of VIF were below 10 (Range: 1.002 to 2.193) and the values of TOL were above 0.20 (Range: 0.456 to 0.998). Besides that, the Normal Probability plot (i.e. Figure 1) also indicated that the residual of this model are normally distributed because majority of observed values (small dots) lies on the straight line. By looking at the scatter plot of standardized residual value against standardized predicted value (i.e. Figure 2), the pattern of this graph was at random. Therefore, the residual of this model is homoscedasticity from this graphical method analysis. On the other hand, in terms of outliers, Figure 2 indicated that, there is no outliers since no residual values were outside the boundary of ±3.0 standard deviation. Therefore, it can be concluded that, the results of MLR that was reported in Table 4 was valid and unbiased.
6. CONCLUSION

It has been shown that, the EFA and Cronbach’s Alpha analysis meet the minimum requirement of both analyses, hence the instrument that was used to measures the targeted variables in this study were valid and reliable. The assessment of Pearson’s Correlation analysis, confirm that, the bivariate relationship among the variables in this study were as the expected relationship, which is positive bivariate relationship with a highly significant relationship \((p < 0.01)\). Therefore, it can be concluded that, if one of the independent variables increasing or a better agreement in the average opinion, then the effect to dependent variable will be toward a positive direction.

A multiple linear regression analysis was performed between a set of targeted independent variables (i.e. Environmental Attitude, Destination Image and Perceived Service Quality) toward Intention to Select Sustainable Tourism Destination, The analysis indicated that, Environmental Attitude, Destination Image and Perceived Service Quality variables were positively significant influences toward Intention to Select Sustainable Tourism Destination. The finding offered important managerial implications for the hotel owner and managers of tourism destination understanding what customer’s perception on sustainable tourism, This research contributes to extend knowledge in giving the statistical evidence from Sumai Hotel & Apartment Sdn. Bhd., from the customer’s perspective on tourism destination in Terengganu, Malaysia. Some suggestions were presented to Sumai’s management for future undertaking.

REFERENCES

ASSESSING SATISFACTION AND WILLINGNESS TO RECOMMEND IN SCUBA DIVING TOURISM

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ABSTRACT

The popularity of scuba diving tourism has been shown by the increased number of diver’s population globally. By looking at the growth, it is a challenge for the dive operators in managing quality dive’s experience to fulfill diver’s satisfaction. Although satisfaction creates willingness to make recommendations, which offers free marketing activities, there is a scarcity of research in the scuba diving literature. Through an integrated model of behavioral intentions, the current study tries to fill the void in the gap by examining the simultaneous relationship of underwater nature, facilities, satisfaction and willingness to make recommendations. By employing a purposive sampling method, 239 questionnaires have been collected among recreational scuba divers in one of the popular dive destinations, Redang Island. The date was analyzed using Smart Partial Least Squares (PLS). Based on the finding, it is shown that underwater nature and facilities gave a positive relationship with the satisfaction and willingness to make recommendations for scuba divers. Indirect analysis also shows satisfaction mediates the relationship between underwater nature towards willingness to recommend and facilities towards willingness to recommend. It is expected that this study could provide a better view for policy makers and dive operators to understand critical factors that influence scuba diver’s satisfaction and willingness to recommend Redang Island. This study comprises limitations mainly concerning the sample size. Thus, to improve and enhance the model, future research should consider multiple dive destinations for comparative study and comprise a broader time frame to undertake the possible data generalization.

KEYWORDS: scuba diving, underwater nature, facility, satisfaction, willingness to recommend
LEVERAGE OF CRM PERFORMANCE FACTORS ON SUSTAINABLE
SERVICE QUALITY IN JORDANIAN HOTELS

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ABSTRACT

This paper investigates the effect of customer relationship management performance (key customer focus,
Knowledge management, customer relationship management-organization, customer relationship
management based-technology) on sustainable service quality based on RBV theory. The study utilized a
quantitative approached by obtaining data from 212 hotel general managers in Jordan. The data were
analysed using a partial least squares structural equation modelling. The results showed that key customer
focus, knowledge management and based-technology had positive and significant impacts on the hotel
sustainable service quality. On the other hand, the customer relationship management-organization had a
negative impact on sustainable service quality. In conclusion, the findings indicated the customer relationship
management performance (key customer focus, knowledge management, customer relationship management-
organization, customer relationship management-based-technology) important to the hotels’ sectors and
hoteliers through boots the efforts in applying customer relationship management performance to sustain the
service quality for a long time.

Keywords: CRM performance, service quality, sustainability, hotels
TRACK 7A
ACCOUNTING
THE IMPACT OF COMPUTERIZED ACCOUNTING INFORMATION SYSTEMS ON INFORMATION QUALITY PROVIDED BY FINANCIAL STATEMENTS: EVIDENCE FROM JORDANIAN COMMERCIAL BANKS

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ABSTRACT

This study conducts an analysis of the interaction effect between computerized accounting information systems and information quality provided by the financial statement. (growth and development, effectiveness and efficiency, Fraud techniques associated) in Jordanian commercial banks. The study highlights the information quality provided by financial statements. Additionally, to closely examine the interaction effect, the Multiple regression employed in this study to computerized accounting information system on the information quality. and a statistical sample of (108) accredited accountants were taken from employees of the banks, (90) questionnaires were retrieved, and (90) were analyzed. The main financial statements and there is an impact on "Fraud associated with information technology" on the information quality provided by financial statements. Researchers also provide several recommendations, and the most important of those: conducting training courses for bank employees in order to develop and follow the developments in computerized information systems.

KEYWORDS: Accounting Information System (AIS), Financial Statement, Jordanian Commercial Bank, Information Quality, Fraud
THE EFFECT OF INTELLECTUAL CAPITAL ON THE FIRM PERFORMANCE OF THE JORDANIAN INDUSTRIAL COMPANIES
A COMPARATIVE STUDY BEFORE AND AFTER THE ARAB SPRING CRISIS

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ABSTRACT

This research aims to examine the effect of intellectual capital (IC) on firm performance before and after the Arab Spring (AS). Quantitative data are collected for 50 Jordanian industrial companies listed on Amman Stock Exchange (ASE) between 2008 and 2017. IC is measured using Pulic’s value-added intellectual coefficient (VAIC\textsuperscript{TM}) and its components (human, structural and capital employed efficiencies (HCE, SCE, CEE)). Meanwhile, the dependent variable, firm performance, is proxied by Market to Book ratio (M/B), and Earnings per Share (EPS). The findings revealed insignificant effect of VAIC\textsuperscript{TM} on M/B ratio before and after the AS. However, a significant positive effect of VAIC\textsuperscript{TM} on the EPS was found before and after the AS. On the components of intellectual capital, the results revealed a significant positive effect of HCE on the EPS before and after the AS, but not on the M/B. While there was no significant effect of SCE on both M/B and EPS before the AS, the contrary results were found after the AS. For the CEE, no significant effect was found on the M/B and EPS before and after the AS respectively. Nevertheless, a significant positive effect of CEE was found on EPS and M/B before and after the AS respectively. This research findings shed light on the importance of IC on the firm performance during the crisis. In addition, this study provides a basis for future studies in comparing the effect of IC on firm performance pre and post COVID-19 pandemic.

KEYWORDS: Intellectual Capital, Value Added Intellectual Coefficient, Industrial Companies, Firm Performance, Arab Spring.
THE RELATIONSHIP OF ACCOUNTING INFORMATION SYSTEMS RELIABILITY FACTORS AND INTERNAL CONTROL IN THE JORDANIAN GOVERNMENT SECTOR.

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ABSTRACT

This study aims to investigate the relationship between AIS reliability factors (availability, integrity process, security, confidentiality and privacy) and internal control in the governmental sector in Jordan. The study methodology is based on primary data collected through a structured questionnaire from 12 independent institutions located in Amman. To achieve the analysis part in this study, researcher use two software packages, SPSS 20 and Partial Least Squares (PLS-SEM). The findings would be valuable for academic researchers, professionals accounting, and managers to satisfying their knowledge and understanding the implementation of the AIS reliability factors and its impact on internal control system by testing the phenomenon in Jordan as a developing country. This study has limitation in which it is conducted in a developing country, this means that any generalization of the research findings should be made with caution. Thus future research can be orientated to other national and cultural settings and compared with the results of this study.

KEYWORDS: Accounting Information Systems, AIS reliability factors, Internal Control system, Jordanian governmental sector.
TRACK 7B
BUSINESS ETHICS
STAKEHOLDERS INFLUENCE ON MANAGERS’ AWARENESS AND ATTITUDES AND THEIR IMPACTS ON ENVIRONMENTAL MANAGEMENT PRACTICES OF HOTELS IN MALAYSIA

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ABSTRACT
Tourism industry has been criticized to cause environmental unsustainability despite its significant contribution to the economy. This study extends prior studies by exploring the environmental management practices (EMPs) issues from a different perspective. Specifically, this study investigates stakeholders influence on hotel managers’ awareness and attitudes, and their impacts on EMPs in Malaysia. Data was collected from 159 senior hotel managers in Malaysia and analysed using the Partial Least Squares (PLS). The findings reveal that owners and regulators influence hotel managers awareness and attitude of environmental issues, and consequently the adoption of EMPs. Managers with a greater environmental awareness are more likely to adopt basic environmental practices while managers with greater environmental attitude are more likely to adopt advanced environmental practices. No association was found between managers’ awareness and attitudes, implying that the construction of knowledge about environmental condition is not translated into the assessment of the outcome of performing the action. In view of the findings, we propose key strategies to enhance the competitiveness of the hotel industry in Malaysia. Legislative authorities should play a role in enacting mandatory requirements with detailed procedures for hotel operators to comply with. Heavy financial penalty should be imposed as a measure to ensure compliance. Legislative authorities should also engage in incentives such as tax relief and green loans to support environmental sustainability initiatives. Joint efforts among various governmental and non-government bodies will ultimately create a societal norm that appreciate a balanced environment. Future research should focus on the behavioural factors impacting the adaptation of environmental initiatives in hotels.

KEYWORDS: hotel industry, environment management practice, managers’ awareness and attitude

1. INTRODUCTION
As a world largest service-based industry with a significant capacity to positively affect the economies, societies and cultures of a country, tourism industry has been criticized to harm the natural environment (Henderson, 2007). The hotel sector primarily forms a major sector in the tourism industry and offers an essential source of employment and wealth to the nation. Therefore, it is crucial to ensure that this sector remains both environmentally and economically sustainable. Prior studies on environmental management practices (EMP) are mainly conducted in developed countries such as the US, UK and Canada e.g. Alvarez-Gil et al., 2001; Bohdanowicz, 2005, 2006; Rodriguez and Cruz 2007; Jose, Enrique, Jorge and Juan, 2009) with little focus on the emerging markets. Studies on EMP in hotels in Malaysia tend to emphasize on the initiatives and barriers of the practices (Tang et al., 2014, Samdin et al., 2012, Yusof and Jamaludin, 2014, Deraman et al., 2017). The current study differs from prior studies in which it focuses on stakeholders influence on managers’ awareness and attitudes, and their influences on EMPs among hotels in Malaysia. Given that stakeholders play an important role in determining the success of EMPs, it is crucial to understand factors contributing to managers’ awareness and attitudes in the effort to achieve environmental sustainability. The findings of this study are important and relevant to the creation of appropriate environmental management programs and policy to the development of the environmental sustainability of the tourism industry in Malaysia.

2. MALAYSIA AS THE CONTEXT OF THE STUDY
Tourism industry in Malaysia is one of the major sectors of the economy, contributing approximately RM173.3 billion (11.5%) of the gross domestic product (GDP) and offered 2.3 million (14.7%) of the country’s total employment in 2019 (World Travel and Tourism Council, 2020). Malaysia is also a leading destination for tourist in the halal or Islamic tourism, a sector which is very much untapped (The Star Online, 2018). The hotel business, which is the sub-sector of the tourism industry in Malaysia, has undergone rapid development. The
industry has expanded with twofold increment in the number of hotels and supply of rooms, as well as significant growth of hotel guests for the period 2004-2019 (Malaysia Tourism Statistics, 2019). The increase in local and international tourist arrivals over the years has caused pressure for the hotel industry to go “green” in their business activities and practices (Foster et al., 2000). In the 8th Malaysian Plan (2001-2005), the government has initiated the move to embrace a holistic approach towards sustainable tourism development (Economic Planning Unit, 2001). The movement has actuated the sustainable practices in policy and business activities across the hotel sector, with the aims to conserve and protect the environment. Despite the effort towards sustainable tourism development, the Malaysian hotel industry appears to be still lagging in policy making and its practices compared with other global environmentally established hotel industries practices. The main concern is that the industry still lacks clear and standardized environmental management guidelines (Samad et al., 2008). Although some hotels have taken environmental friendly initiatives voluntarily (Ikeda et al., 2007), hotels’ participation in green practices is still relatively low (Derman et al., 2017).

3. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

The rising awareness of the potential ecological effects of business activities and stakeholders’ pressures has forced firms to re-evaluate their business process and strategy towards environmental management (Elkington, 1994). According to Mensah (2006), environmental management is a continuous process where activities are monitored and reported to devise appropriate strategies to reduce the lethal environmental impact. Environmental management is referred to as “all technical and organizational activities aimed at reducing the environmental impact caused by the company’s business operations” (Cramer, 1998, p.162). Serious environmental management initiatives have started in the early 1990s with the introduction of the environmental management practices (EMP) with the ultimate aims of mitigating a firm’s impact on the natural and social environment (Bansal and Roth, 2000). The hotel industry has a relatively low impact on the natural environment compared to other sectors such as gas and oil, and other manufacturing industries. However, the converge of business activities, and processes throughout the industry have a severe impact on the consumption of global resources (Kirk, 1995). Such environmental concern demonstrates the need for an enhanced ecological management practices in hotels (Lorente et al., 2003).

The call for environmental sustainability in the hotel industry has caused many parties to explore the issue from various perspective including the social, economic and organizational aspects. This study explores the influence of stakeholders on managers’ awareness and attitudes on environmental sustainability issues and their impacts on EMPs in the hotel industry. It is essential to understand the cognitive aspects of managers as they play a crucial role in designing and implementing environmental initiatives. Theory of Reasoned Action (TRA) is adopted to better understand the underlying factors for managers to undertake EMPs. TRA predicts that the intention to carry out EMP precedes the actual behaviour. Further, this study integrates the stakeholders salience model to explore the influence of key stakeholders on EMPs in the hotel industry. The model posits that firms are inclined to respond to their main stakeholders’ pressures and in return, get support and resources for their continued survival (Freeman, 1984).

Prior literature shows that various stakeholders such as regulatory agencies, customers, local community groups, environmental groups, suppliers, and investors from financial institutions influence organizations to engage in environmentally friendly practices (Stenzel, 2000; Lorente et al., 2003). Although organizations are increasingly recognizing stakeholders’ interest, not all of their interests have an equal weighting or standing in influencing the decision-making process (Mitchell, Agle and Wood, 1997). The stakeholder salience model posits that different stakeholders have different influences on the decision-making process of an organization (Mitchell et al. 1997). Managers are the only group of stakeholders who have an established relationship with all other stakeholders and have direct control over the decision-making process of an organization (Hill and Jones, 1992). Managers also play a crucial role in determining which stakeholders are salient to them (Mitchell et al., 1997). Generally, salient stakeholders are distinguished based on the attributes of legitimacy and power. These attributes are commonly referred to by researchers to understand the stakeholders’ influence on organizational strategy and outcome (Clarkson, 1995; DiMaggio and Powell, 1991).

According to Suchman (1995, p.574), legitimacy is defined as “a general perception or assumption that the actions of an entity are desirable, appropriate within some socially constructed systems of norms, values and beliefs”. An organization achieves legitimacy by conforming to the institutional pressures which surround them. These pressures can be coercive, mimetic and normative. Coercive pressures are usually exerted by regulatory enforcement or mandated by legal commitment (Powell and DiMaggio, 1991). Mimetic pressures, however, involves modelling other successful companies’ business practices while normative pressures stem from professionals such as industry expertise and related professional networks that influence other market players to establish the organizational norms (Powell and DiMaggio, 1991). On the other hand, stakeholder power refers to “a relationship that exists among social actors in which one social actor A, can get another social actor B, to do something that B would not otherwise have done” (Dahl, 1997, pp.202-203). The ability
of stakeholders to exert pressures on organizations largely depends on how much power they have over an organization (Mitchell et al., 1997). Stakeholders with significant power can influence firm decisions (Frooman, 1999) and EMPs (Pava and Krausz, 1997). Stakeholders can influence an organization’s environmental initiatives through incentives, penalties, and advice (Pava and Krausz, 1997). Given the various parties to the organization, this study explores parties who have a direct influence on firms’ environmental practices in the hotel industry, namely the owners, suppliers, customers and regulators and managers.

3.1 Owners

Owners or shareholders represent the party who legally own the organizations. In the principal-agent model, the shareholders (principal) delegate their decision-making rights to an agent (manager) but maintain their rights to the residual income. Owners are known as a primary stakeholder who is “one without whose continuing participation the corporation cannot survive as a going concern” (Clarkson, 1995, p.106). According to Mitchell et al. (1997) shareholders possess power that can influence managerial decisions. Shareholders may not have a direct control over the resources or direction of an organization, but they can exert pressures through indirect or contractual relationship with the firm (Fassin, 2012).

3.2 Suppliers

Suppliers’ influences on EMPs are inevitable due to the buyer-supplier relationship that exists between them (Lamming, 1993). Suppliers can have a direct impact on their customer’s critical success factors such as cost, quality, technology, delivery, flexibility and profits. A well-established buyer-supplier relationship encourages a cooperative approach to troubleshoot, and this can lead to costs reduction, quality improvement and knowledge sharing (Krause et al., 2000). The cooperative relationship is pertinent to hotels that seek ways to improve environmental initiatives throughout their supply chain to enhance their performance (Henriques and Sadorsky, 1999). Furthermore, collaborating with suppliers with a high level of environmental commitment can influence an organisation to adopt similar practices as suppliers can refuse to deliver product and services if their customer does not comply with their established ecological policies or practices (Henriques and Sadorsky, 1999).

3.3 Customers

Customers perceived values are continuously changing and more important than ever, they are focusing towards the conservation of natural environment over economic growth (Benito and Benito, 2005). Consumers who are concern about environmental issues and tend to favour ecologically friendly products are known as “green consumers” (Robinson, 2000). In the European hotel industry, customers’ pressure on environmental preservation have influenced hotel managers to adopt environmental protective initiatives (Bohdanowicz, 2005). With a growing number of green customers, implementing environmentally sound practices can provide a basis for acquiring a good competitive advantage and thus, help differentiate green hotels from non-ecologically friendly hotels (Manaktola and Jauhari, 2007). Conversely, research also argues that consumers with deep concern about the environment may not necessarily have corresponding environmentally friendly purchasing behaviours (Smith and Haugtvedt. 1995).

3.4 Regulators

Regulators such as government and government-linked agencies have the coercive legal power and are one of the main drivers to enforce environmental initiatives and practices in organizations (Zurburg et al., 1995). Nevertheless, the levels and intensity of legislation to facilitate and impose regulation on environmental initiatives may defer from country to country. Generally, such pressure is of lesser importance in the hotel industry due to inadequate, or lack of environmental legislation (Lorente, et al., 2003). Furthermore, most environmental initiatives are done voluntarily (Brown, 1996). Even though the hotel industry is less regulated than other industries, it still faces the threat of imminent environmental protection legislation that might force many hotels to act either in conformance or beyond conformance (Kirk, 1995; Lynes and Dredge, 2003).

3.5 Managers

Managers are amongst the key players in the development and implementation of environmental initiatives in hotels. They have the decision-making power to allocate resources which could significantly impact the processes and activities of an organization (Narayanan and Nath, 1993). Managers' knowledge and values on sustainability are imperative for successful development and implementation of an environmental program
(Bansal and Roth, 2000). For instance, managers in developed countries display high level of environmental commitment due to their increased awareness of international environmental guidelines and easier access to environmental management information (Rivera and DeLeon, 2005). They may also be subjected to increased scrutiny by local environmental groups and government agencies. Hence, managers are more likely to endorse and adopt environmental initiatives that safeguard their hotel’s reputation (Rivera and DeLeon, 2005). Hotel managers play a central role in balancing the conflicting demands of various stakeholders such as balancing customers’ demands for high luxury services and the pressure from other shareholders to implement environmental initiatives (Lorente et al., 2003).

In summary, the conceptual model used in this study includes stakeholders influence on hotel managers’ environmental awareness and attitude towards the adoption of environmental management practices. Based on the preceding discussions, the hypotheses are set as follows:

**H1a**: Managers who perceive environmental issues are important to the owner are more likely to have a relatively higher level of environmental awareness.

**H1b**: Managers who perceive environmental issues are important to suppliers are more likely to have a relatively higher level of environmental awareness.

**H1c**: Managers who perceive environmental legislation is relevant to their business are more likely to have a relatively higher level of environmental awareness.

**H1d**: Managers who perceive environmental issues are important to customers’ buying decision are more likely to have a relatively higher level of environmental awareness.

**H2a**: Managers who perceive that environmental issues are important to owner are more likely to have positive environmental attitudes.

**H2b**: Managers who perceive that environmental issues are important to suppliers are more likely to have positive environmental attitudes.

**H2c**: Managers who perceive that environmental legislation is relevant to the business are more likely to have positive environmental attitudes.

**H2d**: Managers who perceive that environmental issues are important to customers’ buying decisions are more likely to have positive environmental attitudes.

Managers are important individuals in organizations due to their ability and influence in directing environmental initiatives. It is, therefore, crucial to understand managers’ cognitive aspect and its association with environmental awareness and attitude. In the current study, the influencing factors for managers to engage in EMPs are proxied by the managers’ level of awareness and attitude towards environmental sustainability issues. According to the Theory of Reasoned Action (TRA), the motivations to perform an action are categorized into the belief and intention to do so. The former relates to an individual’s knowledge and understanding about the matter while the latter associated with the prediction about the outcome of performing the action.

We classify environmental awareness into two categories, namely general environmental awareness and cost-benefit environmental awareness. The former looks at the firm’s environmental impact, environmental initiatives, environmental policy, “best practice” in environmental performance, and how legislation affects the business. The latter measures the effect of improved environmental performance on significant cost benefits and improved production efficiency (Hillary, 1999).

Environmental attitude is defined as ‘the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues’ (Schultz et al., 2004, p. 31, as quoted by Park, 2014). Attitude refers to the way an individual feels towards a particular behaviour or action and commonly influenced by their belief system. If an individual believes that an action has a potentially positive outcome, it will lead to a positive attitude. Studies (e.g Kaiser, et al., 2007; Park et al., 2014) have widely used managers’ attitude to predict environmental behaviour responses. Based on the associations suggested in the TRA, we hypothesize that the stronger the awareness level about environmental sustainability, the more the likelihood for managers to have a positive environmental attitude. The hypothesis is outlined as:

**H3**: Managers who are more likely to have a higher level of environmental awareness, are likely to have a positive environmental attitude.
Based on the associations suggested in the TRA, we hypothesize that the stronger the awareness level about environmental sustainability, the more the likelihood for managers to undertake EMP. We further classify the EMPs into two types namely basic and advanced.

**H4a:** Hotels with managers, who have a greater level of environmental awareness, are more likely to adopt basic environmental management practices.

**H4b:** Hotels with managers, who have a greater level of environmental awareness, are more likely to adopt advance environmental management practices.

As previously discussed, TRA stipulates that a stronger intention to perform an action leads to an increased effort to perform such action. In the context of this study, we refer the intention to perform an action as the attitude towards such action. Attitude for a particular behaviour or action can be positive, negative or neutral. The TRA states that there is as a direct correlation between attitudes and outcomes. Thus, if an individual believes that a certain action will lead to a desirable or favourable outcome, then it is more likely to have a positive attitude towards the outcome.

**H5a:** Hotels with managers, who have positive environmental attitudes, are more likely to adopt basic environmental management practices.

**H5b:** Hotels with managers, who have positive environmental attitudes, are more likely to adopt advance environmental management practices.

4. **METHODOLOGY**

4.1 **Data collection**

Sample of this study consists of managers from hotels located in urban and rural areas with ratings between 3 to 5 stars. A survey was conducted to gather the data for this study. There were 194 respondents of which only 139 were usable questionnaires due to incomplete information in 35 questionnaires. The questionnaire administered to the hotel managers included: background questions of managers and hotels, stakeholders’ influence, managers’ environmental awareness and attitude and the environmental management practices of the hotel. The questionnaire was constructed based on previous literature on environmental management practices (Deng and Ryan, 1992; Aragon-Correa 1998; Azorin et al., 2009; Gadenne et al., 2009). Some of the questions were negatively coded to reduce the possible biases in the response. Hence, the questionnaire content and construct validity of the questionnaire was established. A pilot test was conducted to fine-tune the questionnaire in terms of wording and clarity in the language, and sequencing of the questionnaire. Hotel managers (include department managers, deputy general manager, director of the general manager’s office or general manager) were contacted to partake in the study. Hotel managers were selected as they are in the ideal position to provide insight into the degree of stakeholders’ influence on their decision-making process (Sharma and Henriques, 2005). Further, past studies on environmental management tend to widely focused on hotel managers as their respondents to gain a better insight of the environmental management practices (Alvarez Gil et al., 2001; Rodriguez et al., 2007; Azorin et al., 2009).

4.2 **Measurement of variables**

To ascertain various variables included in the study, a 5-point Likert scales (1= strongly disagree; 5= strongly agree) were adapted. An 8 items rating scale was adapted from Gadenne et al. (2009) to measure stakeholders’ environmental concerns and impact on the hotel. Environmental awareness of managers was measured using 9 items rating scale were adapted from Gadenne et al., (2009) while environmental attitudes were determined using 7 items rating scales proposed by Deng et al. (1992). The environmental management practices were assessed using 12 items rating scale and adopter (Carmona-Moreno et al., 2004; Molina-Azorín, et al., 2009).

4.3 **Data analysis**

The data collected was analysed using a Partial Least Squares (PLS) technique. Following Barclay, Higgins and Thompson (1995), we undertook a two-step approach in PLS: testing of the measurement model and structural model. Besides, a bootstrapping approach (1000 resamples) was employed to define the significance levels of the loadings, weights and path coefficient.
4.3.1 Testing of the measurement model

The analysis involves the assessment of individual item reliability, construct reliability, average variances extracted (AVE) and discriminant validity of the latent variables. Table 1 shows that each indicator loads well to its own construct. The reliability of the individual indicators was examined through standardized loadings. The results show that most of the standardized loadings exceeded 0.7 as suggested by the literature, except for variables AEMP, BEMP, AWA and ATT where some of the indicators were slightly below the 0.7 thresholds. However, past studies have argued that the 0.7 thresholds should not be adhered stringently in the early stage of scales development (Barclay, Higgins and Thompson 1995, Chin, 1998).

Table 1: Operationalization of variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items</th>
<th>Code</th>
<th>Loading*</th>
<th>CR*</th>
<th>AVE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Environmental issues critically affect the purchasing decisions of my customers.</td>
<td>CUS1</td>
<td>0.97</td>
<td>0.94</td>
<td>0.88</td>
</tr>
<tr>
<td>(CUS2)</td>
<td>My customers often mention environmental factors when making choices.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier</td>
<td>My suppliers’ environmental concerns have impacted on my hotel.</td>
<td>SUP1</td>
<td>0.90</td>
<td>0.93</td>
<td>0.87</td>
</tr>
<tr>
<td>(SUP2)</td>
<td>My suppliers consider environmental issues to be very important.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner</td>
<td>Corporate decision makers’ environmental concerns have impacted on my hotel.</td>
<td>OWN1</td>
<td>0.89</td>
<td>0.84</td>
<td>0.72</td>
</tr>
<tr>
<td>(OWN2)</td>
<td>Corporate decision makers consider environmental issues to be very important.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulator</td>
<td>Environmental legislative requirements have impact on my hotel.</td>
<td>RGE1</td>
<td>0.74</td>
<td>0.83</td>
<td>0.71</td>
</tr>
<tr>
<td>(RGE2)</td>
<td>There is a need to preserve cultural heritage.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>There is a need to preserve local landscapes.</td>
<td>ATT1</td>
<td>0.77</td>
<td>0.84</td>
<td>0.51</td>
</tr>
<tr>
<td>(ATT2)</td>
<td>We should not be concerned with overpopulation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness</td>
<td>Currently no commercial benefit to my hotel in having an environmental policy.</td>
<td>AWNA</td>
<td>0.76</td>
<td>0.81</td>
<td>0.57</td>
</tr>
<tr>
<td>(AWRA)</td>
<td>It is unclear what represents “best practice” in environmental performance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>The hotel reduces the use of toxic and dangerous products.</td>
<td>BEMP1</td>
<td>0.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP</td>
<td>The hotel facilitates customer collaboration in environmental protection</td>
<td>BEMP2</td>
<td>0.87</td>
<td>0.88</td>
<td>0.56</td>
</tr>
<tr>
<td>(BEMP3)</td>
<td>The hotel gives priority to purchasing ecological products</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emp</td>
<td>The hotel applies energy-saving practices.</td>
<td>BEMP4</td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(BEMP5)</td>
<td>The hotel makes arrangements for the separate collection of paper, plastic, glass.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advance</td>
<td>The hotel quantifies its environmental savings and costs in its budget.</td>
<td>AEMP1</td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMP</td>
<td>The hotel gives its employees training about environmental issues.</td>
<td>AEMP2</td>
<td>0.70</td>
<td>0.86</td>
<td>0.56</td>
</tr>
<tr>
<td>(AEMP3)</td>
<td>The hotel rewards the authors of the best environmental initiatives.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>The hotel organizes or sponsors environmental protection activities.</td>
<td>AEMP4</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>The hotel applies some environmental protection practices although they are not profitable in the short term.</td>
<td>AEMP6</td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The standardized loading of the reflective scales. **CR= Composite Reliability; AVE= Average Variance Extracted.

Table 2: Discriminant validity

<table>
<thead>
<tr>
<th>Constructs</th>
<th>BEMP</th>
<th>AEMP</th>
<th>AWA</th>
<th>ATT</th>
<th>OWN</th>
<th>SUP</th>
<th>REG</th>
<th>CUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic environmental management practices (BEMP)</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advance environmental management practices (AEMP)</td>
<td>0.36</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness (AWA)</td>
<td>0.24</td>
<td>-0.10</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude (ATT)</td>
<td>0.13</td>
<td>0.36</td>
<td>-0.02</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner (OWN)</td>
<td>0.19</td>
<td>0.09</td>
<td>0.19</td>
<td>0.29</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier (SUP)</td>
<td>0.22</td>
<td>0.03</td>
<td>0.04</td>
<td>-0.02</td>
<td>0.22</td>
<td>0.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulator (REG)</td>
<td>0.02</td>
<td>0.13</td>
<td>-0.18</td>
<td>0.21</td>
<td>0.10</td>
<td>0.19</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>Customer (CUS)</td>
<td>0.31</td>
<td>0.06</td>
<td>0.21</td>
<td>-0.13</td>
<td>-0.06</td>
<td>0.18</td>
<td>0.01</td>
<td>0.94</td>
</tr>
</tbody>
</table>

Note: The bold numbers on the diagonal are the square root of the AVE of the reflective scales, while off-diagonal elements are correlations between constructs.
5. RESULTS

Table 3 presents the background details of managers that participated in the study.

Table 3: Background information of respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percent</th>
<th>Education level</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>26%</td>
<td>Certificate/Diploma</td>
<td>37%</td>
</tr>
<tr>
<td>Male</td>
<td>74%</td>
<td>Bachelor degree</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Masters/postgraduate</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>others: please specify</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Years in business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 30 years</td>
<td>&gt; 10 years</td>
</tr>
<tr>
<td>between 31-40 years</td>
<td>11 to 19 years</td>
</tr>
<tr>
<td>between 41-50 years</td>
<td>20 and above</td>
</tr>
<tr>
<td>between 51-60 years</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location of hotel</th>
<th>Hotel rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>3 star</td>
</tr>
<tr>
<td>Urban</td>
<td>4 star</td>
</tr>
<tr>
<td></td>
<td>5 star</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Policy</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Summary of the results are shown in Table 4. The hypotheses of the study are confirmed by the results of the structural path coefficients. In terms of stakeholders’ influence, owner (β = 0.23, p<0.05), regulator (β = 0.20, p<0.10), and customer (β = 0.23, p<0.01), exerts a significant effect on managers’ environmental awareness. However, suppliers have no significant influence on managers’ environmental awareness. H1a, H1c, and H1d are therefore supported but H1b is not. Analysis on the relationship between stakeholders influence and managers attitude shows that owner (β = 0.29, p<0.01) and regulators (β = 0.19, p<0.05) have a significant influence over managers environmental attitude, supporting H2a and H2c. However, H2b and H2d are not supported as supplier and customer do not significantly influence managers’ environmental attitude. The findings also show that managers with greater environmental awareness are more likely to adopt basic environmental practices (β = 0.25, p<0.10) but no significant results related to the adoption of advanced environmental practices. H4a is therefore supported but H4b is not. In relation to managers environmental attitude and the likelihood of adopting environmental management practices, the findings reveal that managers with greater environmental attitude are more likely to adopt advanced environmental practices (β = 0.36, p<0.01), supporting H5b. No significant results for basic environmental practices is found and therefore H5a is not supported.

Table 4: Summary of the structural model

<table>
<thead>
<tr>
<th>Hyp.</th>
<th>Description</th>
<th>Path Coefficient</th>
<th>Standard error</th>
<th>t-value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a</td>
<td>OWN -&gt; AWA</td>
<td>0.23</td>
<td>0.11</td>
<td>2.05**</td>
<td>Supported</td>
</tr>
<tr>
<td>H1b</td>
<td>SUPP -&gt; AWA</td>
<td>-0.01</td>
<td>0.09</td>
<td>0.14</td>
<td>Not supported</td>
</tr>
<tr>
<td>H1c</td>
<td>REG -&gt; AWA</td>
<td>-0.20</td>
<td>0.12</td>
<td>1.78†</td>
<td>Supported</td>
</tr>
<tr>
<td>H1d</td>
<td>CUS -&gt; AWA</td>
<td>0.23</td>
<td>0.08</td>
<td>2.91***</td>
<td>Supported</td>
</tr>
<tr>
<td>H2a</td>
<td>OWN -&gt; ATT</td>
<td>0.29</td>
<td>0.10</td>
<td>2.83***</td>
<td>Supported</td>
</tr>
<tr>
<td>H2b</td>
<td>SUPP -&gt; ATT</td>
<td>-0.10</td>
<td>0.12</td>
<td>0.88</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2c</td>
<td>REG -&gt; ATT</td>
<td>0.19</td>
<td>0.10</td>
<td>2.00**</td>
<td>Supported</td>
</tr>
<tr>
<td>H2d</td>
<td>CUS -&gt; ATT</td>
<td>-0.09</td>
<td>0.09</td>
<td>1.03</td>
<td>Not supported</td>
</tr>
<tr>
<td>H3</td>
<td>AWA -&gt; ATT</td>
<td>-0.02</td>
<td>0.09</td>
<td>0.19</td>
<td>Not supported</td>
</tr>
<tr>
<td>H4a</td>
<td>AWA -&gt; BEMP</td>
<td>0.25</td>
<td>0.13</td>
<td>1.84†</td>
<td>Supported</td>
</tr>
<tr>
<td>H4b</td>
<td>AWA -&gt; AEMP</td>
<td>-0.09</td>
<td>0.09</td>
<td>0.89</td>
<td>Not supported</td>
</tr>
<tr>
<td>H5a</td>
<td>ATT -&gt; BEMP</td>
<td>0.14</td>
<td>0.11</td>
<td>1.17</td>
<td>Not supported</td>
</tr>
<tr>
<td>H5b</td>
<td>ATT -&gt; AEMP</td>
<td>0.36</td>
<td>0.08</td>
<td>4.33***</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: †p ≤ 0.10, ‡p ≤ 0.05, **p ≤ 0.01
6. DISCUSSION OF FINDINGS

This study supports stakeholders’ influence on hotel managers’ awareness and attitudes towards the environment management practices. Based on the stakeholder salience model, four main stakeholders, namely the customers, suppliers, regulators and owners (Henriques and Sadorsky, 1999), are identified and tested for their influence on managers’ environmental awareness and attitude. Although stakeholders’ influence on the adoption of EMPs is well documented, variations in response are expected given the internal dynamics of the respondents. The cognitive process in assessing managers’ environmental awareness and attitude that emphasize knowledge, perceptions and values of the respondents reflect results unique to the research setting.

Evidence shows that managers perceive all stakeholders except for suppliers, influence their environmental awareness. Customers and owner appear to strongly influence managers’ environmental awareness, supporting prior evidence in different settings (Bohdanowicz, 2006). Regulatory parties, on the other hand, have a weak negative influence on managers’ awareness level, contrary to findings by Gerrans and Hutchinson (2000) and Hillary (1999). Although regulators who have legal, mandatory legislative powers for hotels to comply with their requirements, the results suggest that managers are not aware of the environmental mandatory compliance. On the same note, suppliers also do not appear to significantly affect managers’ awareness, contrary to prior evidence (Biondi et al., 2000; Williamson et al., 2006). In general, results of this study provide partial support to prior studies conducted in different settings. As noted in the preceding paragraph, such an outcome is expected due to the cognitive process that causes variations in responses. The results also show that owners and regulators appear to influence managers’ environmental attitude. Interestingly, customers who are perceived by managers as the most influential factor in affecting their awareness level is not significant in influencing managers’ environmental attitude.

We failed to find any association between managers’ environmental awareness and attitude. According to the Theory of Reasoned Action, an individual’s belief and intention influence the planned action, and the intention refers to the assessment of the outcome of performing the action. In this study, belief refers to the managers’ environmental awareness which is constructed out of their knowledge about environmental condition. The higher the intention, or managers’ environmental attitude, the higher the likelihood of them adopting EMPs. We find managers environmental awareness and attitude are not related to each other, suggesting that although managers are able to comprehend information about environmental issues, the assessment of future outcomes of the action did not result in creating a positive attitude towards EMPs. Such situation could possibly due to financial constraints that may limit the adoption of EMPs.

We also find that managers’ environmental awareness has a positive impact on the adoption of basic EMPs. Basic EMPs relate to cost savings activities such as water-saving practices and recycling of products. Our findings support prior studies in which the adoption of EMPs is driven by cost savings and resource efficiency strategies (Bohdaniwicz, 2005; 2006; Tzschentke, Kirk and Lynch, 2004). Furthermore, managers with higher level of environmental attitude are more likely to adopt advanced EMPs. Advanced EMPs relate to environmental care initiatives such as sponsoring environmental protection activities and supporting environmental campaigns. Our results suggest that managers are more receptive to the idea of investing in environmental care activities in view of future benefits or outcomes, which may not necessarily be in the form of financial or material gain. Such perception is in line with the view that EMPs serve as fulfilling social responsibility (Park et al., 2014). Managers’ may react positively to the EMPs as they believe that such action is consistent with the social norm which requires businesses to conduct sustainable practices. However, prior studies show that managers with strong ‘green’ attitudes not necessarily result in higher implementation of environmental-friendly practices (e.g Schaper, 2002, Prater and Shosh, 2005, Gadenne et al., 2009). Overall our findings show a promising trajectory of the adoption of EMPs in the hotel industry in Malaysia.

7. CONCLUSIONS AND IMPLICATIONS

Hotel managers perceive that various stakeholders do influence their environmental awareness and attitude which influence environmental initiatives in the hotels. However, the findings of this study provide partial support to prior studies across time and setting. Such outcome is expected given that various demographic factors may affect managers’ cognitive perception and behaviour.

Hotel managers with environmental awareness tend to adopt basic EMPs positively, and reason could be due to financial gains. However, managers with higher environmental attitude tend to adopt advanced EMPs, that relates to investing in ecological care activities. Advanced EMPs are activities that require more effort and financial contributions. The positive association between managers’ environmental attitude and the adoption of advanced EMPs could be due to; managers’ self-receptive attitude towards future sustainability, and the perceived changing societal pressure for hotels to support environmental sustainability. Interestingly, our findings show that managers’ knowledge about environmental sustainability issue may not automatically
prompt them to adopt EMPs. Financial constraints or the inability to enjoy immediate economic returns may hinder them in pursuing environmental initiatives.

The current findings are promising and important for future enhancement of competitiveness in hotel industry in Malaysia. We identify three important factors that need to be addressed accordingly: the importance to create environmental awareness among the society members in general, and particularly hotel managers; to have a positive environmental attitude among hotel managers; and lastly identify and minimize barriers for the adoption of EMPs. We therefore propose a few key strategies to address these issues. Generally, legislative authorities should play a role in imposing mandatory requirements with detailed procedures for hotel operators to comply with. Heavy financial penalty should be imposed as a measure to ensure compliance. Legislative authorities should also engage in incentives such as tax relief and green loans to support environmental sustainability efforts. It is hoped that joint efforts among various governmental and non-government bodies will ultimately create a societal norm that appreciate a balanced environment.

REFERENCES


Author’s Biography

Dr Norita Mohd Nasir is an accountant by profession, a member of Malaysian Institute of Accountants (MIA) that carries the title of Chartered Accountant (CA), and a Fellow member of CPA Australia (FCPA). Dr Norita’s research interest is in the area of sustainability, specifically in the area of environmental management. She has presented her research work in various conferences, articles in local and international journals and published book chapters. Dr Norita received her BA Acct (Hons) degree from Universiti Utara Malaysia, MA Accounting & Financial Management from University of Essex, United Kingdom, and PhD in Management from Monash University, Australia.
THE EFFECTS OF RELIGIOSITY AND PERSONALITY TRAITS ON SOCIALLY RESPONSIBLE CONSUMPTION BEHAVIOUR

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⁴ Research Institute for Products and Islamic Civilization, Universiti Sultan Zainal Abidin
(*Corresponding author: hafaz.ngah@umont.edu.my)

ABSTRACT

Socially responsible consumption is increasing among consumers and companies alike. This paper aims to explore the dimensions of socially responsible consumption and to investigate the effects of religiosity and personality traits on socially responsible consumption behaviour. Theoretically, the dimensions of socially responsible consumption has changed over the time in line with socially responsible initiatives conducted by companies in the market. The sample for this study consisted of consumers from three selected cities in Malaysia. The data were analyzed by using SmartPLS 3.2.8. The results showed that socially responsible consumption behaviour comprised of five dimensions namely; corporate social responsibility performance, recycle, cause-related marketing, small business and environment. In addition, the results found that both religiosity and personality traits have a positive effects on socially responsible consumption behaviour. This study makes significant contributions to both theory and practice. The study fills in the literature gap and provides a more comprehensive concepts of socially responsible consumption behaviour as well as revealed the predictors of socially responsible consumption behaviour. From the managerial perspective, the results of this study provide empirical evidence on factors that effects socially responsible consumption behaviour among Malaysian consumers. Managers and policy makers should focus on conducting more campaigns to enhance socially responsible consumption among Malaysian which is crucial in order to support the agenda towards responsible consumption and production.

KEYWORDS: socially responsible consumption behaviour, religiosity, personality traits, consumers, Malaysia.
SENIOR AUDITORS’ WHISTLEBLOWING INTENTION: PERSPECTIVE OF THE STIMULUS-ORGANISM-RESPONSE THEORY

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ABSTRACT

The growth of fraud and corruption all over the world have put public interest at risk, as the unethical issues may impair the sustainable performance of companies and disrupt the economy. Hence, the importance of auditors in intervening on the unethical issues need to be further explored. This study employs the perspective of the Stimulus-Organism-Response (SOR) Theory in examining the roles of perceived organizational support, attitude, and self-efficacy in external whistleblowing intention. This quantitative study is based on data collected from 119 senior auditors in the audit firms in Malaysia, who are selected based on a purposive random sampling method. The data was analysed using SmartPLS 3.3.2. The results revealed significant impacts of perceived organizational support on self-efficacy and attitude. This study also identified self-efficacy as a significant mediator between perceived organizational support and external whistleblowing intention but no statistical support to indicate the mediating effect in relation to the attitude of senior auditors in explaining whistleblowing intention. This study is significant to the managers of audit firms in understanding the psychological behaviour of their audit staff that contributes to better understanding on critical factors that could influence them to whistleblow. This study is the first that investigates the application of the SOR Theory in whistleblowing studies, and hence fills the gap in existing literature by illustrating how SOR Theory can be applied in studies on ethical behaviours of actors in professional careers. The findings shed light on the roles of perceived organizational support on self-efficacy and attitude in predicting external whistleblowing intention.

KEYWORDS: Whistleblowing intentions, senior auditors, Stimulus–Organism–Response Theory, SOR Theory
EXPLORING MALAYSIAN STUDENTS’ ATTITUDES TOWARD BUSINESS ETHICS: THE ROLE OF ISLAMIC WORK ETHICS

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ABSTRACT

The purpose of this study is to examine the attitudes towards business ethics of Malaysian accounting students focusing on five factors including the gender, race, age, educational level as well as adaption of Islamic work ethics. Using a convenience sampling technique, 272 respondents consisted of accounting students were participated in this study. This study used the 30-item Attitudes Towards Business Ethics Questionnaire (ATBEQ). Islamic Work Ethics (IWE) was measured using a 17-item scale which has been validated and tested in different context. Significant differences were found between gender and ATBEQ. The male students are reported to have higher attitudes towards business ethics compared to female students. Further regression analysis suggested that IWE have a positive and highly significant relationship with ATBEQ. Other variables are not significant. The results are beneficial for universities towards the right direction in shaping Malaysian graduates into ethically instilled citizens and to companies as a guideline for screening process of new employees’ recruitment. Accounting students will become accountants, managers, audit committees, chief executive officers in the future and the results from this study could be an indicator how they might be expected to behave and how university should place more ethical values in business ethic course in the accounting programs.

KEYWORDS: Attitudes towards business ethics, Islamic work ethics, Malaysia.
TRACK 7C
ECONOMICS
DO SMALL AND MEDIUM COMPANIES IN MALAYSIA PRIORITISE SUSTAINABLE DEVELOPMENT GOALS?

Sarma Binti Aralas¹
¹Universiti Malaysia Sabah
(miasarma@ums.edu.my)

ABSTRACT

Sustainable development goals of the 2030 agenda adopted by the United Nations are intended as a shared blueprint for developing and developed countries to achieve sustainable development that brings peace and prosperity to all nations now and into the future. The 17 sustainable development goals include targeted objectives of achieving zero poverty, zero hunger, good health and well-being, quality education, gender equality, and clean water and sanitation. This paper presents the results of a survey of 67 small and medium sized Malaysian companies on the progress they are making towards achieving the goals of sustainable development. Our findings show that companies are making some progress on the desired outcome of attaining the 17 sustainable development goals. However, greater effort is required for sufficient progress to achieve the goals. Such effort implies the requisite to prioritize sustainable development goals in the firm’s business actions and practices. There is a need to increase awareness of the importance of the sustainable development goals to achieve the 2030 agenda as set by the global community.

KEYWORDS: Sustainable development goals (SDGs); Small and medium enterprises (SMEs); Malaysia.

1. INTRODUCTION

Sustainable Development Goals are a collection of 17 global goals set by the United Nations General Assembly in 2015 as part of the 2030 Agenda for Sustainable Development. It provides “a shared blueprint for peace and prosperity for people and the planet, now and into the future” (United Nations, 2015) and calls for all nations, developed and developing, to take action to achieve the goals in a global partnership. Sustainable development goals include the eradication of poverty and hunger, the attainment of good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequality, sustainable cities and communities, responsible consumption and production, climate action, the conservation of life below water, life on land, peace and justice strong institutions, and global partnerships to achieve the goal.

This paper investigates the perceived progress of achieving sustainable development goals for 67 Malaysian firms. Small and medium sized manufacturing companies were surveyed from the Malaysian states of Johor, Kedah, Kelantan, Melaka, Negeri Sembilan, Perak, Pulau Pinang, Selangor and the federal territory of Kuala Lumpur. The survey was conducted in the year 2019. This paper presents general findings based on descriptive analysis of the survey data on the 17 sustainable development goals.

2. OVERVIEW

Literature shows that sustainable development and environmental issues have been researched at great lengths in developed countries such as the member countries of the Organisation for Economic Cooperation and Development (OECD). In contrast, fewer studies have been conducted in less developed countries where the extensive use of exhaustible natural resources are the primary sources of rapid economic growths. The lack of research on the sustainability of economic development paths, and the environmental effects of production in developing countries may pose a major obstacle in the achievement of sustainable economic development.

Countries in the East Asian and Pacific region are considered economies with high growths in gross domestic product (GDP), achieving rates over ten percent in the 1980s and 1990s (World Development Indicators, 2019). Although growth rates have fallen in the new millennium, most economies in the region are still experiencing high annual GDP growths, presently in the range of four to seven percent, up to the year 2019. While high income growths are desirable, the benefits of economic development needs to be balanced with the costs that might leave negative effects on the environment and on depletable resources. Developing countries that are experiencing high income growths are also increasing production of pollution-intensive goods and services. China, for example, experienced GDP growth rates of 14.2 percent in 2007 and 6.6 percent
in 2018 (WDI 2019) but has overtaken the United States of America as the largest emitter of carbon dioxide (United States Environmental Protection Agency, 2019).

Rapid economic growth in developing countries necessitates the extensive use of economic resources; pollution-intensive production aggravates climate changes, disrupts coastal eco-systems and imposes devastations on pristine forests areas. The environmental costs of economic activities may not only exarcebate environmental effects such as global warming and resource depletion, but may also inflict health effects on the human population, such as shortened life spans and increases in intergenerational medical and healthcare costs. Such costs on the environment and human health implies a need to address issues of sustainability while countries pursue economic development goals.

Many developing nations with high economic growth rates implement standards and regulations to combat the undesirable environmental effects of dirty production. Malaysia, in particular, sets limits on emissions and effluent discharges under the Environmental Quality (Clean Air) Regulations of 1978. In addition, Malaysia enacts a number of statutes to address management issues in the use of natural resources, and is a party to multilateral environmental agreements (MEAs) that play important roles in the implementation of environmental policies in the country. Notably, Malaysia adopts environmental and sustainable development policies in its Sixth Malaysia Plan (1990-1995). Under the Sixth Malaysian Plan, Malaysia has pledged to adopt a Sustainable Development growth path that would ensure the efficient use of economic resources. This novel ambition requires detailed strategies based on information concerning Malaysia's environmental and resource use. However, there is yet a system to measure the country’s performance on staying the course of a sustainable development trajectory.

Sustainable development goals encompass economic, social and environmental dimensions. Table 1 describes the seventeen sustainable development goals (United Nations 2015) listed with respective abbreviation for each of the goal.

<table>
<thead>
<tr>
<th>End poverty in all its forms</th>
<th>SDG01</th>
<th>Reduce inequality among countries</th>
<th>SDG10</th>
</tr>
</thead>
<tbody>
<tr>
<td>End hunger, achieve food security</td>
<td>SDG02</td>
<td>Make cities safe and sustainable</td>
<td>SDG11</td>
</tr>
<tr>
<td>Ensure healthy lives</td>
<td>SDG03</td>
<td>Ensure sustainable development</td>
<td>SDG12</td>
</tr>
<tr>
<td>Ensure inclusive education</td>
<td>SDG04</td>
<td>Urgent action to combat climate change</td>
<td>SDG13</td>
</tr>
<tr>
<td>Achieve gender equality</td>
<td>SDG05</td>
<td>Conserve the ocean</td>
<td>SDG14</td>
</tr>
<tr>
<td>Ensure availability of water, sanitation</td>
<td>SDG06</td>
<td>Protect terrestrial ecosystem</td>
<td>SDG15</td>
</tr>
<tr>
<td>Ensure access to sustainable energy</td>
<td>SDG07</td>
<td>Promote peaceful and inclusive societies</td>
<td>SDG16</td>
</tr>
<tr>
<td>Promote inclusive economic growth</td>
<td>SDG08</td>
<td>Strengthen the global partnership</td>
<td>SDG17</td>
</tr>
<tr>
<td>Build resilient infrastructure</td>
<td>SDG09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The current research investigates progress in the firm’s actions to achieve sustainable development goals. The study sample consists of small and medium sized Malaysian companies. One motivation for conducting the current study is that while there have been studies on sustainable development goals using country-level data, there are few studies using firm-level data. Thus, this study fills in the gap in literature by examining firm-level data for a developing country such as Malaysia. The analysis of descriptive data attempts to answer the question of whether manufacturing companies prioritize sustainable development goals in their business practices.

3. SURVEY BACKGROUND

A total of 67 small and medium sized companies were surveyed in 2019. Firms were asked to indicate the progress that they have made in efforts to achieve the goals of sustainable development as defined in the United Nations’ 2030 Agenda. Firms were also asked about their company characteristics, including market characteristics, ability to compete with other firms, whether the firm has a designated environmental department, whether the firm appropriate Research and Development budget for environmental concerns, the firm’s shipment values, among others. In this paper, two characteristics of the firm are of interest. One, whether the company has an environmental department, and two, whether any Research and Development budget are appropriated for environmental matters.

Responses to the survey questionnaire show that all companies are local companies, and only 2 out of the 67 are publicly listed. In addition, 64 percent of the firms indicate that their primary customers are wholesalers and retailers; 30 percent of firms list other manufacturing firms as their customers, 3 percent list other facilities
within the firm as customers, and 1 percent of firms indicate households as their primary customers. Responses also show that 47.8 percent of firms characterize the scope of their markets as national market. The types of main production activity of the firm are shown in Table 2. Several companies engage in the manufacturing of food products and beverages (19.4 percent), the manufacture of rubber and plastic products (13.4 percent), and the manufacture of machinery and equipment (11.9 percent). About a quarter or 23.9 percent of the companies indicate that the firm’s output comprised of production activity such as repair and maintenance, workshops, and mix production activities.

<table>
<thead>
<tr>
<th>Table 2: Main Production Activity of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Manufacture of food products and beverages</td>
</tr>
<tr>
<td>Manufacture of textiles</td>
</tr>
<tr>
<td>Manufacture of wood and products of wood and cork, except furniture</td>
</tr>
<tr>
<td>Manufacture of paper and paper products</td>
</tr>
<tr>
<td>Publishing, printing and reproduction of recorded media</td>
</tr>
<tr>
<td>Manufacture of chemicals and chemical products</td>
</tr>
<tr>
<td>Manufacture of rubber and plastics products</td>
</tr>
<tr>
<td>Manufacture of other non-metallic mineral products</td>
</tr>
<tr>
<td>Manufacture of other machinery and equipment</td>
</tr>
<tr>
<td>Manufacture of electrical machinery and apparatus</td>
</tr>
<tr>
<td>Manufacture of furniture</td>
</tr>
<tr>
<td>Other (workshop; repair; mix production of food &amp; tobacco)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Interestingly, 42 (62.7 percent) of the 67 firms surveyed have designated environmental departments. Only 15 (22 percent) have a budget for research and development.

<table>
<thead>
<tr>
<th>Table 3: Environmental Department and Research &amp; Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have environmental department</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

3.1 Likert Scale Responses on SDG Questions

For questions concerning sustainable development goals, companies were asked to indicate the firm’s progress made on attaining sustainable development goals. The firm’s responses are based on a Likert scale defined as follows:

“1 = Advancing progress”, “2 = Impending progress”, and “3 = Not relevant to my business”.

4. FINDINGS

A reliability test on the instrument or questionnaire is tested using the Cronbach’s Alpha test for internal consistency (McMillan, 2007). The result shows a Cronbach’s Alpha value of 0.744 which is deemed as acceptable (see Blunch, 2008). The result indicates that the survey instrument used in the current study is reliable.

Table 3 shows the firms’ responses on the progress made in attaining sustainable development goals in their business actions. The results show that more than half of companies surveyed are either advancing progress of making impending progress on the following sustainable development goals. These goals comprise 9 out of the 17 sustainable development goals, namely, SDG01 to end poverty in all its forms; SDG03 to ensure
healthy lives; SDG07 to ensure access to sustainable energy; SDG08 to promote inclusive economic growth; SDG10 to reduce inequality among countries; SDG12 to ensure sustainable development; SDG13 undertaking urgent action to combat climate change; SDG15 to protect terrestrial ecosystem; and SDG17 to strengthen the global partnership. Interestingly, sustainable development goals of ending poverty, ensuring sustainable development, combating climate change, and strengthening global partnership are included in the abovementioned list.

Table 3: Results on Progress in the Attainment of SDGs

<table>
<thead>
<tr>
<th>Sustainable Development Goals</th>
<th>Advancing Progress (%)</th>
<th>Impending Progress (%)</th>
<th>Total Advancing and Impending Progress (%)</th>
<th>Not Relevant (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>End poverty in all its forms (SDG01)</td>
<td>21</td>
<td>30</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>End hunger, achieve food security (SDG02)</td>
<td>36</td>
<td>18</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td>Ensure healthy lives (SDG03)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Ensure inclusive education (SDG04)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Achieve gender equality (SDG05)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Ensure availability of water, sanitation (SDG06)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Ensure access to sustainable energy (SDG07)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Promote inclusive economic growth (SDG08)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Build resilient infrastructure (SDG09)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Reduce inequality among countries (SDG10)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Make cities safe and sustainable (SDG11)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Ensure sustainable development (SDG12)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Urgent action to combat climate change (SDG13)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Conserve the ocean (SDG14)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Protect terrestrial ecosystem (SDG15)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Promote peaceful and inclusive societies (SDG16)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Strengthen the global partnership (SDG17)</td>
<td>36</td>
<td>21</td>
<td>57</td>
<td>43</td>
</tr>
</tbody>
</table>

For the remaining sustainable development goals, more than half of the companies surveyed indicate that the goals are not relevant to their business actions. These goals are namely, SDG02 End hunger, achieve food security; SDG04 Ensure inclusive education; SDG05 Achieve gender equality; SDG06 Ensure availability of water, sanitation; SDG09 Build resilient infrastructure; SDG11 Make cities safe and sustainable; SDG14 Conserve the ocean; and SDG16 Promote peaceful and inclusive societies.

In the next analysis, cross-tabulations are made between the firm’s progress status on achieving a sustainable development goal against two of the firm’s characteristics, namely, of having a designated environmental department, and of having research and development (R&D) budget allocation specifically for environmental matters or activities. In Table 4, progress that companies made in achieving three sustainable development goals, namely, SDG13 Urgent action to combat climate change, SDG10 To reduce inequality among countries, and SDG12 To ensure sustainable development, are tabulated against the number of firms that have environmental department and the number of companies that have R&D budget for environmental matters.

Table 4 indicates that 42 (63%) out of the 67 companies surveyed have environmental departments. Further, 15 (22%) out of 66 companies report as having R&D budget allocation for environmental matters (note: missing response for 1 company in the survey account for 1 missing company).

Notably, of the 42 companies that have environmental departments, 15 (36%) indicate as advancing progress on taking urgent action to combat climate change (SDG13), while 14 (33%) report making impending progress in achieving this goal. Thus, a total of 29 (69%) out of the 42 companies with environmental departments are either advancing progress or making impending progress on taking urgent action to combat climate change.

Cross-tabulation results in Table 4 also indicate that 4 (27%) companies out of 15 companies that have R&D allocation for environmental matters are advancing progress on the urgent action to combat climate change (SDG13), and 6 (40%) are making impending progress towards this goal. This means 10 (67%) of the 15 companies are either advancing progress or making impending progress to combat climate change. Meanwhile, the statistics show that a greater fraction of the number of companies that do not allocate any R&D
budget for environmental purposes report either advancing progress or making impending progress in taking urgent action to combat climate change, compared to companies with environmental R&D budget. Out of the 51 companies that do not have specific environmental R&D budgets, 17 (33%) report advancing progress, while 23 (45%) report as making impending progress, for a combined total of 40 (78%).

For the sustainable development goal to reduce inequality among countries (SDG10), 18 (43%) of the 42 companies that have environmental departments report advancing progress towards attaining the goal of reducing inequality, and 13 (31%) report making impending progress. Thus, a total of 31 (74%) of the 42 companies that have environmental departments are either advancing progress or making impending progress to achieving reduction of inequality among countries. Meanwhile, for the 15 companies that allocate R&D budget for environmental purposes, 9 (60%) companies report advancing progress, 3 (20%) report impending progress, for a total of 12 (80%).

On the sustainable development goal to ensure sustainable development (SDG12), of the 42 companies that have designated environmental departments, 11 (26%) are advancing progress on achieving this goal, and 16 (38%) are making impending progress. This brings a total of 27 (64%) out of the 42 companies that have environmental departments. Meanwhile, for the 15 companies with R&D budget allocated for environmental matters, 4 (27%) out of 15 and 7 (47%) out of 15 are making advancing and impending progress respectively, for a total of 11 (73%) out of 15 companies with environmental R&D budget.

Table 4: SDG13, SDG10, SDG12, Environmental Department and Research & Development

<table>
<thead>
<tr>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent action to combat climate change</td>
<td>Yes</td>
</tr>
<tr>
<td>Advancing Progress</td>
<td>15</td>
</tr>
<tr>
<td>Impending Progress</td>
<td>14</td>
</tr>
<tr>
<td>Not Relevant to Firm</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
<tr>
<td>Reduce inequality among countries</td>
<td></td>
</tr>
<tr>
<td>Advancing Progress</td>
<td>18</td>
</tr>
<tr>
<td>Impending Progress</td>
<td>13</td>
</tr>
<tr>
<td>Not Relevant to Firm</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
<tr>
<td>Ensure sustainable development</td>
<td></td>
</tr>
<tr>
<td>Advancing Progress</td>
<td>11</td>
</tr>
<tr>
<td>Impending Progress</td>
<td>16</td>
</tr>
<tr>
<td>Not Relevant to Firm</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

Table 5 shows the cross-tabulation results between sustainable development goals, namely, SDG03, SDG17, SDG07, SDG15, SDG01, SDG08, and companies with environmental department, and companies with environmental R&D budget allocation.

Results in Table 5 show that in general, for companies with environmental departments, the fraction of the number of companies making positive progress (advancing and impending) are greater than that of companies that deem sustainable development goals as not relevant to their business. For SDG03, SDG17, SDG07, SDG15, SDG01, SDG08, companies with environmental departments display similar trends as for the previous SDG13, SDG10, and SDG12 reported in Table 4. It is found that companies with designated environmental departments report advancing and impending progress with greater frequency than companies that do not have environmental departments.

Table 5 also shows that the number of companies that have environmental R&D budget allocation are fewer in numbers (15) than companies that do not have such allocation (51). However, interestingly, a greater fraction of companies without R&D environmental allocation report advancing and impending progress than the fraction of companies that do have R&D allocation for environmental matters.
Table 5: SDGs, Environmental Department and Research & Development

<table>
<thead>
<tr>
<th>Ensure healthy lives</th>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancing Progress</strong></td>
<td>Yes: 19, No: 5, Total: 24</td>
<td>Yes: 6, No: 17, Total: 23</td>
</tr>
<tr>
<td><strong>Impending Progress</strong></td>
<td>Yes: 10, No: 4, Total: 14</td>
<td>Yes: 5, No: 9, Total: 14</td>
</tr>
<tr>
<td><strong>Not Relevant to Firm</strong></td>
<td>Yes: 13, No: 16, Total: 29</td>
<td>Yes: 4, No: 25, Total: 29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Yes: 42, No: 25, Total: 67</td>
<td>Yes: 15, No: 51, Total: 66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strengthen the global partnership</th>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancing Progress</strong></td>
<td>Yes: 15, No: 5, Total: 20</td>
<td>Yes: 6, No: 14, Total: 20</td>
</tr>
<tr>
<td><strong>Impending Progress</strong></td>
<td>Yes: 11, No: 7, Total: 18</td>
<td>Yes: 3, No: 14, Total: 17</td>
</tr>
<tr>
<td><strong>Not Relevant to Firm</strong></td>
<td>Yes: 16, No: 13, Total: 29</td>
<td>Yes: 6, No: 23, Total: 29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Yes: 42, No: 25, Total: 67</td>
<td>Yes: 15, No: 51, Total: 66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ensure access to sustainable energy</th>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancing Progress</strong></td>
<td>Yes: 6, No: 6, Total: 12</td>
<td>Yes: 3, No: 9, Total: 12</td>
</tr>
<tr>
<td><strong>Impending Progress</strong></td>
<td>Yes: 18, No: 7, Total: 25</td>
<td>Yes: 8, No: 17, Total: 25</td>
</tr>
<tr>
<td><strong>Not Relevant to Firm</strong></td>
<td>Yes: 18, No: 12, Total: 30</td>
<td>Yes: 4, No: 25, Total: 29</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Yes: 42, No: 25, Total: 67</td>
<td>Yes: 15, No: 51, Total: 66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protect terrestrial ecosystem</th>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancing Progress</strong></td>
<td>Yes: 12, No: 8, Total: 20</td>
<td>Yes: 4, No: 15, Total: 19</td>
</tr>
<tr>
<td><strong>Impending Progress</strong></td>
<td>Yes: 12, No: 4, Total: 16</td>
<td>Yes: 5, No: 11, Total: 16</td>
</tr>
<tr>
<td><strong>Not Relevant to Firm</strong></td>
<td>Yes: 18, No: 13, Total: 31</td>
<td>Yes: 6, No: 25, Total: 31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Yes: 42, No: 25, Total: 67</td>
<td>Yes: 15, No: 51, Total: 66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>End poverty in all its forms</th>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancing Progress</strong></td>
<td>Yes: 13, No: 1, Total: 14</td>
<td>Yes: 5, No: 9, Total: 14</td>
</tr>
<tr>
<td><strong>Impending Progress</strong></td>
<td>Yes: 12, No: 8, Total: 20</td>
<td>Yes: 3, No: 17, Total: 20</td>
</tr>
<tr>
<td><strong>Not Relevant to Firm</strong></td>
<td>Yes: 17, No: 16, Total: 33</td>
<td>Yes: 7, No: 25, Total: 32</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Yes: 42, No: 25, Total: 67</td>
<td>Yes: 15, No: 51, Total: 66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Promote inclusive economic growth</th>
<th>Have environmental Department</th>
<th>Have R&amp;D Allocation for Environmental Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancing Progress</strong></td>
<td>Yes: 10, No: 6, Total: 16</td>
<td>Yes: 3, No: 13, Total: 16</td>
</tr>
<tr>
<td><strong>Impending Progress</strong></td>
<td>Yes: 12, No: 6, Total: 18</td>
<td>Yes: 7, No: 11, Total: 18</td>
</tr>
<tr>
<td><strong>Not Relevant to Firm</strong></td>
<td>Yes: 20, No: 13, Total: 33</td>
<td>Yes: 5, No: 27, Total: 33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Yes: 42, No: 25, Total: 67</td>
<td>Yes: 15, No: 51, Total: 66</td>
</tr>
</tbody>
</table>

### 4. DISCUSSION

The results show that a majority of small and medium manufacturing companies surveyed in the current study are making efforts to achieve nine of the seventeen prescribed sustainable development goals. In terms of percentages from high to low, the number of firms that are either advancing progress or making impending progress on achieving the sustainable development goals are as follows: SDG13 undertaking urgent action to combat climate change (76%), SDG10 to reduce inequality among countries (72%); SDG12 to ensure sustainable development (65%); SDG03 to ensure healthy lives (57%), SDG17 to strengthen the global partnership (57%); SDG07 to ensure access to sustainable energy (55%); SDG15 to protect terrestrial ecosystem (54%); SDG01 to end poverty in all its forms (51%), SDG08 to promote inclusive economic growth (51%).

Thus, the top three number of companies reporting advancing progress or making impending progress are those for undertaking urgent action to combat climate change (SDG10), reducing inequality among countries (SDG10), and ensuring sustainable development (SDG12). These goals can be characterized as primarily inter-country in the nature of their objectives.

Further, when the three sustainable goals (SDG13, SDG10 and SDG12) for which the most number of companies indicate that they are advancing progress or making impending progress are linked to two company characteristics namely, having designated environmental departments within the company and having R&D budget allocated towards environmental matters, the majority of the companies report positive effort, defined as advancing or impending progress, in achieving the sustainable development goals. Thus, designating an
environmental department or having an R&D budget for environmental matters seem to support the company’s efforts to achieve the abovementioned goals. However, while most of the companies, 42 out of 67, have designated environmental departments, only 15 out of 66 companies allocate any R&D budget for environmental concerns. One reason why only 15 companies out of 67 allocate R&D budget for environmental concerns may be that firms appropriate less priority to environmental issues.

It is also noteworthy that while companies indicate that they are making “impending progress” to achieve a sustainable development goal, it is unclear whether such impending progress would materialize. Thus, the response of impending progress may indicate expectations of achieving a goal, but not necessarily that the expectation may manifest. In the case that impending progress implies an uncertainty of attainment, then the findings of the current study would indicate a less optimistic scenario of the progress that companies are making in attaining the goals of sustainable development. As such, the small and medium manufacturing companies in the study are yet to address the goals of sustainable development satisfactorily in their business actions and practices.

The findings of the current study also show that for eight of the sustainable development goals (SDG02, SDG04, SDG05, SDG06, SDG09, SDG11, SDG14, SDG16), more than half of the manufacturing companies surveyed indicate that these sustainable development goals are irrelevant to their business actions. The responses may indicate a lack of awareness of the importance of sustainable development goals. Another explanation for the perception of irrelevancy could be that the sustainability development goals are not related to the daily operations of the companies. Last, but not least, companies may view sustainable development goals to be exclusive from the attainment of the company’s economic performance.

5. CONCLUSION

As Malaysia plans to be a high-income nation and achieve developed country status, increased awareness on the importance of undertaking a sustainable development path would augur well for the country in order to ensure a high level of well-being, and to ensure the promotion of a peaceful and inclusive society for the current and future generations. The findings in the current study shows that surveyed manufacturing firms have made some progress in their corporate actions to achieve some of the sustainable development goals. It is also noted that while impending progress indicate positive direction toward attainment, it is progress that has yet to be actualized. Thus, efforts to promote greater awareness of the importance of sustainable development goals may need to be encouraged. Such effort may persuade the firm to prioritize sustainable development goals as part of its corporate objectives. It is also suggested that further studies be undertaken to examine the link between sustainable development goals and the firm’s actions. It is noted that the small and medium sized companies sampled in the current study pertain only to companies in the manufacturing industry. Future studies could include firms in other sectors in the economy. Sample size could also be expanded, and firm types such as public-listed companies be considered.

REFERENCES

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IMPAK PERINTAH KAWALAN PERGERAKAN TERHADAP EKONOMI DAN KUALITI ALAM SEKITAR DI MALAYSIA

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ABSTRAK

KATA KUNCI: Covid-19, Perintah kawalan pergerakan, Kualiti Alam Sekitar, Pertumbuhan Ekonomi

1. PENGENALAN


penyelidik percaya bahawa peraturan larangan skala besar untuk mencegah penyebaran covid-19 dijangka memberi kesan kepada alam sekitar (Caraka et al., 2020; Kanniah et al., 2020; Yunus et al., 2020; Mahato et al., 2020) dan juga ekonomi (Isaifan, 2020; Iacus et al., 2020; Solomon et al., 2020; Brock & Xepapadeas, 2020; Zhang et al., 2020; Weltens, 2020). Bahkan pandemik covid-19 bukan sahaja mengakibatkan kehilangan nyawa manusia tetapi juga ekonomi yang terterkait (Sharma et al., 2020) dan mengugat pasaran saham kewangan, perniagaan, pengurusan kewangan, dan lain-lain lagi.


2. KAJIAN LEPAS

2.1 Covid-19 Dan Pertumbuhan Ekonomi


2.2 Covid-19 Dan Kualiti Alam Sekitar

Walaupun, strategi penutupan sementara (PKP) telah memberi gangguan pada kegiatan manusia dan industri di banyak negara di seluruh dunia, tetapi beberapa hasil kajian menunjukkan bahawa tahap pencemaran udara telah bekurang secara signifikan, terutama kepekatan dalam NO₂. Situasi ini telah berlaku di China dan beberapa negara Eropah dan Amerika (Shrestha et. al., 2020; Tobias et al., 2020; Zhang et al., 2020). Kajian terbaru oleh Muhammad et al. (2020), Wang dan Su (2020) dan Dutheil et al. (2020) telah melaporkan pengurangan NO₂ dalam jarak antara 20% hingga 30% di China, Amerika Syarikat, Itali, Sepanyol dan Perancis. Sementara itu, di Ecuador kajian oleh Zambrano-Monserrate dan Ruano (2020) menunjukkan bahawa
semua melaksanakan polisi kawalan diperketatkan kandungan kandungan NO₂ dan PM2.5 dalam udara telah menurun dengan ketara di bandar yang dikaji (Zambrano-Monserrate & Ruano, 2020).


3. METODOLOGY

Penerangan pada bahagian ini dibahagikan kepada dua bahagian; Pertama, keadah pengumpulan data dan definasi pemboleh ubah. Kedua; metod dan Spesifikasi model.

3.1 Pengumpula Data dan Definisi Pemboleh Ubah


3.2 Metod dan Spesifikasi model


\[ Y_{ij} = \alpha + \beta_1 F\alpha_s a_{jk} + \mu_t \] (1)

yang mana \( Y_{ij} \) adalah cerapan ke \( i \) untuk pemboleh ubah bersandar j iaitu \( j= \) index pencemaran, index KLSE dan kes covid-19, F\( \alpha_s A \) adalah cerapan fasa i pemboleh ubah dami k iaitu \( k= \) bilangan PKP. Selain itu juga, kajian ini juga mengkaji impak perintah kawalan pergerakan (PKP), bilangan kes covid-19 terhadap prestasi ekonomi dan kualiti alam sekitar di Malaysia.

\[ Y_{ij} = \alpha + \beta_1 F\alpha_s a_{jk} + Covid_t + \mu_t \] (2)

yang mana \( Y_{ij} \) adalah cerapan ke \( t \) untuk pemboleh ubah bersandar j iaitu \( j= \) index pencemaran, index KLSE. F\( \alpha_s A \) adalah cerapan fasa i pemboleh ubah dami k iaitu \( k= \) bilangan PKP dan Covidt adalah kes covid-19 pada masa t. Persamaan (1) dan (2) dianggarkan dengan kaedah regresi berbilang pemboleh ubah
dami menggunakan perisian Eviews. Keputusan penganggaran diterangkan di bahagian hasil penganggaran model.

4. HASIL PENGANGGARAN MODEL

Keputusan penganggaran model kajian yang dilaporkan dalam bahagian ini berasaskan kepada objektif kajian yang diterangkan dalam Hasil penganggaran model impak PKP terhadap kualiti pencemaran udara mendapati bahawa tahap pencemaran relatif lebih rendah daripada fasa permulakan PKP dalam jualan antara 0.16% peratus hingga 4.65% dan hanya pemboleh ubah dami PKP Fasa 3 yang signifikan pada aras keertian 5%. Walaupun begitu, secara keseluruhan impak peraksanaan fasa PKP telah mengurangkan Indek pencemaran 1.41% (dikira dari perbezaan pintsan mengikut fasa PKP dibandingkan dengan fasa 1 PKP) menjadikan kualiti persekitaran bertambah baik. Sementara itu, impak PKP terhadap prestasi ekonomi yang diproksikan dengan Indek KLSE menunjukkan nilai pintsan yang berbeza dalam jualan antara 22 mata hingga 146 mata dan signifikan pada aras keertian 5% (kecuali PKP di fasa kedua) berbanding dengan Fasa permulakan PKP (pintsan rujukan). Dapatan kajian menunjukkan bahawa dasar PKP yang dilaksanakan oleh kerajaan Malaysia selama 6 bulan (6 fasa PKP) telah memberikan impak negatif kepada prestasi ekonomi Malaysia yang digambarkan oleh purata kemerosotan indek KLSE berjumlah 72.66 mata setiap fasa PKP berbanding dengan permulaan fasa pertama PKP.

Jadual 1: Impak Fasa PKP terhadap Kualiti Pencemaran dan Prestasi Ekonomi

<table>
<thead>
<tr>
<th>Pemboleh Ubah</th>
<th>Index Pencemaran</th>
<th>KLSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pintasan</td>
<td>48.159*</td>
<td>1493.35*</td>
</tr>
<tr>
<td>damiFasa2</td>
<td>-2.082</td>
<td>45.595</td>
</tr>
<tr>
<td>damiFasa3</td>
<td>-3.611*</td>
<td>-22.455*</td>
</tr>
<tr>
<td>damiFasa4</td>
<td>3.480</td>
<td>-146.144*</td>
</tr>
<tr>
<td>damiFasa5</td>
<td>-4.654</td>
<td>-109.081*</td>
</tr>
<tr>
<td>damiFasa6</td>
<td>-0.162</td>
<td>-131.232*</td>
</tr>
<tr>
<td>R² terlaras</td>
<td>0.05</td>
<td>0.621</td>
</tr>
<tr>
<td>Statistik F</td>
<td>2.811*</td>
<td>57.507*</td>
</tr>
</tbody>
</table>

Nota:simbol ‘*’ adalah signifikan pada aras keertian 5%, subscripts a dan b masing-masing adalah pemboleh ubah yang diproksikan terhadap kualiti alam sekitar dan prestasi ekonomi.

Pada Jadual 2 menunjukkan keputusan penganggaran Impak fasa PKP dan kes covid-19 positif terhadap pemboleh ubah bersandar (kualiti pencemaran/prestasi ekonomi). Nilai statistik ujian keseluruhan model berasaskan taburan F signifikan pada aras keertian 5% pada model Index pencemaran dan KLSE. Nilai R² terlaras masing-masing adalah bernilai 0.687 dan 0.075. Keputusan ini menjelaskan bahawa 69 peratus variasi dalam KLSE dan 7.5% dalam Index pencemaran diterangkan oleh pemboleh ubah bebas iaitu dami PKP dan kes covid-19 positif. Hasil penganggaran model menunjukkan impak negatif koefisien semua pemboleh ubah dami fasa PKP terhadap Index pencemaran udara. Pemboleh ubah dami fasa PKP hanya signifikan pada fasa ketiga dan fasa keempat PKP yang mana masing-masing signifikan pada aras keertian 5% dan 10%. Hasil diperoleh ini selaras dapan diperbezaan kepekatan kandungan pencemaran udara menjadikan kualiti alam sekitar bertambah baik (Shrestha et al. 2020; Tobias et al. 2020; Wang & Su 2020; Zhang et al. 2020). Namun begitu, koefisien pemboleh ubah jumlah kes covid+ menunjukkan impak positif dengan indek pencemaran udara.

Selain itu, dapan penganggaran juga menunjukkan yang pemboleh ubah dami fasa PKP impak positif pada fasa kedua dan fasa ketiga PKP dan berimpak negatif pada fasa keempat hingga keenan PKP. Dapatan cajian ini jelas menunjukkan bahawa dasar PKP yang dikuatkuasakan di Malaysia telah memberi kesan negatif terhadap prestasi ekonomi di Malaysia yang diproksikan dengan Indek KLSE. Hasil kajian juga menunjukkan bahawa koefisien pemboleh ubah kes covid+ signifikan pada aras keertian 5% dan berhubungan secara negatif. Maksudnya peningkatan bilangan harian kes covid+ menyebabkan prestasi indek KLSE berkurang secara purata sebanyak 0.58 mata. Oleh yang demikian, dapat disimpulkan bahawa peningkatan bilangan kes covid+ menyebabkan ketidaktentuan dalam persekitaran ekonomi Malaysia (pengangguran meningkat dan
pengeluaran merosot) secara langsung memberi kesan negatif kepada prestasi Indek KLSE. Impak negatif pandemic covid-19 terhadap prestasi ekonomi turut diperolehi oleh kajian terdahulu seperti Rachel et al. (2020), Bonaccorsi et al.(2020) dan Zhang et al. (2020)


<table>
<thead>
<tr>
<th>Pemboleh Ubah</th>
<th>Index Pencemaran(^a)</th>
<th>KLSE(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pintasan</td>
<td>47.803 (1.081)*</td>
<td>1501.69 (14.492)*</td>
</tr>
<tr>
<td>damiFasa2</td>
<td>-2.011 (1.901)</td>
<td>43.918 (20.046)</td>
</tr>
<tr>
<td>damiFasa3</td>
<td>-4.661 (1.392)*</td>
<td>2.188 (31.568)*</td>
</tr>
<tr>
<td>damiFasa4</td>
<td>-5.635 (2.955)**</td>
<td>-95.579 (32.289)*</td>
</tr>
<tr>
<td>damiFasa5</td>
<td>-5.823 (4.997)</td>
<td>-81.667 (25.762)*</td>
</tr>
<tr>
<td>damiFasa6</td>
<td>-3.551 (2.633)</td>
<td>-51.754 (47.521)</td>
</tr>
<tr>
<td>kesCovid +</td>
<td>0.025 (0.010)*</td>
<td>-0.579 (0.281)*</td>
</tr>
</tbody>
</table>

R² Terlaras: 0.072 Statistik F: 3.23* (64.100*)

Nota: symbol ‘*’, ‘**’ adalah signifikan pada aras keertian 5% dan 10%, subscripts a dan b masing-masing adalah pemboleh ubah yang diproksikan terhadap kualiti alam sekitar dan prestasi ekonomi.

5. KESIMPULAN


PENGHARGAAN

Kami mengucapkan terima kasih kepada Jabatan Alam Sekitar Malaysia kerana telah memberikan maklumat data cerapan harian Index Pencemaran seluruh stesyen di Malaysia.
RUJUKAN


NILAI EKONOMI GUNAAN LANGSUNG PERKHIDMATAN EKOSISTEM BEKALAN MAKANAN DARIPADA SUMBER BENTIK DI HUTAN PAYA BAKAU TANAH BENCAH SETIU, TERENGGANU

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ABSTRAK


KATA KUNCI: Nilai ekonomi gunaan langsung; sumber bentik; tanah lembap
INTERNATIONALIZATION AND BANK RISK

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ABSTRACT

This study aims to analyse the effect of internationalization to bank risk. This study uses data panel regression analysis techniques with Generalized Least Square (GLS). Chow test and Hausman test show that the model used as a fixed effect estimation technique. Bank-specific factors such as bank size, bank overhead cost, bank income diversification, and macro-economic factors such as GDP growth and GDP per capita are taken as control variables. Using data from 743 commercial banks from Group of Eight (G8) countries over 2005-2018. Over this period, bank internationalization is associated with higher bank risk. Following the crisis, we find that the effect of internationalization is even more inconspicuous during the financial crises. Furthermore, Whether the banks operate in developing or developed countries, has proven to have no significant relationship with bank risk.

KEYWORDS: Risk, Internationalization, Banking, Financial Crises

1. INTRODUCTION

The development of globalization, deregulation, information and technology as well as the growth of global wealth and high net worth individuals encourage banks to expand by doing internationalization. In practice, there are various strategies behind the bank's internationalization. Fung et al., (2002) stated that there are several theories that can explain why banks internationalize such as theory of competitive advantage, customer service theory, and market attractiveness theory. In theory of competitive advantage, banks internationalize to implement their domestic advantages in foreign markets. In theory of customer service, banks internationalize to serve its customers so as to follow the expansion of their customers into foreign markets. In theory of market attractiveness, banks internationalize to take advantage in more profitable, relatively high growth, lower competition and relatively higher profitability markets. Marques et al., (2017) stated that the reasons why banks internationalize are increasing the bank's Assets Under Management (AUM), diversifying the portfolio of customer's asset, accessing new products, increasing market knowledge and increasing recognition on behalf of the bank. Berger et al., (2017) also supports that one of the possibilities for banks to internationalize is as a strategy to follow customers and foreign affiliates to avoid losing customer business. The Bank also considers that the international market is the right market for opportunities to get the opportunity to grow and get profit. This is in line with the theory of market attractiveness.

The study of bank risk is an important concern because banks play a very important role for a country's economy. Laeven and Levine (2009) emphasized that bank risk is a central issue that can affect financial stability, business cycle fluctuations, and economic growth. Especially after the financial crisis that occurred in 2007 - 2009 when the value of the bank's stock capitalization experienced a drastic decline, various national and international organizations in various countries focused on implementing various regulations to mitigate bank risks and avoid financial crises that might occur in the future. Therefore, various studies have been conducted to determine factors influence bank risk, including: bank capital (e.g., Mehran and Thakor, 2011; Berger and Bouwman, 2013), government regulation and intervention (e.g., Laeven and Levine, 2009; Berger, Bouwman, Kick, and Schaeck, 2014; Duchin and Sosyura, 2014), competition (e.g., Berger, Klapper, and Turk-Ariss, 2009; Martinez-Miera and Repullo, 2010), bank size (e.g., Hakenes and Schnabel, 2011; Bhagat, Bolton, and Lu, 2012), and corporate governance (e.g., Beltratti and Stulz, 2012; Berger, Imbierowicz, and Rauch, 2014).

As banks internationalize, practically they are geographically diversified by having subsidiary or operating outside their home country and having assets/portfolios in the host country. Economists believe that diversification is an activity that can minimize the risks faced by banks. This can occur because the specific risks that exist in a country are believed to be uncorrelated with the risks that exist in other countries, so that the aggregate risks faced by banks can be minimized by diversification. This is in line with the Portfolio theory by Markowitz (1952). In line with Markowitz's theory (1952), various studies were conducted and concluded that diversifying the portfolio internationally is beneficial and minimizes the risks faced by the company.
Dell'Ariccia and Marquez (2010) also supports that the potential benefits obtained by banks when diversifying internationally will be very high because the economic risks faced by markets between countries are less correlated. Emmons, Gilbert, and Yeager (2004) explained that through diversification, banks can reduce the risk of loan defaults portfolios without having to reduce expected returns. Martin R. Goetz, Laeven and Levine (2016) also concluded that diversification can reduce risk to more levels as banks expand their territories to different economic areas. Paola Brighi & Venturelli (2016) states that in the context of geographic diversification in banking, previous research has stated that geographic diversification will increase efficiency (Berger et al., 1999), expand idiosyncratic risk (Diamond, 1984), reduce agency costs, and increase company valuations.

Research that examines the internationalization and bank risk is still very limited, however, some studies that examine the relationship between geographic diversification and the risks faced by bank financial institutions and non-bank financial institutions have been widely conducted and concluded that internationalization or geographical diversification carried out can minimize risks. Zamore et al., (2019) stated that in line with portfolio theory, Micro Finance Institution (MFI) can potentially minimize risk by geographical diversification. By applying portfolio theory to the risks faced by MFI, it can be assumed that the risk will be minimized when the loans are spread to borrowers in different geographical locations. The logical reason behind this thinking is that crises can occur in one region and not correlated with other regions.

Contradictory to the portfolio theory put forward by Markowitz (1952), and contradictory with researches that concluded that internationalization could minimize the risk, researches conducted on non-financial companies state that internationalization can actually increase the risks faced due to various factors that occur in the market. Some examples of these factors presented by (Berger et al., 2017) are foreign market conditions, local competition, cultural differences, political and economic instability, legal complexity, regulation, monetary, and information asymmetry. Brimmer and Dahl (1975) stated that foreign market conditions can make organizations face greater risk because assets in foreign markets are denominated in foreign currencies. Berger, Klapper, and Udell (2001), Chari and Gupta (2008) explained that local competition in foreign markets can affect how long companies create market shares and networks. Li and Guisinger (1992) explained that cultural differences make institutions have to adapt to local languages, local preferences and various informal institutions. García-Herrero and Vázquez (2013) concluded that internationalization banks are more profitable, but the risks are also greater, especially in emerging markets.

In addition to market factors that can increase bank risk during internationalization, information asymmetry is also believed to be the basis on which internationalization increases bank risk. Goetz, Laeven and Levine (2012) found diversification increased the complexity of banks and made oversight increasingly difficult for banks. Such complexity creates an opportunity for managers to take advantage of their own, which is detrimental to the value of the company. Cerasi and Daltung (2000) emphasized that diversification can lead to expensive monitoring activities, and if monitoring activities are not carried out properly it can lead to higher loan defaults.

Many previous studies have examined the relation of internationalization and bank risk but at Non-Financial Institutions such as Kwok and Reeb (2000), Cuervo-Cazurra, Maloney, and Manarakhan (2007). Research that specifically examines the relationship between bank internationalization and bank risk is still very limited, but has been conducted by Berger et al., (2017) and Bértay et al., (2019)... Berger et al., (2017) examined the bank's internationalization relationship with bank risk in US banks in 1986 – 2010 and concluded that internationalization increases the risk to banks due to market-specific factors and governance, this relationship is more pronounced during times of crisis. Bértay et al., (2019) examined the internationalization relationship with bank performance and strategy (which takes into account bank risk) at international banks in 113 countries in 2000 – 2015 and concluded that internationalization minimizes bank valuations and ROE, and the results obtained differ from banks that internationalize from developed and developing countries.

Laeven and Levine (2009) stated that during period of crisis, bank risk can have a very important effect on economic and financial stability. However, the results of research on internationalization and bank risk conducted in the period of crisis concluded different results. Berger et al., Concluded that the crisis period further clarifies the effect of internationalization can increase bank risk. Contrary to this statement, Bértay et al., (2019) found that during the crisis period, the performance of banks that internationalized was better and increased when compared to domestic banks, this was reflected in higher market valuation values, lower NPLs, and higher ROA. Meanwhile, Beltratti and Stulz (2011) concluded that the crisis period can have a different impact on each bank, depending on the condition of corporate governance, regulations, and the balance sheet in each bank. Banks with higher tier 1 capital, deposits and loans and from countries with tighter capital supervision performed better during crisis periods.

The inconsistency of the results of previous studies and the limited research on internationalization and bank risk in banking institutions using research data from various countries encouraged us to conduct this research. This study will discuss the effect of internationalization on bank risk by considering specific factors at the bank level and macroeconomic factors such as bank size, bank overhead cost structure, diversification
of bank income, and GDP growth and GDP per capita as control variables. In addition, this study also considers the host countries for internationalization by looking at the differences between banks that conduct internationalization in developed or developing countries. This study uses annual data for the period 2005 to 2018 so that we can examine the effect of the crisis period on the effect of internationalization and bank risk. The data used in this study uses data from commercial banks owned by countries that are members of the G8, including: Canada, Japan, United Kingdom, France, Germany, Italy, the Russian Federation and the United States of America. This study uses this data because based on data from Bank Focus, the majority of banks conducting internationalization come from these countries, as reflected in the data on ownership of banks that have subsidiaries outside their home countries.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In the context of internationalization and bank risk, in line with agency theory, when banks internationalize, the agency costs to be borne will be higher because the complexity of supervision and monitoring activity will be higher as the distance between the headquarter and its subsidiary increases. Jensen and Meckling (1976) state that if shareholders find it difficult to supervise and control a company that is geographically diversified, then a group (manager) will have a greater opportunity to take personal benefits from a company which is not profitable for company value. “Empire Building” behavior by managers is also one of the consequences resulting from lack of effectiveness of supervision. Berger and DeYoung (2001) concluded that diversification increases bank ineffectiveness because supervisory activities will weaken as the distance between the head office and its branches or subsidiary increases. Fiordelisi, Marques-Ibanez, and Molyneux (2011) stated that ineffective bank supervision can increase high credit risk. Therefore, the hypothesis in this study is in line with Berger et al., (2017), internationalization has a positive effect on bank risk.

H1: Internationalization has a positive effect on bank risk.

When financial crisis occurred in 2008 that affect economic activity in almost all countries in the world, the question arises whether the internationalization conducted by banks can minimize risks or increase the risks faced by banks. Bertay et al., (2019) concluded that during the crisis there was a difference between the performance of domestic banks and banks that carried out internationalization. Banks that internationalized had better performance than domestic banks during the crisis as evidenced by a higher market valuation value, lower NPL ratio, and higher ROA. This may occur because during a crisis international banks tend to get bailouts. The effect of the crisis on bank internationalization has been investigated by Kho and Stulz (2000), Bae, Kang, and Lim (2002), Beltratti and Stulz (2009), and Allen et al. (2011).

H2: Internationalization during the crisis period minimizes bank risk.

In previous studies, when banks internationalized or diversified their areas, the location where the bank originated and the location where the bank operates were considered to be important factors that influence bank risk and performance. Claessens and Van Horen (2012) found that the performance of a bank can depend on several factors including the country of origin of the bank and the country where the bank operates. Bertay et al. (2019) found that banks that internationalize from developing countries tend to have higher valuations, lower risks and enjoy higher returns. In this study, banks that internationalize in developing countries are considered to have a lower risk, in line with Garcia-Herrero and Vazquez (2013) concluding that risk-adjusted returns are higher for international banks located in high-income countries, especially those with branches. In developing countries. Gulamhussen et al. (2014,2017) found that international banks tend to be more risky and international diversification will create excess value for shareholder value for banks that are expanding into developing countries. Therefore, the hypothesis in this study is that banks that carry out internationalization in developing countries will minimize the risk.

H3: Internationalization located in developing countries minimizes bank risk.

3. DATA AND METHODOLOGY

3.1 Sample selection

To construct a sample of domestic as well as international banks from G8 Countries during the 2005-2018 period we use BankFocus database. This data source provides us with income and balance sheet information on these banks and also with information on their ownership relationships. In the case of international banks, the information enables us to ascertain the number, sizes and country locations of the bank’s foreign subsidiaries. Our sample consists of 743 banks from G8 countries. To get the final sample of 10.402 bank-annual observations for 743 commercial banks over the sample period, we screen the data by omitting
observations that do not refer to active commercial banks, including banks from G8 Countries which owns highest total assets in upper quartile, and excluding observations with incomplete data.

3.2 Measurement of variables

To construct internationalization variable we use method used in Bertay et al., (2019). Using the ownership data provided in BankFocus, we construct Foreign Assets Ratio (FRGN) as a measure of bank internationalization. FRGN is the ratio of the sum of all foreign subsidiaries’ assets (weighted by the parent bank’s ownership share) to the consolidated assets of the parent bank. A larger FRGN indicates higher degree of internationalization. As a proxy for bank risk, we also use the method used in Bertay et al., (2019). We construct the NPL variable (NPLR) as a measure of bank risk. NPLR is the log of the ratio of nonperforming loans to gross loans + 1. To isolate the role of internationalization in bank risk, we employ a number of control variables for bank characteristics shown to affect a bank’s risk outcome. We take bank size (SIZE), bank income diversification (INCD), bank overhead cost (OVHC), GDP growth (GDPG) & GDP per capita (GDPC) as control variables. Following Berger et al., (2017) bank size is measured as the log of Gross Total Assets (GTA), bank income diversification is measured as 1-(Net Interest income-Other Operating Income)/(Total Operating income), bank overhead cost is measured as the ratio of total bank operating expenses to GTA. For Macroeconomic control, GDP Growth and GDP Per Capita we follow Bertay et al., (2019). GDP Growth (GDPG) as rate of real per capita GDP growth and GDP per capita (GDPC) as GDP Per Capita in thousands of constant 2000 dollars. Following Bertay et al., (2019) We also control Crisis (FXC) and Developing (FXD), to analyze potential differences the effect of internationalization in the time of crisis and the effect of internationalization located in developing countries. For crisis, We use dummy variable that is 1 for the year 2007-2009 and zero otherwise. For Developing, we use dummy variable that is 1 for a bank located in a low-income or middle-income country according to World Bank Classification and zero otherwise.

3.3 Model Specifications

This study uses panel data regressions. Panel data regressions have to use the precise estimation modelling steps, the method of estimating regression model using panel data can be done through three approaches: Common effect model, Fixed effect model, and Random effect model. To determine the most appropriate model, we need to perform statistical test procedures such as Chow Test and Hausman Test. Chow Test is a statistical test to determine whether Common effect model or Fixed effect model is most appropriately used in estimating panel data, in which the null hypothesis it is a common effect model is selected. Hausman test is a statistical test to determine whether Fixed effect model or Random effect model is most appropriately used in estimating panel data, in which the null hypothesis it is random effect model is selected. The basic estimating relationship between bank risk and bank internationalization is as follows:

\[ RISK_{ijt} = \alpha_i + \gamma_t + \beta_1INTER_{ijt} + \beta_2\text{BANK}_{ijt-1} + \beta_3\text{MACRO}_{jt} + \epsilon_{ijt} \]  

Where the subscripts I,j, and t denote the bank, the country and the year. RISKijt is a bank risk variable. INTERijt is a bank internationalization variable. BANKijt-1 denotes bank-level control variables, and MACROjt represents macroeconomic control variables. \( \alpha_i \) and \( \gamma_t \) are bank and year fixed effects. Given these fixed effects, the coefficients estimates of the internationalization variables capture the impact of a bank becoming more international within itself, not across banks based on their extent of internationalization.

To investigate whether the relation between bank risk and internationalization was changed by the financial crisis, we estimate the following specification:

\[ RISK_{ijt} = \alpha_i + \gamma_t + \beta_1INTER_{ijt} + \beta_2\text{INTER}_{ijt} \times \text{CRISIS}_{jt} + \beta_3\text{BANK}_{ijt-1} + \beta_4\text{MACRO}_{jt} + \epsilon_{ijt} \]  

Where \( \text{CRISIS}_{jt} \) is a dummy variable signaling the country j is experiencing financial crisis in year t. We take the crisis years to be the period 2007-2009 for all countries.

To examine whether the relation between bank risk and internationalization was changed by the location where the banks operate, we estimate the following specification:

\[ RISK_{ijt} = \alpha_i + \gamma_t + \beta_1INTER_{ijt} + \beta_2\text{INTER}_{ijt} \times \text{DEVELOPING}_{j} + \beta_3\text{BANK}_{ijt-1} + \beta_3\text{MACRO}_{jt} + \epsilon_{ijt} \]  

Where \( \text{DEVELOPING}_{j} \) is a dummy variable signaling that a bank is located in a low-income or middle-income country.
4. EMPIRICAL RESULTS

Table 1 present descriptive statistics for 743 banks over 2005-2018 year period (10.402 bank-year observations).

<table>
<thead>
<tr>
<th>Table 1: Descriptive Statistics</th>
</tr>
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<tbody>
<tr>
<td>Variabel</td>
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<tr>
<td>----------</td>
</tr>
<tr>
<td>Bank Risk Variable</td>
</tr>
<tr>
<td>NPLR</td>
</tr>
<tr>
<td>Internationalization Variable</td>
</tr>
<tr>
<td>FRGN</td>
</tr>
<tr>
<td>FRGN - International banks only</td>
</tr>
<tr>
<td>Control Variables</td>
</tr>
<tr>
<td>INCD</td>
</tr>
<tr>
<td>OVHC</td>
</tr>
<tr>
<td>SIZE</td>
</tr>
<tr>
<td>GDPC</td>
</tr>
<tr>
<td>GDPG</td>
</tr>
</tbody>
</table>

Source: Calculated by the researcher, 2020

To determine the most appropriate model, we take chow test and hausman test as presented in table 2:

<table>
<thead>
<tr>
<th>Table 2: The Results Of Chow and Hausman Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chow and Hausman Test</td>
</tr>
<tr>
<td>Cross-section F value</td>
</tr>
<tr>
<td>Cross-section Random</td>
</tr>
</tbody>
</table>

Source: Calculated by the researcher, 2020

Based on the table 2 above, the result of chow test shows that the probability of cross-section F value is 0.0000, less than 0.05. It can be concluded that based on the chow test fixed effect model is more precise than the common effect model. Furthermore, the result of Hausman test show that the probability value of cross-section random is 0.0000, less than 0.05. It can be concluded that based on the hausman test fixed effect model is more precise than the random effevt model. From the model estimation it can be concluded that fixed effect model is more precise to be used in this study rather than common effect and random effect model. We don’t perform Langranjge Multiplier (LM) test because the Chow test and Hausman test show consistent results.

The classical assumption tests used in this study are multicollinearity test and heteroscedasticity test. Multicollinearity test needs to be done in this study because we use more than one independent variable, while heteroscedasticity test needs to be done because heteroscedasticity problems often occur in cross section data and the characteristic of panel data is closer to the cross section data rather than the time series data. In this study, multicollinearity test will be proceed by examining at the correlation coefficient between each independent variable. Greene (1993) suggested that multicollinearity problem occurred if the correlation coefficient between variable is greater than 0.7. Heteroscedasticity test will be proceed by using Glejser method. Glejser method is done by performing regression residuals absolute values with the independent variable. Ghozali (2013) suggested that heteroscedasticity problem occurred if the probability is < 0.05

<table>
<thead>
<tr>
<th>Table 3: Classical assumption test result – Multicollinearity Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variabel</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>FRGN</td>
</tr>
<tr>
<td>INCD</td>
</tr>
<tr>
<td>OVHC</td>
</tr>
<tr>
<td>SIZE</td>
</tr>
<tr>
<td>GDPG</td>
</tr>
<tr>
<td>GDPC</td>
</tr>
</tbody>
</table>

Source: Calculated by the researcher, 2020
Table 4: Classical assumption test result - Heteroscedasticity test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRGN</td>
<td>0.1231</td>
</tr>
<tr>
<td>INCD</td>
<td>0.8778</td>
</tr>
<tr>
<td>OVHC</td>
<td>0.0002</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.9300</td>
</tr>
<tr>
<td>GDPG</td>
<td>0.0000</td>
</tr>
<tr>
<td>GDPC</td>
<td>0.1562</td>
</tr>
</tbody>
</table>

Source: Calculated by the researcher, 2020

Table 3 shows that there is no correlation coefficient value between variable greater than 0.7. It can be interpreted that there is no strong enough correlation among the independent variables and there is no multicollinearity problem occurred. Table 4 shows that for FRGN, INCD, SIZE, and GDPC variable the probability are greater than 0.05, the heteroscedasticity problem does not occur. Meanwhile for OVHC and GDPG variable the probability is less than 0.05, the heteroscedasticity problem still occurred. Therefore, to heal the heteroscedasticity problem, in this study we perform weighting by using Generalized Least Square (GLS) Weights for model 1, model 2, model 3. Table 5,6,7 below shows the calculation results of data panel regression with fixed effect method, using a panel EGLS (cross-section weights) for a period of 2005-2018 and cross section as many as 743 banks:

Table 5: The calculation results of fixed effect model - Model 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRGN</td>
<td>0.210786***</td>
<td>0.0000</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.021506***</td>
<td>0.0000</td>
</tr>
<tr>
<td>INCD</td>
<td>-4.62E-05</td>
<td>0.7968</td>
</tr>
<tr>
<td>OVHC</td>
<td>0.136941**</td>
<td>0.0055</td>
</tr>
<tr>
<td>GDPG</td>
<td>-0.001710</td>
<td>0.2574</td>
</tr>
<tr>
<td>GDPC</td>
<td>-1.82E-06***</td>
<td>0.0000</td>
</tr>
<tr>
<td>Konstanta</td>
<td>0.552679***</td>
<td>0.0000</td>
</tr>
<tr>
<td>Adj. R-Squared</td>
<td>0.946199</td>
<td></td>
</tr>
<tr>
<td>F-statistics</td>
<td>245.5465</td>
<td></td>
</tr>
<tr>
<td>Prob-F</td>
<td>0.000000</td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated by the researcher, 2020

Table 6: The calculation results of fixed effect model - Model 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRGN</td>
<td>0.205882***</td>
<td>0.0000</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.021535***</td>
<td>0.0000</td>
</tr>
<tr>
<td>INCD</td>
<td>-4.67E-05</td>
<td>0.7944</td>
</tr>
<tr>
<td>OVHC</td>
<td>0.137293**</td>
<td>0.0054</td>
</tr>
<tr>
<td>GDPG</td>
<td>-0.001729</td>
<td>0.2495</td>
</tr>
<tr>
<td>GDPC</td>
<td>-1.81E-06***</td>
<td>0.0000</td>
</tr>
<tr>
<td>FXC</td>
<td>-0.119934*</td>
<td>0.0676</td>
</tr>
<tr>
<td>Konstanta</td>
<td>0.552851***</td>
<td>0.0000</td>
</tr>
<tr>
<td>Adj. R-Squared</td>
<td>0.946263</td>
<td></td>
</tr>
<tr>
<td>F-statistics</td>
<td>245.5306</td>
<td></td>
</tr>
<tr>
<td>Prob-F</td>
<td>0.000000</td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated by the researcher, 2020

Table 7: The calculation results of fixed effect model - Model 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRGN</td>
<td>0.196282***</td>
<td>0.0062</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.021504***</td>
<td>0.0000</td>
</tr>
<tr>
<td>INCD</td>
<td>-4.52E-05</td>
<td>0.8015</td>
</tr>
<tr>
<td>OVHC</td>
<td>0.137649**</td>
<td>0.0053</td>
</tr>
</tbody>
</table>
From model 1, model 2, model 3 data processing, we obtained Adjusted R-squared of 94.61%, 94.62%, 94.62% respectively for model 1, model 2 & model 3 which means that the three models can explain around 94% of the change in the bank risk. With the F test statistic indicating probability value 0.0000, it can be interpreted that the independent variables involved in these models can describe the linear relationship with the dependent variable. From the coefficient and P-value in calculation results of fixed effect model for model 1, 2, & 3, we can interpret that FRGN has positive and statistically significant effect toward bank risk, SIZE has negative and statistically significant effect toward bank risk, OVHC has positive and statistically significant effect toward bank risk, GDPC has negative and statistically significant effect toward bank risk, FXC has negative and statistically significant effect toward bank risk. In contrast, INCD, GDPG, and FXD has no statistically significant effect toward bank risk.

### 5. CONCLUSIONS

This paper assess the role of internationalization in bank risk using commercial banks from G8 countries data. We find evidence that the more internationalized the bank, the higher the risk. This finding is consistent with Berger et al., (2017). As banks internationalize, which practically they are geographically diversified, the monitoring activity between headquarters and subsidiaries will be more complex and create opportunities for managers to maximize their utility, resulting higher risk for the banks. Cerasi and Daltung (2000) emphasizes that diversification creates higher cost for monitoring, and if monitoring is not done properly and effectively, it can result to higher loan defaults for the banks. In this study we find that larger banks have a greater capacity to absorb risk and absorb losses through risk diversification, consistent with Berger, Bouwman, Kick and Schaeck (2014). Banks with higher overhead costs are less stable, consistent with Demirgüç-Kunt and Huizinga (2010). This can happen probably because banks with higher overhead cost has low capacity to manage their cost structure resulting higher fee income share so the risk will be higher. Banks from higher GDP per Capita countries will have lower risk since they tend to have better capital access, technology, knowledge, innovation and have higher tendency to compete, consistent with Claessens (2017). Following the financial crisis, international banks perform better in the time of crisis, this can happen probably because they tend to have higher deposit funding and lower non-deposit short-term funding and stable funding sources and tend to get more generous deposit insurance coverage & bailouts during the crisis, consistent with Bertay et al., (2019). Location where bank internationalize has no effect towards the bank risk, this can happen probably because this study uses the data from G8 commercial banks which most of the banks have better capital access, technology, knowledge, innovation and have higher tendency to compete, therefore wherever the banks operate has no effect towards the bank risk.

### REFERENCES


Author’s Biography

Meidinta Rindatania is a postgraduate student from Indonesia who’s currently studying management science in Universitas Indonesia, Indonesia.
THE IMPACT OF MARKET RISK ON BANKS FINANCIAL PERFORMANCE IN MENA REGION

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ABSTRACT

Despite the growth in the MENA banking sector, managing market risk remains a significant challenge. This paper presents a review of the current market risk management practices and banks' financial performance to gain an understanding of the association between these two indicators. The focus will be directed to the effects of market risk on the financial performance of the Middle East and North Africa (MENA) Banks. Banks in the MENA region were highly affected during 2007/2008 Global Financial Crisis (GFC). Unfortunately, the effect of GFC is prolonged during post-GFC until the year 2014, which reducing banks’ profitability. Banks are highly exposed to various market risks which this in return have a significant impact on financial performance. Banks must mitigate these risks to ensure that an effective risk management program was in place. Weak internal control practised in the banking system in the MENA region will put these banks at high risk. Based on the conducted review, this study focused on discussion related to the efficiency, productivity, competitiveness and profitability. This study will also covering the risk management framework to minimized financial risk, and optimizing their shareholder's benefit.

KEYWORDS: Financial Performance; Market risk; Foreign exchange risk; Interest Rate Risk.
DETERMINING FACTORS OF STOCK LIQUIDITY IN INDONESIA STOCK EXCHANGE IN THE 2014-2019 PERIOD

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ABSTRACT

Share ownership structure has been a concern in many studies related to stock trading liquidity. The existence of inequality of information (asymmetric information) is one of the causes of the concentration of share ownership by certain types of investors which ultimately affects the share ownership structure. This study aims to analyze the impact of share ownership structure (i.e: investor type, ownership concentration, and number of shareholders), share capitalization, regulation, and participation of domestic retail investors on stock liquidity in Indonesia. This study uses a quantitative analysis approach with a panel data regression model. The data used are ownership and trade data with a total sample of 221 issuers listed on the Indonesia Stock Exchange from July 2014 to June 2019. The results show that the types of investors (either; foreign ownership, domestic corporations, domestic financial institutions, or domestic retail) and the concentration of share ownership by large shareholders has a significant effect on liquidity, while the number of shareholders does not have a significant effect on liquidity. Meanwhile, stock capitalization, regulation (Jakarta Islamic Index inclusion), and participation of domestic retail investors (as indicated by buying and selling volumes) also have a significant effect on liquidity. The implication of this research is that the high concentration of ownership by large shareholders, relatively low inclusion of domestic investors and asymmetric information are the main causes of herding behavior. The study recommends the need for policies related to ownership concentration and information dissemination to reduce asymmetric information and increase the investor base with large literacy.

KEYWORDS: Share Ownership Structure, Asymmetric Information, Regulation, Investors, Stock Liquidity
A STUDY ON THE MACROECONOMIC VARIABLES AND THE PERFORMANCE OF FINANCIAL TIMES STOCK EXCHANGE (FTSE) BURSA MALAYSIA EMAS SYARIAH INDEX

Dr. Shahriza Osman¹ & Nur Aqilah Zainordin²
¹AIU International University, ²UCSI University

ABSTRACT
This paper examined the macroeconomics variables that would have an impact on Financial Times Stock Exchange (FTSE) Bursa Malaysia Syariah, also known as FBM SYARIAH from the duration 2011 to 2016. The three independent variables are inflation rate, money supply and exchange rate. Descriptive statistics and multiple regression were two quantitative methods applied to determine the relationship between the variables. Inflation rate have a negative relationship against stock market. When inflation rate increase, the stock market index will decline, when inflation rate decline, the stock market index will increase. The results generated indicate that inflation rate has a negative relationship against the stock market. The increase in inflation rates resulted in decrease of the stock market index and vice versa. Evidence also suggested that the money supply (M2) has a significant relationship against the Islamic stock market FTSE Bursa Malaysia EMAS Syariah Index (FBMSHA). Meanwhile, the exchange rate can have both negative and positive effect against the stock market.

KEYWORDS: Syariah Index, Inflation rate, Exchange Rate, Money Supply

1. INTRODUCTION
The financial system is a sub segment of a country and the macroeconomic performance of a country is typically measured through its stock market. It was argued by economists, for example Damodoran (2006) and Reilly and Brown (2011) that the stock market is a key economic indicator because the information provided by the stock market can assist economists in predicting future changes which can be seen through the economic variables. The stock market can also assist investors in making productive investments by enabling them to build their portfolios efficiently (Arestis, Demetriades, & Luintel, 2001). There were evidences of correlation between conventional mark indices between North American, European Union, Far East, and Pacific markets compared to the Islamic index returns They argue that the price of Islamic and conventional securities corresponds to macroeconomic elements (Dania and Malhotra, 2013). The findings of their research showed that common factors affect the equity price of Islamic and conventional bonds and that the gap resulting from different Islamic and conventional financial practices tends to be minimal (Krasicka &Nowak, 2012,). An evaluation of the risk performance of the Jakarta Islamic Stock Index (JASKISL) and the conventional Jakarta Composite Index (JCI) using GARCH models show that Islamic stock index is safer than traditional stocks (Sukmana and Kholid, 2012). There is vast literature on the Islamic stock market, the effect of macroeconomic forces on the Islamic stock price has not been well-researched. Therefore, this study will provide the Malaysian context.

The FTSE Kuala Lumpur Composite Index (FBMKLCI) comprises of 30 largest companies in the FTSE Bursa Malaysia EMAS Index by full market capitalization and The FTSE Bursa Malaysia Emas Syariah index (FBMES), which is a weighted-average index with its components made up of Main Board companies designated as Syariah approved securities by the Syariah Advisory Council of the Securities Commission, are indeed related to the movement of economic growth in Malaysia.

Recent studies by Mahmoud, Sara and Khaled (2016), indicated that there is a significant relationship between stock market and macroeconomic factors namely; interest rate, exchange rate and money supply either a long run relationship or a causal relation in Egypt and Tunisia. Indeed the study emphasis that the macroeconomic factors play a great role in the stock market fluctuations and can be used to explain them. However, it is believed that the effect of some macroeconomic variables could vary depending on the market condition and time factor.

All the macroeconomic variables used in these studies are namely interest rate, exchange rate, money supply, which have been found to have a relationship with the stock market either a long run relationship or a causal relation in both Egypt and Tunisia. This makes it clear that there is, in fact, a relationship between stock market and these macroeconomic factors and that the macroeconomic factors play a great role in the stock market fluctuations and can be used to explain them. (Mahmoud, Sara, Khaled, 2017).
The effect of some macroeconomic variables could vary from one market to another and from one period to another. Hence, this urged a more in depth investigation of the nature of the relationship between macroeconomic variables and stock markets in different economies, especially after major changes. Any changes that affect the economic conditions in general, such as removing restrictions in foreign investment, will definitely cause changes in the stock market and its relation to the economic factors. Reinvestigating the nature of the relationship between the stock market and the macroeconomic factors will be appropriate and essential for investors because the dynamics of this relationship have changed (Mahmoud et al., 2017).

In this regard, Bhunia (2012) argued that although there are theoretical and empirical studies that investigated the direction of causality between macroeconomic variables and stock market, the direction of the causality is not known yet in empirics as well as in theory. As some studies show empirical evidence proofing causality, other studies show no causal relationship. In addition, the direction of the causality changes from one economy to another.

The great impact of macroeconomic variables on the stock market, and the important role the stock market plays in the economy by affecting its major factors which in return affect the investment decisions makes any investor should be aware of the dynamic relationship between the stock market and macroeconomic variables so that he/she can manage his/her investments more efficiently (Mahmoud et al., 2017).

FBMSHA is the categories from the Bursa Malaysia index. Although researchers Krishna Reddy & Mingli Fu (2014) found that Shariah compliant stock is less risky during Global Financial Crisis, the major macroeconomic variables would also have a critical influences to FBMSHA. Nowadays, stock market act an important role for a country’s economic growth. If a country has a wealth system of the stock market and its profitability is considerable, these characteristic would attract foreign investors actively invest in that stock market. It will boost the growing of a country economics. A mature of the stock market efficiency level is perceived across the globe as a barometer of the economic health and prospect of a country as well as a register of the confidence of domestic and global investors (Alam, 2009).

The first move in facilitating the development and innovation of Islamic financial products in Malaysia was to establish the Syariah Advisory Council (SAC) in the Security Commission (SC) immediately after its own establishment in 1993. This provided the most important first step for the development of KLSI and other Islamic capital market products and services that followed. Since then, Malaysia has established itself as a key player in the global Islamic sphere, where the Islamic capital market is Islamic stock. Islamic Stock Market and Macroeconomic Variables: A Comparison Analysis Especially recognized as a hallmark of international financial success. Mohd Hussin and Muhammad (2011) reported in 2009 that there were over 88 percent of total listed Islamic equity companies in Malaysia. In the latest development, Bursa Malaysia, in co-operation with FTSE, introduced a new series of tradable equity indices called FTSE–Bursa Malaysia Emas Syariah Index and FTSE–Bursa Malaysia Hijrah Syariah Index. This development helped to create more opportunities for investors seeking Syariah investments to benchmark their portfolios, and the asset managers to create new products serving the investment community. The selection of Shariah-compliant companies takes place through a screening process based on qualitative and quantitative parameters. Therefore, in the qualitative criteria, the SAC has applied a standard criteria.

Many studies had been published about the relationships between stock returns and macro variables in well-developed countries such as the US, Japan and European countries. However, regional stock markets such as Malaysia have not been fully explored because of their small sizes and geographic locations. This paper is therefore focused on the comparison of relationships between the Islamic stock market in Malaysia on a set of macroeconomic variables. The issue being identified in this study include the macroeconomic variables which are interest rate, unemployment rate and money supply (M2) from 2011 to 2016.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Numerous researches were carried out to determine the relationship between stock price and macroeconomic variables. Singh, (2010) examines the affiliation among three important factors that are exchange rate, wholesale price index and stock price. Unit root test and Granger causality test is use to check the impression. For present study use Granger causality and for first step analysis used unit root test. The consequences that have been found are mixed and unclear as there is definitely strong connection among wholesale price index and Bharat stock exchange and index of industrial production.

2.1 Inflation rate

The effect of inflation rate to stock market can have either positive or negative repercussions. In general, it refers to the rising price level of goods and services which is expressed in percentage term (Yee, 2013). Volatility of inflation rate have the potential to discourage investors because of the increase of systemic risk. If the inflation rate in a country increase, the overall purchasing power of the country will decrease and then
directly affect the entire stock market. It is like demand itself, is a significant monetary phenomenon. It is a common understanding for every investor that if the inflation rate increase, investor need to bear higher cost of investment and risk level. So, it will lead to the decrease the amount of stock demand.

Inflation rate have a negative significant relationship towards FTSE Bursa Malaysia Emas Syariah index in which if the inflation rate in Malaysia increase, the stock price under FTSE Bursa Malaysia Emas Syariah will decrease. Besides, there is an existence of long run negative relationship between stock market liquidity and inflation. The inflation rate state a negative impact toward the stock market (Isa, 2012). When the inflation rate in a country is high, the majority of the investor tend to trade less investment because of the reduction of purchasing power due to they earn lesser income. Therefore, their trading behavior will adversely affect the stock market performance.

The relationship between inflation rate and FTSE Bursa Malaysia Emas index can be either positive or negative repercussions. Inflation rate has a significant positive correlation with FTSE Bursa Malaysia Emas index. Share prices from FTSE Bursa Malaysia Emas index should relate positively with the inflation rate via value protection which is hedging operation. Inflation rate are valid for the purpose of predicting changes in stock price of FTSE Bursa Malaysia Emas Index based on the cointegration tests conducted (Awang, 2012).

FTSE Bursa Malaysia Emas Shariah index and inflation rate indicate long-run predictability of the Malaysian stock prices which mean the long run movements in the Islamic stock indices are tied to the inflation rate (Naseri, 2013). Besides, inflation rate have a large influence on the volatility toward FTSE Bursa Malaysia Emas Syariah index. On the other hand, a positive scenario would imply that an environment with a high inflation rate would cause the company extra incentive to push higher prices along the increase in production costs. Besides, a high inflation rate also can cause the cash flow to grow higher which mean an increase in the rate of return might be offset by the earnings growth and dividend. Likewise, this can cause an increase in stock values (Mustafa, 2017).

Inflation rate reflect a good impact in stock market positively. Stock market can hedge inflation in line with to Fisher’s hypothesis, some of the stock might immune to inflation pressures (Vena, 2012). On the other hand, stock can also be used as a hedge against inflation, and investors will be rewarded for inflationary tendencies on an economy, which means a real stock market will not affected by inflation. (Barnor, 2014) Stock from company that possess substantial real assets and fixed debt might state a positive relationship toward inflation and perform well in the situation. On the other hand, stock from company that possess liabilities might be state a negative relationship toward inflation rate.

**H1:** There is a positive significant relationship between inflation rate and Bursa Malaysia Emas Syariah Index

### 2.2 Exchange Rate

Numerous research have investigated regarding the relationship between exchange rate and Stock market. Exchange Rate as we mentioned before, is one of the crucial factor that affect stock market. It refers to currency of a country can be exchange to another country currency. Generally, there is a linked relationship between stock market price and exchange rate. The link would be positive when stock prices are the lead variable and the link would be negative when exchange are the lead variable. Besides, the depreciation of the currency which affect exchange rate might depress the stock market. The stock market will react with a less than one percent decline to a one percent depreciation of the exchange rate. On the other hand, this scenario also imply that an appreciating exchange rate will directly boosts the stock market (Dimitrova, 2005).

According to the time-scale decomposition analysis, the relationship between FTSE Bursa Malaysia Emas index and exchange rate is not fixed over different time scales and, in particular, the stock returns are leading exchange rate at the shortest scales. On the other hand, based on the research regarding wavelet cross-correlation analysis, the relationship between exchange rate and FTSE Bursa Malaysia Emas index are negative significant correlation at different time scales. There are also an effects between exchange rate and FTSE Bursa Malaysia Emas index which emerged as a consequence of the increased interdependence observed with the onset of the financial crisis (Ayub, 2013).

On the other hand, exchange rate and FTSE Bursa Malaysia emas index have negative long-term relationship but they are statistically insignificant. Negative relationship between exchange rate and FTSE Bursa Malaysia emas index is because the status of Malaysia which depends on export value, the declining value of Malaysia’s currency would also encourage more exports. Nevertheless, devaluation of Malaysia’s currency value would directly increase the cost of production which mean it will cause domestic prices as regards to capital goods to grow. Thus, it would minimize the profit margin of a firm’s and in consequence decrease firm’s shares prices (Hussin, 2012).

**H2:** There is a positive significant relationship between exchange rate and Bursa Malaysia Emas Syariah Index
2.3 Money Supply

In general, money supply can be divided into M1, M2, and M3. According to the definition by Bank Negara Malaysia, M1 is a measure of the narrow money included all physical money. M2 is a broader money which includes M1 and money market instruments such as fixed deposits. Whereas, M3 contains M2 and institutional money market funds, large deposits, and other larger liquid assets.

There are many researchers looking at M2 as their variables. Jesslee & Alfred Wong (2009) claimed that M2 is their preferred variable of the choice of money supply because of the multicollinearity problem and the lack of unanimous data. They also found that M2 would have a positive impact on market liquidity, meaning when money supply is high, the stock is more liquidity and the stock return will be higher for investors.

Also, this study found that money supply would also affect the syariah-compliant as the effect is the same with conventional stock. The researcher Barakat, Sara, Khaled (2016) took a research in Egypt and Tunisia. Egypt and Tunisia have the same features to Malaysia which are emerging market and big syariah-compliant market. Barakat et al. (2016) found that money supply has a relationship either long-run or casual relation in Tunisia and Egypt. Hence, the change in the money supply by government would take an effect of the signal of syariah-compliant stock.

Bahloul and Mroua (2016) claimed that conventional stock return and money supply have a significant impact on Islamic stock in volatility for emerging and developed market by using Markov switching regression model. Their research takes a look from the period of June 2002 to June 2014 for ten markets in both emerging and developed markets. They also claimed that the change in money supply would also change the investment decision by investors.

In fact, for the theory of money supply, when money supply of a country is increased by government, the flexibility of the cash will increase, hence there will be a massive number of cash entered stock market. But, when the money supply of a country is out of control, a devaluation of the currency will arise because the currency is worthless to others country.

H3: There is a positive significant relationship between money supply and Bursa Malaysia Emas Syariah Index.

Figure 1 is the research framework to identify and examine the relationship between the dependent variable and independent variables. This study tries to examine the connection between those variables and hence construct a framework in order to clearly identify those significant or insignificant relationship.

3. METHODOLOGY

This study uses secondary data which examines the time series data collected from online due to the Islamic stock performance and the ten years macroeconomic variables were published online such as Bursa Malaysia, trading economic. Secondary data is information that already collected by others and can be used by researcher to answer their research question. Besides, it is also a quantitative information that mostly obtain from different published sources such as companies reports, statistic published by government and so on (Akrani, 2014). There data are mainly concerns on quantitative variables. The reason of using secondary data for the research is because secondary data is more reliable as obtaining quality data from different sources and it also can save a lot of time compare to primary data. Moreover, journals and articles will also be used as an additional data for reference purpose. The summary and analysis of journals are used as a guideline before starting the analysis of the data collected for each variable. The relationship between macroeconomic variable
and the performance of FTSE Bursa Malaysia Emas Index can be determined through the data that recorded online. Multiple Regression model is used which is a method that consist of data analysis in order to examine the significance relationship between a dependent variable to any other independent variables. (Berger, 2003) Multiple Linear Model consist of more than one independent variable in this method, and also a statistical method in which the researchers can frequently use to analysis data when there are multiple independent variables (Leech, 2003).

This research is carried out by using quantitative method because quantitative method can be generating reliable numerical and credibility result from a large sample size (Hyde, 2000). Quantitative methods is an approach for testing objective theory examining the relationship among measurement variables (Creswell, 2013). Besides, quantitative methods involve the process of collecting, analyzing, interpreting and writing the result of a study. We will also analysis the relationship between independent variables identifies and dependent variables determined by using Multi Linear Regression model.

The research aims to investigate the relationship between the macroeconomic variables and the FTSE Bursa Malaysia from the year 2006-2016. There are 20 Islamic stock from two industries which are Technology and Construction under FTSE Bursa Malaysia Emas Index. The study will be using data and empirical results from those 10 stocks which are from FTSE Bursa Malaysia Emas Index as an indicator to determine the impact from selected macroeconomic variable on the stock market performances. The stock market have 20 Islamic stock from two industries which are Technology and Construction as shown in Table 1.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amtel Holding Bhd</td>
<td>ARK Resources Bhd</td>
</tr>
<tr>
<td>Censof Holding Bhd</td>
<td>DKLS Industries Bhd</td>
</tr>
<tr>
<td>ECS ICT Bhd</td>
<td>Ekovest Bhd</td>
</tr>
<tr>
<td>Elsoft Research Bhd</td>
<td>Gamuda Bhd</td>
</tr>
<tr>
<td>Grand Flo Bhd</td>
<td>IJM Corporation Bhd</td>
</tr>
<tr>
<td>Inari Amerton Bhd</td>
<td>Ireka Corporation Bhd</td>
</tr>
<tr>
<td>KESM Industries Bhd</td>
<td>Sunway Construction Bhd</td>
</tr>
<tr>
<td>Mesiniaga Bhd</td>
<td>TRC Synergy Bhd</td>
</tr>
<tr>
<td>Omesti Bhd</td>
<td>Zecon Bhd</td>
</tr>
<tr>
<td>Panpages Bhd</td>
<td>IJM Corporation Bhd</td>
</tr>
</tbody>
</table>

Source: Researcher Secondary Data, 2017

4. FINDINGS

The data analysis undergoes the T test, F test, Diagnostic Checking as well as Unit Root Test in order to check the result of different test executed. The result of this study has shown in the tables and figures. As to support the result and statements of variables in the model, some journals have been referred. The result of F-test which have been shown below, \( R^2 \) of the model is 0.782863. It shown that there is 78.29% of the variation in estimating the KLCI stock market index can be explained by the variation in exchange rate, inflation rate and money supply. The following tables support the results.

<table>
<thead>
<tr>
<th>Variable</th>
<th>( P - value )</th>
<th>( &gt;0.05 ) or ( &lt;0.05 )</th>
<th>Accept or Reject Ho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Supply (M2)</td>
<td>0.00</td>
<td>&lt;0.05</td>
<td>Accept, do not reject</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>0.0012</td>
<td>&lt;0.05</td>
<td>Accept, do not reject</td>
</tr>
<tr>
<td>Exchange Rate (US)</td>
<td>0.00</td>
<td>&lt;0.05</td>
<td>Accept, do not reject</td>
</tr>
</tbody>
</table>

Source: Researcher Statistical Analysis, 2017

Table 2 explain the results for the independent variables that is money supply, inflation Rate and exchange rate are significant under the T-test. The \( P - value \) of the T-test value is lower than the significant level 0.05. Three of the independent variables shown that there are significant effect against the dependent variable, which is FBMSHA. From the E-view testing perspective, this study found that Money Supply (M2), Inflation Rate and the Exchange Rate (US) have the significant relationship against the stock market in Malaysia. Three of
the independent variables do not show that they need to combine with other factor (for example: Fiscal Policy, unemployment rate and some more financial indicator) to attain the goal of affect FBMSHA.

The following table is the diagnostic checking using multicollinearity after analysis of the multiple regression. From the Table 3 displays the multicollinearity from the exchange rate, inflation rate and money supply. For exchange rate shows 0.817558, inflation rate shows 0.473924 and money supply is 2.16. For exchange rate and inflation rate shows that there are multicollinearity problem but for money supply did not have any problem on the multicollinearity problem.

Table 3. Results for Multicollinearity and Autocorrelation for independent variables

<table>
<thead>
<tr>
<th>Multicollinearity</th>
<th>Exchange Rate</th>
<th>Inflation Rate</th>
<th>Money Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durbin Watson:</td>
<td>0.817558</td>
<td>0.473924</td>
<td>2.158222</td>
</tr>
<tr>
<td>R squared:</td>
<td>0.030835</td>
<td>0.221336</td>
<td>0.613236</td>
</tr>
</tbody>
</table>

For autocorrelation, if R squared is more than 0.1, it shows that there is no autocorrelation problem for the data. From the Table 3 shows that money supply and inflation rate do not have any autocorrelation problem from the date except for exchange rate. For exchange rate, R squared= 0.0308 which means less than 0.1. Thus can conclude that there is an autocorrelation problem. Autocorrelation is a common problem in time-series regressions. It indicated that there is a relevant independent variables are missing from the model. The reason behind this is because the time-series macroeconomic data is notorious for its problematic nature as to meeting classical assumptions of OLS estimation.

Table 4, is the results to analyze the stationary properties of those variables by applying the Unit Root test. In case of testing the ADF and PP, this study shows that the greater the negative number, the greater the signal of the data is not stationary and has a unit root. As the testing from the table above, we used 5% significant level, which α=0.05 to test whether the unit root exists. If the p-values of the variable is equal or less than α (0.05), then reject the null hypothesis $H_0$. If the p-values of the variable is greater than α (0.05), then do not reject the null hypothesis. The result above has shown that all variables are stationary and do not contain unit root. Thus, this testing successfully reject $H_0$. The results in the first testing show that all variables are stationary and do not contain unit root.

Table 4: Results of Augmented Dickey-Fuller Unit Root Test for Independent and Dependent variables

<table>
<thead>
<tr>
<th></th>
<th>ADF</th>
<th>PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBMSHA</td>
<td>-1.265965</td>
<td>-1.26596</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>-12.66739</td>
<td>-5.70931</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>-0.022156</td>
<td>-1.32004</td>
</tr>
<tr>
<td>Money Supply</td>
<td>-1.32004</td>
<td>-0.33781</td>
</tr>
<tr>
<td>First Different</td>
<td>-6.55184</td>
<td>-6.06148</td>
</tr>
<tr>
<td>FBMSHA</td>
<td>-12.9983</td>
<td>-8.80420</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>-1.40645</td>
<td>-1.40645</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>-1.83609</td>
<td>-1.83609</td>
</tr>
<tr>
<td>Money Supply</td>
<td>-1.83609</td>
<td>-1.83609</td>
</tr>
</tbody>
</table>

As a summary of both ADF test and PP test, these analysis is use to examine the stationary of the selected data series and to make sure the accuracy of the research between dependent and independent variables. Only reject the null hypothesis then can achieve a stationary model. The data analysis undergoes the T test, F test, Diagnostic Checking as well as Unit Root Test in order to check the result of different test executed.

5. DISCUSSION

This study found that when inflation rate is increase, the stock market index will mostly decrease. Meanwhile, the money supply (M2) also have a significant relationship against the Islamic stock market FBMSHA. Hold everything constant, when money supply is increased, investors have more funds to invest in stock market, hence boost the market index. In other way, when money supply is decreased, investors will not able to raise their investment amount, the market index would likely decrease. This study found that when government increase their budget for money supply, the index would increase, exclude the financial crisis.
period (2007-2008). Hence, government need to take a very serious decision to control the monetary policy to attain the economic goal. And also, the testing for this study also apply the theory of the money supply against Islamic stock market.

In this study, we would like to find the reason and the factors that affect the Islamic stock market in Malaysia. Hold everything constant and exclude indicator factors such as government policy (ex: fiscal policy), this study focused on exchange rate, money supply and inflation rate. Every independent variables we took into consideration, plays an very important rules for affecting the Islamic stock market in Malaysia because every single independent variables have the significant relationship against FBMSHA.

Based on the inflation rate theory against stock market, when inflation rate is increase, investors are unlikely invest in stock market because they have less idle money to take in use. There was a financial crisis on 2008 in global market, the inflation rate increase from 2% to 5.45%. This is a very terrible situation to Islamic stock market and make the index strongly decline from 10533.13 to 5949.63. There are many researchers also found that inflation rate have a negative relationship against stock market. When inflation rate increase, the stock market index will decline, when inflation rate decline, the stock market index will increase. In this study, we also found that when inflation rate is increase, the stock market index will mostly decrease. Hence, this study apply the theory of the inflation rate.

Meanwhile, the money supply (M2) also have a significant relationship against the Islamic stock market FBMSHA. Hold everything constant, when money supply is increased, investors have more funds to invest in stock market, hence boost the market index. In other way, when money supply is decreased, investors will not able to raise their investment amount, the market index would likely decrease. This study found that when government increase their budget for money supply, the index would increase, exclude the financial crisis period (2007-2008). Hence, government need to take a very serious decision to control the monetary policy to attain the economic goal. And also, the testing for this study also apply the theory of the money supply against Islamic stock market.

In addition, the exchange rate can have both negative and positive effect against the stock market (World Economic Forum, 2015). In theory, the sign of the relationship depend on the covariation between returns and currencies and stock market risk premium. When the currencies against US is decreased, the US portfolio may come into Malaysian market because they use lesser cost to buy the stock. When the fund of Malaysia is increased, the government can buy back currencies to boost our currency back to constant level. Hence, the relationship between stock market and exchange rate is neutral. Kirui, Wawire and Onono (2014) examine the effect on stock market of macroeconomic variables. Different variables are used which are stock market return, Inflation, Gross Domestic Product and exchange rate. The Threshold Generalized Autoregressive Conditional Heteroscedasticity model is used. The result presented a negative link among exchange rate and stock market return.

There were numerous studies investigating the linking between economic forces and stock prices in the context of conventional markets, and research looking at the impact of the macroeconomic forces on Islamic stock prices is rather limited. In this regard, this study aims to contribute towards enriching the literature by focusing on the impact of the macroeconomic forces on the Islamic stock market. Islamic stocks. On a global basis, interest in Islamic finance has shifted from bank-based focus to capital market-based instruments (Dewandaru, Rizvi, Bacha, & Masih, 2014. From the perspective of Malaysia, its Islamic capital market has become a growing focus and this is due to investors, be it individuals or institutional investors, demanding more from their Islamic investments (Al-Khazali, Lean, & Sarmet, 2014). In 2013, the Syariah-compliant stocks, as reflected by the FBM Emas Syariah Index, had performed better than the overall FBMEI stock. Its performance stood at 16.4 per cent as compared to its counterpart standing at 15.8 per cent (Bursa Malaysia, 2014).

Between the conventional stock market and the Islamic stock market, there are specific features of difference, particularly in the specification of risk return profile. In this regard, the screening criteria undertaken by the Islamic investment is based on Syariah principles which exclude non-compliant companies from its pool of investable equities. Thus, only Syariah-compliant companies are considered, resulting in a smaller pool of investable equities with more volatile returns (Dewandaru et al., 2014; Hussein & Omran, 2005).

6. CONCLUSION

There were studies that had enthusiastically measured the link between macroeconomic forces and stock prices within the conventional environment and empirical studies looking at the Islamic stock market had remained scarce, despite its greater volatile and budding returns, particularly in the context of Malaysia. Therefore, to what extent are the Islamic stock prices susceptible to the macroeconomic conditions. So this leads to the investigation of the effect of the macroeconomic forces on the behaviour of Malaysia’s Islamic stock prices.

This study found that theory is not completely apply the testing because there are many other factors other than economic indicator such as war will also indirectly affect the Islamic stock market in Malaysia. Based on
the inflation rate theory against stock market, when inflation rate is increase, investors are unlikely invest in stock market because they have less idle money to take in use. There was a financial crisis on 2008 in global market, the inflation rate increase from 2% to 5.45%. This is a very terrible situation to Islamic stock market and make the index strongly decline from 10533.13 to 5949.63. There are many researchers who also found that inflation rate have a negative relationship against stock market. When inflation rate increase, the stock market index will decline, when inflation rate decline, the stock market index will increase. In this study, we also found that when inflation rate is increase, the stock market index will mostly decrease. Hence, this study is an application of the theory of the inflation rate. Inflation rate is define as an indicator in measuring the stability of economic condition for a particular country (Rashid,2011). In general, it refers to the rising price level of goods and services which is expressed in percentage terms. Furthermore, high inflation might cause a great impact on economic activities of a particular country due to it reduces the purchasing power of domestic consumers and it would lead to the decline in the value of currency, common goals to reduce or control the inflation rate in their countries in order to achieve economic stability. Based on the research conducted by Aliyu (2012), inflation and stock prices are significantly related in the long run but in a negative manner. It is proposed that inflationary pressures can dampen stock markets because they could hurt future company earnings and consequently raise the discount rates, thereby, threatening company’s stock values. However, in short run inflation stock price nexus generally does not exist. This would have different implication of changes on inflation on stock price in the short run.

In determining the relationship between money supply, inflation rate, exchange rate and FBMSHA, the following limitations were identified which could influence the interpretation of the research results. Limitation in the macroeconomic variables as there are numerous economic variables but we only use only three variables. Second limitation is time frame for both the year when data is collected and time to finish the research. As a conclusion, macroeconomic variables are critical factors that will affect the performance of the stock market. We need to really take a research to these macroeconomic variable. In theory, these are the nature of those three macroeconomic variables would affect the KLSE index. In practice, we are focusing the data and theory in order to clearly understand the stock market performance.

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TRACK 8A
ACCOUNTABILITY
KEY PERFORMANCE INDICATOR IN PUBLIC PRIVATE PARTNERSHIPS- EVIDENCE FROM MALAYSIA

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¹,2 Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, (hamizah@umt.edu.my, mimihamzah@umt.edu.my)

ABSTRACT
The objective of the current study is to understand the use of Key Performance Indicator (KPI) as inscription in Public Private Partnerships (PPP) arrangements. This inscription aimed to serve the public in terms of detailed and organized tasks to be followed. The end purpose KPI is to achieve public accountability. This qualitative study involves 25 interview participants comprising UKAS officer, MOE officers, IIUM and UiTM officers and consultants from the SPV. The findings show that KPIs are vital components of the Concession Agreement (CA) that align the interests of experts in the PPP project. In addition, the KPI is found as a practice within the network of allies. The practice of KPI within the network of allies can help the leader to accomplish organizational targets.

KEYWORDS: PPPs, CA, KPI, practice network.
DONOR PROFITABILITY TO MAINTAIN THE SUSTAINABILITY OF NON-PROFIT ORGANIZATION’S (NPO) FUNDING: CASE STUDY AT Z ORGANIZATION

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¹,²Faculty of Economic and Business, Universitas Indonesia, Jakarta, Indonesia
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ABSTRACT

This research aims to measure the profitability analysis and lifetime value of donors in one of the non-profit organizations (NPOs) in Indonesia, namely Organization Z. This research uses a case study approach with a single unit analysis. The sampling used the purposive sampling method by selecting 20% of total donors with the highest donations in 2019 as the samples. The analysis is conducted by calculating the donor profitability analysis and donor lifetime value using primary data obtained from the fundraising and the financial reports of Z Organization Z in 2019. The results identified the classification of donors into four categories based on the joint analysis of the donors’ profitability analysis and donors’ lifetime value as the basis for managing donor relationships and resource allocation. From this research, it is obtained donors’ classification, namely High-Value Donors (53%), Growing Donors (9%), Declining Donors (4%), and Low-Value Donors (33%). The most dominant group is the High-Value Donors, having high profitability and lifetime value, which indicates that the sustainability of Z organization’s funding is good. However, organization Z faces a challenge for the low-value donors’ segment, which is the second largest group, because it has low profitability and lifetime value.

KEYWORDS: NPO; Fundraising; Donor; Relationship Management; Profitability Analysis

1. INTRODUCTION

Not-for-profit organizations are types of organizations that do not earn profits for their owners. All of the money earned by or donated to a not-for-profit organization is used in pursuing the organization's objectives and keeping it running (Kenton, 2020). Nonprofit Organization mainly focuses on social, community, and environmental issues. The number of NPOs is estimated to continue growing. Scanlon and Alawiya (2014) reported that there were 2,848 active NPOs out of 11,468 local NPOs in Indonesia. Furthermore, in the database of the Ministry of Foreign Affairs, there were 109 international NPOs were officially registered in 2011. Contrary to NPOs’ growth, the availability of funding is limited. In the NPOs’ sector, funding sustainability is always challenging. Iswardi in Rachmasari (2016) revealed that many NGOs have stopped operating because they no longer receive funding from external sources. Next, Sowa in Scott (2014) also emphasized that competition will kick the small and inefficient non-profit organizations out of the business. This condition is resulting in a competitive environment for NPOs in obtaining funding, especially in capturing the attention of the general public as potential donors (Scott, 2014). To maintain funding, NPOs must develop capabilities and competencies in service provision for donors. Sargent (2001) reveals that donors have different levels of profitability. Furthermore, Sargent's research (2001) also reveals that from the donor segmentation in NGOs, it is known that the number of less qualified donors is always more than donors who have the quality value expected by the organization. Besides, Toohill, et al. in Bennett (2006) reports that fundraising takes years to cover the costs of recruiting new donors. Blum (2014) adds the same thing, that the turnover of donors is very expensive and if the organization is unable to retain donors it is tantamount to wasting the donations they received previously. Thus, NPOs need to know the quality of donors as the basis for a donor.

Organization Z is one of the NPOs in Indonesia that organizes fundraising independently by forming a Fundraising Division within its organizational structure. Jackson's research results (2018) reveal that NPO funding is highly dependent on international grants, relying on Corporate Social Responsibility (CSR) funds, government, and individual donors. Fundraising at Organization Z is done by recruiting individual donors from various fundraising channels to become supporters of Organization Z funding through regular donations. The Fundraising Division has started to raise funds independently since 2015. Table 1 contains data on the growth of individual donors and donations received by Organization Z in the last four years, obtained from the Organization Z report.

Table 1: Donors and Donations

<table>
<thead>
<tr>
<th>Year</th>
<th>Donors</th>
<th>Donations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>2017</td>
<td>120</td>
<td>600</td>
</tr>
<tr>
<td>2018</td>
<td>150</td>
<td>700</td>
</tr>
<tr>
<td>2019</td>
<td>180</td>
<td>800</td>
</tr>
</tbody>
</table>

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From Table 1 it is known that the growth of donors has been negative since 2016 and slightly increased in 2019, as well as donation income. This indicates that Organization Z loses donors and donations every year. According to the data reported by Organization Z, some donors were recruited but did not arrive at the first debit, which reached 26% in 2018 and 34% in 2019. Furthermore, there were 243 out of 1553 donors who stopped donating in 2018 and 352 out of 1834 donors who did not donations can be processed in three consecutive months in 2018. This indicates that the level of donor attrition at Organization Z is quite high, which is accumulated to be 18% in 2018.

In this, Organization Z faced a problem with donor quality. According to Atkinson, et al. (2011), the profitability of a consumer is calculated by (1) the amount of goods/services spending by the customer for that product and (2) the intensity of the customer in purchasing the product. The same applies to assessing the quality of donors, which is measured by the number of donations and how long the donors last to keep donating in the future (donor retention). The quality of donors can be measured through the level of donor profitability (profitability analysis and lifetime value). With the problems in Organization Z that have been stated, this research aims to measure the level of profitability of donors in Organization Z by using the donor profitability analysis and donor lifetime value. Analysis of the profitability of donors is needed to determine the current level of profitability of donors, while the lifetime value of donors is carried out to obtain an estimate of the potential contribution of donors in the future (Kumar & Rajan, 2009). The results of the profitability analysis at the donor level will be the basis for consideration in making decisions regarding the management/service strategy of donors in Organization Z, including the resource allocation/donor service costs. Apart from managing the profitability of donors to maintain Organization Z funding, this research also contributes as an evidence-based or academic literature base in the application of donor profitability analysis and donor lifetime value at NPO in Indonesia and Asia. This is because studies related to the profitability of donors on NPO are still rare, even though the urgency for the analysis is urgent.

### 2. LITERATURE REVIEW

Studies on the application of profitability and lifetime value analysis are generally carried out in profit-entities to analyze profitability and measure the lifetime value of customers or products, so it is more commonly known as Customer Profitability Analysis (CPA) and Customer Lifetime Value (CLV). Customer Profitability Analysis (CPA) is carried out by companies to see customer profitability to obtained and understand how long it takes customers to become profitable (Smith & Dikolli, 1995). With CPA, marketing managers will be helped to see the balance needed between acquisition and customer retention activities. The calculation of donor profitability uses the customer profitability analysis (CPA) formula introduced by Ryals (2008). Customer profitability analysis is calculated from customer revenue, minus customer costs, such as cost of goods sold, the cost to serve, and customer-specific overhead. Cost calculation in CPA uses the principle of Activity Based Costing (ABC) to determine the cost to serve each customer or customer segment (Brown, 2012).

Brown's (2012) article mentions the Pareto law, the 80:20 rule, which states that 20% of customers make 80% of total profits. The same thing is also founded in the Whale Curve, which shows the cumulative profitability of customers so that it is known how profitable customers subsidize unprofitable customers. The whale curve shows that the most profitable 20% of customers make about 180% of total profit, 60% of customers are breaking even, and the 20% of most unprofitable customers lose 80% of total profits, leaving the company with 100% of total actual/final profits (Brown, 2012). In this case, it means that there are potential benefits that can still be achieved. Profitability analysis helps provide a simple and structured approach to segmenting customers so that potential profits can be actualized. The results of the CPA provide information to the management of why there are more profitable customer groups so that companies can maintain profitable customer relationships and decide on strategic development on profitable customers to be more attractive in generating profits.

However, CPA alone is not strong enough because it has limitations only from seeing historical value as a measurement, which can result in companies misallocating sales and marketing resources. Therefore, apart from CPA, Customer Lifetime Value (CLV) analysis is also needed. Kumar in Vriens (2006) defines CLV as the total customer contribution (income minus costs) for being a customer of the company. The CLV value is calculated based on the total cash flow of the customer during his lifetime with the company accumulated at a
discount using the weighted average cost of capital (Woodburn & Wilson, 2014). According to Kumar and Rajan (2009), some of the advantages that a company will get if it takes the CLV approach include (1) maintaining a sustainable relationship between the company and its customers, (2) classifying customers based on lifetime value for the development of marketing strategies, (3) make consistent decisions over time regarding targeted and retained customer prospects to improve future customer profitability, and (4) determine the optimal allocation of resources and efforts across profitable customers based on the results of customer segmentation. Qi, Zhou, Chen, and Qu, in Nashir (2019), stated in their research that one of the drivers of CLV is customer loyalty. However, Brown (2012) states that not all customers benefit the company, so companies need to exclude several customers or allocate different resources to each customer.

According to Kumar and Rajan (2009), loyalty and profitability must coexist, balance, and be managed simultaneously. According to Ryals (2008), the CPA value is more reliable because the data is based on the customer's actual transactions. On the other hand, the CLV value, although it is based on estimates/projections, is needed to see the potential future profitability of customers that is not present in the CPA calculation. Thus, companies need both, the CPA provides an overview of the profitability of donors in a certain accounting period in the past (retrospective), and the CLV provides an overview of the projected profitability of each donor in the future (prospective). The CPA and CLV values of each customer were analyzed together to classify customers in Table 2 below.

Table 2: Customer Segmentation

<table>
<thead>
<tr>
<th>CPA</th>
<th>CLV</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>High Value Customer</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>Declining Customer</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Growing Customer</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low Value Customer</td>
</tr>
</tbody>
</table>

Source: Ammar Nashir (2019)

The CPA value shows the current value and the CLV shows the potential value. Table 2 shows the classification of customers into four groups based on the CPA and CLV values, namely high-value customers, declining customers, growing customers, and low-value customers. Based on this classification, the customer will be further analyzed to determine the management strategy in customer treatment/service.

Although CPA and CLV are more commonly used in profit-based entities, it is possible to use both analyzes in non-profit organizations. Non-profit organizations (NPOs) depend on funding through fundraising, by recruiting individual donors to donate regularly as the main source of income for NPOs. Same with customers, donors are the key to sustainable income for NPOs. Therefore, NPOs need to be able to obtain quality donors (loyalty and good profitability) and to retain profitable donors. Rifa (2016) revealed that to achieve long-term funding stability, NPOs must be able to maintain relationships with committed donors and partners. Thus, NPOs need to implement an analysis of profitability and lifetime value on their donors. Sauve-Rodd (2007) states that by analyzing the profitability and lifetime value of donors, NPOs will be able to determine the current level of profitability of donors and at the same time predict future donor profitability so that they have a basis for consideration in making decisions about prospective donors for recruiting and maintaining. Furthermore, NPOs will also be able to allocate resources in managing relationships with donors based on the results of the analysis of the donor's profitability and lifetime value. This is important because of the limited resources of NPOs and not all donors recruited are of good quality.

The calculation of profitability and lifetime value for donors will follow the CPA and CLV formulations in general and produce the same classification. Table 3 provides information on the classification of donors based on the results of calculating the donor's profitability and lifetime value.

Table 3. Donors’ Segmentation

<table>
<thead>
<tr>
<th>Donor Profitability Analysis</th>
<th>Lifetime value donatur</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>High Value Donor</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>Declining Donor</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Growing Donor</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low Value Donor</td>
</tr>
</tbody>
</table>

Source: modified from Ammar Nashir (2019)
The results of the second analysis will be useful for NPOs in the application of Donor Relationship Management which is useful for managers to be able to determine strategies for caring for and maintaining high-value donors, arranging steps to increase the value of growing donors, and even maintaining low-value donors, but at a cost or resources. Adjusted so that it does not erode the income obtained from qualified donors. The study on the analysis of donor profitability and lifetime value on NPO are still rare. Sauve-Rodd (2007) examines the distribution of profitability at the donor level, and the results show that half of the annual donors are profit generators, half are loss-makers, and three-quarters of the net income for one year is provided by only 10% of total donors. Furthermore, the results of research by Sergeant (2001) state that there are two key organizational decisions in assessing donors, namely based on historical and projection values. By combining the two, four donor segmentation approaches can be produced. Sergeant (2001) also revealed that the lifetime value approach offers fundraising information about how many donors or segments might be of value to the organization in the future. Thus, NPOs need to determine the management of donors by category/segmentation of donors.

3. METHODS

The research strategy uses a case study approach to answer research problems regarding the use of profitability analysis and lifetime value in managing the profitability of donors in Organization Z. The research approach used descriptive-analytical method with single-unit analysis, namely Organization Z. Organization Z was chosen as the unit of analysis because it established in-house fundraising with individual donors as the main source of income. The donors selected for analysis are 20% of the total donors with the criteria of active status and including 20% of donors with the highest contribution to donations in 2019. This study uses primary data obtained from the financial statements and fundraising reports of the Z organization for the period 2019. Data collected from the financial division includes donors’ costs and from the fundraising division reports obtained data related to the demographic attributes of donors such as the amount of donations, frequency of donations, age, sex, etc. The method of data analysis is by calculating the profitability of the donor and the lifetime value of the donor, then a combined both analysis by carried out joint analysis that resulting classification of donors into four groups.

The first calculation of profitability is the Donor Profitability Analysis, by adapting the formula introduced by Ryals (2008), the profitability of donors in period t is the reduction between the donor's donation income and donor costs (all costs associated with recruiting and maintaining donors). After calculating the profitability, the donor will be identified and classified based on the profitability of the donor. The grouping is carried out into two categories, high profitability donors and low profitability donors. The categorization is based on the average value of all donors, the values that are above the average are included in the high profitability group, while those that are below the average are included in the low profitability group. The next, the lifetime value donor calculation is carried out using a concept adapted from Lemmens & Vanderbiesen in Woodburn & Wilson (2014), with the following formula.

\[ CLV = \sum_{t=1}^{T} \frac{\text{Contribution of donor}}{(1+r)^t} \]

In the calculation of the Donor Lifetime Value for period t, r is the discounted rate using the nominal generally used in NPO, which is 10% (Sergant, 2001). The calculation of the Donor Lifetime Value uses an estimate for the next three years, the donor contribution estimate uses the average increase in donor donations per semester and the estimated donor cost uses an estimate of growth based on the 2019 inflation rate sourced from Bank Indonesia data of 2.72%. After calculating the donor's lifetime value, the donor will be identified and classified based on the donor's lifetime value calculation. The grouping is carried out into two categories, high lifetime value donors and low lifetime value donors. The categorization is based on the average value of all donors, values that are above the average are included in the high lifetime value group, while values that are below the average are included in the low lifetime value group.

After calculating the donors’ profitability analysis and donor lifetime value, it is followed by a joint analysis which results in the identification of donors into four classifications/segmentations, including high-value donors, declining donors, growing donors, and low-value donors. High-value donors have profitability and lifetime values above the average. This segment is an organizational asset and is the most valuable group of donors. The next, the Declining donors’ segment, donors who have a profitability value above the average of all sample donors, and a lifetime value below the average of all donor samples. This donor group survives only in the short-term yet offers high income to the organization because it avoids building stable relationships with a single provider. The next group is growing donors, they have profitability values below the average of all donor samples and a lifetime value above the average of all donor samples. This group of donors offers low profitability for the organization even though they are long-term donors. Growing donors can sometimes be profitable if managed properly. Finally, the low-value donors, the donors with profitability, and lifetime values lower than the average are included in the low lifetime value group.
are below the average for the entire sample of donors. These donors are the least profitable group because they have no loyalty to the organization. With the identification of donor segmentation, the organization can build relationships with donors for the loyalty program with the overall goal of achieving maximum donation income for the sustainability of the organization's income.

4. RESULTS & DISCUSSION

According to the sample inclusion criteria, the sample of donors analyzed in the study was 20% of active donors (1292 donors) who had the largest contribution to the organization in 2019. The cost of donor consists of recruiting costs and serving costs. Cost allocation for the recruiting is based on the costs incurred to obtain new donors, including venue fees, fundraiser salaries, fundraiser incentives, training/trainer fees, team leader salaries, all document printing costs, telefundraiser salaries, third party agencies, website maintenance, email, and ads. The cost of recruiting per donor is obtained by adding up all the costs incurred in obtaining donors in each channel and then dividing it with the total number of donor sign-ups on each channel. Based on the calculation, it is obtained that the cost of recruiting per donor at Organization Z on each channel was Rp 670,669 per donor for direct dialogue campaigner, Rp 759,425 per donor for telemarketing, and Rp 6,448,267 per donor for a web channel. The next is the costs of maintaining/serving donors, it is based on the costs incurred for managing donors. Donor maintenance costs consist of general donor service fees, welcome pack fees, and third-party fees. The welcome pack fee is charged only once when the donor first joins as a new donor of the organization. The welcome pack fee is charged based on the total number of donor sign-ups obtained in 2019. Furthermore, third party fees are charged based on the frequency of donation in 2019. The donor service fee is charged based on the total number of active donors in 2019. Based on calculations, the cost of maintaining/managing per donor at Organization Z were Rp 45,782 per donor for general service, Rp 8,133 per donor for the welcome pack, and Rp 3,952 per donor for a third-party fee.

The donors’ profitability analysis is obtained by calculating the total contribution of each donor minus the costs of the donors (cost of recruiting donors and the cost of maintaining donors). The donor profitability results showed that the highest profitability value of Rp 20,836,129.44 was obtained from Donor 1, who had been a donor for 9 years in Organization Z, with a donation amount of Rp 1,800,000. Donor 1 was recruited through the Direct Dialogue channel in South Jakarta and routinely donated every month (12 times) during the 2019 through direct debit from a bank account. As many as 361 (28%) donors had negative profitability values, and the lowest value was Rp 6,347,999.92 from Donor 1091 and Donor 1182 with a donation amount of Rp 150,000 per month. There is no information on how long it has been since the donors joined Organization Z. Both donors were recruited through the Web channel and the frequency of donating was only once in the 2019 period via direct debit from a bank account. The average value of donor profitability was Rp 713,063. In general, the results of the calculation of the level of donor profitability showed that 58% (747) donors have a high profitability value, meaning that more donors have a profitability value above the average. The next, as many as 42% (545) of donors had low profitability value, which means that these donors had a profitability value below the average. The lifetime value donor calculation is carried out for the next three years using an estimate of the average growth of donations per semester during 2019. As for the costs in the next three years, the estimated growth is based on the 2019 inflation rate, which is sourced from Bank Indonesia data of 2.72%. In general, the results of the calculation of donor lifetime value showed that 63% (808) donors are included in the high lifetime value group, meaning that more donors have a lifetime value above the overall average value. The next, 37% (484) donors are in the low lifetime value group, which means that these donors have a lifetime value below the overall average value.

When analyzed using the donor profitability analysis, 62 donors who had low profitability value turned out to have a high donor lifetime value and vice versa. Furthermore, a joint analysis is carried out and resulting in the classification or segmentation of donors into four categories, namely high-value donors (donors with retrospective and prospective values above the average donor), growing donors (donors with retrospective values below the average) average over other donors but based on the prospective value above the average donor), declining donors (donors with a retrospective value above the average of other donors but based on prospective values below the average donor), and low-value donors (donors with retrospective and prospective values below the average of other donors). Table 4 gives information about donors’ distribution into four categories based on Donor Profitability Analysis and Donor Lifetime Value.

Table 4: Donors Identification

<table>
<thead>
<tr>
<th>Segment</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Value Donor</td>
<td>691 (53%)</td>
</tr>
<tr>
<td>Growing Donors</td>
<td>117 (9%)</td>
</tr>
<tr>
<td>Declining Donor</td>
<td>55 (4%)</td>
</tr>
</tbody>
</table>

531
Donor Profitability Analysis and Donor Lifetime Value

From Table 4 it is obtained that the majority of donors belong to the high-value donor group (53%), which means that more than half of the total donors provide high profitability and lifetime value which indicates that the sustainability of funding in the organization is quite good. This group is regularly offered the highest potential donation income for the organization, so it is the organization's most valuable asset. Donors in this group should be satisfied with the performance of the organization and are comfortable with organizational engaging processes. Furthermore, from Table 4 it is also known that the growing donors' group (9%) offers low profitability (due to small nominal donations) for the organization even though they are long-term donors. Growing donors do not generate satisfactory donation income because the donation size is too low, however, it can sometimes be profitable if properly managed. The third segment, Declining donors (4%), is a group of donors that only in the short term yet offer high income to the organization because they avoid building stable relationships with a single provider. The last one is the low value of donors (33%), this is the most unprofitable group of donors because they do not have loyalty to the organization. This segment contributes to the second largest group to the organization so that it becomes the main challenge how to manage this segment so that it does not become detrimental to the organization. Furthermore, four groups of donors were identified according to the demographic attributes of the donors, in Table 5 below.

Table 5: Donor Profitability Analysis and Donor Lifetime Value

<table>
<thead>
<tr>
<th>Description</th>
<th>Donor Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
</tr>
<tr>
<td>- &lt; 20</td>
<td>26 (2%)</td>
</tr>
<tr>
<td>- 20 – 25</td>
<td>172 (13%)</td>
</tr>
<tr>
<td>- 26 – 35</td>
<td>222 (17%)</td>
</tr>
<tr>
<td>- 36 – 45</td>
<td>134 (10%)</td>
</tr>
<tr>
<td>- &gt; 45</td>
<td>67 (5%)</td>
</tr>
<tr>
<td>- Blank</td>
<td>70 (5%)</td>
</tr>
<tr>
<td>Total</td>
<td>691 (53%)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>- Female</td>
<td>340 (26%)</td>
</tr>
<tr>
<td>- Male</td>
<td>350 (27%)</td>
</tr>
<tr>
<td>- Blank</td>
<td>1 (0%)</td>
</tr>
<tr>
<td>- Total</td>
<td>691 (53%)</td>
</tr>
<tr>
<td>Donation Amount (RP)</td>
<td></td>
</tr>
<tr>
<td>- &lt; 200.000</td>
<td>260 (20%)</td>
</tr>
<tr>
<td>- 200.000 – 300.000</td>
<td>392 (30%)</td>
</tr>
<tr>
<td>- &gt; 300.000</td>
<td>39 (3%)</td>
</tr>
<tr>
<td>- Total</td>
<td>691 (53%)</td>
</tr>
<tr>
<td>Long being donor (years)</td>
<td></td>
</tr>
<tr>
<td>- ≤ 1</td>
<td>12 (1%)</td>
</tr>
<tr>
<td>- 2 – 5</td>
<td>119 (9%)</td>
</tr>
<tr>
<td>- 6 – 10</td>
<td>283 (22%)</td>
</tr>
<tr>
<td>- &gt; 10</td>
<td>208 (16%)</td>
</tr>
<tr>
<td>- Blank</td>
<td>69 (5%)</td>
</tr>
<tr>
<td>- Total</td>
<td>691 (53%)</td>
</tr>
<tr>
<td>Channel</td>
<td></td>
</tr>
<tr>
<td>- Direct Dialogue</td>
<td>661 (51%)</td>
</tr>
<tr>
<td>- Telemarketing</td>
<td>29 (2%)</td>
</tr>
<tr>
<td>- Web</td>
<td>1 (0%)</td>
</tr>
<tr>
<td>- Total</td>
<td>691 (53%)</td>
</tr>
</tbody>
</table>

Table 5 shows the segmentation of donors based on retrospective (profitability analysis) and prospective (lifetime value) donors. Donors who are included in the High-Value Donor group are mostly from young adults (26 - 35 years), donors who have donated between 6 - 10 years, and donors with a large contribution of Rp 200,000 - 300,000 per month.
In accordance with the main objective of Value-Based Management (VBM) expressed by Krol (2007), increasing shareholder value resulting in producing a higher return on investment than the cost of capital. In the context of non-profit sectors, the value that must be maintained to keep donations is the relationship with donors as the main stakeholders. In Organization Z, which relies on individual donors as the main source of funding, the main strategy for maintaining funding is to manage relationships with donors. Strategic planning in fundraising is expressed by Sargeant and Jay in Scott (2014) by stating that the fundraising strategic planning framework follows organizational goals and identifies the need for achieving organizational goals. The results of the joint analysis of profitability analysis and lifetime value of donors resulting in a donors’ classification can be used for fundraising planning as the basis for a strategy for allocating limited organizational resources. Donor management relationships are needed to build relationships with donors because they are the long-term assets of the organization. The fundamental thing about donor relationship management is the process of selecting and targeting donors based on the regularity and size of donations for further relationship management to maximize revenue through donations (Sargeant in Scott, 2014).

Based on the theories and research results that have been explained, the following are recommendations for the donor management relationship for each donors’ classification/segmentation.

- High-Value Donors are organizational assets that have major contributions to the sustainability of the organization's income. In managing this segment, the organization must prioritize the satisfaction level of donors with consistent communication. Organizations must strive to achieve and maintain the loyalty of this donor segment by maintaining and forging long-term relationships to maintain the sustainability of the organization's funding.

- Growing Donors (9%) have low profitability because of the small nominal donations that require strict cost control measures to reduce organizational losses. However, this group is the potential for profitability growth in the future, so that the organization can offer to upgrade nominal donations in this segment to optimize profitability.

- Declining Donors (4%), giving large amounts of donations but only temporarily or not for long. To manage these donors, organizations must find ways to optimize their donations while they are willing to donate, for example, the organization could offer a special event that allows generating high donation value. Organizations must also find the right moment to limit services to these donors, namely by offering donations frequency to reduce service costs to donors in this category. It is advisable for the organization's resources to be diverted to this segment because it offers high returns, but keep in mind that not all donors in this segment have the potential to become high-value donors so they must be identified first. To identify it, it can refer to the dominant demographic attributes found in the high-value donor segment (age group, nominal donation, donation frequency, etc.). By using the demographic attribute driver, declining donors can be identified that have the potential to become high-value donors. This helps organizations move donors from one segment to another.

- Low-Value Donors (33%), are the group of donors who are the least contributing to Organization Z and have the potential to reduce the organization's donations. A key strategy in managing donors is to identify early on and limit relationships because these donors are loyal and unprofitable. Organizations also need to be aware that not all donors can be served because of the limited resources owned by the company. So that the limitation of service in this segment can be channeled to other segments that produce better value.

Donor profitability analysis provides an overview of the profitability of donors in a certain accounting period in the past to evaluate the organization's investment in donors. Meanwhile, the lifetime value of the donor provides a projection of the potential profitability of each donor in the future. Both analyzes are useful for evaluating and making decisions regarding donor services. By referring to the value of the donor's profitability, it can be seen that the level of effectiveness of budget allocation and lifetime value is the basis for making strategies related to donor services because it provides a projected value of potential future donor profitability.

5. CONCLUSION

The donor profitability analysis and donor lifetime value can be conducted separately, but the joint analysis of both is resulting in a more comprehensive picture regarding the profitability level of donors. For example, management can determine the changes in donors’ profitability in the past by donors’ profitability analysis and estimate the potential donors’ profitability in the future through donors' lifetime value. When management can recognize it, management can take more appropriate strategies in obtaining, maintaining, and developing relationships with the donors. Donor profitability analysis provides an overview of the donors’ profitability in a certain accounting period in the past to evaluate the organization's investment of donors. Meanwhile, the donor lifetime value provides a projection of the potential profitability of each donor in the future. By referring to the profitability level of the donors, it can be obtained the effectiveness of budget
allocation as the basis of strategic decisions related to donor services. The Organization can prioritize the level of donors’ service to donors who have high value and limiting the services to donors with low values. The results of the donor segmentation are used as an important consideration as a basis for making decisions in building relationships with donors and in allocating costs and resources. That way, decisions in managing relationships with donors and allocating resources to donors can be effective and accurate.

This research has limitations because it is taking a sample of 20% of the donor with the highest profitability in the 2019 period and so it cannot represent Organization’s donors as a whole. Also, there are limitations in the completeness of the data that limit the depth of the research analysis. With the limitations of the research, it is advisable to carry out further research using a larger sample and a more representative sampling method that can get more comprehensive results. It is also suggested to conduct further research on a more specific sample and more in-depth analysis of donors who come from the Direct Dialogue Campaigner (Street Fundraiser) donation channel because 90% of donors are obtained from this channel. Furthermore, the concept of donor relationship management in this study has not considered donor motivations (branding, reputation, awareness, the development of behavioral models), future research could also include consideration of donor motivation which can look at potential donors’ perceptions of the messages communicated and can understand donor motivations and giving behavior for organizations to develop fundraising strategies.

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Author’s Biography

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STAKEHOLDER EXPECTATIONS OF THE ACCOUNTABILITY OF MALAYSIAN STATE ISLAMIC RELIGIOUS COUNCILS (SIRCs): TO WHOM AND FOR WHAT?

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ABSTRACT

Despite the absence of a profit motive, accountability remains a cornerstone of non-profit organisations (NPO) such as charities, religious institutions, and public service organisations. However, the absence of a bottom line hinders the effective rendering of accounts, and this has become an ongoing debate amongst scholars. It is therefore important to understand accountability in NPOs to address the complexity of values contained in the concept. State Islamic Religious Councils (SIRCs) are a public service entity established to oversee religious affairs in each Malaysian state. The aim of this paper is to investigate the expectations of stakeholders of the meaning of accountability in NPO generally and Islamically, and in SIRCs specifically. Data were collected using an online survey. The findings suggest that it is important for NPO generally and SIRC specifically to explicate the meaning of accountability so as to fulfil the expectations of their stakeholders, especially the public, and address inquiries of accountability. This study adds to the literature by responding to two issues on accountability for NPO: to whom and for what.

KEYWORDS: Accountability, Accountability to whom, Accountability for what, Non-profit organisations (NPO), State Islamic Religious Councils (SIRC).

1. INTRODUCTION

Public entities are expected to provide public services with probity and compliance (Broadbent & Guthrie, 1992). Hoque & Moll (2001, p. 305) state that “a range of social, economic, and technological pressures are forcing governments to become more effective, efficient, and accountable for the use of publicly generated funds”. This greater need for accountability has resulted in a public sector reform (hereafter New Public Management or NPM) that empowers public managers with more flexibility so as to enhance performance, beyond mere fiscal compliance (Hood, 1995). Romzek (2000) explains that managers of public service institutions are expected to provide satisfactory explanations for their actions/inactions to prevent public distrust. Public accountability is expected to help improve performance (Haque, 2000). It became a dominant practice in the 1980s and 1990s in Britain, Australia, New Zealand, the US, and some developing countries (Haque, 2007). Therefore, most research on accountability has primarily been conducted in developed countries, and as such their findings cannot be readily generalisable to developing economies.

Tayib et al. (1999) assert that stakeholders of public entities in developed countries have a better chance of exercising their rights to obtain information than their counterparts in less developed countries. Pollitt (2006) cautions against generalising accountability issues across developed and developing countries. He suggests conducting empirical studies on public sector accountability in developing countries. Malaysia is a developing nation that practices a nominative representative governance system. Its public entities must demonstrate their accountability to citizens to gain their support. A large body of literature recognises the need to explicate the meaning of accountability. Motivated by this issue, the present study aims to understand the meaning of public accountability in developing countries by focusing on Malaysian State Islamic Religious Councils (SIRCs).

The remainder of this paper is organised as follows: Section 2 reviews the concepts of accountability, focusing on two issues, ‘to whom’ and ‘for what’, and highlighting the accountability chain within SIRCs. Section 3 introduces the study setting. Section 4 discusses the research method. Section 5 presents the findings, and Section 6 concludes.

2. ACCOUNTABILITY

Accountability in the private and public sector is dissimilar (Yasmin, 2014). In the private sector, the bottom line or profit is of uttermost importance. However, the absence of a bottom line in the public sector inhibits the effective rendering of accounts (Gray et al., 2006). Therefore, understanding accountability in the public sector
is crucial to promote the best accountability reporting practice. As Goddard (2010) suggests, the questions of ‘to whom’ accountability is due and ‘for what’ must first be clarified. The answers to both in general and in the context of SIRCs will be discussed.

**Accountability to whom.** Accountability in the public sector is important because those who hold public authority are held to account (Aucoin & Heintzman, 2000). It involves the act of giving (accountor) and demanding accountability (accountee) (Roberts & Scapens, 1985) and relational accountability, that is, upward and downward accountability (O’Dwyer & Unerman, 2010). Upward accountability consists of powerful stakeholders who have political, legal, and economic interests, such as board members, regulators, and contributors. In contrast, downward accountability refers to less powerful stakeholders (O’Dwyer & Unerman, 2008) who are concerned about social rationalities involving the public (Roberts, 1991).

Every public entity is responsible to the accountee, who can be identified based on authorisation, support, and impact of actions/reports (Keohane, 2002). These include political accountees, who are ministers, voters, and elected council members; legal accountees, like external supervisory entities; and social accountees, such as citizens, recipients of services, and other interest groups (Bovens, 2007a). Based on this discussion, the accountees of SIRCs were identified and included in this study (Table 1).

**Accountability for what.** What kind of information do stakeholders require in annual reports? The answer is inconclusive. Scopes of accountability may help to identify the focus of accountability, which is reflected in the annual report (Bovens, 2007b; Gray & Jenkins, 1993; Sinclair, 1995; Stewart, 1984). Traditionally, government entities focus on and regularly report fiscal accountability. Parker & Guthrie (1993) suggest that civil officers should adhere to stipulated procedures and not surpass any budget expenditure limits. Nevertheless, recent trends in NPM have given more focus on performance accountability. Hood (1995) indicates that traditional accountability is insufficient due to its great emphasis on performance, such as outputs and outcomes (Pollitt, 2006). Stewart (1984) proposes a hierarchical accountability model for the public sector, where each level in the accountability ladder has different information needs. As Figure 1 shows, the scopes of accountability could be integrated with its rationalities and disclosure. As the hierarchy moves up the ‘accountability ladder’, the level of accountability increases, and more precise accounts of actions are expected.

**Table 1: Stakeholders of SIRCs**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Accountees</th>
<th>Basis of accountability</th>
<th>Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>External</td>
<td>Federal and state government</td>
<td>Power of authorisation, Financial support</td>
<td>Political, economic</td>
</tr>
<tr>
<td></td>
<td>Auditor General</td>
<td>Power of authorisation</td>
<td>Legal</td>
</tr>
<tr>
<td></td>
<td>Sister entities</td>
<td>Impact factor</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>Creditors</td>
<td>Financial and impact factor</td>
<td>Economic</td>
</tr>
<tr>
<td></td>
<td>Media, researchers</td>
<td>Impact factor</td>
<td>Social</td>
</tr>
<tr>
<td></td>
<td>Contributors, beneficiaries, voters</td>
<td>Financial support, impact factor</td>
<td>Economic, social, political</td>
</tr>
<tr>
<td>Internal</td>
<td>Ruler</td>
<td>Power of authorisation</td>
<td>Economic, legal, social</td>
</tr>
<tr>
<td></td>
<td>Chairman, CEO, BOD, politicians</td>
<td>Power of authorisation</td>
<td>Political and economic</td>
</tr>
<tr>
<td></td>
<td>Management team</td>
<td>Power of authorisation, impact</td>
<td>Economic</td>
</tr>
<tr>
<td></td>
<td>Other employees</td>
<td>Impact factor</td>
<td>Economic</td>
</tr>
</tbody>
</table>

**Figure 1: Accountability scopes, rationalities, and related disclosure**

*Sources: Stewart (1984); Broadbent et al. (1996); Yasmin et al. (2014)*
In this study, the public accountability paradigm focuses on discharging the accountability of SIRCs through external reporting (Masruki et al., 2018). Although there are no specific provisions to fulfil the information needs of the public, they still have the right to be informed of the activities of SIRCs. An audit report is tabled in the parliament for its efficient communication to the public and to devise necessary actions against detected issues to enhance public trust (National Audit Department, 2012). However, since this tabled report is mainly concerned with the audited financial statements of SIRCs, the public still reserves the right to request information beyond those. This issue, therefore, calls for comprehensive reporting that includes procedural, performance, and policy accountability.

This study also raised that every accountant is accountable to God. In SIRCs, the Ruler is the head of the religion of Islam, who empowers SIRCs to act on his behalf. SIRCs, therefore, are established on an Islamic foundation. New Public Management (NPM) has recognised religion as part of cultural values (Haque, 2007). NPN permits drawing additional values drawn from such sources as belief, ethics, and cultural traditions that influence the individual conscience (Lindkvist & Llewellyn, 2003; Sinclair, 1995; Schweiker, 1993). SIRCs are distinct from other governmental entities since they are founded on Islamic principles. Since their main concern is Islamic affairs, their accountability should be perceived from an Islamic perspective.

2.1 An overview of State Islamic Religious Councils

This study focuses on SIRCs\(^5\) in Malaysia, which are established on an Islamic foundation for the management of Muslims' wealth in the forms of zakat (alms)\(^6\), waqaf (endowment)\(^7\), and mal (inheritance)\(^8\). SIRCs are statutory bodies that are obliged to comply with the Statutory Bodies Act 1980. According to the Act, a statutory body must keep a proper record of financial statements and other documents based on the Generally Accepted Accounting Principles (GAAP) and other financial reporting standards to provide a true and fair view of its activities. In addition to financial statements, non-financial reports are also important to discharge accountability in terms of compliance with prescribed directives (Gray & Jenkins, 1993). There is therefore a strong need for a comprehensive annual report for discharging accountability.

SIRCs play a key role in promoting progressive socio-economic development in Malaysia. They are chaired by state Rulers, since the Ruler is the head of the Islamic religion\(^9\). The uniqueness of political system and cultural values, dominated by ethnic identity, have influenced the global public sector reform (Haque, 2007). These political and social factors have affected the public sector in developing countries like Malaysia. Investigating these could make an empirical contribution to the international literature. Therefore, this study attempts to provide some insights into the development of public accountability in the context of a developing country.

3. METHOD RARE

3.1 Data collection

Data were collected using a standardised questionnaire hosted on Google Docs. As Zainon et al. (2011) explain, online surveys return a wider range of responses and are more cost effective (see Connolly and Hyndman, 2013). They are used in disclosure studies (e.g. Gassen and Schwedler, 2010; Zainon et al., 2011; Connolly and Hyndman, 2013) as it offers an alternative to traditional survey and provides many advantages. Likewise, in this study, the questionnaire was used by reviewing in three stages. Firstly, the content, structure, and wordings of the items were developed and refined through extensive consultations with experts prior to piloting. Secondly, the questionnaires were sent to three academics who are active researchers on disclosure in the Malaysian public sector. Thirdly, the questionnaires were piloted with five experts of various background and working in the Malaysian public and private sectors (three civil officers and two senior managers). Finally, the questionnaires were sent via email to the identified participants.

\(^5\) There are 14 SIRCs in Malaysia.
\(^6\) Zakat is conceptually similar to tithe, but in Islam it is typically known as alms. The term zakat means giving a portion of one’s private wealth to rightful recipients as commanded by God. It is a religious duty imposed on Muslims.
\(^7\) Waqaf (endowment) is the sincere gift of a private asset to the SIRC. The asset cannot be transacted: it cannot be an object of sales, inheritance, kibbah (grant), or wasiyah (will).
\(^8\) Mal (inheritance) refers to inheritance left by the deceased to be distributed to living family members. SIRC is entitled to receive a portion of an inheritance when (i) an inheritance has no named beneficiaries or (ii) surplus from an inheritance is unclaimed after legitimate distribution.
\(^9\) Article 3 of the Federal Constitution stipulates that Islam is the religion of the federation, but other religions may be practiced in peace and harmony in any part of the federation. Schedule Nine of the constitution lists the constitutional division of powers between federal and state government, and Islamic affairs are placed in the State List.
According to Emory and Cooper (1991), between 25 and 100 respondents are appropriate for a pilot study. In this study, two rounds of pilot tests were conducted. The first round, which involved thirty-one respondents, suggested adding a question to identify the capacity of the respondent as either an internal or external stakeholder, indeed subsequent amendments were made. The second round tested the revised questionnaire on thirty-five respondents. Some statements, such as the translation of several constructs into the respondents’ first language, were improved, while others underwent no major amendments. A Cronbach’s Alpha test was performed to determine the internal consistency of the scale (Bryman and Bell, 2011)\(^\text{10}\). The alpha for all items was more than 0.7, indicating that the questionnaire was reliable and ready for further data collection.

The study employed convenience and snowball sampling. Convenience sampling involved internal and external stakeholders. A heterogeneous group of stakeholders were encouraged to participate to gain different perspectives and promote high quality results. Such populations include those who have identifiable relationships with SIRCs with the existence of online accessibility through Corporate Communication Executive (CCE) in each SIRC. The stakeholder groups were approached with the help of the CCE. The internal stakeholders were categorised based on their authority and knowledge of a particular issue (Donohoe and Needham, 2009) into top officials, management, and support staff.\(^\text{11}\) Meanwhile, external stakeholders are classified into state government (in this study, regulators), creditors, and the public (Tooley et al., 2010)\(^\text{12}\). The CCE in each SIRC was contacted to assist with questionnaire distribution, and the number of questionnaires sent to the participants was noted by the executives for recording purposes.

Snowball sampling was also used to increase the number of respondents. In each state, the respondents were asked to refer their personal contacts as potential participants. Those shortlisted were contacted to confirm their willingness and availability to participate. However, both convenience and snowball sampling are non-random, which may result in bias. Nonetheless, controlled non-probability sampling may be acceptable with additional care over sampling (Cooper and Schindler, 2006). Important demographic profiles, based on the capacity as internal and external stakeholders, were considered. Given the unknown population, the number of sample is undefinable. However, this was addressed by distributing an identical number of questionnaires in every state. In February 2014, the CCEs of all 14 SIRCs were asked to send out 100 questionnaires, 40 to internal and 60 to external stakeholders, for a total of 1400 questionnaires. This figure could be higher because of the snowball sampling.

4. DATA ANALYSIS

The responses were imported from Google Docs, coded with numbers to minimise errors, and analysed using IBM SPSS version 21. The collected data were analysed descriptively using such measures as frequency, mean, tabulation, and change. The internal and external stakeholders were further disaggregated into sub-stakeholder groups. For the internal stakeholders, the sub-groups were top officials, management, and support staff; for the external stakeholders, they were regulators, creditors, and the public. The mean scores for each group and sub-group were computed, and they were then compared to reveal any statistically significant differences. Two non-parametric tests were used for the comparison: firstly, a Mann-Whitney (MW) test was used to reveal any significant differences between the internal and external stakeholder groups; secondly, a Kruskal-Wallis (KW) test was used to compare the means of the six sub-groups.

5. RESULTS AND DISCUSSION

The questionnaire inquired three questions concerning the meaning of accountability, and the responses were measured on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The questions were adapted from the literature. The results showed the central tendency (mean), dispersion (SD), and distribution (skewness and kurtosis) of each item, which was ranked based on the computed mean. The next sections present the response rate, meaning of accountability, Islamic accountability, and accountability within SIRCs.

\(^{10}\)A rule of thumb indicates a value of 0.7 is an acceptable measure for established research, but 0.6 is still acceptable for exploratory research (Hair et al., 2010).

\(^{11}\)The typical employment levels in the public sector are comparable to those in the private sector.

\(^{12}\)The state government included accountants in the respective state in which SIRCs have to report to, as well as creditors who had different interest in SIRCs’ annual reports. The public were those with an identifiable relationship with the SIRCs and were interested in participating. These included contributors, beneficiaries, renters of SIRCs’ properties, and those living or working in the locality of the SIRCs.
5.1 Response rate

As of 13 April, 2015, a total of 545 respondents were recorded on Google Docs. Eleven respondents were excluded as they were duplicate submissions, leaving 533 usable responses, or a 36% response rate. The respondents were first grouped into internal and external stakeholder groups (Steccolini, 2004), before they were further sub-grouped into six categories. The internal stakeholder group comprised three sub-stakeholders of the SIRCs, namely top officials, management team, and support staff. On the other hand, the external group was made up of regulators, creditors, and the public. Table 2 shows the distribution of the responses.

<table>
<thead>
<tr>
<th>Type</th>
<th>Sub-group</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal stakeholders</td>
<td>Management teams</td>
<td>81</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>Support staff</td>
<td>89</td>
<td>7.8</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td>180</td>
<td>34</td>
</tr>
<tr>
<td>External stakeholders</td>
<td>Oversight bodies</td>
<td>74</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>Creditors</td>
<td>43</td>
<td>8.1</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td>353</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>533</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 2, there were 180 internal stakeholders and 353 external stakeholders, a ratio of 34:66. This is almost similar to the initial distribution ratio of 40:60. Every sub-group had a small share of responses, except for the public (44%). This is consistent with the theme of this study, public accountability. Because the sub-groups had small and unequal proportions, non-parametric tests were used. This, additionally, is one of the limitations of this study.

5.2 Meaning of accountability

Table 3 shows the rank for meaning of accountability among internal stakeholders of SIRCs. The highest mean (4.14), indicating strong agreement, was on the ‘obligation to take responsibility for actions and to explain such actions’ (1a).

<table>
<thead>
<tr>
<th>Meaning of accountability</th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. The obligation to take responsibility for actions and to explain such actions.</td>
<td>4.14, 4.00, -1.11, 1.72, 1</td>
<td>4.28, 4.00, -1.21, 1.76, 1</td>
</tr>
<tr>
<td>1b. An individual who is held responsible has a duty to provide an account (by no means necessarily a financial account) or reckoning of those actions.</td>
<td>3.87, 4.00, -0.70, 0.40, 3</td>
<td>4.03, 4.00, -1.13, 1.55, 3</td>
</tr>
<tr>
<td>1c. Responsibility is part of accountability (external) but accountability is beyond the responsibility (internal) aspect.</td>
<td>3.85, 4.00, -0.09, -1.23, 4</td>
<td>3.84, 4.00, -0.32, -0.56, 6</td>
</tr>
<tr>
<td>1d. Justification and answerability are important in achieving accountability.</td>
<td>4.00, -0.20, -1.28, 2</td>
<td>4.06, 4.00, -0.37, -0.8, 2</td>
</tr>
<tr>
<td>1e. Accountability is synonymous with transparency but transparency does not form real accountability, instead transparency is essential for accountability.</td>
<td>3.8, 4.00, 0.00, -1.23, 6</td>
<td>3.94, 4.00, -0.35, -0.67, 5</td>
</tr>
<tr>
<td>1f. The accountability aspect and the responsive approach are important mechanisms in public accountability.</td>
<td>3.94, 4.00, 0.06, -1.26, 5</td>
<td>3.95, 4.00, -0.24, -0.67, 4</td>
</tr>
</tbody>
</table>

External stakeholders, likewise, mostly agreed with this meaning ($M = 4.28$). The statement highlights two important aspects of accountability: obligation to take responsibility and obligation to explain actions (Gray and Jenkins (1993). This supports the theme of the paper, that discharging accountability should be carried out through comprehensive reporting. The second most favourable statement was ‘justifications and answerability’
(1d), adopted from Bovens (2007) and Patton (1992), as agreed by internal (M = 4) and external stakeholders (M = 4.06). ‘Duty to provide an account’ (1b) (Gray et al., 1996) was ranked third by internal (M = 3.87) and external SIRC stakeholders (M = 4.03). Both groups ranked the first three statements equally.

The ranks for subsequent statements differed between the groups. The internal group ranked ‘accountability is synonymous with transparency and essential for accountability’ (1e) (M = 3.80) (Bovens (2007b); Fisher (2004)) as the lowest. This likely stems from SIRCs’ efforts to be transparent, but they have not been enough to demonstrate their accountability. External stakeholders ranked Mulgan’s (2000) distinction between accountability and responsibility (1c) (M = 3.84) as the lowest. They considered the terms accountability and responsibility as synonymous, a statement agreed by the internal group, as indicated by their almost similar mean (M = 3.85). The external stakeholders agreed with Mulgan (2000) and Hood (1991), that ‘accountability and responsiveness are important mechanisms in public accountability’ (1f), which they ranked fourth (M = 3.95). But the internal stakeholders agreed with the meaning slightly less (M = 3.84), ranking it fifth. Table 4 shows that most responses for the meaning of accountability were negatively skewed.

There was not much variation in the meaning of accountability except for Gray et al.’s (1996) definition, the ‘duty to provide an account’ (1b). The MW test showed that there was no statistically significant difference between the two stakeholder groups except for statement 1b (Table 4). Internal stakeholders held a significantly different opinion than their external counterparts for statement 1b (p = 0.04).

Similarly, the KW test showed no significant difference between the means, except for 1b. The mean scores were calculated for each region. The test showed that respondents from the five regions significantly differed in their perception of whether ‘an individual who is responsible has the duty to provide an account’ (p = 0.02). The mean for respondents in the East Coast was the highest, M = 302.57. This difference may be attributed to the variation in education level among the respondents.

### 5.3 Islamic accountability

Table 5 shows the meaning of Islamic accountability according to the respondents. This meaning is highly relevant because the SIRCs were established on Islamic principles.

**Table 5: Descriptive statistics for the meaning of Islamic accountability**

<table>
<thead>
<tr>
<th>Islamic accountability</th>
<th>Internal Mean</th>
<th>Internal Median</th>
<th>Internal Skewness</th>
<th>Internal Kurtosis</th>
<th>Internal Rank</th>
<th>External Mean</th>
<th>External Median</th>
<th>External Skewness</th>
<th>External Kurtosis</th>
<th>External Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a. Everyone is accountable to Allah for His/her action(s) which is/are rooted within the core of Islamic pillars.</td>
<td>4.62</td>
<td>5.00</td>
<td>-1.595</td>
<td>0.823</td>
<td>1</td>
<td>4.64</td>
<td>5.00</td>
<td>-2.325</td>
<td>0.723</td>
<td>1</td>
</tr>
<tr>
<td>2b. The belief in the oneness of God (tawhid) is essential to explain accountability as custodians (khulafa) of the earth.</td>
<td>4.33</td>
<td>5.00</td>
<td>-1.304</td>
<td>0.481</td>
<td>2</td>
<td>4.59</td>
<td>5.00</td>
<td>-1.852</td>
<td>4.075</td>
<td>3</td>
</tr>
<tr>
<td>2c. The belief in the Day of Judgement is the final accountability as the basis of one’s action.</td>
<td>4.53</td>
<td>5.00</td>
<td>-1.111</td>
<td>-0.106</td>
<td>3</td>
<td>4.62</td>
<td>5.00</td>
<td>-1.963</td>
<td>3.738</td>
<td>2</td>
</tr>
<tr>
<td>2d. Islam offers a complete way of life for both profane and sacred matters explaining accountability in Islam.</td>
<td>4.63</td>
<td>5.00</td>
<td>-1.301</td>
<td>0.289</td>
<td>4</td>
<td>4.56</td>
<td>5.00</td>
<td>-1.731</td>
<td>2.81</td>
<td>4</td>
</tr>
<tr>
<td>2e. The concept of surety (amanah) concept implies that rendering an account is essential to discharge accountability.</td>
<td>4.29</td>
<td>5.00</td>
<td>-0.647</td>
<td>-1.112</td>
<td>6</td>
<td>4.32</td>
<td>5.00</td>
<td>-1.175</td>
<td>0.98</td>
<td>6</td>
</tr>
<tr>
<td>2f. The responsibility (tablif) concept means that individual and social responsibilities are both important.</td>
<td>4.38</td>
<td>5.00</td>
<td>-0.937</td>
<td>-0.407</td>
<td>5</td>
<td>4.42</td>
<td>5.00</td>
<td>-1.146</td>
<td>0.598</td>
<td>5</td>
</tr>
</tbody>
</table>
As Table 5 shows, the ranks between the two groups were largely identical, save for the second and third. They ranked the statements of, among others, Sinclair (1995), Ibrahim (2001), and Haniffa (2002) as among the highest. In particular, ‘accountability to Allah’ (2a) was ranked first by the internal (M = 4.62) and external (M = 4.64) groups. In a similar vein, both internal (M = 4.29) and external groups (M = 4.32) ranked as the lowest Haniffa’s (2002) statement on the trusteeship concept (2e). This suggests that the notion of trusteeship according to both groups does not necessarily include the discharging of accountability through rendering of account. Rather, it is largely built on trust.

The internal stakeholders strongly agreed with Baydoun and Willett (2000) and Maali et al. (2006), that tawhid, oneness of God, is essential to explain accountability (2b) (M = 4.53). The concept should direct the operations of SIRCs. Although external stakeholders ranked the tawhid concept as third (M = 4.59), its mean was almost similar to Haniffa (2002) and Osman’s (2010) statement, ‘believe in the Day of Judgment’ (2c), which they ranked second (M = 4.62). This statement was ranked third by the internal group, M = 4.53. The fourth (M = 4.53, 4.56), fifth (M = 4.38, 4.43) and sixth meanings were ranked similarly by both groups. They perceived the three meanings to be of equal import: Islam offers a complete way of life (2d) (Abdul-Rahman and Goddard, 1998; Lewis, 2006), individual and social responsibilities according to the Islamic concept (2f) (Ahmad, 1999; Lewis, 2001; Maali et al., 2006; Tinker, 2004), and the trusteeship (amanah) concept implies that rendering an account is essential to discharge accountability (2e). Overall, the internal and external groups had similar opinions about the meaning of Islamic accountability, excepting for the second and third ranks, in which they had opposite opinions (tawhid and Day of Judgement).

Table 6 presents the findings of the KW test, which showed statistically significant differences between regions for all meanings except statement 2f. Stakeholders in the East Coast had significantly different opinions compared to stakeholders in other regions in the majority of Islamic accountability meanings. Stakeholder expectations in the East Coast are perhaps higher because the region is known to have strong Islamic values; in fact, some of the states are led by an opposition Islamic party. However, there was no significant difference for item 2f, but nonetheless the highest mean was found in the South. They were likely to treat both individual and social responsibilities equally. The MW test, on the other hand, showed no significant difference between internal and external stakeholders regarding the concept of Islamic accountability.

### Table 6: Differences in responses by region and stakeholder group

<table>
<thead>
<tr>
<th>Mean Rank (GW Test)</th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Coast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td></td>
<td></td>
</tr>
<tr>
<td>East of Malaysia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- Significant at 5% level
- Very significant at 1% level

### 5.4 Accountability within SIRCs

Table 7 presents the results to address the issue of to whom SIRCs are held accountable. The categories were based on the literature (e.g. Coy et al., 1997; Siraj, 2012; Tooley et al., 2010).

### Table 7: Descriptive statistics for accountability to whom

<table>
<thead>
<tr>
<th>Accountability to whom</th>
<th>Internal</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>King of Sultan and Board of Directors of SIRC</td>
<td>4.05</td>
<td>4.00</td>
</tr>
<tr>
<td>State governments</td>
<td>4.05</td>
<td>4.00</td>
</tr>
<tr>
<td>Service recipients and local citizens</td>
<td>3.94</td>
<td>4.00</td>
</tr>
<tr>
<td>Overseen bodies</td>
<td>3.82</td>
<td>4.00</td>
</tr>
<tr>
<td>Fund providers and contributors</td>
<td>3.94</td>
<td>4.00</td>
</tr>
<tr>
<td>Creditors and investors</td>
<td>3.84</td>
<td>4.00</td>
</tr>
</tbody>
</table>

SIRCs ranked the Sultan and Board of Directors as the first (M = 4.01), whereas the external group ranked fund providers as the first (M = 4.14). These results suggest that for SIRCs, accountability to the higher authority takes precedence over other stakeholders, while external stakeholders believe that SIRCs should be accountable to those who contribute the funds.
Both groups ranked state government as second, as SIRCs were established by state law. Accountability to the public was ranked third by both SIRCs (M = 3.94) and external stakeholders (M = 4.03). SIRCs also ranked funders and contributors as the third. This is probably because funders pay zakat (alms) to merely fulfil their religious obligations, and SIRCs believe that they are trusted by the funders. The external group placed the accountability of SIRCs to the Sultan and the BOD at fourth (M = 4.02). They also agreed that SIRCs’ accountability to creditors should be the least important (M = 3.90). The internal group, on the other hand, ranked creditors as fifth (M = 3.84) and overseeing bodies as the lowest (M = 3.82). This was perhaps because of the limited powers of the overseeing bodies, since SIRCs are regulated by state legislation, while also prioritising Shariah rules (Masruki et al., 2018). External stakeholders viewed overseeing bodies as the second last.

Results of the MW test, presented in Table 8, showed that there was no significant difference between internal and external groups, except for funders (p = 0.02). This signifies that there was a significant difference between the two groups on the importance of funders as the recipient of SIRCs’ accountability. This is consistent with the principal-agent concept.

Table 8: Mean differences of responses by region and stakeholder group

<table>
<thead>
<tr>
<th>Accountability to whom</th>
<th>chi-square</th>
<th>p-value</th>
<th>Mean Rank (KW Test)</th>
<th>MW Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Central</td>
<td>North</td>
</tr>
<tr>
<td>5a. King or Sultan and Board of Directors of SIRC</td>
<td>15.08</td>
<td>0.005**</td>
<td>274.26</td>
<td>274.4</td>
</tr>
<tr>
<td>3b. State governments</td>
<td>14.53</td>
<td>0.006**</td>
<td>273.73</td>
<td>275.6</td>
</tr>
<tr>
<td>3c. Service recipients and local citizens</td>
<td>5.097</td>
<td>0.277</td>
<td>268.68</td>
<td>263.2</td>
</tr>
<tr>
<td>5d. Overseeing bodies</td>
<td>16.475</td>
<td>0.002**</td>
<td>284.85</td>
<td>258.7</td>
</tr>
<tr>
<td>3e. Fund providers and contributors</td>
<td>14.932</td>
<td>0.005**</td>
<td>274.65</td>
<td>275.3</td>
</tr>
<tr>
<td>3f. Creditors and investors</td>
<td>8.052</td>
<td>0.415</td>
<td>264.61</td>
<td>264.4</td>
</tr>
</tbody>
</table>

*significant at 5% level, **significant at 1% level

As Table 8 presents, the KW test showed that except for service recipients and creditors, there were statistically significant means between regions for all recipients of accountability. This indicates that, by region, the respondents significantly differed in their perception of the accountability of SICRs to the Sultan or BOD (p = 0.005), state governments (p = 0.006), overseeing bodies (p = 0.002), and funders (p = 0.005). Stakeholders from the East Coast were more likely to agree with these four recipients. This is perhaps because they are powerful stakeholders who could easily influence and be influenced.

Another issue of accountability in SIRCs is why their accountability is required, and how internal and external stakeholders understand the reasons for the institutions’ accountability. Four types of accountability, as proposed by Stewart (1984), were included in the questionnaire, and the participants were asked to answer them on a five-point scale. Table 9 shows a level of agreement with the stated purposes of accountability, as suggested by the literature.

Table 9: Descriptive statistics for ‘accountability for what’

<table>
<thead>
<tr>
<th>Accountability for what</th>
<th>Internal Mean</th>
<th>Internal Median</th>
<th>Internal Skewness</th>
<th>Internal Kurtosis</th>
<th>Internal Rank</th>
<th>External Mean</th>
<th>External Median</th>
<th>External Skewness</th>
<th>External Kurtosis</th>
<th>External Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>4a. Accountability for probity</td>
<td>4.21</td>
<td>4.00</td>
<td>-0.652</td>
<td>-0.402</td>
<td>2</td>
<td>4.31</td>
<td>4.00</td>
<td>-1.147</td>
<td>1.629</td>
<td>1</td>
</tr>
<tr>
<td>4b. Process and procedural accountability</td>
<td>4.17</td>
<td>4.00</td>
<td>-0.455</td>
<td>-0.759</td>
<td>3</td>
<td>4.10</td>
<td>4.00</td>
<td>-0.668</td>
<td>0.284</td>
<td>4</td>
</tr>
<tr>
<td>4c. Performance and programme accountability</td>
<td>4.21</td>
<td>4.00</td>
<td>-0.609</td>
<td>-0.182</td>
<td>1</td>
<td>4.17</td>
<td>4.00</td>
<td>-0.713</td>
<td>0.229</td>
<td>3</td>
</tr>
<tr>
<td>4d. Policy accountability</td>
<td>4.14</td>
<td>4.00</td>
<td>-0.537</td>
<td>-0.449</td>
<td>4</td>
<td>4.18</td>
<td>4.00</td>
<td>-0.679</td>
<td>0.144</td>
<td>2</td>
</tr>
</tbody>
</table>

Internal stakeholders ranked performance accountability (M = 4.21) as the highest, whereas external stakeholders viewed accountability for probity (M = 4.31) as the top priority. Accountability for probity was perceived by SIRCs as the second most important (M = 4.18). Performance reporting is pertinent for SIRCs as they strongly agreed that they are accountable for performance. However, there is ongoing debate on how performance is measured, given the uniqueness of SIRCs, as they were established and expected to operate on Islamic principles. External stakeholders, on the other hand, were very much concerned with probity as they realise that regulations must be strictly followed (Masruki et al., 2018).
Internal stakeholders perceived policy accountability as the least important, but external stakeholders ranked it second. SIRCs are afforded with flexibility in managing Muslim revenue, providing they remain consistent with Shariah. They thus place Shariah as their main reference over other policies (Masruki et al., 2017). External stakeholders, however, require that the policy be consistent with their first choice, that is, probity. External stakeholders considered the process of accountability ($M = 4.14$), which emphasises the management aspect, as the least important purpose. SIRCs were quite concerned about the process of accountability ($M = 4.17$), ranking it third. While the ranking between the two groups varied, their mean scores were approximately similar, ranging from 4.10 to 4.31. For this reason, as shown in Table 10, the MW test indicated no significant difference between internal and external stakeholders on the purpose of accountability of SIRCs.

Table 10: Mean differences of responses by region and stakeholder group

<table>
<thead>
<tr>
<th>Accountability for what</th>
<th>chi-square</th>
<th>p-value</th>
<th>Central</th>
<th>North</th>
<th>East Coast</th>
<th>South</th>
<th>East of Malaysia</th>
<th>MW Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>4a. Accountability for probity</td>
<td>10.340</td>
<td>0.002*</td>
<td>281.86</td>
<td>255.57</td>
<td>289.56</td>
<td>287.12</td>
<td>238.18</td>
<td>-1.603</td>
</tr>
<tr>
<td>4b. Process and procedure accountability</td>
<td>20.178</td>
<td>0.000**</td>
<td>283.41</td>
<td>266.04</td>
<td>290.49</td>
<td>280.13</td>
<td>232.34</td>
<td>-0.773</td>
</tr>
<tr>
<td>4c. Performance and programme accountability</td>
<td>11.064</td>
<td>0.026*</td>
<td>283.17</td>
<td>265.66</td>
<td>285.97</td>
<td>258.24</td>
<td>231.44</td>
<td>-0.941</td>
</tr>
<tr>
<td>4d. Policy accountability</td>
<td>25.228</td>
<td>0.000**</td>
<td>291.47</td>
<td>254.65</td>
<td>288.66</td>
<td>271.05</td>
<td>207.52</td>
<td>-0.592</td>
</tr>
</tbody>
</table>

*A significant at 5% level, **significant at 1% level

A KW test, however, found significant differences in the purpose of accountability between the respondents by region. Respondents from the East Coast were more likely to agree with accountability for probity ($p = 0.03$), process and procedure ($p < 0.001$), and performance ($p = 0.03$), while those from the Central region were likely to agree with policy accountability ($p < 0.001$) (Table 9). This is likely because those form the Central region are more aware of accountability and its implications (Abdul Rahman and Goddard, 1998), and the federal state itself has more regulated reporting (Bakar and Ismail (2011). Therefore, enforcement might influence the implementation (Masruki et al., 2018; Dhanani and Connolly, 2012; Hope, 2003).

6. SUMMARY AND CONCLUSION

This study surveyed the perceptions of stakeholders of SIRCs in Malaysia via an online survey. The respondents were asked to rate and rank the meaning of accountability in general, from an Islamic perspective, and within SIRCs. Despite the accountability of SIRCs to a wide range of stakeholders, the expectations of internal and external stakeholders varied, particularly to whom and for what SIRCs are accountable. While SIRCs themselves considered themselves accountable to higher authorities, such as the Sultan and the Board of Directors, external stakeholders considered their highest accountability was to their contributors and for probity. Owing the highest accountability to the Board of Directors is akin to the practices of corporations. Nonetheless, both groups of stakeholders held similar views on the meanings of accountability. Most perceived accountability as the obligation to take responsibility for actions and explaining the reasoning behind them. From the Islamic viewpoint, accountability is to Allah, which is a core in Islamic teachings.

Overall, perceptions on accountability are an on-going debate, and they depend on the role of the organisation and expectations of stakeholders. Identifying a clear accountability chain is essential to develop the best reporting practices for SIRCs. Further studies are needed to suggest a set of information that is expected by a wide range of stakeholders. They could also investigate the current reporting practices of SIRCs and determine whether the practices meet the expectations of stakeholders. Other research could also identify the users of annual reports and their needs, so that the reports could contain information that meets the needs of the users.

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TABUNG HAJI’S TRANSFERRED EQUITY ASSETS: A YEAR AFTER

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ABSTRACT

Lembaga Tabung Haji’s decision to transfer RM19.9b of its equity and property assets to a government-owned special purpose vehicle at the end of 2018 marked its bold strategy to turn around the potentially reported loss for the year to a profitable one. In return, Tabung Haji received RM300m cash and two murabahah sukuk with a total nominal value of RM27.55b. A 1-year performance of these transferred assets would provide an immediate glimpse as to whether or not the decision favoured Tabung Haji. The transferred equity assets of RM16.85b at book value were actually having a market value of RM7.5b at 31 December 2018. Daily prices of these assets from Bursa Malaysia data were recorded and their monthly performance were then analysed. After 12 months, these equity assets have increased to RM8.65b or 15.3% in market value. This value is only 51% of the purchase price, thus leaving the new owner to report an impairment loss of RM8.2b. Conversely, Tabung Haji would have had recognized the 4.05-4.10% annual interest of its sukuk. The annual 15.3% increment of the equity assets is far exceeding the performance of Bursa Malaysia for the year which has recorded a 6.05% fall. If the assets’ annual performance can be sustained for the next five to eight years, the special purpose vehicle might just be able to redeem the sukuk by transferring them back to Tabung Haji; however, this seems to be very unlikely and that the government still needs to inject cash. While Tabung Haji has successfully released its audited 2018 annual report, the Auditor General office has issued an emphasis of matter with regard to the uncertainty of the special purpose vehicle’s ability to redeem the sukuk when they are due. A 1-year result might be too short to justify the Tabung Haji’s action, but it suffices the need to be cautious for both parties; Tabung Haji and the government.

KEYWORDS: Lembaga Tabung Haji, special purpose vehicle, government-linked companies, bailout.
TRACK 8B
BUSINESS
KAJIAN KEMUDAHAN DAN PRASARANA DALAM KOMUNITI DI TERENGGANU, MALAYSIA

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ABSTRAK

Pembangunan yang dilaksanakan oleh kerajaan (persekutuan dan negeri) menggambarkan usaha dariapda pihak kerajaan bagi meningkatkan taraf hidup komuniti setempat. Walaupun usaha-usaha telah diadakan bagi menjamin kualiti kemudahan fasiliti dan prasarana komuniti, namun kemudahan-kemudahan yang disediakan adalah tidak menyeluruh dan kurang mencukupi. Objektif utama kajian ini adalah untuk menganalisis isu-isu berkaitan kemudahan fasiliti dan prasarana di komuniti terpilih di Terengganu, Malaysia. Kajian ini menggunakan teknik kualitatif bagi pengumpulan data atau secara spesifiknya menggunakan instrumen Perbincangan Kumpulan Berfokus secara separa berstruktur. Dua (2) perbincangan telah diadakan bersama bersama 9 orang penduduk (perbincangan kumpulan pertama) dan 7 orang pemimpin (perbincangan kumpulan kedua). Dapatan kajian menunjukkan beberapa kemudahan komuniti yang wajar diberi perhatian adalah 1) kemudahan khidmat pengurusan sampah serta pemparitan, 2) kemudahan lampu jalan, lampu isyarat, jalanraya dan parkir, 3) kemudahan klinik kesihatan dan klinik veterinar, 4) kemudahan tempat beribadat, 5) kemudahan balairaya, balai polia, pejabat pos, dan ‘Automated Teller Machine’ (ATM), 6) kemudahan prasarana sekolah, 7) kemudahan tempat beriaadah dan taman permainan kanak-kanak, 8) kemudahan utiliti, 9) kemudahan ruangan perniagaan dan kemudahan Internet, 10) kemudahan pengkatan awam dan 11) kemudahan pusat penjagaan anak (Nurseri/TASKA) dan Orang Kelainan Upaya (OKU). Menerusi kajian ini juga, beberapa pengharapan awal dan beberapa langkah-langkah bagi memperkasakan lagi keluarga dan komuniti telah diusulkan oleh para pemimpin dan penduduk

KATA KUNCI: masalah sosial, sumber pendapatan, isu kesedaran, komuniti, kualiti hidup
DEVELOPMENT OF COMMUNITY FOR SUSTAINABILITY TOURISM AND SOCIAL INNOVATION

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ABSTRACT

The purposes of this paper are to embrace development of community in Setiu District through social innovations in tourism perspective. Through social innovations, tourism products development in Setiu District can be emphasized and high potential to help increasing the living standard of community. The tourism products that have successfully developed can be explained by homestay tourism, beach tourism, ecotourism, agro tourism, cultural heritage tourism, and marine-edutourism. This study suggests that the community of fisherman should take initiative to involve in tourism activities for their future. The collaboration between government, universities and agencies that involved should take an action and give support the community to eradicate poverty and give them new opportunities to increase their living standard.

KEYWORDS: Sustainability Tourism, Social Innovation, Ecotourism, Agro tourism, Marine-Edutourism
A CONCEPTUAL STUDY TO IDENTIFY THE ROLE OF ECO-INNOVATION CAPABILITIES TO ENHANCE SUSTAINABLE BUSINESS PERFORMANCE AMONG SMES IN MALAYSIA

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ABSTRACT

This conceptual study aims to explore the role of eco-innovation capabilities to enhance sustainable business performance among small and medium enterprises (SMEs) in Malaysia. This study is important for Malaysian SMEs to be more competitive in the marketplace. Simultaneously, this study may help Malaysian SMEs to think a way to reduce the negative impact on the environment while making a business. Eco-innovation capability is a strategy that create new ideas, products, and process that can yield positive benefits to the environment in line with the impact to business performance within the organisation. It also encourages and promotes betterment on the corporate image of the SMEs in Malaysia. For this purpose, four eco-innovation capabilities will be discussed, namely eco-product innovation, eco-organisation innovation, eco-process innovation, and eco-marketing innovation. This study will employ a qualitative research methodology through several interviews with SME’s top management in Malaysia. This study will implement snowball sampling to select the samples and the interview transcripts will be analysed by using thematic analysis. The findings shall provide valuable insights on eco-innovation capabilities that applicable for organisation to sustain their business performance. Additionally, the direction for future research in Malaysia is also discussed to demonstrate the potential of this topic to be explored especially in contribute resource-based view theory and propose a conceptual framework.

KEYWORDS: Sustainability, Business Performance, Small and Medium Enterprises, Eco-innovation.
QUALITY OF LIFE AND COMMITMENT OF SMALL AND MEDIUM ENTREPRENEURS IN HOSPITALITY INDUSTRY

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ABSTRACT

Small and medium tourism enterprises and accommodation providers have played a significant role in contributing to the tourism receipts in most countries. Their existence in hospitality environment has created attention to understand their commitment level in managing their businesses. This study considers quality of life as the predictor to the commitment among 200 small and medium entrepreneurs in Malaysian accommodation sector. The results of this study shown that quality of life does have significant relationship with the entrepreneurs’ commitment. Hospitality business owners particularly in small and medium accommodation industry who experienced higher quality of life proved to be more committed towards their business. Thus it is very useful to acknowledge the effect of having good quality of life in order to boost the commitment.

KEYWORDS: quality of life, commitment, small and medium, entrepreneur, hospitality, Malaysia
TRACK 8C
ECONOMICS
DEVELOPING A TECHNICAL EFFICIENCY STATISTICAL MODEL FOR ELECTRIC AND ELECTRONIC MANUFACTURING INDUSTRY IN MALAYSIA

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ABSTRACT

The Electric and Electronic (E&E) manufacturing industry is the largest industry in Malaysia and the second largest contributor to Malaysia’s Gross Domestic Product (GDP). In fact, the E&E manufacturing industry market is in a high demand while helping the country’s economic growth. However, the recent growth inconsistencies have shown that the level of technical efficiency (TE) should be at the maximum level due to the emergence of new operations, changes in technical efficiency (TEC) and technological advancements to boost the economic growth momentum. This journal article describes the preliminary model to identify the level of TE and factors of technical inefficiency in E&E manufacturing industry. This study applied the Stochastic Frontier Analysis (SFA) approach, using data obtained from the firm level by the Department of Statistics Malaysia (DOSM) through the Transcendental Logarithm or Translog approach. This approach was able to analyze data in order to obtain the TE level in the E&E manufacturing industry in detail by considering the factors of inefficiency that influenced the level of TE in the E&E manufacturing industry. The implications of this study could be beneficial to meet the E&E manufacturing industry’s needs by focusing on the factors that determine its inefficiencies in order to increase the TE levels. The outcome could be useful for the key player in manufacturing to enhance their performance consistently.

KEYWORDS: Technical Efficiency, Electric & Electronic (E&E) Manufacturing Industry, Firms, Stochastic Frontier Analysis (SFA), Transcendental Logarithm (Translog)

1. INTRODUCTION

Efficiency is the effectiveness of users using existing inputs to improve the level and techniques of production, application of technology, management, and labor competency. Therefore, optimizing efficiency also involves other factors in terms of capital, education, wages, labor skills and information technology (Fahmy-Abdullah et al., 2017). According to Hamdan et al. (2018), competency is a key element that acts as a measurement for a firm and manufacturer to maximize its output that will affect the overall cost of operations and competitiveness in every firm. Technical efficiency (TE) occurs when an output is produced at the maximum level, showing the ability of the firm to use its set of inputs. Therefore, technical efficiency is assessed in the firm (Farrell, 1957).

Additionally, Ismail & Bakar (2008) stated that TE was the most important fundamental factor determining the firm's ability to generate economic growth and labor force. In other words, the firm's ability to produce output at an optimum level. In short, technical efficiency refers to the output produced using optimum inputs (Shahar et al., 2015). Kumbhakar & Lovell (2000) stated that TE referred to firms that could minimize inputs and maximize output. The concept of TE begin to gain attention from researchers and policymakers following a demand for a detailed and accurate measurement of an industry’s production output (Amornkitvikai & Harvie, 2010). TE in manufacturing directly or indirectly influences the increase of production, profitability, productivity and ability to contribute a high level of economic growth. TE provides an overview of the actual situation of the firm's current performance.

The manufacturing industry is a major contributor to Malaysia's Gross Domestic Product (GDP). It is one of the most important industries that move in line with today's technological progress. The constant demand reflects the high demand in this sector. The current situation of the manufacturing industry has shown positive development despite the fluctuating GDP growth caused by external factors that affect progress in this sector. However, the capability of E&E industry requires a new shift in terms of initiatives and strategies in order to increase the output volume or value-added using the firms and manufacturers’ input and to ensure the industry’s relevance as a leading contributor to the national economy (Fahmy-Abdullah et al., 2017).
The inconsistent growth in the E&E manufacturing industry, volatile global economic environment and shortage of skilled labor (Productivity Report, 2017/2018) have caused unstable and discouraging development of the industry based on trends from 2010 to 2015, with an average of 5.9 percent growth despite the E&E manufacturing industry being the largest contributor to the national GDP (Department of Statistics Malaysia, 2018). This uncertainty of growth in E&E manufacturing industry requires a focus on the level of technical efficiency and its influencing factors, especially when there is intense competition in the E&E industry globally. Countries like China, Taiwan, Singapore, Vietnam, Indonesia, and several other Asian countries have an advantage in terms of technology, raw materials, supply chain, labor cost, and competency. Such competition becomes more intense in the age of globalization even though globalization and free trade can expand markets, create more vibrant business opportunities, and improve productivity (Vincent, Ismail, & Ishak, 2014). Furthermore, the focus on component assembly alone has led to the lower value-added of this industry compared to that in other countries that utilize high value-added activities such as research and development (R&D) and advance technological production (Department of Statistics Malaysia, 2018).

Based on the previous studies, the research on TE of E&E manufacturing industry in Malaysia has received less interests from researchers compared to the research on other industries. Numerous studies, such as by Sulaiman & Rashid (2013) and Jajri & Ismail (2014) only discussed the E&E manufacturing industry in general. Furthermore, the determining factors of technical inefficiency have also been overlooked by Mahadevan (2000) and Sulaiman (2012) in their studies on finding the technical efficiency value. Although there are previous studies on the E&E manufacturing industry in Malaysia, such as those by Radam et al. (1999), Ismail et al. (2007) and Asid (2010), these studies used data collected at the industry level and did not take into account the determining factors of technical inefficiency to determine the level of TE. In fact, the data from the firm’s or manufacturer’s level are more accurate in securing the TE value with regard to the factors determining inefficiency (Battese & Coelli, 1995; Fahmy-Abdullah, 2017; Fahmy-Abdullah et al., 2018). In addition to that, measurement problems that may affect aggregate data at the industry level can be overcome by using firm-level data (Mohd, 2005).

The structure of this study is divided into several sections; the second part discusses the literature review. The third section discusses the research methodology and data. The next section discusses the contribution of the study and lastly is the conclusion.

2. LITERATURE REVIEW

The use of data at the firms’ level throughout previous studies has been increasingly addressed by researchers. Heterogeneous and biased aggregation problems using industry-level data can be solved using firm-level data (Fahmy-Abdullah et al., 2017). Furthermore, estimates are more accurate with microdata than time series in the aggregate form. There is a number of previous studies involving some industries that estimate technical efficiency using firms’ data including Le & Harvie (2010), Essmi et al. (2013), Fahmy-Abdullah et al. (2018), Hamdan et al. (2018) and Idris et al. (2018). Jarboui et al. (2015) emphasized that technical efficiency estimates that used firm data as individuals were better since further analysis on factors affecting technical efficiency levels could be studied. The value of TE is often obtained using parametric and non-parametric approaches. Data Envelopment Analysis (DEA) is a non-parametric approach that does not make any assumptions about the form of the production function. On the other hand, DEA is a function of best practice empirical production based on input and output observations (Fahmy-Abdullah & Talib, 2018). Studies such as by Sun et al. (2015), Fahmy-Abdullah & Talib (2018), Sabli et al. (2018) and Fahmy-Abdullah et al. (2019) used the DEA approach as their method of study. However, the DEA model cannot identify the difference between technical inefficiency and random error (Coelli et al., 2005; Fahmy-Abdullah et al., 2017). This study applied the parametric approach, the Stochastic Frontier Analysis (SFA) model to measure technical efficiency and determinants of technical inefficiency. The SFA approach gives more advantages as it is possible to identify inconsistent data when the analysis is conducted and easily adapted to the environmental variables (Coelli et al., 2005; Fahmy-Abdullah et al., 2018). In addition to that, random shocks which impact production can be identified (Jarboui et al., 2015).

Furthermore, the analysis of the structure, assessment of the determinants and firm's performance can be well-analyzed with SFA (Cullinane et al., 2006). Tingley et al. (2005) also proved that the level of technical efficiency measured by the SFA approach was better and consistent than the DEA approach based on the low variance values. The SFA approach has also been adopted in studies such as by Jarboui et al. (2015), Fahmy-Abdullah et al. (2017) and Fahmy-Abdullah et al. (2018). There are also previous studies that not only measure the level of technical efficiency, but also examine the determinants of a firm or industry. An early study by Katz (1969) emphasized that the capital-labor ratio was one of the major contributors to output growth and productivity. Capital is a source of innovation for firms in the production process (Phelps, 1996). Kneller & Stevens (2003) proved that the capital-labor ratio had a positive relationship with efficiency and productivity. When a firm can capitalize on high capital volumes, the positive impact on efficiency and productivity can be
achieved in line with the maximum machine utilization in the production process (Bertrand, 2013; Fahmy-
Abdullah et al., 2018). However, in the event of a capital increase, such as technological purchases, and at
the same time, the skills of employees are not upgraded, the firm's efficiency level is affected as employees are
forced to adapt to the newly acquired technologies (Fahmy-Abdullah et al., 2019).

Worker’s efficiency can be increased through training for employees. Training increases labor force’s
skills and produces a higher quality of goods and services. Skilled laborers can create or innovate new
technology that can improve the firm's technical efficiency (Fahmy-Abdullah et al., 2017). Essmui et al. (2012),
Olatunji & Ibisunmi (2013), Ismail et al. (2014) and Idris, et al. (2018) showed that training expenses were one of
the factors that could reduce the firm’s technical inefficiency. The training expenses incurred by the firm
actually have a direct relationship with the increase of productivity (Dearden et al. 2006) and the training
program conducted should be in accordance with the needs of the firm. Implementing training that is not in
line with the needs of the employees will cause wastage and failure of receiving proper return (Fahmy-Abdullah
et al., 2018). Employee’s skills are also associated with employee education level. Education is one of the key
roles in identifying firm performance, including output, profitability and productivity (Productivity Report,
2016/2017). It plays a vital role in producing competitive human capital (Fahmy-Abdullah et al., 2017; Latif
et al., 2019).

Firm size is also significant in increasing the firm's efficiency. For the manufacturing sector, small and
medium industries are defined as firms with sales of not less than RM 300 thousand and not exceeding RM50
million while large firm size has sales revenue above RM50 million (SME, 2014). Improved technical
efficiency level is positively related to the increase in firm size (Batra & Tan, 2003, Charoenrat, Harvie &
Amornkitvikai, 2013; Fahmy-Abdullah et al., 2018). Besides that, firms with more sophisticated machinery
have higher levels of efficiency (Fahmy-Abdullah et al., 2019; Fahmy-Abdullah., 2019). Wage rates certainly
play an important role as motivation and incentives for workers in a firm. A study by Elkin & Rosch (1990)
found that interpersonal relationships in the organization would become tense if there was an issue of wage
rates and unfair promotion opportunities. In fact, the implementation of the Productivity-Based Wages System
(SUBP) can benefit the firm as this system contributes to the enhancement of firm competitiveness (Malaysia
Productivity Corporation, 2010).

In addition to that, ICT investments made by a firm can result in a positive impact. The emphasis on ICT
investments can enhance the firm's efficiency (Ismail et al., 2014). Investments on data, physical input,
incentives or subsidies, and capital stocks to promote the development of innovation and ICT strategic plans
can enhance the firm's technical efficiency (Liew et al., 2012; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah
et al., 2018). To the best of our knowledge, only Khalifah et al. (2015) and Khalifah & Jaafar (2017) studied
technical efficiency of electrical and electronic manufacturing industries in Malaysia using data at the industry
level. However, Khalifah et al. (2015) discussed the effects of indirect technology transfer on foreign direct
investment (FDI). The results showed that the overflow of FDI was not as important, and it could not increase
the efficiency of engineering and industrial productivity. When Khalifah & Jaafar (2017) compared the factors
of export intensity and trafficking trade to determine TE, the results showed that trade was a significant
determining factor and export intensity was not significant. Therefore, the latest research on the level of
technical efficiency and the determinants of technical inefficiency of electrical and electronic manufacturing
firms using firm-level data should be conducted to increase the productivity of the industry in the future.

3. METHODOLOGY

3.1 Stochastic Frontier Analysis (SFA)

This study adopted Stochastic Frontier Analysis (SFA) invented by Aigner et al. (1977) and later, further
developed by Coelli & Battese (1995) as an approach to find the value of TE at the firm level. In general, the
SFA estimates the level of production, cost, and profitability that ranges from maximizing output to optimizing
costs, consequently minimizing the costs demand to achieve high profitability through the demand from output
and input sources with regards to other factors (Hamdan et al., 2018). Moreover, the firm’s sample shows that
being below the frontier level is inefficient. However, to overcome this problem, firms need to improve and
make changes in the management, level of education, skills, technology, and productivity in order to reach
above the efficiency frontier (Hamdan et al., 2018; Latif et al., 2018).

The SFA model also identifies the relevant relationships to obtain a variety of efficiency level according
to the objectives set by a firm. There are studies that use the SFA model to study the technical efficiency (TE)
at the local and international levels, including from Chu & Kalirajan (2011), Karunaratne (2012), Abd Ghafar
& Ismail (2015) and Fahmy-Abdullah et al. (2018). Apart from measuring TE, SFA also measures allocative
efficiency and economic efficiency in the manufacturing industry. The SFA approach considers other factors,
such as expected external interference and therefore, provides better and more accurate results than the DEA
approach (Abd Ghafar & Ismail, 2015; Tingum & Ofeh, 2017; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah
et al., 2018). Since there are several factors that can affect TE consistently, the SFA approach could resolve predetermined issues from its estimation and aggregation in comparison to industry-based time-series studies in an industry that can be biased or not comprehensive.

SFA is frequently used in the international and local past studies (see Aigner et al., 1977; Battese & Coelli, 1988; Greene, 2002; Coelli et al., 2005; Ismail & Bakar, 2008; Amornkitvikai & Harvie, 2010; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018) to determine the maximum level of production. SFA is an alternative approach for estimating frontier function and measuring production efficiency. Farrell (1957) first introduced the firm’s TE measurement that had two elements: technical efficiency and allocative efficiency. Technical efficiency determines the ability of a firm to ensure maximum output from a given set of inputs. Meanwhile, allocative efficiency determines the ability of a firm to optimally use the input and the appropriate amount of cost. Both of these elements create economic efficiency in the industry.

On the other hand, Kumbhakar & Lovell (2000) and Greene (2002) also describe in detail the use of SFA techniques. Even Aigner et al. (1977), Meeusen & Broeck (1977) and Coelli & Battese (1995) stated that the SFA approach was more suitable to be used in order to obtain the TE at the firm level (Fahmy-Abdullah et al., 2018). Meanwhile, Data Envelopment Analysis (DEA) is a non-parametric approach that does not take into consideration the relationship with the type of productions function. DEA acts as a production function that focuses on best practices based on input and output empirical observations (Fahmy-Abdullah et al., 2019). It does not assume other external factors affecting technical inefficiencies or firm control, such as random shocks and flexibility that may affect the firm (Coelli et al., 2005; Zahid & Mokhtar, 2007; Amornkitvikai & Harvie, 2010; Fahmy-Abdullah & Talib, 2018). SFA also measures the technical inefficiency and identifies random shocks (Jarboui et al., 2015; Fahmy-Abdullah et al., 2017; and Fahmy-Abdullah et al., 2018) beyond the capabilities of the firm, causing the SFA model to be often used by researchers in the industry to acquire a more detailed, accurate and comprehensive level of TE.

Therefore, this study focuses on panel data obtained from 2010 to 2015 from DOSM. The duration of this study was based on an economic census of every 5 years. Secondary data is gaining popularity among researchers (Lieberman & Dhawan, 2005; Radam et al., 2010; Haryanto et al., 2016; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018) whom have used the SFA approach.

Referring to the specifications of the original SFA model, a production model for cross-sectional data with error conditions was adapted by Fahmy-Abdullah et al. (2017) and Fahmy-Abdullah et al. (2018) from Aigner et al. (1977) which had two components. One was the random effect v_i. The second component was the non-negative random variable u_i in the equation known as technical inefficiency to identify the effect of technical inefficiency in production output. Førsund et al. (1980), Coelli & Battese (1995) and Kumbhakar & Lovell (2000) have developed a flexible and easy model to measure technical inefficiency. In addition to that, Fahmy-Abdullah et al. (2018) also used this model to test and identify the technical inefficiency of a sample to obtain more accurate level of TE. Coelli & Battese (1995) used SFA models assuming that random variables affected firms following the Battese & Coelli Model specifications:

\[ Y_{it} = B_{it} \beta + (\nu_{it} - u_{it}) \quad i = 1, 2, ..., N; t = 1, 2, ..., T \]  

With:  
- \( Y_{it} \) is the production for the t-th observation on the i-th sample firm;  
- \( B_{it} \) is vector \( k \times 1 \) multi quantity input for firm i-th in the year - t  
- \( \beta \) is a vector of unknown parameters  
- \( \nu_{it} \) random variables are assumed to be independent and identically distributed as \( N(0, \sigma_u^2) \) random variables, independent of the non negative  
- \( u_{it} \) non-negative random variables, which are assumed to be independent and identically distributed truncations (at zero) of the i.i.d \( N(u_t, \sigma_u^2) \) distribution.  
- \( T \) represents the number of observations on the i-th firm;  
- \( N \) represents the number of sample firms for which observations are available

The SFA method was assessed by the maximum likelihood estimation (MLE) defined in equation (1) by using FRONTIER 4.1 software. SFA is different from other analyzes, such as simple regression analysis, because it adopts the Ordinary Least Squares (OLS) to find the best function of the average cost function. Therefore, MLE estimates the frontier function found in the sample by differentiating the error components from the technical inefficiency to yield more accurate results. FRONTIER 4.1 is capable of efficiently and constantly analyzing variance (\( \nu_{it} - u_{it} \)) compared to the OLS method, providing more detailed impact (Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018). Furthermore, the MLE estimation has contributed in the detection of the existence of technical inefficiency from the total variance (Coelli & Battese, 1995; Coelli et al., 1998; Kumbhakar et al. 2000).
The use of $\sigma u^2$ dan $\sigma u^2$ with $\sigma^2 = \sigma v^2 + \sigma u^2 : \gamma = \sigma u^2 / (\sigma v^2 + \sigma u^2)$ (Coelli, 1996) was derived using Battese & Broca (1997) parameter adopted in Fahmy-Abdullah et al. (2017) and Fahmy-Abdullah et al. (2018) study. Referring to $\gamma$ which has a value between zero and one, these values indicate a standard that deviates from the frontier line. The interruption of the value of one shows that such deviation is a technical inefficiency (Tran, Grafton, & Kompas, 2008).

If $H_0: \gamma = 0$ is deduced, then there is a deviation from the actual data in the frontier function due to technical inefficiency. The null hypothesis of no significant technical inefficiency is rejected. To test the null hypothesis, the Generalized Likelihood-Ratio – LR ($L$), could be tested by applying statistical testing as follows:

$$
\lambda = -2 \left[ \ln[L(H_0)] - \ln[L(H_1)] \right]
$$

$L(H_0)$ and $L(H_1)$ serve as the likelihood function of the null hypothesis and the alternative hypothesis of a test, respectively. The LR test hypotheses equal to ($H_0$, $\delta = 0$) can be rejected. Therefore, the non-factor basic model was used based on the Battese & Coelli (1988) model as well as the tests conducted in the study by Fahmy-Abdullah et al. (2017) and Fahmy-Abdullah et al. (2018). This model has been applied in most of the previous studies in estimating and determining the TE values. Moreover, the effects of true findings of TE can be obtained more consistently.

Meanwhile, determining the TE value of the firm’s $it$-th output, which is defined as the output ratio to potential output by Coelli et al. (2005) is as follows:

$$
TE_{it} = E[\exp(-u_{it})]
$$

If the range of TE is 0 to 1 and the firm is at $TE = 1$, the production frontier of the firm is at an efficient level. Next, (1 - $TE$) is the actual production gap of firm and optimum production (Chavas & Aliber, 1993; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018) that can be achieved to move the firm to the frontier through the input adjustment. This is also due to the non-negative variable $u_{it}$ which then affects the range of TE to make it technically efficient.

The findings related to the analyzed efficiency have shown several advantages using the SFA. The statistical features are more inclined towards the estimation of stochastic function from the collected data. The SFA has other features that are more flexible and adaptable to the external or environmental variables (Coelli et al., 2005). Moreover, the SFA is a model capable of creating a parametric limit (Coelli et al., 2005; Amornkitvikai & Harvie, 2010; Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018) by considering stochastic errors or environmental factors that can evaluate the technical efficiency and inefficiency based on certain assumptions. The SFA will refine and test the samples through gamma testing to identify the technical inefficiency of the firm and the factors of technical inefficiency (Fahmy-Abdullah et al., 2017; Fahmy-Abdullah et al., 2018).

There are several functions of the SFA approach that can identify the data inconsistencies. SFA is able to analyze the structure, and examine the determining factors and performance of manufacturers. Tingley et al. (2005) conducted a study on the comparison of two alternative measurements of efficiency through SFA and DEA. The results showed that the value of TE using the SFA approach in the fisheries sector was more consistent, detailed and able to measure the technical inefficiency. SFA can identify elements outside of the manufacturers control, such as random shocks that can affect production, compared to DEA that indicates the low variance value and only focuses on the existing input without considering other external factors (Jarbou et al., 2015).

4. STATISTICAL MODEL SPECIFICATION

4.1 Transcendental Logarithm (Translog)

Three input variables were used in this study: capital, workers and intermediate input. The other output variables were selected according to the model suitability in the Equation (1). These variables were selected based on data of firms in the E&EE manufacturing industry obtained from DOSM. The usage of panel data was over a 6-year period from 2010 to 2015, and fragmented into six sub-industries at the 3-digit level by MSIC 2000 and MSIC 2008. The research model that could be used in the evaluation of the relationship between input and output was through Cobb-Douglas and Translog. While Coelli et al. (2005) approach has been a popular evaluation among past researchers, this study used the Translog approach as follows:

$$
\ln Y_i = \beta_0 + \beta_1 \ln M_{it} + \beta_2 \ln B_{it} + \beta_3 \ln II_{it} + \frac{1}{2} \beta_4 (\ln M_{it})^2 + \frac{1}{2} \beta_5 (\ln B_{it})^2 + \frac{1}{2} \beta_6 (\ln II_{it})^2 + \\
\beta_7 (\ln M_{it} \times \ln B_{it}) + \beta_8 (\ln M_{it} \times \ln II_{it}) + \beta_9 (\ln B_{it} \times \ln II_{it}) + \text{(\nu}_{it} - \bar{\text{u}}_{it})
$$

(i = 1, 2, ..., N; t = 1, 2, ..., T)
With: \( \ln Y_i \) is the logarithm for the total output for the firm \( i \)-th in the year \( t \)
\( \ln M_i \) is the logarithm for the total asset for the firm \( i \)-th in the year \( t \)
\( \ln B_i \) is the number of workforces for the firm \( i \)-th in the year \( t \)
\( \ln II_i \) is the intermediate input for the firm \( i \)-th in the year \( t \)
\( i = 1, 2, ..., N \) is the number of firm
\( t = 1, 2, ..., T \) is the number of year
\( v_{it} \) is i.i.d with \( [N(0, \sigma_v^2)] \) for the year \( t \)
\( u_{it} \) is non-negative random variables, which are assumed to be independent and identically distributed truncations (at zero) of the \( [N(\mu_u, \sigma_u^2)] \) distribution for the year \( t \).

This study evaluated the TE gained each year from the DOSM for 6 years since 2010 until 2015. Besides that, the effect of the technical inefficiency model is as follows:

\[
\begin{align*}
  u_{it} &= \delta_0 + \delta_1 \ln(M/B)_{it} + \delta_2 \ln(LAT)_{it} + \delta_3 \ln(TPP/B)_{it} + \delta_4 \ln(TPA/B)_{it} \\
  &+ \delta_5 \ln(U/B)_{it} + \delta_6 (DFSME)_{it}
\end{align*}
\]

With: \( \ln(M/B)_{it} \) is a logarithm for the capital cost ratio (M) and number of labor/capital intensity for the firm \( i \)-th in the year \( t \)
\( \ln(LAT)_{it} \) is a logarithm for the total labor training cost (LAT) for the firm \( i \)-th in the year \( t \)
\( \ln(TPP/B)_{it} \) is a logarithm for the ratio between labor force with STPM (Sijil Tinggi Persekolahan Malaysia), Diploma and equivalent with the total of labors employed for the firm \( i \)-th in the year \( t \)
\( \ln(TPA/B)_{it} \) is a logarithm for the ratio between labor force with advanced diploma, bachelor degree and equivalent with the total of labors employed for the firm \( i \)-th in the year \( t \)
\( \ln(U/B)_{it} \) is a logarithm for labor wage rate (U) for the firm \( i \)-th in the year \( t \)
\( \ln(ICT)_{it} \) is a logarithm for the total spending cost for communication and information technology for the firm \( i \)-th in the year \( t \)
\( (DFSME)_{it} \) is the size of the firm based on dummy for the firm \( i \)-th in the year \( t \) with small-size firm = 1, other = 0
\( I \) is 1, 2, ..., 300 (is the number of firm every year)
\( T \) is 1, 2, ..., 6 (is the number of year)

In this study, the value of TE gained was based on every year for 6 years from 2010 until 2015.

5. SOURCES OF DATA

The data used in this study were retrieved from the E&E manufacturing industry firms in Malaysia from DOSM. Thirty percent of the total aggregate data in DOSM was selected in this study, and it was categorized into six sub-industries in the 3-digit level of MSIC 2000 and MSIC 2008. The sub-industries involved areas in Table 1.

Table 1: E&E Manufacturing Sub-Industries in Malaysia

<table>
<thead>
<tr>
<th>No.</th>
<th>MSIC</th>
<th>E&amp;E Manufacturing Sub-Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>261</td>
<td>Manufacture of electronic components and boards</td>
</tr>
<tr>
<td>2.</td>
<td>262</td>
<td>Manufacture of computer and device equipment</td>
</tr>
<tr>
<td>3.</td>
<td>263</td>
<td>Manufacture of communications equipment</td>
</tr>
<tr>
<td>4.</td>
<td>264</td>
<td>Manufacture of consumer electronics equipment</td>
</tr>
<tr>
<td>5.</td>
<td>265</td>
<td>Manufacture of measuring equipment, test driving, and control, watches and clocks</td>
</tr>
<tr>
<td>6.</td>
<td>266</td>
<td>Manufacture of radiation equipment, electro, and electro-therapeutic</td>
</tr>
</tbody>
</table>

Sources: Economic Census 2011 and 2016, DOSM)

6. DATA ANALYSIS

This study used Stochastic Frontier Analysis (SFA) method to measure the technical efficiency (TE). Through the SFA method, the specification of the original model can be explained in more detail to derive the level of efficiency and applicability of the Translog model through the Maximum Likelihood Estimation (MLE); and to test the existence of effects or technical inefficiencies. Data obtained from DOSM was filtered according to
the objectives of this study. The data compiled using Microsoft Excel 2016 aimed to structure and design tables, analyze, and calculate the data to align with the format used in FRONTIER 4.1. The FRONTIER 4.1 software uses the Fortran77 programming language which is a software used specifically to estimate the production of stochastic frontiers. This program was used to calculate the estimates of TE value for firms obtained through the Translog approach in order to simultaneously analyse the TE levels and factors that influenced TE.

7. RESEARCH CONTRIBUTIONS

This study will contribute to the empirical research locally. Furthermore, a critical discussion and synthesis of previous studies as a whole will fill the existing gaps. The discussions of this study focus on technical inefficiency at the firm level in the E&E manufacturing industry and further discussion on the determinant factors of technical inefficiency could be an enhancement of the previous studies. Additionally, the outcome could potentially pave a way to the existing information, with an appropriate comparison approach to become a reference for future studies. Interestingly, this study potentially adds value to the field of knowledge related to the E&E manufacturing industry. This study can enhance the knowledge of the E&E manufacturing industry in terms of information, performance level and potential of the industry through analysis and discussion. The use of firm’s data in this study may result in producing more interesting and accurate results, improving any shortcomings and weaknesses inherent in the industry after undergoing a detailed process in order to identify the performance level and potential of the industry. The firm’s data is more useful to solve some measurement problems and may affect aggregate data at the industry level (Mohd, 2005). Estimation using the firm’s data is more effective because further analysis of factors that influence estimation can be studied (Tingley et al., 2005).

Contributions to the industry players is significant by providing input on the internal and external environment towards factors that influence the production to increase productivity. Furthermore, it shows the industry players that profit and output alone do not reflect the efficiency level of the organization. Through this study, industry players are able to evaluate their level of production efficiently depending on factors that influence the organization’s technical skills in terms of skilled labour, wage and salary, and technology transfer to make the E&E manufacturing industry competitive and grow rapidly.

8. CONCLUSIONS

The E&E manufacturing industry is an important industry for the country, and the development of this industry contributes to the national economic growth. Therefore, the appropriate methods and approaches can show the actual level of efficiency. SFA is an alternative approach to define benchmarks and TE measurement of a firm in the industry in order to help the industry to achieve an efficient level of output at the maximum level as a whole. The SFA helps to measure the level of TE by considering factors that influence technical efficiency. It can be enhanced by firms and governments through policies, and industry players. The ability of the SFA to provide efficiency level and factors of technical inaccuracy simultaneously facilitates the researchers, governments, private sectors and others to identify and enhance the industry at a higher level in order to stimulate economic growth.

The importance of this study is to provide more accurate and detailed results on the determinant factors of technical inefficiency in the E&E manufacturing industry. Furthermore, it benefits the government as a guidance or direction in planning strategy and implementing policies that are more conducive to the competitive and sustainable E&E manufacturing industry in the external market. The E&E manufacturing industry is the largest exporter to the GDP of a country, having a great potential in further developing and increasing the rate of economic growth. Improvement efforts can be made based on the findings on the efficiency level and the determining factors of the technical inefficiency obtained. Understanding of policymakers on the determining factors of technical inefficiency can result in a more robust and effective policy to improve the technical efficiency for the future of the E & E manufacture industry.

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EFFECT OF POST BRETON WOOD INCREASED MONEY SUPPLY ON THE ECONOMIC STABILITY OF SOUTH EASTERN ASIAN COUNTRIES

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ABSTRACT

This study is aimed at investigation the effect of post Breton wood increased money supply on the economic stability of south eastern Asian countries. The study adopted a quantitative method of research where data was collected from the published data base of World Bank and International Monetary Fund for the period 1992 to 2018. The five (5) sampled countries were selected using purposive sampling technique. The collected data was analyzed using descriptive, correlation and regression technique of analysis with the aid of Minitab 16. The study found that monetary policy specifically increased money supply is the major control mechanism of recession and inflation. It has a direct consequence on the real GDP, price stability and the overall economic wellbeing of a given country. The study recommends that money supply should be handled with all consciousness so as to curtail it persistent increase especially the credit creation by private banks because it will trigger an unfavourable effect on the economic stability and the overall wellbeing of individual household in the economy.

KEYWORDS: economic stability, money supply, fractional reserve, credit creation, real GDP

1. INTRODUCTION

Countries has the common aim of formulating policies that will provide stable environment or the population, businesses, security and the growth of national economy. The stability can arise from international policies, security policies, fiscal and monetary policies that are geared toward the betterment of the nation economy and the household living condition. It is good to note that a well-designed and structured policy plays a significant role in strengthening the living condition of the country men and the economic wellbeing of the entire country as on contrary a defect policy will be harmful to both the economy and the country men. It is expected that government at all level must examine each policy critically before venturing or formulating in order to sustain the economic stability and better living condition of the people.

The most critical policies that nations dwell and puts more attention on is the fiscal and monetary policy as they are the key tools used by the government in stimulating economic activities together with determining the living style of the people. These policies are constantly reviewed to meet up the routine changes in the people expectation and to cater for the changes in the country economic activities. It is believed that having a comprehensive economic policy will trigger national economic growth and as such will foster better living condition to the populace. Therefore, it is critical for national policy makers to focus and capture issues in the policy formulation that will provide better business environment, economic stability, security and good living condition for the people and the nation at large.

The collapse of Bretton wood agreement has changes many of economic indices especially the monetary aspect where the money supply increase was consistent and even higher than the economic growth which is a signal of oversupply of money which could lead to economic instability. Researcher and economics experts like Warner, (2014) and Liew, (2019) have argued that prior to the collapse of Bretton Wood countries money supply was being moderately managed because restriction on the money creation exist since new money could only be created in proportion to the real asset of the country (Gold, silver in the case of Bretton wood system). However, the system was not sustained because of the increase in countries population, and the overwhelming increase in the government expenditure which cannot be attained with the asset backed currency because of the limited supply of the asset in question.

The increase in money supply is majorly caused by the money creation from private banks as argued by (Werner, 2018) and this suggests that the larger proportion of the money in circulation in today’s economy are basically money created by private banks this is evidenced from the bank of England report (England, 2016), the report puts that more than 95% of the money used by people and businesses in most of the countries exists in the form of bank deposits at commercial banks while only less than 5% of the money in circulation exists as physical cash which are created by the state via central banks such as the Bank of England and this situation
exists in most of the countries around the world. The private banks create new money in the form of the numbers (bank deposits) that appear in bank accounts when they make loans.

Studies on monetary and transactions system has received much attentions by many authors in the area of economics and finance. Most of these studies focuses on the certain micro economic variables of inflation, interest rate, exchange rate, tax, and foreign direct investment on the nations economic activities like growth and development. Whereas little concern or attention was given or centered on the expansionary monetary system especially the credit creation aspect in the fractional reserve system, its operation and the economic implication of such a system. The focused area for the study was the expansionary monetary system which includes credit creation process and its effect on the general economic activities and the economic stability in the digital era. Based on the foregoing this study investigates the effect of post Breton wood increased money supply on the economic stability of the south eastern Asia countries.

2. LITERATURE REVIEW

This section provides explanation of the concepts of economic stability, money supply, causes of increased money supply as well as the theoretical backing of the study which is anchored on the quantity theory of money.

2.1 Economic Stability

This explains the extent at which the major microeconomics variables of a given economy concentrate with minimal fluctuation. Economic stability represents the economic wellbeing of a nation in terms of growth, price stability, living standard as well as economic development. Authors from economic background in recent have extensively focused on economic stability since it is the ultimate aim of every nation in the globe. Stable economic is said to be the measures of the strength and competitiveness of a country with other countries (Eze & Ogiji, 2016).

Economic stability can be viewed from national or regional point with common goal of having an economy or nation with ultimate economic growth and development. Khairullov and Belyaeva (2014) viewed economic stability as maintaining the stability of the incremental, marginal rates of economic growth, such as maintaining the annual growth of the gross regional product (GRP) or inflation within the set limits. They further posit that Economic stability of a nation is a vital factor of sustainable development. The higher economic stability the greater the ability of the nation economy integrating to a regional economic system that will resist market fluctuations and hence lowers the probability of bankruptcy or insolvency in the economic activity of such country. An economy with fairly constant output growth and low and stable inflation would be considered economically stable nation (Gusev, Polovova & Karnaukh, 2016; Eze & Ogiji, 2016). It can be seen that a stable economy will foster real economic growth that will translate to sustainable wellbeing of such country through achieving less fluctuation in most of the economic realities.

Maintaining economic stability is partly a matter of avoiding economic and financial crises, low savings in economic activities, stable inflation and excessive volatility in exchange rates. In other words, economic instability can increase uncertainty, discourage investment, impede economic growth and reduce living standards (Geoff, 2009). It can be deduced that the cardinal point in economic stability concept is microeconomic variable which centred on the economic growth and development explained by the gross domestic product (GDP). Gross Domestic Product (GDP) measures the economic size of a country in relation to how fast the nation economy is growing as it refers to the market or money value of all goods and services produced in a country at a particular period of time. This measure is suitable since economic stability refers to an economy that witness constant growth in the economy.

Economic stability and growth can be achieved through having a stable monetary policy which regulates and coordinate the routine transaction within and outside the country. The monetary policy is key in transactional activities of a nation especially in terms of transaction monitoring and regulation. Central bank of countries has been shouldered with the responsibility of formulating the monetary policy that will provide conducive environment for every stakeholder to engage in his/her routine transaction without much challenge.

2.2 Monetary system

Central banks have been doing their best in controlling and regulating the money supply (money in circulation) through the formulated policies but the reality shows that countries are being faced with over supply of money (too much money in circulation) which has caused inflation, and this has resulted in serious defect in the living condition of the people as captured in quantity theory of money. The further explains that inflation is majorly triggered by the increase in money supply especially when there is no equivalent increase in the real economic output (Hülsmann, 2014). The most challenging aspect for policy makers in every system is how to balance between inflation and recession because of the facts that too much money in circulation causes inflation.
otherwise recession is triggered. This is the scenario with most of the monetary systems operated since the
major tool used in regulating the money in circulation is interest rate manipulation which will either encourage
or discourage lending.

The money supply issue started to escalate significantly after the collapse of Bretton Wood system in 1973
when the world currency was untired from gold backing and the fiat money together with fractional reserve
system came to being. However, the collapse of Bretton wood which was caused by increased in government
expenditure, population and the limited production of gold which cannot be expanded by the nations. Thereafter
countries opted for fiat and fractional reserve system as operated in Kublai Khan and Goldsmith systems where
the oversupply of money was witnessed in the economy which is not inline with the real economic output.

Control of money supply is paramount in the national policy and it has been drawing serious attention over
time because it was seen of having a tremendous effect that have direct bearing on the living condition of the
people and the healthiness of the economy. It is against this, that Central bank uses some tools to regulate the
money supply because an uncontrolled money supply will cause harm to economic activity of the nation and
it will generate hardship for the people.

2.3 causes of increased money supply

Many factors are responsible for the persistent increase money of a given economy this includes but not limited
to fiat money, fractional reserve banking, credit creation, interest rate manipulation among others. These
concepts together with it linkage to the money supply were discussed in the following subsections.

2.3.1 Fiat Money

The central government under the fiat and fractional reserve system create money through their respective
central banks in the form of paper money which is not backed by any asset but rather a mere promise of value
which serves only as a guarantee by the government that such a paper should be redeemable for goods and
services in all transactions. This gives the government opportunity to create new money at their wish as in the
case of Yuan Dynasty. The fiat money created by government is tantamount to creating too much confusion in
the economy as it is has being argued to be a major contributor to the high cost of living experience by countries
as in the case of the United States (Cœuré, 2018). After the collapse of the Bretton Wood in USA, the inflation
rampaged the whole country and the dollar lost its value as a person will take wheelbarrow full of money to
buy a loaf of bread. The money creation has continued over time with an improved and worse dimension under
the fractional reserve banking.

2.3.2 Fractional Reserve system

The current monetary system which is popularly known as fractional reserve monetary system where
commercial/private banks exercise the power of creating new money from customers deposit by way of lending
the deposited amount as loans to other household or cooperation. It was estimated by the bank of England in
2016 that more than 95% of the money used by people and businesses in the UK exists in the form of bank
deposits at commercial banks. On the other hand, only less than 5% of the money in circulation exists as
physical cash that is created by the state (fiat money), via central banks such as the Bank Negara Malaysia and
this situation exists in most of the countries around the globe.

In the fractional reserve system new money were created through giving out loans which are numbers held
as bank deposits that usually appear as in bank accounts, through the normal accounting process of asset and
liability. When a bank gives out a loan to household or cooperation, in actual sense thousands of dollars will
not be given to him at a sport but the bank credits the customers’ bank account with a bank deposit of the size
of the requested and agreed amount (Ravn, 2015). Using this process, a new money was created equivalent to
the amount of the loan. However, it is good to note that the described process of money creation contradict our
basic understanding that banks can only lend out pre-existing money and bank deposits are simply a record of
how much the bank itself owes its customers and they are a liability of the bank, not an asset that could be lent
out (McLeay, Radia & Thomas, 2014). The created money is destroyed whenever the repayment of such loans
occurred because the created money in circulation will be taken back to the bank and it will disappear in the

Countries over the world have provided a support for the money creation by the private banks through
establishment of certain agencies such as Financial Services Compensation Scheme (UK), Federal Deposit
Insurance Corporation (USA), and National Deposit insurance corporation (Nigeria) that provides liquidity
guarantees as Lender of Last Resort function which ensure that banks can always borrow from the central bank
to ensure that they can settle their payments (Yi, 2019). The agencies provide credit guarantees of promising
to repay deposits in the event of a bank failure, effectively guaranteeing the liabilities of private companies with the full backing of the state (Pozsar, Adrian, Ashcraft & Boesky, 2010).

2.3.3 Credit Creation

In the FRB system, money is created by extending loans. The central bank has the power to create money out of thin air which is termed as fiat money thereafter such created money is moved to commercial banks through several means as could be initiated by the central bank which can either be through government securities and stock exchange with the bank. The commercial banks will lend out part of the money to individuals or firm who are in need of the funds to finance their business activities by keeping a fraction of the money in their accounts (Palma, 2018). It can be clearly seen that money is created originally by the government and it further created through lending and re-lending among banks as maintained by the mainstream economic theory. They believe that money is exogeneously created by central banks as it determines the seal of the money creation through the reserve requirements and it is coordinated through money multiplier which determine maximum amount of money to be created in the economy (Brunnermeier & Niepelt, 2019).

The possible amount of money that theoretically can be created out of a deposit is the inverse of the reserve requirement (RR) multiplied by the money created by the central bank. The money multiplier (mm) is the factor by which the existing amount of money maximally can be multiplied. \( mm = \frac{1}{RR} \). Better understanding is required on the fractional reserve application or workability. Let consider a reserve requirement of 10% is given by the Bank Negara to private banks, this implies that the reserve would lead to a money multiplier of 9 times the original deposit. When a customer deposited RM1,000 it could create as far as RM9,000 through the money multiplier. However, the reserve requirement depends on the country economic policy drivers which vary from fractional reserve, full reserve, no reserve or depleted reserve and this guaranteed money creation by private banks (Stoop 2010).

This power to create money by commercial banks has been highlighted as one of the root causes of the Great Depression of the 1980s, Asian crises of 1997 and the world financial crisis of 2007. Since the created money are mostly directed into property and asset markets rather than investment and production (Turner, 2015). Consistently, Adair Turner, the former chairman of the UK’s Financial Services Authority, has argued that, “The financial crisis of 2007/08 occurred because we failed to constrain the private financial system’s creation of private credit and money” as captured in (Turner, 2012). The current monetary system of fractional reserve banking (private money creation) is a key driver or facilitator of financial instability, asset price bubbles, unaffordable housing and unsustainably high private sector debt. It also has negative implications for public sector finances and rising inequality and may worsen ecological problems (Dyson, Hodgson & van Lerven, 2016).

The requirement has made banks to be incentivised in considering the impact of its lending and money creation on wider issues of household debt sustainability, housing affordability and financial instability. It has been argued that economic expansion is only credible and sustainable through investments from savings, and unsustainable when unrestrained credit creation exceeds the equilibrium level of supply and demand (Thulani, Chitakunye & Chummun, 2014). The increased money supply in today’s economy is being caused by these interconnected factors of fractional reserve banking, low interest rate and high debt which will lead to high cost of living, unemployment, unaffordability of housing, crime and other sustainability issues which have negative impacts on human and nations.

According to Quantity Theory of Money, there is a proportionate positive relationship between price level and money supply within the economy of the country. This means that when money supply increases by a certain percentage, it will cause price level to increase by certain percentage. Besides that, this theory also stated that inflation is caused by a rise in money supply which is not supported by an increase of output level in a given economy will lead to bubble in asset especially housing.

2.3.4 Interest rate manipulation

There are certain measures taken by the central bank to control the money supply which are regularly aimed to influence the pace and direction of overall economic activity of a country. The action is also aimed at having the level of aggregate output and employment together with proper control of the rate at which the general prices of goods and services raises or fall. Borrowing and spending is critical in the prices fluctuation and the key tools that controls borrowing is the interest rate fluctuation (Sornette & Woodward 2010). As posit by mainstream economics that interest rate is the price of money which serves as an indicator and forecasting tool for the business cycle in a given economy. Government through certain regulatory agencies keenly monitor the happenings in the economy especially with regard to the money supply and the commodity prices. Whenever there is need to fight recession an expansionary policy by lowering interest rates is applied to encourage
borrowing while to curtail inflation interest rate is raised through contractionary policy that will discourage borrowing and the stability could be achieved especially in the open market economy.

Researchers such as Warner (2018) has reached a conclusion that Interest rates do not cause economic growth, but rather it follows economic activity. They argue that when a time series data on interest rates and economic growth were to be plotted on a graph, it is obvious that low interest rates could not cause economic growth, but it only follows economic growth together with economic activity. Therefore, interest rates could not be considered as playing a significant role in economic stability because when the rate is lowered it encourages more borrowing and in most cases those borrowings are not channelled to real economic activities but to the financial and property assets.

The lowering of interest has caused a great increase in private sector borrowing which are mostly reinvested in property asset (Riley 2018). It can be said that interest rate manipulation as a tool for economic stimulation has not achieved its aim as this can be seen clearly in most cases specially in the case of Japan lost decade where interest rates had been lowered to zero and it does not lead to accelerated growth. Instead, Japan’s low interest rate policy gave rise to a carry trade which triggered un-boosted demand that eventually led to increased deflation and bankruptcies.

Likewise, interest rate manipulations is argued to be the roots cause of the 2008 financial crisis as In 2001, the US Federal Reserve (Fed) lowered rate in order to fight the early 2000s recession down from 6.5% to 1.75% in 2002 and a year after it was lowered to 1% and this encourages tremendous borrowing (Masters & White, 2009). The borrowed money was invested in financial asset and property specifically housing as it was realized that the housing market promised high returns because of the U.S. government focus on increasing the minority homeowners and later triggered the general financial crises (Parkinson, Ball, Blake, & Key, 2009).

The scenario is glaring during the 2007 financial crisis when Federal Reserve expansive monetary system of keeping interest rates low “beyond discreet constraints” was adopted. This policy resulted to unrestrained borrowing and the general expansion in the money supply mostly for speculative motives (McDonald & Stokes, 2013; Schwartz, 2009). The most major price bubble which interest rate played key role in worsening it are the Japan real estate and stock market bubble of 1980, Japan lost decade bubble of 1992, Internet (dotcom) of 2000-2002, U.S. real estate and leverage bubble of 2007.

2.4 Theoretical Backing

The study is rally around the quantity theory of money which is considered critical in explaining the context under investigation and it will strengthen the findings that could be arrived at from the study. The quantity theory of money is among the long lasted theories in monetary economics which was propounded by Henry Thornton in 16th century and supported by the number of authors in the 19th and 20th centuries like Friedman, (1959); Balassa, (1964); Allais, (1966); Lucas, (1980); Friedman, (1989); Minsky, (1992); Blaug, Eltis, O’Brien, Patinkin, Skidelsky and Wood, (1995); Graziani, (1996); Fisher, (2006); and Koti, & Bixho, (2016) where the theory was used to explain the relationship between money and other microeconomic variables. The quantity theory of money states that there is a direct relationship between the quantity of money in an economy and the real economic activities. Money is considered a valuable as a commodity of exchange where an increase in its supply decrease marginal value the buying capacity of one unit of currency). This implies that any increase in money supply will cause prices of commodities to rise (inflation) such rise is serves as a payoff for the marginal value reduction of the money. The theory is mathematically presented in what is popularly known as Fisher equation thus: MV = PT: where: M= Money Supply, V= Velocity of Circulation, P= Average Price Level, T= Volume of Transactions of Goods and Services

It can be seen clearly from this theory that an uncontrolled money supply is tantamount to creating confusion in the economy which will cause economic instability, raising cost of living, unemployment and other social and economic difficulties. Therefore, this study uses this theory to explain the expansionary monetary system, economic stability and real economic growth of the sampled countries. According to the theory persistent increase in money supply leads to rise in the price of goods and services which may in-turn be detrimental to household living condition and the general economic wellbeing of the country.

3. METHODOLOGY

The study adopted quantitative method of research where data and information required for the study were sourced from the published information by authorized institutions. This method is appropriate considering the study variable of money supply and GDP which are readily available data that can be quantified, measured and analysed (Collins & Hussey, 2014). Since the issue under consideration is global scenario which cut across most countries with peculiarities from one country to the other, the study will only cover a specific portion of the population specifically the five (5) South Eastern Asia countries selected (Indonesia, Malaysia, Philippines, Singapore and Thailand) using purposive sampling (data availability during the research period) from the
whole population of ten (10) countries of the region. The study data were collected from the published world
bank data on the World Development Indicator (WDI), International Monetary Fund (IMF) and the publish
annual reports from the central banks of the sampled countries for the post Breton wood period of 1972 to 2018.
The collected was analyzed using descriptive statistics, correlation and pooled regression with the aid of
MINITAB16 statistical package. The study variables are the dependent variable which economic stability
measured by real GDP and the independent variable of increased money supply measured by broad money
(M3) which is modelled thus:

\[ RGDP_t = \beta_0 + \beta_1 MOS_t + e_t \]

Where \( RGDP = \) Real Gross Domestic Product, \( \beta = \) parameters to be estimated, \( MOS = \) Increased money
Supply, \( e = \) error term and \( t = \) country and time variant.

4. RESULT AND DISCUSSION

The collected data from the secondary source was analysed and the summary of the result is presented under
this subsection. The presented result will be used to ascertain the effect of post Breton wood increased money
supply on the economic stability of the south eastern Asia countries. The table covers the descriptive statistics,
the correlation and regression results output.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Descriptive statistics</th>
<th>Correlation</th>
<th>Regression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std Dev.</td>
<td>Min.</td>
</tr>
<tr>
<td>RGDP</td>
<td>1.244</td>
<td>1.442</td>
<td>1592</td>
</tr>
<tr>
<td>MOS</td>
<td>1.563</td>
<td>1.925</td>
<td>2721</td>
</tr>
</tbody>
</table>

Source: Researchers computation using Minitab 16

The table captures the descriptive analysis which the fitness of the data this was supported by the less dispersion
of the standard deviation from the mean. The able also shows correlation result with respect to the two variables
of RGDP and MOS which indicates that the variable is significantly related as they move hand in hand with
each other and it is justifiable by the p-value value of 0.000. It can be deduced from regression result in the
table that increased money in the sampled countries has affected the real GDP significantly. The table also
shows the adjusted R2 of 0.5855 which implies that more than 58% of the variation in real GDP is being
explained by increased money supply which was further confirmed by the positive coefficient of the variables
and a p-value of 0.000.

The result indicates any improvement in money supply will trigger certain boost on the real economic out.
This also implies that money supply has to be keenly monitored and managed by the policy makers as it is the
key tool of managing recession and inflation.

5. CONCLUSION AND RECOMMENDATION

The findings from the result of the study provide the bases for the study to conclude that monetary policy
specifically increased money supply is the major control mechanism of recession and inflation. It has a direct
consequence on the real GDP, price stability and the overall economic wellbeing of a given country.

The study in line with the concussion recommends that money supply should be handled with all
consciousness so as to curtail the persistent increase in the supply of money especially the credit creation by
private banks. Since such increase will trigger a detrimental effect on the economic stability and the overall
wellbeing of individual household in the economy.

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THE RELATIONSHIPS OF MONETARY POLICY, COVID-19 AND CRYPTOCURRENCY: THE US, CHINA & MALAYSIA

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ABSTRACT

This research aims at analyzing the relationships between monetary policy and cryptocurrency whether the roles of monetary policy still empower the performances of cryptocurrency or cryptocurrency, in this digital era, overruns the monetary policy and government control. In the new norms of covid-19 pandemic, where the electronic transactions and digital transactions and activities turn up to be the necessities, this research is also investigating whether the relationships between monetary policy and cryptocurrency could be weaker. The multivariate regression analysis and causality tests would be applied on the daily data (January 2019 to August 2020) of the U.S.A, China, and Malaysia. The results of this research would be able to indicate how significant the cryptocurrency is in the market, thus would be able to advise the authorities whether to seriously focusing on the acceptance of such currency or even to establish one nation’s cryptocurrency, like China and Russia.

KEYWORDS: covid-19, cryptocurrency, monetary policy, USA, China, Malaysia

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ABSTRACT

This study investigates the effects of FDI on money and prices in Nigeria between 1981 and 2016. Structural macroeconometric model consisting of monetary and prices block was developed for the purpose of the study. The model has 4 simultaneous equations and 15 variables to capture the required proxies. Three-stage least squares (3SLS) technique was adopted to estimate the macroeconometric system of 4 simultaneous equations in order to capture the effect of FDI on that sector of the economy. FDI has positive effect on that sector as almost all the variables estimated were positive: in the estimated results for the equations MD2, (money supply), PHGS (public holding of government security), CINF (core inflation) and EXCR (exchange rate) of the monetary and price block, when FDI was included as independent variable it was highly significant for all the estimated equations and was positively signed. The major recommendations of the study is that government should provide enabling environment in such a way that the problem of exchange rate volatility, insecurity and corruption would be tackled; this would facilitate easy inflow of FDI into the country and affect the monetary sector positively; the multiplier effect can reduce inflation in the long run and influence the aggregate production which would then help relax the unemployment and foreign exchange bottle neck bedeviling the country and thereby facilitating the rapid growth of the economy.

KEYWORDS: Money, Prices, FDI, Exchange rate, Inflation.

1. INTRODUCTION

Over the years, policymakers in most developing countries make deliberate efforts to attract foreign investments from economies of developed countries in order to fast-track economic growth. One of the reasons for this is that such economies of developing countries are characterized by low savings and often very high fiscal deficit. Most of the policymakers in such situations believe that external capital is required to finance current account deficits and to accelerate the pace of economic growth through larger production of goods and services. The mainstream thought in this regard is that foreign direct investment can be used to augment domestic savings in bridging the savings-investment gap, (Alfaro & Chauvin, 2017).

Foreign direct investment (FDI) is in many forms and the term is used to refer to different kinds of investment activity. Generally however, FDI is a measure of foreign ownership of productive assets, factories, mines and land. It is direct investment into production or business in a country by corporate bodies and citizens from another country.

The end of World War II marked a significant watershed in the recognition and use of FDI as a very viable economic growth path, especially for the developing countries, (Lall, 2002). For instance, the contributions of foreign investment to Japan after the World War II and in South Korea after the Korean War are of great importance. In the same vein, Thailand, Singapore, Malaysia, Taiwan, Hong Kong and Indonesia which were once reputed to be economic tigers of Asia owe a significant part of their past successes and much of their current growth largely to heavy inflows of FDI over the years.

Improvements in local productivity due to the presence of foreign companies may arise from a number of channels. On the macro side, FDI could spawn new economic sectors, push an economy’s technological frontier, and diversify exports. On the micro side, through knowledge spillovers and linkages between foreign and domestic firms FDI could foster technology transfer, improve managerial and employee skills, and boost investment incentives and productivity in upstream and downstream sectors. Intensifying competition that results from foreign entry could incentivize local firms to upgrade their productivity, drive out unproductive domestic firms, and reallocate factors of production to more productive firms and uses, (Syverson, 2011). The greatest impact of all these activities in the economy would be money and prices. Therefore, there is no gainsaying the fact that knowledge on the effect of FDI on economic growth particularly as it relates to money and prices and such like in Nigeria needs to be updated. Therefore this study centers on the effect of FDI on economic growth in Nigeria with particular emphasis on money and prices.
1.1 Statement of the Problem

Several studies, for instance, Otepola (2002), Solomon and Eka (2013), and Adeleke, Olowe, & Fasesin (2014), have shown that the performance of the Nigerian economy since the 1980s has remained unsatisfactory in contrast to the robust performance of other developing countries of the same economic history antecedent. Particularly, there are large imbalances in the economy such as high fiscal deficit, inflation, exchange rate problem, balance of payments disequilibrium and low savings despite the availability of huge material and human resources. Imoughele & Ismaila (2014) especially show that though, savings provides developing countries with the much-needed capital for investment which can improve the growth of an economy; the Nigerian experience has not been so. Furthermore, some of the factors which boost the flow of FDI to the money market are: good present or projected economic growth of the economy, positive monetary outlook of the apex bank, decrease in fiscal deficit, good performance of firms in terms of profit, sales, etc. The performance of these factors in Nigeria has not been encouraging; therefore, the general perception of investors has been negative, which has affected the capital flow to the economy.

This study contributes to the literature by examining the relationship between FDI inflows and the money and prices sector and Nigeria’s economic growth, hence addressing the country’s monetary sector specific dimension to the FDI growth debate. The study is different from previous studies in scope (number of years considered is longer). The study made conscious effort to address the endogeneity issue, and provide justification for the unrelenting efforts of the government to attract FDI, which are being misunderstood and resisted by the Nigerian populace. The following research questions have been raised in response to the above problem statement:

1. To what extent does the FDI affect the economic growth which is represented by RGDP?
2. To what extent has Money Supply (M2) been affected by FDI?
3. To what extent does FDI affect the prices of goods and services?
4. To what extent has FDI affected the exchange rate?

The main objective of the study therefore is to examine the relationship between FDI inflows to the money and prices sector and economic growth in Nigeria and the policy concerns it engenders.

The study also seeks to achieve the following objectives:

1. To assess the extent to which FDI affects the economic growth which is represented by RGDP.
2. To evaluate the extent to which Money Supply (M2) is affected by FDI.
3. To assess the gross impact of FDI on prices of goods and services proxied by CPI.
4. To determine the effect of FDI on the exchange rate.

The research hypotheses are formulated as follows:

Ho1: There is no significant relationship between FDI and the economic growth in Nigeria.
Ho2: No relationship exists between Money supply (M2) and FDI.
Ho3: There is no relationship between FDI and the prices of goods and services.
Ho4: No tangible relationship between Exchange rate and FDI.

This research focuses on the monetary and prices sector of the economy. Although, effort have been made to investigate real sector of the Nigerian economy, but there exist few concrete evidence from literature that brings out the salient problems, findings, conclusion and recommendation with respect to monetary sector FDI. However, it would be instructive to examine the sectoral relationship between FDI and other sectors of the economy. Although, it is expected “a priori” that the impact of FDI is noticeable and felt on monetary and prices sector, there is still need to carry out a quantitative analysis of FDI and monetary and prices variables in Nigeria to back it up.

The major limitations of this study however, include data paucity and poor data quality. The problem of data use arise not only from the fact that these institutions often give conflicting data on the same phenomenon, but also from the fact that some of the historical data are stated at current market prices, others at a given base year, while some are given at factor costs. In this circumstance, the problem of data quality and integrity come to the fore which could impair statistical inference procedure. Therefore a lot of tedious (and time consuming) work had to be done to harmonize the data collected from the different sources.
2. REVIEW OF RELATED LITERATURE

2.1. The Concept of Foreign Direct Investment

There is no specific definition of Foreign Direct Investment (FDI) owing to the presence of many authorities like the Organization for Economic Cooperation and Development (OECD), International Monetary Fund (IMF), International Bank for Reconstruction and Development (IBRD) and the United Nations Conference on Trade and Development (UNCTAD). All these bodies have attempted to illustrate the nature of FDI from different perspectives. According to IMF (2003), FDI refers to the capital flows from abroad that is invested in the productive sector of the economy and are usually preferred over other forms of finances because they are non-debt creating, non-volatile and their returns depend on the performance of the projects financed by the investors. FDI also facilitates international trade and transfer of knowledge, skills and technology.

2.2. Market-based Theories

The market-based theories can be categorized into FDI perfect and imperfect market-based theories. Among the FDI perfect market-based theories are Capital and Market Size Theories. The Capital Theory is also known as the Rate of Return theory and was first proposed by MacDougall (1958) and later Kemp (1964). It is based on the assumptions of a perfectly competitive market, (Alfaro & Chauvin, 2017). This theory suggests that capital flows from a low-rate to a high-rate return country. FDI moves from capital-abundant economies, where returns are low, to capital-scarce countries, where returns are high. Thus, assuming a two-country model, and prices of capital being equal to its marginal productivity, foreign investors are attracted to invest when the marginal return is equal to or greater than the marginal cost.

The FDI Capital Theory can explain the phenomena behind import substitution industries established in developing countries such as for sub-Saharan Africa. Due to the high demand for consumer goods such as sugar, soap safety matches and clothing, developing countries attracted FDI in the early 1960s. Demand already existed because imports were the only source of commodities to developing countries. Due to a lack of essential commodities, FDI projects were established to take the advantage of the high returns that existed as early investors in the market. Further, horizontal integration is related to high-return expectation because MNEs are driven by the availability of technology, which leads to low marginal costs and anticipated high returns.

2.3. The OLI (Ownership, Location and Internalization) Paradigm or Eclectic Theory

The OLI Paradigm or Eclectic Theory is a blend of three different theories of FDI that is O + L + I, each piece focusing on a different question. Dunning (1981) suggests that firms Ownership, Location and Internalization (OLI) advantages must exist to undertake benefiting FDI. The theory argues that FDI is determined by three sets of advantages namely: the presence of Ownership specific competitive advantage in a Transnational Corporation (TNC), the presence of locational advantages in a host country, and the presence of superior commercial benefits in an intra-firm as against an arm’s - length relationship between investor and recipient (Chatterjee, 2009). The ownership-specific advantages (e.g. proprietary technology) of a firm, if exploited optimally, can compensate for additional cost of establishing production facilities in a foreign environment and can overcome the firm’s disadvantages vis-à-vis local firms (Solomon, 2018).

The Ownership-specific advantages of the firm should be combined with the Locational advantages of host countries (e.g. large markets or lower cost of resources or superior infrastructure). Finally, the firm finds greater benefits in exploring both Ownership-specific and Locational advantages by internalization e.g. through FDI rather than arm’s-length transactions. (UNCTAD, 2006).

2.2. Empirical Literature Review

The interest in analyzing the effect of FDI on economic growth is growing in the literature. While examining the implication of FDI flows on economic growth, Bailliu, Lafrance and Perrault (2003) used panel data from 40 selected developing countries from different regions around the world from 1995-2000. They specified a model which accounted for potential endogeneity of the explanatory variables and the result shows that FDI inflows foster higher economic growth, above and beyond any effects on the investment rate, but only for economies where the banking sector has reached a certain level of development. Also Caudros and Alguacil (2001) examine the nature of the causal relationship between output levels, inward foreign direct investment and trade in Latin American countries; Argentina, Brazil and Mexico from the middle seventies to 1997. Utilizing a vector auto-regressive (VAR) model the result of the study suggests a significant impact of foreign direct investment on economic growth and trade in the countries studied.
A few researchers have emphasized the way in which the growth effects of FDI depend on conditions of the financial markets of the host country. Alfaro (2004) and Durham (2004) found that it is necessary for countries to have well-developed banking and financial institutions in order to gain from FDI in terms of economic growth. Alfaro (2004) used cross-country data between 1975 and 1995 and found that FDI alone did not play any definite role in spurring economic growth. When various measures of financial market development are included positive effects are found. Durham (2004) used data for 80 countries from 1979 to 1998 and found that it is also necessary for a country to have strong institutional development and investor-friendly legal environment for FDI to have a positive effect on growth. Using cross-section data relating to a sample of 66 developing counties over three decades Reinhart and Reinhart (2008) analyzed the role foreign direct investment and trade in economic growth of developing countries within the endogenous growth-theory framework. The study shows that foreign direct investment and trade contribute toward advancing economic growth in developing countries and that foreign direct investment is often the main channel through which advanced technology is transferred to developing countries. The study further believed that sound macroeconomic policies, better stock of human capital and institutional stability are necessary preconditions for foreign direct investment-driven growth to materialize and stimulate domestic growth.

Foreign direct investment (FDI) according to UNCTAD (2004) is generally seen as a composite bundle of capital stock and technology, which augments the existing stock of knowledge in the host economy through labour training, skill acquisition and diffusion, and the introduction of new managerial practices and organizational arrangements. De Mello (1997) posited that foreign direct investment can impact economic growth directly and indirectly. FDI can directly impact economic growth through capital accumulation, and the incorporation of new inputs and foreign technologies in the production function of the host country. De Gregorio (2003) in his contribution to the debate on the importance of FDI notes that FDI may allow a country to bring in technologies and knowledge that are not readily available to domestic investors and in this way increase productivity growth in the economy. In his study, he finds that increasing aggregate domestic investment by 1 percent point of GDP increases economic growth of Latin American countries by 0.1 to 0.2 percent a year, but increasing FDI by the same amount increases growth by approximately 0.6 percent a year during the periods of 1980 – 85, thus indicating that FDI is three times more efficient than domestic investment. Ledyaeva and Linden (2006) determine the FDI impact on per capita growth in 74 Russian regions during the periods 1996 – 2003. Their framework related real per capita growth rate to initial levels of state variables such as the stock of physical capital and the stock of human capital and control variables viewed as important factors in the Russian economy’s regional development in the analyzed period. Their results imply that in general FDI (or related investment components) do not contribute significantly to economic growth during the period but that some evidence of positive aggregate FDI effects in higher income regions.

Ayashagba and Abachi (2002) carried empirical investigation on the effects of foreign direct investment on economic growth in Nigeria from 1980 to 1997. The result showed that foreign direct investment had significant impact on economic growth in Nigeria. However, the study concludes that the presence of foreign direct investment in the LDCs particularly in Nigeria is not totally useful. Examining the impacts of foreign direct investment in oil sector in Nigeria and its attendant impact on economic growth, Salami, Kari, Chukwu, and Mand David (2012) used co-integration analysis to show that foreign direct investment at current year is negatively associated with GDP possibly due to the fact that such investment needed to be allowed some time lag to translate to any significant impact. The impact of domestic capital formation is relatively small compared with the impact of foreign direct investment in the oil sector. Investigating the relationship between foreign direct investment and economic growth in Nigeria between 1970 and 2008, Umoh, Jacob, and Chukwu (2012), argued that there is endogeneity i.e., bi-directional relationship between FDI and economic growth in Nigeria. The paper then adopted both single and simultaneous equation systems to examine if there is any sort of feedback relationship between FDI and economic growth in Nigeria. The results show that FDI and economic growth are jointly determined in Nigeria and there is positive feedback from FDI to growth and from growth to FDI.

According to Onu (2010), in the neoclassical growth models, FDI promotes economic growth by increasing the volume of investment and/or its efficiency, FDI affects economic growth only in the short-run because of diminishing returns to capital in the long-run. He asserts that long-run growth in the neoclassical models arises from exogenous growth of the labour force and exogenous technological progress. In the endogenous growth models according to him, FDI raises growth through technological diffusion from the developed countries to the developing. Using ECM for period 1986 to 2007, he found a positive relationship between FDI and economic growth in Nigeria.

Ayanwale (2007) employs an augmented growth model via the ordinary least square and the 2SLS methods to ascertain the relationship between FDI, its components and economic growth, his results suggest that the determinants of FDI in Nigeria are market size, infrastructure development and stable macroeconomic policy. Openness to trade and available human capital are, however, not FDI inducing but FDI was found to contribute to economic growth in Nigeria. Ayadi (2009) investigates the relationship between FDI and economic growth
in Nigeria (1980 – 2007) and finds a very weak correlation and causality between the variables and recommends that infrastructural development, human capital building and strategic policies towards attracting FDI should be intensified. Osinubi and Amaghionyediwe (2010) investigates the relationship between foreign private investment (FPI) and economic growth in Nigeria for the periods 1970 – 2005 and find that FPI, domestic investment growth, net export growth and the lagged error term were statistically significant in explaining variations in Nigeria’s economic growth. In a study on the impact of FDI on economic growth in Nigeria, for the periods 1970 – 2001, Akinlo (2004) through his ECM results shows that both private capital and lagged foreign capital have little and not statistically significant effect on the economic growth. The results seem to support the argument that extractive FDI might not be growth enhancing as much as manufacturing FDI.

3. RESEARCH METHODOLOGY

The specifications in the money and prices in this work began with the money supply identity. An additional advantage of the supply approach was that the components were measurable and consistent with the CBN accounting system. The approach used the neo-classical identity of money supply as the sum of balance sheet of the banking system. The balance sheet consisted of net foreign assets, net domestic credit and other assets (net). Other assets (net) were assumed to be a residual in the money supply identity. Following the literature, the most pervasive determinant of the different components of money supply was money market interest rates. The size of government in Nigeria and the consequent relevance of fiscal deficits in the determination of money supply were also captured in the equations (CBN, 2010).

According to CBN 2010, prices in Nigeria were not entirely market determined and free of any intervention. Given the size and structure of the informal economy, a number of underground institutions interplayed to set wages and prices. Unions and associations, often by a combination of sanctions and incentives influenced the behaviour of their members and ultimately influenced the direction and magnitude of price changes. Public sector wage setting and intervention in price setting were also familiar phenomena. However, as in every market economy, the forces of demand and supply remained an integral part of price-setting in Nigeria and conventional laws of prices still obtained. Price in the model comprised major price indices and deflators (consumer price index and output deflator), exchange rate and interest rates. In this study, it is ensured that the demand for real money balance (MD) is equal to the money supply and positively related to the real GDP. Therefore a highly simplifying assumption of equating money supply (MS) with money demand (MD) is made. This is the rationale behind the specification below:

\[ \text{MS} = \text{MD} \]

The total demand for money is disaggregated into demand deposit (DDPST) and currency held by non-banking public (CRHP), defined as

\[ \text{MD} = \text{DDPST} + \text{CRHP} \]

Another variable that exerts so much influence on the demand for money is the public holding of government securities (PHGS). According to Keynes Liquidity Preference theory, it is inversely related to changes in the rate of interest. Also, in prices, the broad analytical framework of the monetary policy represents the linkage between the demands for money, interest rate, exchange rate and balance of payments, on one hand and the endogenisation of the foreign direct investment and prices provide the necessary linkage with other sectors of the economy (Garba, 1998).

Overall productivity in the economy generally fell short of aggregate demand and so was heavily complemented by imports. Such supply constraints manifested in the difference between potential and actual output. Demand pressure on the other hand, mounted with increased demand by agents – in private consumption and government expenditure. Of course, the impact of such pressure was fuelled by domestic money supply. Thus, headline CPI was specified as a function of nominal exchange rate (EXCR), domestic maximum lending rate (INTR), private consumption expenditure (PCE), output (GDP), total government expenditure (GEXP), and money supply (MD2).

\[ \log \text{MD}_2 = \alpha + \log \text{A} + \alpha_1 \log \text{FDIV} + \alpha_2 \log \text{OREV} + \alpha_3 \log \text{EXCR} + \alpha_4 \log \text{GDP} + \alpha_5 \log \text{LOANS} + \alpha_6 \log \text{PHGS} + \alpha_7 \log \text{MRR} + \mu \]

\[ \log \text{PHGS} = \log \text{A} + \alpha_1 \log \text{FDIV} + \alpha_2 \log \text{GDEF} + \alpha_3 \log \text{FNRES} + \alpha_4 \log \text{MRG} + \alpha_5 \log \text{MKG} + \mu \]
LogCPDEX = \log A + \alpha_1 \log FDIV + \alpha_2 \log INTR + \alpha_3 \log PCE + \alpha_4 \log GDP + \alpha_5 \log GEXP + \mu_i, \quad 3.5

LogEXCR = \log A + \alpha_1 \log FDIV + \alpha_2 \log MD + \alpha_3 \log GDP + \alpha_4 \log CPDEX + \alpha_5 \log OILP + \alpha_6 \log GEXP + \mu_i, \quad 3.6

Where (GDEF) is government deficit, (CRHP) is currency held by non-banking public; (PHGS) is public holding of government securities. The real exchange (EXCR), defined as ratio of the tradable goods prices is given as the ratio of export price (in local currency) to the domestic price level. (FNRES) is foreign exchange reserve, (GEXP) is total government expenditure, (OILP) is oil price, (CPDEX) is domestic price level which is related to the rate of inflation because it shows the nature of the mark-up pricing and (INTR) is interest rate (Solomon, 2018). The parameters are \alpha_1, \ldots, \alpha_N with a priori expectation that the entire variables will have positive signs.

A research of this nature requires the analysis of secondary data for parametric analysis and other analytical reviews. In this regard some major sources of data used for this study are; Federal Ministry of Finance (FMOF), National Bureau of Statistics (NBS), the Central Bank of Nigeria (CBN), the International Monetary Fund (IMF), the World Bank. This study uses the three – stage least squares (3SLS). Therefore the stochastic equations of the model were estimated individually using Three – Stage (3SLS) method. The E-Views software was used for estimating individual equations.

4. RESULTS AND DISCUSSIONS

4.1. Trend of FDI in Nigeria

Figure 4.1 shows the trend of FDI in Nigeria over the study period. The result indicates that FDI inflow to Nigeria was very low from 1980 to 1990 but rises marginally in 1995 and continues into 2005 without significant fluctuation.

![Figure 4.1: Trend of Foreign direct investment (FDI) in Nigeria from 1981 to 2016](image)

Source: Computed by the Author from the CBN’s Statistical Bulletin, Various Issues.

One factor that may account for low FDI in the 1980s and 1990s is military regimes of the periods and the indigenization policy introduced and sustained by them. Also, the non-democratic style of governance that characterizes military dispensation did not make the country an investment friendly economy. The military decrees and edicts could not be trusted as they could be changed anytime to suit the government even at the expense of the masses. For example, during Abacha’s regime (1992-1997), fixed exchange rate was maintained over a reasonable period despite the economic implication of the policy on FDI. As such, investors were scared of bringing their resources and money into Nigeria for investment. From the year 2005, FDI trended upward and increases sharply until the year 2015 when it, again, dropped drastically. The reason for the sharp increase
could be attributed to the enabling environment created by the democratic government of President Olusegun Obasanjo and his successors, Presidents Umaru Musa Yar’adua and Goodluck Jonathan. During President Olusegun Obasanjo for example, some enterprises, including telecommunication, were privatized and this attracted investors into the economy. In the mid 2015, FDI shows a downward trend by decreasing sharply. This was due partly to the drastic fall in the value of Nigeria’s domestic currency relative to dollar and partly due to the economic recession Nigeria went through from late 2014 which affected many investors and invariably money and prices in Nigeria (Solomon, 2018).

4.2 Effect FDI on Monetary and Price Sector

Table 4.1 below shows the estimated results for the equations MD2, PHGS, CINF and EXCR of the monetary and price block. FDI included as independent variable was highly significant for all the estimated equations and was positively signed. This is as expected. The results show that a one per cent increase in FDI increases the elasticity of broad money supply (MD2) by about 29 per cent. An increase in money supply is expected to stimulate the economy especially during recession. This is in consensus with Aliyu (2014). Table 4.7 below show the performance of the broad money supply during the period of study and it confirm the results of the estimation. MD2 increases steadily throughout the period under consideration. For example, in 1981, 1990, 2000, 2010 and 2015, it was ₦16.1 million, ₦68.2 million, ₦1 trillion, ₦11.1 trillion and ₦14.9 trillion respectively.

PHGS, CIFN and EXCR have elasticities of 31 per cent, 27 per cent and 37 per cent respectively and all the estimates are highly statistically significant. These results conform to the a priori expectation. The flow of FDI in Table 4.7 supports this result as the following values of the variables are obtained ₦6.1 million, 21.42, 0.61 in 1981 for PHGS, CIFN and EXCR respectively. Also, in 1990, the following values are obtained, ₦48.8 million, 7.5 and 8.03 respectively. In the year 2000, these values are obtained for the variables, ₦513 million, 36.1 102.1 respectively. By the year 2015, ₦3.9 trillion, 12.5, 257.4 are figures generated by the variables respectively. This suggests that that FDI flows to Nigeria led to an increase in the economic activity in the country. The increase in economic activities results from the combined effect of FDI stimulus on public holding of government securities (PHGS), core inflation (CINF) and real exchange rate (EXCR) on the economy. For example, an increase in PHGS means that there is cash available to government to be expended on the economy. The Keynesians claimed that increase in government spending will boost aggregate demand and increase the level of economic activities in the country thereby affecting money and prices positively.
### Table 4.1: Estimated Result for Monetary and Price Block

<table>
<thead>
<tr>
<th>Variables</th>
<th>FDIV</th>
<th>CINF</th>
<th>OILR</th>
<th>EXCR</th>
<th>GDP</th>
<th>INTR</th>
<th>PHGS</th>
<th>IMPR</th>
<th>GDEF</th>
<th>FRELX</th>
<th>IMPC</th>
<th>$R^2$, D-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>LnMD2</td>
<td>0.282*</td>
<td>-----</td>
<td>0.2012*</td>
<td>0.169</td>
<td>0.040*</td>
<td>0.021</td>
<td>0.196**</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>0.560, 0.555, 0.109</td>
</tr>
<tr>
<td></td>
<td>(2.44)</td>
<td>(3.034)</td>
<td>(0.832)</td>
<td>(3.410)</td>
<td>(0.559)</td>
<td>(1.770)</td>
<td>(1.737)</td>
<td>(0.084)</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>LnPHGS</td>
<td>0.309*</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>0.171*</td>
<td>0.225**</td>
<td>0.204</td>
<td>0.012</td>
<td>0.173**</td>
<td>0.513, 0.513, 0.214</td>
</tr>
<tr>
<td></td>
<td>(3.912)</td>
<td>(0.000)</td>
<td>(0.009)</td>
<td>(1.908)</td>
<td>(0.553)</td>
<td>(0.063)</td>
<td>(0.949)</td>
<td>(0.949)</td>
<td>(0.109)</td>
<td>(0.109)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnCIFN</td>
<td>0.272*</td>
<td>-----</td>
<td>-----</td>
<td>0.027*</td>
<td>0.309*</td>
<td>0.1829*</td>
<td>0.211*</td>
<td>0.201</td>
<td>0.199*</td>
<td>-----</td>
<td>0.582, 0.582, 0.133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.368)</td>
<td>(0.001)</td>
<td>(3.062)</td>
<td>(5.096)</td>
<td>(0.000)</td>
<td>(2.500)</td>
<td>(3.000)</td>
<td>(0.000)</td>
<td>(0.500)</td>
<td>(0.000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnEXCR</td>
<td>0.368*</td>
<td>0.308</td>
<td>0.083</td>
<td>0.059*</td>
<td>-----</td>
<td>0.250</td>
<td>0.251</td>
<td>0.181*</td>
<td>0.561</td>
<td>0.561, 0.561, 0.561</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5.550)</td>
<td>(1.044)</td>
<td>(1.295)</td>
<td>(0.005)</td>
<td>(0.190)</td>
<td>(0.818)</td>
<td>(0.416)</td>
<td>(2.049)</td>
<td>(2.049)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: E-Views Econometrics Computer Software Application (Version 9)

Note:
* means significant at 5 %
** means significant at 10 %
Figures in parenthesis ( ) are t-values while figures in square bracket

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MD2</th>
<th>PHGS</th>
<th>CINF</th>
<th>EXCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>16,161.70</td>
<td>6,131.90</td>
<td>21.42</td>
<td>0.61</td>
</tr>
<tr>
<td>1985</td>
<td>26,277.60</td>
<td>11,598.10</td>
<td>4.67</td>
<td>0.89</td>
</tr>
<tr>
<td>1990</td>
<td>68,622.50</td>
<td>48,878.40</td>
<td>7.5</td>
<td>8.03</td>
</tr>
<tr>
<td>1995</td>
<td>318,763.50</td>
<td>438,481.30</td>
<td>72.81</td>
<td>21.88</td>
</tr>
<tr>
<td>2000</td>
<td>1,036,079.50</td>
<td>513,003.40</td>
<td>36.1</td>
<td>102.1</td>
</tr>
<tr>
<td>2005</td>
<td>2,814,846.10</td>
<td>188,298.08</td>
<td>8.8</td>
<td>132.1</td>
</tr>
<tr>
<td>2010</td>
<td>11,116,900.00</td>
<td>664,994.08</td>
<td>13.7</td>
<td>150.3</td>
</tr>
<tr>
<td>2015</td>
<td>14,980,234.43</td>
<td>3,900,786.46</td>
<td>12.5</td>
<td>257.4</td>
</tr>
</tbody>
</table>


Similarly, low CINF increases the level of economic activities because it encourages the producer to produce more output. Theoretically, inflation is undesirable but a certain level of it should be allowed in an economy. After all the classical economists argued that a zero per cent inflation will mean that a 100 per cent unemployment since they believed in the existence of a trade-off between the two. Furthermore, the behaviour of real exchange rate (EXCR) in an economy determines the level of economic activities in the country. When EXCR appreciates, the value of domestic currency is strengthened. This increases the inflow more foreign investment into the economy, but in recent years the opposite has been the case in Nigeria as shown in table 4.2 above. The R-squares from the estimated results in table 4.1 show that the entire model has good fits. Furthermore, all the estimated Durbin-Watson values for the subsectors are within acceptable limit. They are closer to the value 2 than to the value 0, suggesting the absence of autocorrelation in the residuals of the estimated model (Solomon, 2018).

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary

This study assesses the effects of foreign direct investment (FDI) on the money and prices sector of Nigerian economy using three stages least square (3SLS) regression. The choice of 3SLS is to overcome the shortcoming of the OLS method of analysis. Results from the study show that FDI has significant and positive impact on money and prices in Nigeria. This is evident in the estimated results for all the equations in the structural block considered in the study. All the coefficients of FDI for all variables estimated in money and prices block have positive signs suggesting that foreign direct investment impacts positively on the Nigerian economy. A one per cent increase in FDI in the sector increases the elasticity of output of money and prices by about 28 per cent and the estimate is statistically significant at 5 per cent.

5.2. Conclusions

The effects of foreign direct investment (FDI) on economic growth of the host country have been long debated in the literature. One major focus of the debate has been whether or not FDI has the potentials to contribute to the economic growth of the host country. This study makes contribution to this ongoing debate by examining the effect of foreign direct investment on the money and prices in Nigerian economy. Based on the findings of this study, conclusions are that FDI has the potentials of contributing significantly the positive performance of money and prices leading to economic growth in Nigeria. This is supported by both the results of 3SLS at sectoral level that increase inflow of FDIV to the Nigerian economy will have an increasing effect on output which would affect money and prices positively.

5.3. Recommendations

Given the finding of the study, the following recommendations are made:

(i) The effect of inflow of FDI on output (GDP) in Nigeria is positive, but the monetary proceeds thereof from will not make much impact on the Nigerian economy if it is used to finance consumption expenditures. FDI should be used in financing capital projects such good road networks, rail lines across the country and stable power supply in the country. This will reduce the fixed and the overhead costs of doing business in Nigeria and increase profitability of business firms in the country. Also the multiplier effect of constructing road networks, rail lines across the country and new power stations
Results show that a one per cent increase in FDI increases the elasticity of broad money supply (MD2) by about 29 per cent. An increase in money supply is expected to stimulate the economy especially during recession which will affect employment, income, and output positively thereby promoting the long-term growth of the Nigerian economy. The Central Bank of Nigeria should exercise its monetary policy function in blocking all loopholes that allows money laundering in the economy so that financial proceeds from FDI can really circulate within the economy.

Core inflation (CIFN) and exchange rate (EXCR) have elasticities of 27 per cent and 37 per cent respectively and all the estimates are highly statistically significant. These results conform to the a priori expectation. The influence of FDI on these two key variables was very positive meaning that the prices of goods and services remain relatively stable and even if the exchange rate was volatile, it was not caused by the inflow of FDI but other factors; therefore the policy makers should urgently address these negative factors. These impediments include inadequate power supply, insecurity, corruption, poor infrastructure, unstable regulatory environment and unreliable dispute resolution mechanisms. When all these are removed, foreign investors will be more willing to invest in Nigeria and this will increase FDI inflows leading to positive performance of monetary and prices variables.

REFERENCES


AUTHOR’S BIOGRAPHY

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TRACK 8D
BUSINESS
CABARAN PROJEK PENANAMAN SECARA HIDROTONIK SEBAGAI ASAS TRANSISI KERJAYA KEUSAHAWANAN KEPADA GOLONGAN ORANG KELAINAN UPAYA

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ABSTRACT

Kajian ini bertujuan untuk mengkaji tahap kesediaan keusahawanan dan mengenalpasti cabaran yang dihadapi oleh bakal usahawan golongan Orang Kurang Upaya (OKU) untuk menceburi program perniagaan pertanian bandar berasaskan penanaman hidroponik. Temu bual kaji selidik secara kualitatif telah digunakan sebagai kaedah pengumpulan data melibatkan 14 orang responden terpilih melalui Projek ‘Knowledge and Technology Assimilation Grant’ (KTAG). Projek KTAG adalah projek yang melibatkan pemindahan ilmu dari pihak akademik universiti kepada pihak komuniti terpilih. Pelaksanaan projek KTAG melalui Program Peneguhan Sara Diri OKU – Projek Pertanian Bandar telah mendedahkan peserta dengan ilmu berkaitan pengurusan perniagaan yang menjadi aspek penting untuk peneguhan sara diri OKU bagi memulakan perniagaan supaya mereka mampu berdiri. Hasil kajian mendapati kekurangan pengetahuan dan peluang untuk pembelajaran berterusan, sokongan pasaran dan peruntukan modal menjadi cabaran utama yang dihadapi oleh golongan OKU bagi kelangsungan program perniagaan pertanian bandar ini. Walau bagaimanapun, peserta bersetuju bahawa penanaman hidroponik adalah mudah digunakan dan mesra pengguna walaupun dengan ketidakupayaan mereka selaku pengguna kerusi roda. Hasil kajian mempunyai implikasi kepada pihak berkepentingan untuk memberi sokongan padu bagi mengembangkan projek ini kerana membuka peluang untuk golongan OKU menjana pendapatan sara diri dan memperoleh pengetahuan dalam pengurusan perniagaan yang lebih efisien supaya dapat mengurangkan kos sara hidup serta meningkatkan produktiviti mereka dalam bidang pertanian.

KEYWORDS: OKU, Keushawanan, Pertanian Bandar, Sara Diri.
TOURIST REVISIT INTENTION OF HERITAGE SITE: A CASE OF KAMPUNG CINA IN TERENGGANU

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ABSTRACT

This paper investigates the tourists' perceptions of differences toward Kampung Cina Heritage site destinations between China tourist market and the European market, the destination has been recognized as a World Fund Site (WFS) by UNESCO. The effect of tourist attitude, subjective norms, tourist perceived behavioral control, with additional benefits as a higher-order construct tourist benefit and tourist revisits intention toward the destination positive and negative perception are compare in the two type's tourist market. Extending the TPB Model, the study employing a convenience sampling method, 252 data were collected which consist of 142 from China and 110 from the European market, using a self-administered survey. Smart PLS was applied to analyze the multigroup analysis. The results reveal significant differences between subjective norms and benefits toward revisit intention among China and European tourists. However, the findings did not support the difference between attitude and Perceived behavioral control, on the revisit intention to Kampung Cina. This study makes a substantial contribution by comparing China and European tourists to revisit Kampung Cina. On top of that, the study has several practical implications for local authorities.

KEYWORDS: kampung cina, heritage tourism, PLS-SEM multigroup analysis, Theory of Planned Behavior
THE EFFECT OF LEARNING ORIENTATION AND NETWORK CAPABILITY ON THE COFFEE SHOP'S PERFORMANCE: THE MEDIATING ROLE OF ENTREPRENEURIAL ORIENTATION AND MARKET ORIENTATION

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¹,²University of Indonesia
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(*Corresponding Author)

ABSTRACT

In the last few years, coffee consumption in Indonesia has experienced a rapid growth. In line with this, the development of the coffee shop industry in Indonesia has also increased and causing an intense of competition in the coffee shop industry. As a business actor or the owner of a coffee shop is required to find an effective strategy to facing the competition and retain the customer as well. Strategic orientation manifests strategic directions to firms to plan and implement strategies to achieve superior firm performance. Strategic orientation is an integrative concept which integrates entrepreneurial orientation, learning orientation, and market orientation. Meanwhile, network capability is firm's ability to initiate, develop and utilize internal organizational as well as external inter organizational relationships. Thus, the purpose of this paper is to examine the relationship among learning orientation, entrepreneurial orientation, market orientation, and network capability and its relevance to performance in local coffee shop. The research will use the local coffee shop in Indonesia as main subject involving 100 of coffee shop’s owner and set of questionnaires using Structural Equation Modeling (SEM) to analyze the hypothesis.

KEYWORDS: learning orientation; network capability; entrepreneurial orientation, market orientation, coffee shop’s performance.

1. INTRODUCTION

In the last few years, drinking coffee has become a trend that occurs in society in Indonesia. Based on United States Department of Agriculture – Indonesia (USDA) (2019), Indonesia’s booming coffee-drinking lifestyle has increased the coffee consumption, in 2018/19 is increased to 4.3 million bags of coffee and in 2019/20 is forecast at 4.9 million bags, based on continued strong consumer demand. According to the International Coffee Organization (ICO) (2018), since 2016, the coffee consumption in Indonesia has increased by 10.54%, and it is predicted continue to grow with an average growth rate 8.22% per year until 2021. The increasing level of coffee consumption in Indonesia has made the coffee shop business progressively emerging in the form of foreign/ international outlets, franchise brands and/or local coffee shops. In line with this, the Indonesian Coffee Exporters and Industry Association (2014), stated that there are several reason that drives the growth of coffee consumption in Indonesia, as follows; the development of processed coffee products (white coffee, herb coffee, etc.); the growth of home and medium coffee industries in several main coffee production areas; increase in per capita income; lifestyle; increasing public knowledge of coffee; and the increase of local coffee consumption.

Historically, coffee houses have provided places for social intercourse and conversation, where people could gather, speak freely, and mingle with others from their communities (Pendergrast, 1999; Oldenburg, 1999; Waxman, 2006). Han, Nguyen, Song, Chua, Lee, & Kim (2018) defines a coffee shop as a place that selling specialty coffee drink along with various Food & Beverages (F&B) products for consumption either on premises or takeaway. The growth of cafes with the concept of small, medium, and large-scale coffee shops reaches 16% per year (Euromonitor, 2010). Based on the research of PT. Toffin Indonesia (2019), there were around 1,000 coffee shop outlets in Indonesia in 2016 and in August 2019 the number of coffee shops has tripled to more than 2,950 outlets, and in Jakarta area only (the capital city of Indonesia), there are an estimated 1,500 coffee shop outlets. Pradika (2019), based on Syafrudin the Chairman of Coffee Association of Indonesia (2019) estimates that the growth of coffee shops by the end of 2019 will reach 15% to 20% compared to 2018 which only reached 8% to 10%. Meanwhile, the contribution of coffee shops to the absorption of domestic coffee production is predicted to reach 25% to 30%.

However, along with many new coffee shops open, it becomes a threat in the coffee industry itself. Cha et al. (2015) in Kim & Lee (2017) stated that a coffee shop facing severe competition from various franchise brands, local coffee shops, non-franchise chains, quick service restaurants, to convenience stores. Prior studies evidenced that a coffee shop’s brand has significant impact on brand loyalty. Customers with strong
identification with a coffee shop brand not only intend to repurchase its products, but also recommend it to others (Kim, Kim, & Holland, 2017). Based on research from Dhisasmanto & Kumar (2019) stated that the service quality, reasonable & competitive price, and store atmosphere has a positive significant effect on customer satisfaction, that can generate loyal customer as well in the coffee shop industry which is in line with previous studies (Albari & Kartikasari, 2019; Fuiroida & Mafukhah, 2018; Palit et al., 2016). From those previous researches, it can be said that there are many ways proposed (shops customer’s brand awareness, service quality, price, store atmosphere, customer satisfaction) for the coffee shop to create competitive advantages, which can generate loyal customer.

However, it is also important to define what strategy fit the best for the organization itself. Yadav & Tripathi (2018) stated that irrespective to the size, the firm’s performance has always been a prime concern. Many researchers have identified firm’s strategic orientation as an indicator of its performance (Narver & Slater, 1990; Cooper, 1994; Gatignon & Xueреб, 1997). Menguc & Auh (2005) and Kumar Panda (2014) argued that strategic orientation is concerned with strategic directions to achieve superior performance. It provides the capability to build integrated and sustain internal and external competencies (Teece et al., 1997). Such strategic directions intended to develop a specific firm behavior, which can develop the capability to successfully integrate the various factors of the business environment. The extreme outcome of intention and resultant behavior reflects in the form of competitive advantage and superior firm performance. Nobel et al. (2002) conceptualized strategic orientation as a set of values, attitudes and behavior of the firm.

Strategic orientation manifests strategic directions to firms to plan and implement strategies to achieve superior firm performance (Menguc & Auh, 2005). Strategic orientation is an integrative concept which integrates entrepreneurial orientation, marketing orientation, and learning orientation (Liu & Fu, 2011). Entrepreneurial orientation reflects a firm’s degree of risk-taking, proactive and innovative (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Market orientation includes the generation of market intelligence related to customer orientation, competitor orientation, and inter-functional coordination (Narver & Slater, 1990; Jaworski & Kohli, 1993). Learning orientation (LO) is firm’s ability to generate and use market information by displaying a strong commitment to learning, open-mindedness, and a shared vision (Sinkula, Baker, & Noordewier, 1997). Meanwhile, network capability based on Kale et al. (2000) in Walter, Auer, and Ritter (2006), developed a dimension that can assess the capabilities of a network consisting of; coordination, relational skills, partner knowledge, and internal communication. These network capability values are consistent and mutually reinforce one another. Teece (2007) in Bengsi & Roux (2014) stated that network capability dimensions build the company’s ability to create and maintain profitable relationships, thus forming a sustainable competitive advantage.

Research on what strategic that fit in the coffee shop industry, however, is scant. Thus, the purpose of this study is to examine the relationship among entrepreneurial orientation, learning orientation, market orientation, and network capability, and its relevance to performance of the local coffee shops in Indonesia, as it is important to study the dynamic environment on coffee shops business at the local level, especially its sustainability consumption and the strategy of the managers in winning the competition.

2. THEORETICAL BACKGROUND

2.1 Learning Orientation

Learning is widely seen as important for organizations in an increasingly dynamic environment. Harvey et al. (2018) argues that when there is changes in the environment, organizations must be able to adapt quickly or they will be left behind, hence, learning is considered an important factor in the organization’s responsiveness to the changes that occurred. Tajeddini (2015) based on previous strategic management literature (such as Davis et al., 2007; Hurley, 2002; Hurley & Hult, 1998; Lukas et al., 1996; Redding, 1994; Sinkula et al., 1997; Slater & Narver, 1995) stated that learning is one of the ways to gain competitive advantage. The more company skilled at creating, acquiring, and transferring a new knowledge, that has potential to change organizational behavior, the more they can responded to a dynamic, rapidly changing business environment. Calantone et al. (2002) in Aziz & Omar (2013) stated that organizations that are committed to investing in learning are associated with the development of a long-term strategic orientation, which is important for survival in the market. These organizations encourage their employees to pursue knowledge that will generate long-term benefits and motivate them to learn.

Nasution, Mavondo, Matanda, & Ndubisi (2010) adapted from Shrivastava (1983), Fiol & Lyles (1985), and Driver (2001) defines learning orientation as a cultural aspect that emphasizes the process of how to increase knowledge and understanding of customer value to improve organizational performance. Learning orientation reflects the learning process in organizations, which starts at the individual level and extends to the organizational level. Sok, O’Cass, & Sok (2013) defines learning ability as a combination of interrelated processes that a company has to a) determine the training needed by staff, b) analyze unsuccessful company
activities, c) communicate to all members in the company about lessons learned from the company's past experiences, and d) learn new and relevant knowledge for carrying out company business activities. Previous researchers have concluded and underlined that learning orientation is associated with the development of new knowledge, which is very important for company innovation ability and firm performance (Stewart & Mavondo, 2004). Based on research by Kropp, Lindsay, & Shoahm (2005) stated that companies with a strong learning orientation tend to have better performance.

Jyoti & Dev (2015) based on previous literature such as Calantone et al., (2002); Hult, (1998); and Sinkula et al., (1997) stated that learning orientation consists of four dimensions; commitment to learning, shared vision, open-mindedness, and sharing of intra-organizational knowledge. According to Laverie et al. (2008) and Paparoidamis (2005) learning orientation reflects values related to knowledge. When companies encourage employees to question pre-existing norms within the organization, this reflects a culture that values learning (Yuang, Feng, Lai, & Collins, 2018). So that the three main dimensions identified reflect the values of learning, namely commitment to learning, open-mindedness, and a shared vision of Sinkula, Baker, & Noordewier (1997).

2.2 Network Capability

Walter, Auer, and Ritter (2006) define network capability as the company's ability to initiate, develop, and utilize relationships between organizations both internal and external for the benefit of the company. Network capabilities emphasize on creating and maintaining individual or group collaboration that can result in an exchange of resources and strategic capabilities to improve company performance. According to Aldrich & Zimmer (1986), Nerkar & Paruchuri (2005) and Selnes & Sallis (2003) in Weerawardena, Mort, Lesch, & Knight (2007) networks are very important in finding opportunities, testing ideas, and for gathering resources for new organizational structure. Network capabilities have been understood as dynamic capabilities, because they allow companies to identify opportunities and respond to them quickly (Knight & Liesch, 2006).

According to Kale et al. (2000) companies need to have the ability to utilize business networks and develop business relationships, where the network acts as a source of knowledge and as a means to learn or absorb skills from alliance partners who can improve company performance. This is in line with a study conducted by Bucktowar, Kocak, & Padachi (2015) stated that networking with customers and suppliers is an effective different measures of entrepreneurial orientation and performance (Rauch et al., 2009; Wales et al., 2013).

Lee & Peterson (2000) states that the entrepreneurial orientation of the company refers to the processes, methods, practices, and decision-making styles used to act in an entrepreneurial manner. In particular, companies that act independently (autonomously), are innovative, take risks, take initiative (proactive), and aggressively compete in their markets, have a strong entrepreneurial orientation. This is in line with Lumpkin.
& Dess (2001) in Kropp, Lindsay, & Shoham (2005) states that entrepreneurial orientation refers to the processes, practices, and decision making used by entrepreneurs. Lumpkin and Dess (1996) conceptualized five important dimensions of entrepreneurial orientation consisting of autonomy, innovation, risk taking, proactiveness, and competitive aggressiveness. However, the literature review identifies that the three main components most commonly studied are risk taking, innovation, and proactiveness.

2.4 Market Orientation

According to Narver and Slater (1990) in Aziz & Omar (2013), market orientation refers to the company’s commitment to creating superior value to customers and coordinating activities to achieve this goal. Furthermore, market orientation is a business philosophy, in which the company will identify and meet customer needs and integrate marketing concepts throughout the organization (Aziz & Omar, 2013). Boso et al. (2013) defines market orientation as the implementation of the marketing concept in the company’s target market that reflects the company’s orientation towards customers, competitors and other factors that come from outside the company’s environment. Gray and Hooley (2002) in Mahmoud, Blankson, Frimpong, Nwankwo, and Trang (2015) defines market orientation as the implementation of a corporate culture or philosophy that encourages behavior that aims to collect, disseminate and respond to information in the external environment such as customers, competitors, and market structure.

A market-oriented organization maintains its response to the market before competitors enter the market. Market orientation facilitates organizational skills to understanding, anticipating, reacting, and taking advantage of environmental changes to fulfill the customer needs, and thus lead to superior performance (Mahmoud and Yusif, 2012). In other words, organizations with a strong market orientation emphasize learning and innovation from customers, competitors, and the external market environment. Conclusions drawn from empirical studies indicate that market orientation is positively related to firm-level consequences, including financial performance and business performance (Jimenez - Jimenez & Cegarra - Navarro, 2007). Narver & Slater (1990) defined three components of organizational behavior in creating superior value for customers; understanding customer needs (customer orientation) and how competitors respond to these customer needs (competitor orientation), and coordination (inter-functional coordination) within the company towards the use of information from customers.

3. RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

3.1 Research Model

The research model in this research can be seen in Figure 3.1. below. The research model is designed to analyze the influence of strategic orientations and networking capability on the coffee shop’s performance. Regarding strategic orientations, based on previous studies from Deutscher, Zapkau, Schwens, Baum, & Kabst (2016); Hakala 2011; Mu, Thomas, Peng, & Di Benedetto (2017); Pehrsson (2016); and Acosta, Crespo, & Agudo (2018), researcher focus on entrepreneurial orientation, market orientation, and learning orientation, which has been identified as the most relevant strategic orientations in recent literature, that has positive influence to firm performance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Cano, Carrillat, & Jaramillo, 2004; Kirca, Jayachandran, & Bearden, 2005; Wang, 2008). However, there is only a few research on what strategic that fit in the coffee shop industry. To fill this gap, this study examines the relationship among entrepreneurial orientation, market orientation, learning orientation, and network capability, and its relevance with the coffee shop’s performance.
3.2 Hypotheses Development

Based on the research model in the section above, the hypotheses that need to be tested can be formulated. The formulation of the hypotheses is divided into seven sections. First hypotheses about the relationship of learning orientation with entrepreneurial orientation. Second hypotheses about the relationship of learning orientation with market orientation. Third hypotheses about relationship of network capability with entrepreneurial orientation. Fourth hypotheses about the relationship of network capability with market orientation. Fifth hypotheses about the relationship of market orientation with entrepreneurial orientation. Sixth hypotheses about the relationship of market orientation with performance. Finally, last hypotheses about the relationship of market orientation with performance.

3.2.1 Learning Orientation and Entrepreneurial Orientation

Harrison and Leitch (2005) stated that learning-oriented organizations have a focus on acquiring knowledge that is potentially useful for the organization, for refining existing knowledge and routines, or for questioning long-held assumptions and developing new ways of thinking. Dodgson (1993) in Lee and Tsai (2005) suggested the main difference between these two concepts is that learning orientation does not only use market-based knowledge to increase customer satisfaction, learning orientation can facilitate companies to respond effectively to external changes, such as customer preferences and technology. Increased learning abilities will allow organizations to absorb and assimilate new ideas (Cohen & Levinthal, 1990).

The results showed that commitment to learning, shared vision, openness, intra-organizational knowledge and new product development had a positive effect on performance. Companies must fully understand market conditions to develop new products (Li & Li, 2006; Prieto & Revilla, 2006; Brachos et al., 2007; Promket, 2007; Pett & Wolff, 2010). Thus, several hypotheses which need to be tested can be formulated as follows:

Hypotheses IA: Learning orientation has a positive effect on entrepreneurial orientation

3.2.2 Learning Orientation and Market Orientation

Beneke, Blampied, Dewar, & Soriano (2016) suggested that the implementation of market orientation and learning orientation can create superior value for the organization, which effectively improves business performance. Slater and Narver (1995) and Baker and Sinkula (1999) in Farrel (2000) state that market orientation can improve performance when combined with learning orientation. Farrel (2000) in Nasution, Mavondo, Matanda, and Ndubisi (2010) states that the relationship between learning orientation and market orientation is that once an organization is market-oriented, the organization will begin to adopt and implement a learning orientation.

Hardley and Mavondo (2000) suggest that learning orientation has a significant and positive effect on customer orientation and competitor orientation. Keskin (2006) argues that efforts to maximize their ability to study markets and create market orientation are the initial stages in developing internal innovation in organizations. Therefore, organizational learning can represent a developmental approach that helps translate
innovative beliefs in entrepreneurial orientation and market orientation into better employee innovation performance. Thus, several hypotheses which need to be tested can be formulated as follows:

Hypotheses 1B: Learning orientation has a positive effect on market orientation

3.2.3 Network Capability and Entrepreneurial Orientation

Another aspect that must be considered in increasing the relationship between entrepreneurial orientation and entrepreneurial performance is business relationships or networks (Madsen, 2007). Referring to Veciana (2007), network theory explains that entrepreneurship functions and develops in social networking networks. Aldrich and Zimmer (1986) in Martins (2016) add that networks play an important role in the entrepreneurial process. Many good and new ideas can be created in a heterogeneous network and increase the entrepreneurial opportunities of the company (Gathungu, Aiko and Machuki, 2014), where through various relationships, a company can acquire valuable and specific knowledge, competence and resources that complement its resources and competencies. companies that are quite limited (Li, Huang and Tsai, 2009).

The advantages of networking in turn enable companies to be more innovative, take risks and be proactive thus illustrating an entrepreneurial orientation. Wiklund (2005) in Gathungu et al. (2014) stated that networking between companies has a positive effect on entrepreneurial orientation. In accordance with the explanation above, the following hypothesis regarding the relationship between corporate networks and entrepreneurial orientation is:

Hypotheses 2A: Network capability has a positive effect on entrepreneurial orientation

3.2.4 Network Capability and Market Orientation

Network capabilities have been understood as dynamic capabilities, because they allow companies to identify opportunities and respond quickly to them (Knight & Liesch, 2016; Weerawardena et al., 2007). According to Bucktowar, Kocak, & Padachi (2015), market-oriented companies obtain information about customers and competitors, which encourages proactive and reactive behavior, enables companies to recognize and pursue opportunities, take measurable risks and act in front of competitors or defend their position, with competitors and simultaneously, ensuring they produce products and services that will satisfy customer needs and wants (Berthon et al., 1999).

Bucktowar, Kocak, & Padachi (2015) citing Morgan & Hunt (1994) suggest that customer orientation leads to increased performance when channel or network partners act as moderators. Thus, a network with members / partners provides more access to market intelligence, reduces costs, and seeks better value for customers, which in turn allows the company to have a competitive advantage in the market. Furthermore, companies that have access to market intelligence respond to customer needs (Palmatier, 2008), satisfy or anticipate needs and wants, thereby creating value or facilitating the adoption of new products and enabling companies to adopt proactive behaviors. Then the hypothesis of this study is as follows:

Hypotheses 2B: Network capability has a positive effect on market orientation

3.2.5 Market Orientation and Entrepreneurial Orientation

From a resource-based perspective, entrepreneurial orientation and market orientation are two separate but complementary strategic orientations (Miles & Arnold, 1991). Market orientation and entrepreneurial orientation emphasize philosophy and behavior in proactively detecting the industrial environment, including market information and competitor strategies in order to innovate and respond to customer needs in a timely manner. The nature of entrepreneurial orientation and market orientation emphasizes the willingness of the organization to innovate in the organization (Baker & Sinkula, 2009). In other words, these two different variables are described as the success and ability of the organization level in creating innovations to respond to the external environment and meet customer needs.

Lumpkin and Dess (1996) have suggested the importance of a contingency perspective in explaining how entrepreneurial orientation improves firm performance. In other words, entrepreneurial orientation and market orientation are a set of business beliefs and philosophies. Both entrepreneurial orientation and market orientation still require organizational learning systems and practices to facilitate high-level learning and innovation (Backer & Sinkula, 2009; Morgan Lumpkin & Dess, 1996) have proposed the importance of a contingency perspective in explaining how entrepreneurial orientation improves firm performance. Then the hypothesis of this study is as follows:

Hypotheses 3: Market orientation has a positive effect on entrepreneurial orientation
3.2.6 Entrepreneurial Orientation and Performance

Lee and Peterson (2000) state that several previous studies have shown companies with entrepreneurial orientation tend to have better performance. Based on research by Rauch et al. (2004) concluded that there was a significant relationship between entrepreneurial orientation and performance and that companies benefited from entrepreneurial orientation. Wales et al. (2013) based on previous studies revealed that entrepreneurial orientation has a positive impact on company growth, profitability, innovation, and overall performance (Tang et al., 2017; Thanos et al., 2017). Rauch, Wiklund, Lumpkin and Frese (2009) state that several previous studies have proven that companies that adopt a strong entrepreneurial orientation can perform better than companies that do not adopt this orientation. According to Wiklund (1999), a strong entrepreneurial orientation is closely related to profit as the first mover and the tendency to take advantage of opportunities that arise, which in turn have a positive effect on performance.

Rauch et al. (2009) based on previous studies by Aloulou and Fayolle (2005) and Madsen (2007) stated that entrepreneurial orientation can be viewed as a special resource that allows companies to develop competitive advantage and improve performance. Rauch et al. (2009) also stated that the characteristics of entrepreneurial orientation can be positive when companies face various challenges from the external environment and benefit from the status of their entrepreneurial strategy. Shirokova et al. (2015) based on Covin and Slevin (1989) added that entrepreneurial orientation allows companies to develop creative ideas and realize them in the form of new products or services, participate in projects that have risks, predict future requirements and find new market opportunities. The existence of an entrepreneurial orientation consisting of a proactive, innovative character and a desire to take risks inherent in entrepreneurs makes this entrepreneurial orientation have an influence on performance so that the next hypothesis is:

Hypotheses 4: Entrepreneurial orientation has a positive effect on performance

3.2.7 Market Orientation and Performance

Firms tend to perform better when they try to focus on market orientation with particular emphasis on flexibility and faster response times (Baker & Sinkula, 1999; Hardley & Mavondo, 2000; Noble et al., 2002). Most of the previous studies agreed that there is a positive relationship between market orientation and business performance. Verhees & Meuleenberg (2004) based on Deshpandé (1999), Jaworski & Kohli (1993), Narver & Slater (1990) and Pelham (2000) note that market orientation has a positive influence on the performance of SMEs. Pelham and Wilson (1996) identified that a high level of MO offers small firms a strong source of competitive advantage and performance viability. Then, Pelham (2000) in Kajalo & Lindblom (2015) stated that there is positive relationship between market orientation and in small and medium-sized firm’s performance. Baker and Sinkula (2009), in turn, discovered that there is a significant positive relationship between MO and profitability in the context of small businesses. Verhees & Meuleenberg (2004) also revealed that customer market intelligence is related positively to company performance in small firms. Then the hypothesis of this study is as follows:

Hypotheses 5: Market orientation has a positive effect on performance

3.3 Comprehensive Research Model

The comprehensive research model can be seen in Figure 3.2. below.
3.4 Operationalized Variables

Several prior studies have conducted the measurements of operationalized variables. So, the questionnaire will be adopted from it in accordance with the context of coffee shop in Indonesia. This research use measurements that are consistent with the conceptualization, otherwise it may lead to findings that are inconsistent and have low measurements validity. The operationalized variables that have been adopted from prior studies can be seen in the several tables below.

3.4.1 Learning Orientation Construct

The learning orientation dimension used in this study adopts the learning orientation scale developed by Baker & Sinkula (1997; 1999). There are four dimensions measured, namely: commitment to learning, shared vision, open-minded, and sharing knowledge between organizations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimensions</th>
<th>Indicators</th>
<th>Source</th>
</tr>
</thead>
</table>
| Learning Orientation |Commitment to learning   | 1. Managers basically agree that our organization’s ability to learn is the key to our competitive advantage  
2. The basic values of this organization include learning as key to improvement.  
3. The sense around here is that employee learning is an investment, not an expense.  
4. Learning in my organization is seen as a key commodity necessary to guarantee organizational survival. | Wang (2008); Calantone, Cavusgil, & Zhao (2001) |
| Learning Orientation |Shared vision             | 1. There is a commonality of purpose in my organization.  
2. There is total agreement on our organizational vision across all levels, functions, and divisions.  
3. All employees are committed to the goals of this organization.  
4. Employees view themselves as partners in charting the direction of the organization. | Wang (2008); Calantone, Cavusgil, & Zhao (2001) |
Open-mindedness

1. We are not afraid to reflect critically on the shared assumptions we have made about our customers.
2. Personnel in this enterprise realize that the very way they perceive the marketplace must be continually questioned.
3. We rarely collectively question our own bias about the way we interpret customer information.
4. We continually judge the quality of our decisions and activities taken over time.

Intra-organizational knowledge sharing

1. There is a good deal of organizational conversation that keeps alive the lessons learned from history.
2. We always analyze unsuccessful organizational endeavors and communicate the lessons learned widely.
3. We have specific mechanisms for sharing lessons learned in organizational activities from department to department (unit to unit, team to team).
4. Top management repeatedly emphasizes the importance of knowledge sharing in our company.
5. We put little effort in sharing lessons and experiences.

3.4.2 Network Capability Construct

Referring to research conducted by Walter, Auer, & Ritter (2015), four dimensions are used to measure network capabilities, namely: coordination, relational skills, knowledge of partners, and internal communication.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimensions</th>
<th>Indicators</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Capability</td>
<td>Coordination</td>
<td>1. We analyze what we would like and desire to achieve with which partner</td>
<td>Walter, Auer, &amp; Ritter (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. We match the use of resources (e.g., personnel, finances) to the individual relationship.</td>
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<tr>
<td></td>
<td></td>
<td>3. We inform ourselves of our partners’ goals, potentials and strategies.</td>
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<td>4. We judge in advance which possible partners to talk to about building up relationships</td>
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<td></td>
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<td>5. We appoint coordinators who are responsible for the relationships with our partners.</td>
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<td></td>
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<td>6. We discuss regularly with our partners how we can support each other in our success</td>
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<td></td>
<td>Relational Skills</td>
<td>1. We have the ability to build good personal relationships with business partners</td>
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<td>2. We can put ourselves in our partners’ position.</td>
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<td></td>
<td></td>
<td>3. We can deal flexibly with our partners.</td>
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<td>4. We almost always solve problems constructively with our partners.</td>
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<td></td>
<td>Partner Knowledge</td>
<td>1. We know our partners’ markets.</td>
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<tr>
<td></td>
<td></td>
<td>2. We know our partners’ products/procedures/services.</td>
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<td></td>
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<td>3. We know our partners’ strengths and weaknesses.</td>
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<tr>
<td></td>
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<td>4. We know our competitors’ potentials and strategies.</td>
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</tbody>
</table>
1. In our organization, we have regular meetings for every project.
2. In our organization, employees develop informal contacts among themselves.
3. In our organization, communication is often across projects and subject areas.
4. In our organization, managers and employees do give intensive feedback on each other.
5. In our organization, information is often spontaneously exchanged.

3.4.3 Entrepreneurial Orientation Construct

Referring to the research conducted by Wolf, Pett, & Ring (2015) which was adopted from the measurement of Covin and Slevin (1989) dimensions, three dimensions are used to measure entrepreneurial orientation, namely: innovative, taking risks, and proactive.

<table>
<thead>
<tr>
<th>Table 3: Entrepreneurial Orientation Construct</th>
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<tbody>
<tr>
<td><strong>Variable</strong></td>
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<tr>
<td>Entrepreneurial Orientation</td>
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</table>

3.4.4 Market Orientation Construct

Referring to research conducted by Naver & Slater (1990), three dimensions are used to measure market orientation, namely: customer orientation, competitor orientation, and inter-functional coordination.

<table>
<thead>
<tr>
<th>Table 4: Market Orientation Construct</th>
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<tbody>
<tr>
<td><strong>Variable</strong></td>
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<td>----------------</td>
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<tr>
<td>Market Orientation</td>
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</table>
Competitor orientation

1. Our sales staff frequently shares information within the company in connection with the strategies of competitors.
2. We swiftly respond to competitor actions.
3. Our executives regularly analyze the strategies and strengths of our competitors
4. We focus on customers with whom we have an opportunity of competitive advantage.

Market Orientation

Inter-functional coordination

1. Our executives regularly visit our current and potential customers
2. We openly share information about our successful and unsuccessful experiences with customers throughout all functions within the company.
3. All of our functional areas are integrated to meet the needs of our target markets.
4. All of our managers understand the way in which each can contribute to the creation of value for the customer
5. We share resources throughout the entire company.

3.4.5 Performance Construct

Referring to research conducted by Kraus, Rigtering, Hughes, & Hosman (2015), the level of performance is adjusted to performance measurement by looking at the increase in sales growth, employee growth, gross margins, profitability, and cash flow.

Table 5: Performance Construct

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimensions</th>
<th>Indicators</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>Performance</td>
<td>1. Sales growth rate</td>
<td>Kraus, Rigtering, Hughes, &amp; Hosman (2012)</td>
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<td></td>
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<td>2. Employee growth</td>
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<td>3. Gross margin</td>
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<td>4. Profitability</td>
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<td>5. Cash flow</td>
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4. RESEARCH METHOD

The context selected for this study was the local coffee shops in Indonesia. This research is a quantitative research. Population and unit analysis in this research is the owner or the manager of the coffee shops. The sample has taken from the population by using purposive sampling method. This method is used because it is taken into consideration suitable for sample to relevant respondent to this research. Thus, random or convenient sampling is unsuitable to this research.

The sample of this research is aimed at the individual level of the owner or manager of a business in the field of Food & Beverage (F&B). For the research sample size, the number of samples that are representative for the SEM research method according to Hair et al (2014) is 100, because SEM is based on variance, the number of samples taken is not too large. According to Barclay et al (1995), which shows that the sample size must be equal to (1) 10 times the number of formative indicators used to measure a single construct, or (2) 10 times the largest number of structural paths that lead to a particular construct in the structural model. As for the arrows that point to the construct as many as 6 arrows, thus the sample size is 10 times the number of arrows, namely 10 x 6 = 60. So, the minimum sample size is 60.

The instrument is a tool used to collect and measure data, in this case the research instrument used is a questionnaire. The questionnaire was adapted from previous research which is described in operational variables. The questionnaire in this study used 6 Likert scales, namely (1) strongly disagree, (2) disagree, (3) somewhat disagree, (4) somewhat agree, (5) agree, and (6) strongly agree. The Likert scale is a scale that can be used to measure a person's attitudes, opinions, and perceptions about a certain object or phenomenon (Syofian, 2012).
5. DISCUSSION

This conceptual research seeks to investigate the strategic orientation, which are entrepreneurial orientation, learning orientation, and market orientation, with network capability implementation in the context of coffee shops in Indonesia. This research will be conduct from the background of the problems, theoretical background, research model and hypotheses then the operationalization of the variables. The concept and operationalization developed in this paper will be used for further empirical research scheduled in December 2020.

This research may contribute to the literature by presenting more information about the coffee shop industry, as well as for this industry practitioner. This study is not without limitations. The sample was limited to the practitioner or the owner of the local coffee shops in Indonesia only. Given the limited subject and sample, it would be valuable to perform additional research using wider samples and additional coffee companies. By doing so, future research could validate the results of this study, which would assist in generalizing the study results.

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PRICE WAR IN MALAYSIAN E-HAILING INDUSTRY: THE CONSUMERS HAVE SPOKEN

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ABSTRACT

E-hailing service is a transportation service like taxi where drivers and passengers being match through mobile apps. Through e-hailing apps on smart phones, drivers are allowed to receive hail requests and passengers are allowed to identify the locations of available transportation service. E-payment could also be transacted through the apps. Recently, e-hailing service industry is moving forward and always have a high demand among consumers. This paper aims to identify the antecedents of consumer satisfaction of competing e-hailing service providers i.e. Grab, MyCar and Maxim and to make comparison to consumers’ choices among these service providers. A quantitative approach was used in this study employing purposive and snowball sampling techniques where the respondents were e-hailing service users. Primary data of 357 responses was collected through online survey using Google Forms. The survey found that there are positive relationships between promotion and coupon redemption, comfort, user-friendliness of the application and safety towards consumer satisfaction of competing e-hailing service providers from student market perspective. However, a multiple regression analysis has confirmed that price is the only significant factor predicting consumer satisfaction. In addition, the study also found that the consumers are most satisfied with Maxim e-hailing service provider followed by Grab and MyCar due to Maxim price leadership strategy. This study provides important insights for future researchers and also for e-hailing service providers in order to sustain in the market mainly in Malaysia.

KEYWORDS: consumer satisfaction; e-hailing service providers; price war