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# Evaluating the Understanding and Perceived Importance of Professional Scepticism among Accountants in the Malaysian Public Sector

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## Abstract

**Purpose:** This study aims to examine professional scepticism among accountants in the public sector. Specifically, this study evaluates the understanding of professional scepticism among accountants in the public sector. It then evaluates the perceived importance of professional scepticism of accountants in the public sector.

**Methodology/Approach:** This study utilised the qualitative approach via interview sessions with sixteen accountants in the public sector study.

**Findings:** This study finds that the accountants in the public sector were not aware of the term 'professional scepticism' at first during the interview sessions. After explaining the concept of professional scepticism to the participants, they realise that they practise this skill when performing their tasks without realising that their practices represent professional scepticism. The accountants perceived professional scepticism as important and agreed that accountants must have high professional scepticism to ensure quality work performance. In addition, the accountants understand the importance of their role in practising high professional scepticism. However, their understanding and acceptance of their role in professional scepticism were more practical in nature without knowing the objective and the importance of professional scepticism.

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This article is part of research on Modelling a Professional Scepticism Model for Accountants in the Public Sector, supported by the Accountant General's Department of Malaysia through *Geran Penyelidikan Perakaunan dan Kewangan Sektor Awam Tahun 2022* (JANM.IPNCPD.100-3/3/2 Jld. 3(33)).

**Research Limitations/Implications:** This study's findings implied that awareness of professional scepticism needs to be highlighted to the accountants in the public sector.

**Practical Implications:** The findings in this study implied that professional scepticism is a must-have skill that accountants should possess. Therefore, training programmes, such as professional scepticism techniques involving reasonable scepticism-related exercises, can be conducted for accountants in the public sector.

**Originality/Value:** This study is the first that provides accountants' understanding of professional scepticism in Malaysia's public sector.

**Keywords:** Professional scepticism, accountants, understanding, perceived importance, public sector.

## Introduction

Professional scepticism has long been synonymous with auditors. The International Standards on Auditing's (2007) defined 'professional scepticism' as an attitude that includes a questioning mind, being alert to conditions that may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence. Professional scepticism, according to Siddiqui (2019), is not only about asking questions constantly, but also about asking the right questions at the right time. Besides, it is not only about accepting first-hand information, but also about evaluating and doing further research, regardless of how plausible it may seem. Professional scepticism is often related to auditors who performed auditing work that can be seen as possible remedial measures at that stage or fraud detection work that has already taken place. It is essential for auditors to have a certain level of professional scepticism at the preventative measures stage for fraudulent activity and overstatement of financial statements to be discovered. Consequently, preventive measures can be implemented so that public funds and assets can be preserved. The auditing profession places a strong focus on the critical thinking skill known as scepticism (Siddiqui, 2019). Similarly, accountants must also practice professional scepticism as they ensure preventative measures are taken (Aziz, 2019).

Accountants in the public sector are under the purview of the Ministry of Finance (MOF). The Ministry has its appointees in various divisions, branches, states and ministries throughout Malaysia. These accountants are considered part of the management process in which they are responsible for providing crucial information for planning, evaluating, controlling and decision-making (Talha, Raja & Seetharaman, 2010). They also perform tasks involving all financial matters as well as devise planning and performance management systems (Long, Hashim, Abdul Rahman & Ibrahim, 2017). In addition, they provide financial reporting and control expertise to assist the management in formulating and implementing organisational strategy (Emsley, 2005). Therefore, the role of the accountants in the public sector is mainly to

create value and, ultimately, to increase accountability and transparency, robust governance, and safeguard public assets. Accountants are expected to perform their work effectively and efficiently to achieve these aims. However, a review of the accounting literature shows that examining professional scepticism among accountants is largely unexplored. In the public sector, accountants assist the government in playing a regulatory role in safeguarding the public interest in accordance with public policy's objectives. Their high professional scepticism can ensure that government assets are being safeguarded efficiently and effectively.

One may pose the following questions. Are public sector accountants aware of and understand the concept of professional scepticism? Do they practise professional scepticism? And do they perceive professional scepticism as important? This study aims to investigate the level of understanding and the importance of professional scepticism among accountants in Jabatan Akauntan Negara Malaysia (JANM) and other interested parties. This study attempts to address several issues on this topic.

To achieve this objective, the paper is organised as follows: Section 2 presents a review of the relevant literature. Section 3 outlines the research design adopted in this study. Section 4 provides an in-depth analysis of the findings, followed by a discussion. Finally, Section 5 offers conclusions based on the research results.

## Literature Review

In general, scepticism which originated from the Greek word 'sceptikos', refers to 'inquiring or reflective' (Glover & Prawitt, 2014). Being a sceptic is often associated with questioning, careful observation, probing reflection and suspension of belief. Within the accounting discipline, professional scepticism refers to these attitudes of questioning, careful observation, probing reflection, and suspension of belief (Sayed Hussin & Iskandar, 2013). These attitudes exist mostly among auditors in detecting fraud (Suryandari & Yuesti, 2017; Ghani, Abdul Jabal, Zandi & Adnan Hye, 2022). Professional scepticism comprises two components. First, it is a sceptical mindset, which is how to think or process information. Second, it is a sceptical attitude, which is how auditors evaluate the audit evidence obtained cognitively and effectively (Nolder & Kadous, 2018).

Nelson (2009) stated that professional scepticism could be classified into two perspectives: neutrality and presumptive doubt. Neutrality represents the individuals' mindset that assumes no bias or dishonesty in financial statements, whereas the presumptive doubt mindset is the opposite. Nelson (2009) indicated that there is excessive audit evidence in certain areas due to regulators implementing the presumptive doubt perspective in their inspections. To achieve the optimal balance between effectiveness and efficiency, accountants may refer to the professional scepticism continuum that can be used, depending on the situations when performing their tasks (Glover & Prawitt, 2014). The continuum includes a behavioural range from complete trust to complete doubt, where they have a level of audit evidence at each stage/level of the continuum, except at complete trust. There is no application of professional scepticism at this stage. Most studies on professional scepticism investigated how scepticism

influences judgments, for instance, in evaluating material misstatements in financial statements (Sayed Hussin, Iskandar, Saleh & Jaafar, 2017) and audit engagement planning (Rodgers, Mubako & Hall, 2017).

There are several studies that have examined professional scepticism in the accounting literature. One of the areas that these studies have examined is the auditors' awareness and understanding of professional scepticism (Kwock, Ho & James, 2016, Chang & Stone, 2019, Mbanjwa, 2019). These studies showed that the auditors are generally aware and understand the concept of professional scepticism. For example: In Mbanjwa (2019), found that auditors who are members of the professional accounting body in South Africa do have knowledge of professional scepticism and view themselves as being compliant. Chang and Stone (2019) argued that professional scepticism is a concept that specifically applies to auditors, indicating that auditors in general should be familiar with this concept and subsequently, put it as a skill they must possess. It is possible that members of the other accounting profession, such as accountants working in the public sector, who frequently engage non-audit related work are unaware and understand the idea of professional scepticism.

Other audit literature associations have suggested the importance of professional scepticism. These studies suggested that professional scepticism is important to achieve a balance of suspicion and trust. According to Deutsch's (1958) theory, dysfunctional behaviour will occur when there is excessive suspicion of trust. As a result, auditors must exercise an appropriate level of scepticism during all audit and risk assessment phases. To learn the truth, they must look beyond the obvious implications of any evidence provided or made public (Johari, Hati & Sayed Hussin, 2021). However, more sceptical auditors would not necessarily be able to detect fraud and, to some extent, may work against them by driving up audit expenses over the course of several engagements (Hurt, Brown-Liburd & Krishamoorthy, 2013).

An audit cost may ultimately rise due to a high level of professional scepticism. The increased audit cost is due to the fact that more activities must be completed to obtain sufficient support and confirmation of the management's claims, and the planning and construction process of the audit may be overly expensive and ineffective as a result (Nelson, 2009). While there have been numerous studies in the accounting literature that have investigated the concept of professional scepticism, many of these studies have focused primarily on the role of professional scepticism in the context of auditors. As a result, the extent to which accountants utilise professional scepticism in their work has received relatively little attention. This gap in the research highlights the need for further exploration of the use of professional scepticism among accountants in order to better understand its importance in this context.

The effect of university accounting education on trait professional scepticism has also been dynamically demonstrated by Ciolek and Emerling (2019). The International Accounting Education Standards Board (2018) recommended that accounting organisations be encouraged to incorporate scepticism knowledge and abilities within all accounting curriculum.

The little body of research on the opinions of working accountants and auditors regarding how to uphold the necessary professional ethics while providing their services was highlighted by Mbanjwa (2019).

## **Method**

### ***Participants***

Accountants working in the public sector are the participants in this study. The participants were approached via telephone and/ or emails, inviting them to participate in this study. Specifically, the participants were located in Putrajaya, Kelantan, Johor and Sarawak, regardless of their work placements. The researchers selected these locations to represent the head office (Putrajaya), east zone (Kelantan), south zone (Johor) and east Malaysia (Sarawak). The north zone is not included in the interview session as this study has already utilised participants in this zone during the preliminary study involving questionnaire construction and pilot study.

This study adopted Ragin and Becker's (1992) suggestion that when a qualitative researcher conducts his study, he may get to a stage where the evidence is so repetitive that there is no need to continue further, whereby the information is considered saturated. The researchers started with one participant and then proceeded to the other participants until the responses reached the point where responses seemed consistent and repetitive. In total, 16 JANM and non-JANM-appointed participants were interviewed before the researchers reached the consistent and repetitive responses, and decided not to proceed with other potential participants anymore. This number is considered sufficient, indicating that the data is saturated.

### ***Research Instrument***

A qualitative approach was performed on selected accountants, which involves interviews with selected accountants in the public sector to represent the population. A semi-structured questionnaire was developed. Among questions in the questionnaire included their understanding of what professional scepticism is and how they perceive the importance of professional scepticism.

### ***Data Collection***

In this study, the accountants in various public sector positions participated in the face-to-face interviews. The interviews were done in both Bahasa Malaysia and English so that participants may reply in their preferred language. The interviews took place at the workplaces of the participants. This is important so that the interviewees are comfortable and in a familiar environment. In addition, it would also be easier for the interviewees to access files if there is a need for references. The interviews were recorded with permission and, subsequently, transcribed. Further to the transcription, the text was structured and categorised according to major themes, followed by specific coding. The coding process resulted in a category system,

which was subsequently used to structure and guide the information data evaluation process. Responses in Bahasa Malaysia were translated and cited verbatim for this study.

## Findings

### *Accountants' Understanding of Professional Scepticism*

The first part of the interviews involved asking the participants whether they were familiar with the term 'professional scepticism'. Most of the participants were not aware of this term. After explaining professional scepticism, they were mostly still unfamiliar with this term. However, they employ professional scepticism when carrying out their duties because they habitually ask questions. According to Zwane (2018), the accountant's inquisitive nature reflects the accountant's general knowledge and professional interest. Miss J from JANM noted that:

I'm confused with the term 'professional scepticism', but apparently, I've practiced it. At first, it feels right for auditors and accountants. But apparently, the assistant accountants already knew. In fact, we have practiced it. Like we always question it, asking ourselves, is this amount claim correct? Is it okay? Why is this trip short? When checking the claims, we are confused looking at staff claims. Is this journey correct? That's why we compare the existing staff claims. In fact, professional scepticism already exists. [translated]

Another participant provided a similar view. Mr D from Non-JANM provided his opinion:

We are not exposed to this term, professional scepticism, like when Puan/ Dr approaches this. Only now, I feel that in doing this work, we practice this professional scepticism, the official term. Sometimes we are afraid that we are too suspicious, to the point of being unprofessional and affecting our relationship with staff. We do not want to think badly without basis. There must be a basis. But us, this is not revealed like in the audit. It is good to have professional scepticism as an accountant, and it is worth it. Probably, in terms of exposure, it does not exist yet. [translated]

Mr I from JANM, provided his opinion:

At the moment, we have less exposure to this term scepticism. This nature of scepticism is indispensable for accountants. Actually, if the staff does the inspection, there is also the nature of this doubt and in making for the acquisition, it is necessary. Then, we need proper planning for staff, the important thing is we need to have a clear road map. [translated]

The participants were asked about their understanding of the concept of professional scepticism. The interview findings have shown that the participants understand the concept of professional scepticism. For example, Miss B from Non-JANM noted that:

Scepticism? This is a sample of a document, or there is information that may be incorrect. What does the accountant feel? Doubt? Why or for what? We have a workflow. Be it receipts or payments, we have a flow. We follow the existing workflow. So, there are complete documents and it seems there is no issue, actually. Work procedures all have ISO. Actually, there is no problem because we know there will be an audit later. Because the auditor will check to see if we follow or not. [translated]

Another participant noted that professional scepticism refers to the ability of the accountant to detect a suspicious transaction and, subsequently, make a query to understand the transaction. As noted by Mr C from Non-JANM:

Professional scepticism is like when you found something on the FS and document raises questions. Marks, kind of why like this. We/we need to doubt if something. [translated]

Similarly, Mr H from Non-JANM provided his opinion:

For me, professional scepticism arises when we do not see. We don't go down to the field. We didn't see really happened or not. Sometimes did not see. [translated]

Miss H from Non-JANM supported Mr H by opining:

If we get any document for processing the voucher, if we see anything abnormal, we are important and responsible for checking everything for true and fair information. We feel it is important to make sure anything that we receive is properly covered or ask them/staff to come back and properly done. We ask right from the beginning rather than compare at the end and raise audit issues. [translated]

Last but not least, Miss G's remarks about issues relating to professional judgement are pertinent to this topic. According to Zwane (2018), professional judgement is necessary for professional accountants to raise their degrees of professional scepticism. Miss G from JANM noted that:

For me, professional scepticism is a must. Like us, we do all the FS. And JAN (Jabatan Audit Negara) will verify. Whatever staff will provide, we will check. We are the accountants who will check and verify. So, anything you feel is not right, you have the right to query. I myself will query. If not satisfied, I query. JANM, we have an inspection account section. Professional scepticism must be there. If not, how do you want to make sure your record is reliable. Because you need to know. Like we, accountants, want to use that info. This is my opinion. Whatever you feel is not logic, you have to check and query. If I am

not satisfied with any figure or report, I will request additional information. Because I want there to be support, we don't use assumption, ok. Certainly this, we have to make professional judgment but ensure our information is adequate. If not adequate, the info will affect opinion. [translated]

Interestingly, the respondents noted that the accountants would improve their level of professional scepticism if they understood the whole processes of their tasks. Thus, it can be concluded that the accountants in the public sector understand the concept of professional scepticism although they may not be familiar with the term 'professional scepticism'. As noted by Mr I from JANM noted that:

These accountants need also to know and understand about turnover. It requires an accountant who is knowledgeable in all processes. When you understand and have experience, you will only contribute to this level of scepticism. [translated]

According to Aziz (2019), even though the term "professional scepticism" is typically associated with auditors, it's also crucial for accountants to comprehend the idea. Based on the interview session with participants whether they are JANM appointed or Non-JANM, it can be seen that professional scepticism has been practiced before preparing payment or procurement process. This practice is due to the query or questioning by the government auditors, which are unexpectedly embedded in their working practice. In order to foster a culture of professional scepticism in the public sector in Malaysia, it is essential to provide training and exposure of this concept. Such training will help to develop a questioning mindset among accountants and ensure that professional scepticism is integrated into each step of the accounting process, thus, allowing the public sector to enhance the quality and reliability of financial reporting and promote greater accountability and transparency in the management of public funds.

### ***Accountants' Perceived Importance of Professional Scepticism***

The participants were also asked whether they feel that professional scepticism is important. Most of them agree that accountants should possess high professional scepticism. They noted that professional scepticism is important, and all accountants must have high professional scepticism as it is normal in the accounting discipline to have that questioning mind, particularly on the numbers shown in a document. This issue aligns with Zwane (2018), as professional scepticism results in a stronger professional accountant. As noted by Mr D from Non-JANM:

Actually, professional scepticism should exist for accountants. The scope of being an accountant is relevant, even from a university. Because we create all kinds of accounts, we also look at the revenue. Basically, assistant accountants also need it. They need to understand that in the preparation of affairs, there must be a basis and there must be doubts. In case something is wrong. For example, signature. This document has the original document

and signature or not? So, I think the staff is aware but accepting professional scepticism? don't know. Actually, there is no structured exposure. There are no professional scepticism-based exercises. There are not many of these exercises. [translated]

Mr A's opinion from Non-JANM is similar to Mr D's. He opined that:

Accountants are based on the rules in the department. We follow the policies, laws, and acts. We are bound by procedures. We need to have support. Have we followed or not? We need to find out if there is any basis that we need to know. To me, this scepticism is important. So that we know. [translated]

Another participant, Mr G from JANM, provided his opinion:

Professional scepticism should exist among accountants, especially among public sector accountants. In carrying out tasks in the field of accounting, we cannot run away from curiosity and even suspicion of the set of figures shown. This question should be in the mind of an accountant. As an accountant responsible for accounting matters and is bound by professional ethics, professional scepticism is a must. Accountants should not simply accept instructions without questioning whether the transaction is valid and does not violate existing rules. [translated]

Miss I from JANM supported Mr G's view:

When we are in the government, it is different. The auditor will reprimand what we did wrong. But in the context like the budget section, professional scepticism is very necessary when it involves issues of money, funds to the relevant agencies. We need to be sceptical in total. We cannot believe, trust 100% if anyone asks for funds, but we have a controlling officer before submitting. We must have doubts to check, there must be doubts. Professional scepticism helps us provide ourselves with good judgement. If we don't have that professional scepticism, it will be difficult for us. If here, we must check, and monitoring. Here, in the government, we have a second layer checking. [translated]

Other participants also provided similar views as they regard professional scepticism as important to ensure their work is accurate. Thus, this would detect any misappropriation or falsification of documents. Since information analysis is necessary for accountants, a professional accountant must gather and comprehend more evidence before deciding on relevant issues (Zwane, 2018). As noted by Miss D from Non-JANM:

There should have been this doubt from the beginning. Where, for example, he makes a payment voucher. When he checks, he must have doubts. For

example, when buying a printing press at a relatively high price for the machine. Often, a printing press will not be priced that high. The price should not be like this. From his experience, he can already know that the price should not be at that value. From the bottom, we should detect/obtain this doubt. So, it will help all levels from the bottom up. From the bottom level, it can often already detect such things. [translated]

Miss D provided further explanation:

So that we are not always optimistic and believing. We see that person is good, all these transactions are correct. We will be more detailed and in-depth. We will look more closely at the transactions. [translated]

Miss E from Non-JANM provided similar views. She opined that the public sector accountants must ensure that the financial statements are free from any misstatements and cannot rely solely on the auditors to do the detection. She noted that:

For me, professional scepticism is necessary for accountants because accountants also make financial statements. Accountants need to know the reason for the record and FS. Accountants need to know the double entry and any misstatement. We can't only rely on auditors. Not only on auditors. To reduce risk, accountants need to detect first. So, we have a team of accountants to check the accounts, do any analysis, and check any misstatement before proceeding with any full statement. If you fully based on auditor. We look at what is the accountant's job. Should not be key in only. We should know debit entry, we should know what is the entry going on. We should know the story. So, the auditor has less risk of fraud or something or mistakes inside the account. [translated]

Finally, another participant provided the same view, indicating that all participants perceived that professional scepticism is important for accountants in the public sector. Miss J from Non-JANM opined:

Professional scepticism is important. It is not that we are suspicious. But we will think, this company always gets it. We have to recheck the company's biodata. We check to see if there is anything related to our staff. For example, we are now in the middle of a grass-cutting tender. We have to have a little doubt. But it's not very obvious. [translated]

Despite the relevance of professional scepticism, participants said that some employees are unaware of it or have not been exposed to it. They proposed a few solutions, such as training programmes, to help accountants raise their degree of professional scepticism. During the interviews, Mr. B from JANM had observed:

For the staff to be exposed to professional scepticism, they have to go for training from time to time. [translated]

Mr D from Non-JANM supported Mr B's view:

It would be better if there was exposure training for these professional scepticism methods. We need to know professional scepticism techniques. We don't want to be too suspicious. Then, there must be a kind of sharing session of cases that have occurred related to issues arising when we overlook things. This is professional scepticism, right? We also would want to know the consequences of the existing cases. The effect of us not applying professional scepticism in our work. [translated]

Similarly, one of the participants noted that by providing training programmes related to professional scepticism, accountants could improve their level of professional scepticism. Miss D from Non-JANM opined that:

This is for me by giving training, increase training. We look at the work environment, the work cycle. Let's not make it the same place. For example, we should not be like this person, he is an expert in one place. He can also manipulate. He can do something. We need work rotation, work experience. [translated]

One interesting finding in this study is that one of the participants noted that professional scepticism is naturally inherent. That is, an individual is born with such ability rather than nurtured. Miss I from Non-JANM posited:

Some people are born sceptical. But I'm not like that. We are not exposed to it either. [translated]

Overall, the feedback from the interviewees showed that they generally agreed that professional scepticism is important and accountants must possess a high level of professional scepticism to ensure that public assets are safeguarded effectively. This professional scepticism can be understood by the information gained via training and experience. According to Curtis (2014), scepticism skills can be improved through both training and experience. Gissel (2018) argued that the most prevalent training strategy is professional scepticism training, ongoing reinforcement of that training and mentoring. Meanwhile, Cahan and Sun (2015) showed that experienced senior auditors exhibited more consistency in selecting relevant information and the control risk assessment response, selecting fewer cues, and making judgements in less time. Lidia Sari Christina and Heru Tjaraka (2017) suggested that experience will not really help the understanding of professional scepticism. When it comes to the subject of ethics and professional scepticism in the accountancy profession, Mbanjwa (2019) highlighted the need to understand the perspective (or perceptions) of accountants. In conclusion, this study shows that accountants in the public sector understand the concept of

professional scepticism. In addition, professional scepticism could be seen as important by the accountants, findings supported by a few past studies in the auditing literature, such as those by Kwock et al.,2016, Chang and Stone (2019), and Mbanjwa (2019).

## Conclusion

This study aims to examine two objectives. First, this study evaluates the understanding of professional scepticism among accountants in the public sector. Subsequently, this study evaluates the accountants' perceived importance of professional scepticism in the public sector. Based on interview with the accountants, this study found that accountants in the public sector were initially not aware of the term 'professional scepticism' during the interview sessions. However, upon explaining the concept of professional scepticism, they realise that they practise professional scepticism in performing their task without realising that their practices represent professional scepticism. Professional scepticism is perceived to be important. Hence, all accountants must have high professional scepticism to ensure that the quality of their work performance is upheld. The accountants are well aware of the significance of their part in practicing a high level of professional scepticism. Understanding and accepting their role in professional scepticism was more practical even without prior knowledge of the purpose and significance of professional scepticism. Therefore, the findings of this study implied that accountants must exhibit the skill of professional scepticism. Hence, training initiatives, such as professional scepticism approaches comprising reasonable scepticism-related tasks, can be administered to public sector accountants.

The findings of this study provide an understanding of the profiling of the existing accountants in the public sector. Following these findings, this study provides some recommendations for helping to improve the level of professional accountants in the public sector. Among the recommendations include, JANM and other bodies could provide awareness programmes on the concept of professional scepticism and the importance of professional scepticism. Providing in-house training, for example, can make the accountants aware of whether their actions are right or wrong to avoid reprimands. This awareness would encourage the accountants to be more alert in performing their tasks and increase their level of professional scepticism. Consultancy or sharing sessions by auditors and other accountants would provide exposure to potential fraud or misappropriation cases. For example, the auditor or accountants can provide a sharing session on the impact if there is fraud or misappropriation, especially to the assistant accountants. A few interview participants highlighted that the sessions would make them more alert on such cases, therefore, increasing their level of professional scepticism. Explanations need to be provided on why minutes should be detailed, such as minutes of the procurement meetings. The minutes should also be complete and transparent. The accountants should also emphasise fairness to the suppliers.

The accountants in the public sector can be seconded to the Auditor General's Office. The secondment would expose the accountants to the various types of fraud or misappropriation that may occur in the public sector. This exposure can alert them to the possibility of fraud or misappropriation and, ultimately, allow them to take preventive measures when performing

their tasks. In addition, accountants in the public sector can also form part of the audit team in the Auditor General's Office if the Auditor General offers sub-contract works to private audit firms. Again, this exercise would allow the accountants to gain more exposure to the types of fraud or misappropriation in the public sector.

Accountants in the public sector can also be invited to public and private universities as guest speakers at conferences or as guest lecturers in the classrooms so that they can share their practical experience, particularly regarding professional scepticism. Furthermore, they could introduce existing and new terminologies in the accounting world. In addition, accountants in the public sector can also be introduced to fraud cases by utilising the current and latest technology available in the market. This knowledge would allow them to perform their tasks more effectively and efficiently. Finally, a policy requiring job rotation among the accountants is necessary to increase the accountants' experience and knowledge and, consequently, increase their level of professional scepticism.

This study is not without limitations. The accountants' participation in the public sector was reasonably small compared to its population. However, the number is considered sufficient to achieve the objectives of this study. The participants in the qualitative study were limited to 16 participants. However, the data were considered sufficient as the responses were relatively similar in all locations. Secondly, the participants who participated in this study are located in specific states: Johor, Pahang, Selangor, Putrajaya and Sarawak. These locations were selected to represent the Federal, west, east, south zone. The North zone was excluded as the participants in this zone participated during the construction of the questionnaire and pilot study. Due to time constraints, participants in other states were not included.

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# The Impact of Oil Price and Government Expenditure on Economic Growth in Malaysia

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## Abstract

**Purpose:** This study examines the impacts of oil prices and government expenditure on economic growth in the context of Malaysia.

**Methodology:** The time series monthly data from 2000 to 2021 has been considered for this study and examined by the Auto Regressive Distributed Lag (ARDL) model for short and long-run observations.

**Findings:** The finding reveals that the oil price has a favourable impact on both short- and long-term economic growth; hence, Malaysia is practically an oil exporter. Despite the instability of oil prices, the country generates a significant amount from the sector. As oil price rises, economic activities are eventful. The government allocates more funds to various productive areas of the nation from the oil sector-generated revenue. Government expenditure has a considerable positive effect on economic growth in the short and long run.

**Practical Implications:** The investigation results indicate that oil prices and government expenditure favourably impact Malaysia's economy in the short and long term.

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**Originality/Value:** Based on the data, policymakers could re-evaluate government expenditures to lubricate the wheels of economic growth while keeping an eye on the volatility of oil prices, contributing to oil revenues.

**Keywords:** Oil price, government expenditure, economic growth.

## 1.0 Introduction

Crude oil is one of the most important energy sources, accounting for around forty percent of the world's energy consumption (Chen et al., 2020). The persistent instability of the global economy and global consumer price index demonstrates the significance of crude oil to the global economy. Moreover, crude oil is significantly more vital to the economies of oil-exporting nations. The oil industry produces a significant portion of national revenue, which in turn adds to the total national expenditures of such nations (Nyangarika, 2018; Emmanuel, Olamide & Henry, 2018; Ologunde, Kapingura & Sibanda, 2020). Hoyler (2021) and Su et al. (2021) concur that oil sector revenue is one of the most important sources of revenue for oil-producing nations such as Saudi Arabia, Russia, Iran, Nigeria, etc. This revenue aids in the formulation of a large budget. It promotes economic growth through a variety of channels, including infrastructure development, capital formation, job creation, research and development enhancement, and other areas (Youssef & Mokni, 2019; Mo et al, 2019; Jahangir & Dural, 2018).

Since the recent oil market shocks brought on by the Covid-19 epidemic and the Russia-Ukraine conflict, scholarly literature has stressed the significance of oil sector dynamics in macroeconomics (Su et al., 2021; Mo et al, 2019; Jahangir & Dural, 2018). According to Su et al. (2021), oil market volatility is highly damaging to economic growth in both oil-exporting and oil-importing nations. According to studies, a decline in the oil market reduces oil exporters' earnings from the sector, while an increase in the oil market harms oil-importer nations and vice versa (Dong et al., 2020; Alao & Payaslioglu, 2021). In addition, being a worldwide factor, the oil market is intricately related to local and international macroeconomic variables, as demonstrated by numerous research (Yıldırım, Erdoğan & Çevik, 2018; Hoyler, 2021; Chen et al., 2020). As an oil exporter, the sector contributes significantly to Malaysia's national economy. Shangle & Solaymani (2020) state that Malaysia's crude oil sector contributed almost nine percent of the real gross domestic products (GDP) in 2010. Balcilar et al. (2019) and Dutta et al. (2021) believe that oil market volatility is important for the economy of Malaysia. The studies also find that the oil market plunge is negatively affecting economic growth by shrinking the government aggregate expenditures in development sectors of the country, while the rise in the oil market generates more revenue that support more significant government expenditure and motivates economic activities of Malaysia. Al-hajj, Al-Mulali & Solarin (2021) and Enamul Hoque et al. (2019) crude oil market shock has considerable impacts on the economy of Malaysia, the shock amplifies the geopolitical risks, international trade and FDI inflows which also impact national revenue collection and economic growth of Malaysia.

According to another group of research, oil revenues have substantially contributed to the large government expenditures of recent decades, which have laid the framework for Malaysia's prosperity (Hamzah et al., 2013; Saudi et al., 2019; Aslam et al., 2022; Shangle & Solaymani, 2020). According to several studies, the oil sector of Malaysia continues to account for a significant proportion of government spending, but these funds are rarely allocated to development sectors in favour of operating expenses, welfare expenditures, subsidies, and other welfare transfers (Li & Solaymani, 2021; Talha et al., 2021). Therefore, the oil sector's contribution is evident in terms of expenditures but has little effect on economic growth. Moreover, during the COVID-19 epidemic, the global demand for petroleum plummeted, as did Malaysia's revenue from the sector. As a result, Malaysia's GDP development slowed drastically (Hadi et al., 2019; Dutta et al., 2021). In addition, the Russia-Ukraine crisis-induced supply chain disruptions are adding to global oil market volatility (Onour & Abdo, 2022). Malaysia's oil market may have an effect as a global variable, which could affect government spending and economic growth.

Several causes drive this research. First, as an aspirant nation, Malaysia desires to increase its per capita income and advance from an emerging market economy to a developed economy (Subramanie et al., 2020; Isa, Sivapathy & Kamarruddin, 2021). As a result, the country projected an annual economic growth rate, while Malaysia's growth rate has been declining and essentially static for the past decade. Since 2000, the oil market's contribution to national expenditures through national revenue has dropped, according to certain studies (Miranda, 2019). And it could be the reason for the country's poor growth or economic stagnation. Therefore, studies on the impact of oil market dynamics on Malaysia's economic growth via government spending are required to investigate the sluggish growth reasons.

Second, the relevance of the oil market is currently of the utmost importance not just in Malaysia but also in other oil exporting and importing nations due to the reliance on oil revenues for budgetary funding (Emmanuel, Olamide & Henry, 2018; Ologunde, Kapingura & Sibanda, 2020). The globe is experiencing a big oil demand shock due to COVID-19. As an oil-exporting nation, Malaysia loses a significant amount of anticipated money from the industry that might fund its government expenditures (Dutta et al., 2021). Concurrently, the Russia-Ukraine conflict interrupts the oil market's supply chain and substantially impacts oil prices (Adekoya et al., 2022; Nerlinger & Utz, 2022). This quick price hike enables the Malaysian oil industry to reap substantial profits. As a result, the issue is anticipated to influence the nation's economic growth via national expenditures. These factors also compel us to analyse the influence of oil market volatility on economic growth in Malaysia via government spending.

Third, substantial research has been undertaken on the dynamics of the oil market, government spending, and economic growth in the context of major oil producers such as Russia, Saudi Arabia, Iran, Brazil, OPEC nations, and other oil exporting nations (Su et al., 2021; Mo et al, 2019; Jahangir & Dural, 2018). While few studies examine the relationship between the oil market and economic growth in Malaysia, the government expenditure correlation is ignored (Al-hajj, Al-Mulali & Solarin, 2021; Enamul Hoque et al., 2019). The few

studies conducted in Malaysia have primarily focused on oil production and national revenue, oil production expenditure and oil market revenue, the contribution of the oil sector relative to other nations, oil market shocks and the national economy, and the effect of oil on economic growth (Nerlinger & Utz, 2022; Mo et al, 2019; Jahangir & Dural, 2018; Enamul Hoque et al., 2019).

However, the available literature does not analyse the impact of the oil market on economic growth in Malaysia as directed by government spending. To address a blankness in the research, the current study proposes to investigate the effects of oil prices and government spending on economic growth in Malaysia. The study also provides practitioners and officials in the country with some policy recommendations to establish appropriate policies on the oil market for rapid economic growth.

## 2.0 Literature Review

As the oil business is one of the most important revenue-generating sectors for oil exporters, several studies analyse the oil sector's impact on various economic issues. As a landmark research, Hamilton (1983) focuses primarily on the oil sector dynamics at the national level and the effect of oil prices on macroeconomic activities. The ground-breaking study concludes that the impact of oil prices on American macroeconomics is substantial and that oil price swings are also accountable for the nation's economic recessions.

In the context of oil exporters, many studies evaluate the impact of the oil sector on economic growth. For example, the oil price is closely tied to the economies of OPEC nations (Razek & Michieka, 2019). According to studies, the energy market, particularly the oil industry, is one of the most important determinants in the success of producing nations (Cai et al., 2022; Baek, Ikponmwoosa & Choi, 2019). According to the study, the oil sector contributes to economic growth through tax collection and supports growth elements through government spending in these nations.

On the other hand, Li, Huang, and Failler (2022) and Su et al. (2021) claim that oil price shocks have no or only minor effects on the macroeconomy if oil prices fluctuate minimally. The study employs a threshold regression model and concludes that oil price fluctuations above a certain threshold level significantly affect the economy. Rafiq et al. (2021) find that oil price changes significantly impact government expenditures since oil-exporting nations earn a substantial amount of money from the sector. In addition, the analysis reveals that oil importers spend enormous amounts of money on government expenditures; as a result, oil price shocks significantly affect the economies of oil importers channelled through government expenditures.

Al-hajj, Al-Mulali, and Solarin (2021) and Enamul Hoque et al. (2019) claim that oil price shock used to have a significant impact on government expenditure and economic growth in Malaysia. Still, the effect has been diminishing in recent years due to economic diversifications. Similarly, some research concludes that the oil price is closely tied to Malaysia's economic

growth because it continues to generate revenue (Shangle & Solaymani, 2020; Sun, Lu & Solaymani, 2021).

Another group of studies confirms that oil price volatility has a significant impact on the fiscal budget and economic growth of oil-exporting nations, such as Saudi Arabia, Russia, Iran, Iraq, Kuwait, Nigeria, Malaysia, and others (Dong et al., 2020; Alao & Payaslioglu, 2021; Hoyler, 2021, Chen et al., 2020). According to Shangle & Solaymani (2020), the Malaysian economy and the majority of industries benefit from rising oil prices and suffer from falling oil prices.

The country's economy benefits from the shocks since extensive revenue collections help the financial sector and reinvestment, while low oil prices benefit productive sectors by cutting operational expenditures. According to Husaini et al. (2019), oil price volatility significantly impacts the producer pricing index in Malaysia and inhibits long-term economic growth. According to studies, a rise in oil prices is strongly correlated with Malaysia's government spending, capital creation, and inflation rate but it is also conducive to economic growth (Talha et al., 2021; Musa & Majjama'a, 2020). Therefore, the findings confirm that the Malaysian oil industry is an important sector contributing significantly to government expenditures, affecting economic growth in advance.

Numerous past research has also focused on oil price shocks, government spending, and economic development in various sample settings. Polbin, Skrobotov, and Zubarev (2020) and Ebi and Aladejare (2022) find that an oil price shock could significantly impact the budgeting process and economic growth through its effect on revenue collection. Several further investigations concur with similar conclusions (Adekoya et al., 2022; Nerlinger & Utz, 2022). Tang & Al Qahtani (2020) claim that oil price and economic growth are closely intertwined for oil exporters. A drop in oil price might have cut the inflation rate and stabilised the economy, but it also affected the employment rate and economic growth trade. Aloui et al. (2018) suggest that oil price volatility boosts government oil sector subsidies, resulting in a massive expenditure of government funds for oil price stabilisation. The research further asserts that the oil industry subsidy restricts the allocation of government expenditures to other development sectors, which depresses economic activity due to a lack of capital. This dilemma parallels the Malaysian situation during times of high oil prices. Dutta et al. (2021) and Ologunde, Kapingura, and Sibanda (2020) reach comparable conclusions regarding oil price volatility, government spending, and economic growth in Malaysia.

The problem of oil prices, government spending, and economic growth has been widely examined in prior research. However, most of the study focuses on the leading oil exporting nations, such as Saudi Arabia, Iran, the Russian Federation, and the other OPEC and Sub-African oil exporting nations. While most previous research focuses on oil industry dynamics, Malaysia is omitted as a case study. Some studies examine the Malaysian context but exclude oil prices, government spending, and economic growth from a single analysis. In addition, most available research employs a static estimating model with a fixed effect.

Therefore, the current study incorporates the factors in a single study, along with a few control variables, and examines the influence using a robust ARDL model to offer short- and long-run impacts.

### 3.0 Methodology

#### 3.1 Data

The study uses quarterly time series data since 2000 to 2021. The crude oil price data has been collected from the Energy Information Administration (EIA) USA, while the government expenditure data (log) has been collected from the Accountant General's Department of Malaysia, and the log from GDP per capita used as the proxy of economic growth and collected from the World Bank.

**Table 1: Variable Description and Data Sources**

| Variable                     | Definition  | Source   | Scale of Measurement   |
|------------------------------|---|--|--|
| Log Economic Growth (LGDP)   | GDP is obtained by dividing the gross domestic product by the total population.                                 | World Development Indicators (WDI)<br>The World Bank | GDP Per Capita<br>(Constant US \$ 2015)                          |
| Oil Price (OIL)              | Daily actual oil price per barrel according to West Texas Intermediate.   | U.S. Energy Information Administration               | Oil price per barrel in USD                                      |
| Government Expenditure (LGE) | Government expenditure.   | Accountant General's Department of Malaysia          | Nominal expenditure  |
| Trade Openness (TO)          | Trade is the sum of imports and exports of services and goods % of GDP.   | World Development Indicators (WDI)                   | Trade (as % of GDP)  |
| Labour Force (LF)            | LF includes people ages 15 and older who supply labour to produce goods and services during a specified period. | World Development Indicators (WDI)                   | Population aged (15 and above). Per cent of the total population |

#### 3.2 Empirical Model

We estimated the following econometric form of a model for the current study:

$$LGDP_t = \alpha_1 + \alpha_2 OIL_t + \alpha_3 LF_t + \alpha_4 TO_t + \alpha_5 LGE_t + \mu_t$$

Where  $\alpha_1$  is constant and  $\alpha_2$  to  $\alpha_5$  indicates coefficients of estimates of GDP per capita concerning labor force (LF), trade openness (TO), government expenditures (GE), and oil price (OIL), respectively. The study utilises quarterly data of Malaysia from 2000 to 2021. GDP, LF and TO data has been obtained from the World Development Indicators. OIL (crude oil price) has been collected from the Energy Information Administration (EIA) and the GE data has been collected from Accountant General's Department of Malaysia. To overcome the probe of

heteroscedasticity, GDP and GE are transformed into a natural log as LGDP and LGE. GDP per capita is also used as the proxy of economic growth.

### 3.3 Unit Root Test

An augmented Dickey-Fuller test (ADF) in statistics and econometrics tests the null hypothesis that a unit root exists in a time series sample. The alternative hypothesis varies based on the test version employed, but it is typically stationarity or trend-stationarity. It is an improved version of the Dickey-Fuller test for a broader, more complex collection of time series models.

The test follows the form of

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta \Delta y_{t-1} + \dots + \delta_{p-1} \Delta y_{t-p-1} + \varepsilon_t$$

Where  $\alpha$  is a constant,  $\beta t$  is the coefficient on a time trend and  $\Delta y_{t-p-1}$  is the lag order of the autoregressive process. Imposing the constraints  $\delta \Delta y_{t-1}$  corresponds to modelling a random walk and  $\delta_{p-1} \Delta y_{t-p-1}$  using the constraint corresponds to modelling a random walk with a drift. While  $\varepsilon_t$  is the error correction.

### 3.4. ARDL Bounds Test Approach to Cointegration

The study employs the ARDL approach to assess the connection oil price, government expenditure and economic growth. This estimation framework has been developed and constructed by (Pesaran, Shin, & Smith, 2001). This estimation method has the following benefits over other approaches for cointegration. This technique uses Auto Regressive Distributed Lag (ARDL) and chooses suitable lag order for the model (Sohag et al., 2015). This technique is appropriate for variables that have integrated order I(0) or I(1) but not for I(2) (Pesaran & Pesaran, 1997). This method is suitable and valid for a small sample size (Mah, 2000; Pattichis, 1999). The ARDL bound test takes the form to test the bond test considering the study's variables. The technique is also able to provide short-term and long-term estimations.

$$\begin{aligned} LGDP_t = & \beta_0 + \beta_1 OIL_{t-1} + \beta_2 LF_{t-1} + \beta_3 TO_{t-1} + \beta_4 LGE_{t-1} + \beta_5 D1_{t-1} + \beta_6 D2_{t-1} \\ & + \sum_{i=0}^n \beta_7 \Delta LGDP_{t-i} + \sum_{i=1}^n \beta_8 \Delta OIL_{t-i} + \sum_{i=0}^n \beta_9 \Delta LF_{t-i} + \sum_{i=0}^n \beta_{10} \Delta TO_{t-i} \\ & + \sum_{i=0}^n \beta_{11} \Delta LGE_{t-i} + \mu_t \end{aligned}$$

Where  $\ln LGDP_{-t}$  indicates the logarithmic form of gross domestic products per capita, and  $b_0$  indicates the intercept.  $\sum_{i=0}^n \beta_{10} \Delta LGDP_{t-i}$ ,  $\sum_{i=1}^n \beta_8 \Delta OIL_{t-i}$ ,  $\sum_{i=0}^n \beta_{12} \Delta LF_{t-i}$ ,  $\sum_{i=0}^n \beta_{13} \Delta TO_{t-i}$  and  $\sum_{i=0}^n \beta_{14} \Delta LGE_{t-i}$  the values of lag difference  $\Delta LGDP_{t-i}$ ,  $\Delta OIL_{t-i}$ ,  $\Delta LF_{t-i}$ ,  $\Delta TO_{t-i}$ , and  $\Delta LGE_{t-i}$ , respectively. Finally,  $\mu_t$  indicates the error terms, which is the summation of the coefficients  $\beta_7$ ,  $\beta_8$ ,  $\beta_9$ ,  $\beta_{10}$  and  $\beta_{11}$ .

### 3.5 Gregory Hansen Cointegration Test

We utilised the Gregory Hansen Cointegration (G-Hansen) Test developed by Gregory & Hansen (1996) to examine the robustness of the ARDL bounds test of cointegration. The authors developed this test by extending Hylleberg, Engle, Granger, & Yoo (1990). The null hypothesis of G-Hansen shows no cointegration at a breakpoint while the alternative hypothesis indicates cointegration at a breakpoint. When the cointegration relationship is confirmed, the ARDL test is applied to interrogate coefficients during the long and short run. Short-term findings also include the error correction term, which specifies the convergence speed to overcome the short-run disequilibrium and leads to equilibrium in the long run.

## 4.0 Results and Discussion

### 4.1 Variable Descriptive Statistics

Table 2 demonstrates the descriptive statistics of the concerned variables, including the model. The Table contains the mean, median, maximum, minimum and standard deviation. Besides, it also provides some tests, i.e., Skewness and Jarque-Bera, that determine the data distribution stability. The Jarque-Bera test shows that the data are normally distributed. At the same time, the Skewness test results indicate that the data trends are mixed due to the negative and positively skewed. Additionally, the Kurtosis results show that the data distribution is normal.

**Table 2: Descriptive Statistics**

|              | LGDP     | LF       | LGE      | TO       | OIL      |
|--------------|----------|----------|----------|----------|----------|
| Mean         | 3.8650   | 63.7808  | 10.6160  | 189.8925 | 57.1043  |
| Median       | 3.8700   | 63.9750  | 10.6720  | 196.7800 | 58.2116  |
| Maximum      | 3.9300   | 65.2300  | 10.7793  | 220.4100 | 123.9533 |
| Minimum      | 3.8000   | 60.4300  | 10.2396  | 154.9400 | 20.4000  |
| Std. Dev.    | 0.0437   | 1.2688   | 0.1301   | 20.9704  | 27.2462  |
| Skewness     | -0.0892  | -1.3079  | -0.9663  | -0.4933  | 0.5366   |
| Kurtosis     | 1.6506   | 4.5700   | 3.2110   | 1.9199   | 2.3860   |
| Jarque-Bera  | 3.7051   | 18.6164  | 7.5596   | 4.2798   | 3.0575   |
| Probability  | 0.1568   | 0.00009  | 0.0228   | 0.1176   | 0.2168   |
| Sum          | 185.5200 | 3061.480 | 509.5716 | 9114.840 | 2741.007 |
| Sum Sq. Dev. | 0.0900   | 75.6635  | 0.7963   | 20668.70 | 34890.82 |
| Observations | 48       | 48       | 48       | 48       | 48       |

Where,

LGDP = Log form of GDP per capita

OIL = Oil price

LGE = Log form of government expenditure

LF = Labour force

TO = Trade openness

#### 4.2 Unit Root Test Results

The augmented Dickey Fuller Test results show that the government expenditure is significant by a 10% significance level without taking any lag. The result of the first difference shows that all the concentrated variables are significant. Additionally, the Phillip-perron unit root test also shows similar results. So, the variables have no unit root, and we can proceed with further analysis.

**Table 3: Results of Augmented Dickey-Fuller and Phillips-Perron Unit Root Tests**

|      | Augmented Dickey-Fuller Unit Root Test |             | Phillips-Perron Unit Root Test |            |
|------|--|-------------|--------------------------------|------------|
|      | Level                                  | First diff  | Level                          | First diff |
| LGDP | -1.9231                                | -6.4012***  | -0.8303                        | -10.1930   |
| LF   | -1.1057                                | -5.1937***  | -1.1443                        | -9.1096*** |
| LGE  | -2.6815*                               | -10.4280*** | -3.3443**                      | -9.2582*** |
| TO   | -1.5640                                | -5.8504***  | -1.4488                        | -9.7359*** |
| OIL  | -2.0366                                | -5.8462***  | -2.1060                        | -7.2099*** |

Note: \*, \*\*, \*\*\* denotes level of significance at 10%, 5%, 1%.

Where,

LGDP = Log form of GDP per capita

OIL = Oil price

LGE = Log form of government expenditure

LF = Labour force

TO = Trade openness

#### 4.3 Correlation Matrix

Table 4 shows the correlation matrix of the variables. Government expenditure and the oil price positively correlated with economic growth. It implies that if government expenditure or oil price increases by one unit, the economic growth increases by 0.360 and 0.397 units. Table 4 shows that if the oil price increased by one unit, the government expenditure also increased by 0.758 units. However, the coefficients of the control variables are mostly negative on economic growth.

Table 4 depicts the correlation matrix of the variables. The correlation matrix shows that the LF and TO negatively correlate with GDP per capita. At the same time, the LGE (log government expenditure) and OIL are positively correlated with the LGDP (log GDP).

**Table 4: Correlation Matrix of Regressors**

|      | LGDP   | LF     | LGE    | TO     | OIL   |
|------|--------|--------|--------|--------|-------|
| LGDP | 1.000  |        |        |        |       |
| LF   | -0.458 | 1.000  |        |        |       |
| LGE  | 0.360  | -0.609 | 1.000  |        |       |
| TO   | -0.422 | 0.532  | -0.705 | 1.000  |       |
| OIL  | 0.397  | -0.569 | 0.758  | -0.675 | 1.000 |

Where,

LGDP = Log form of GDP per capita

OIL = Oil price

LGE = Log form of government expenditure

LF = Labor force

TO = Trade openness

#### **4.4 Short-term Results ARDL**

This section of this study provides different regression results, including short-term and long-term results using the ARDL model. First, the study estimated short-term analysis; then, to check the long-run relationship, this study uses ARDL bound test. Based on the bound test results, the study also estimates long-term estimation.

Table 5 shows the relationship between this study's dependent and independent variables using the ARDL approach. The coefficient of ECM is -0.805537, and the P-value is lower than 0.05 meaning the coefficient is negative and significant. The coefficient of ECM shows that the divergence of the economic growth (LGDP) from the long-run path is corrected by around 80 per cent over the following year. At the same time, the coefficients of oil and government expenditure are positive. While the results of R-square 0.537087 and the F-statistics 9.513893 are positive as well. Besides, the Prob(F-statistics) is also below 0.05, which allows the study to examine the long-run relationship of the variables.

**Table 5: Short Term Results Using ARDL Approach**

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.     |
|--------------------|-------------|-----------------------|-------------|-----------|
| C                  | 3.426730    | 0.520721              | 6.580738    | 0.0000    |
| @TREND             | 0.002720    | 0.000413              | 6.590752    | 0.0000    |
| D(LGE)             | 0.001201    | 0.017205              | 1.069819    | 0.0947    |
| D(OIL)             | 0.000140    | 7.55E-05              | 1.854505    | 0.0717    |
| D(TO)              | 0.000140    | 0.000182              | 0.766139    | 0.4485    |
| ECM                | -0.805537   | 0.122454              | -6.578274   | 0.0000    |
| R-squared          | 0.537087    | Mean dependent var    |             | 0.002553  |
| Adjusted R-squared | 0.480634    | S.D. dependent var    |             | 0.008201  |
| S.E. of regression | 0.005910    | Akaike info criterion |             | -7.305581 |
| Sum squared resid  | 0.001432    | Schwarz criterion     |             | -7.069392 |
| Sum squared resid  | 0.001432    | Schwarz criterion     |             | -7.216701 |
| Log likelihood     | 177.6811    | Hannan-Quinn criter.  |             | 1.798606  |
| F-statistic        | 9.513893    | Durbin-Watson stat    |             |           |
| Prob(F-statistic)  | 0.000004    |                       |             |           |

Where,

LGDP = Log form of GDP per capita

OIL = Oil price

LGE = Log form of government expenditure

LF = Labour force

TO = Trade openness

#### **4.5 Bound Test Results**

Table 6 provides a picture of the ARDL bond test results. The value of F-statistics is 7.810373, which is higher than the lower bound of 3.03 and upper bound of 4.06 at a 10% significance level. Besides, the F-statistics are also higher from lower and upper bounds at 5% and 2.5% and show a 1% significance level. The ARDL bound test results imply that the long-run relationship between the dependent and independent variables exists.

The T-statistics of the ARDL bound test is -5.956726, which is also higher than the lower bound -3.13 and the upper bound -4.04 at a 10% significance level. At the same time, by the 5% significance level, the lower bound is -3.41 and the upper bound is -4.36; besides, by the 2.5% significance level, the lower bound is -3.65 and the upper bound is -4.62, and by the 1% significance level the lower bound is -3.69 and the upper bound is -4.96. The T-statistics imply once to confirm that the dependent and the independent variables have a long-run relationship.

**Table 6: ARDL Bounds TEST**

| F-Bounds Test      |           | Null Hypothesis: No Levels Relationship |       |       |
|--------------------|-----------|---|-------|-------|
| Test Statistic     | Value     | Signif.                                 | I(0)  | I(1)  |
| Asymptotic: n=1000 |           |   |       |       |
| F-statistic        | 7.810373  | 10%                                     | 3.03  | 4.06  |
| k                  | 4         | 5%                                      | 3.47  | 4.57  |
|                    |           | 2.5%                                    | 3.89  | 5.07  |
|                    |           | 1%                                      | 4.4   | 5.72  |
| t-Bounds Test      |           | Null Hypothesis: No Levels Relationship |       |       |
| Test Statistic     | Value     | Signif.                                 | I(0)  | I(1)  |
| t-statistic        | -5.956726 | 10%                                     | -3.13 | -4.04 |
|                    |           | 5%                                      | -3.41 | -4.36 |
|                    |           | 2.5%                                    | -3.65 | -4.62 |
|                    |           | 1%                                      | -3.96 | -4.96 |

#### 4.6 Long-run Results ARDL

Table 7 demonstrates the long-run relationship of the variables using the ARDL approach. The coefficient of oil price (OIL) is 0.000375, which is positive, and the P-value shows the significance level is 0.0002, which is lower than 0.05. It implies that the impact of oil price is highly significant on economic growth by a one percent significance level. The coefficient of government expenditure (LGE) is 0.041978, and the P-value is 0.0130, which is lower than 0.05 and implies that government expenditure is also positively related to long-term economic growth, with a significant coefficient.

**Table 7: Long Run Coefficients Using ARDL Approach Levels Equation**

| Case 5: Unrestricted Constant and Unrestricted Trend |             |            |             |        |
|--|-------------|------------|-------------|--------|
| Variable   | Coefficient | Std. Error | t-Statistic | Prob.  |
| LF   | -0.002250   | 0.001243   | -1.810344   | 0.0784 |
| LGE  | 0.041978    | 0.025107   | 1.671965    | 0.0030 |
| OIL  | 0.000375    | 9.07E-05   | 4.137621    | 0.0002 |
| TO   | 0.000522    | 0.000140   | 3.722004    | 0.0007 |

EC = LGDP - (-0.0022\*LF 0.0420\*LGE + 0.0004\*OIL + 0.0005\*TO)

#### 4.7 Diagnostic Results

Table 8 provides the results of some diagnostic tests of the estimation. The F-statistics result of Heteroskedasticity is 0.9375, and the probability is 0.3382. If the probability remains lower than 0.05, then the data used have a heteroskedasticity problem. The probability of heteroskedasticity shows the probability value is upper than 0.05. So, the date of this study has homoskedasticity rather than heteroskedasticity, which allows the study to run further

estimation. To confirm the normal distribution of the data in the study, we perform several other tests, i.e., the Breusch-Godfrey Serial Correlation LM Test and the Jarque Bera Test for Normality. The F-statistics of the tests are 1.2333 and 1.2643, respectively. And the probability value of both tests is upper than 0.05. It implies that the data distribution is very strong, and there is no heteroscedasticity serial correlation and no abnormality.

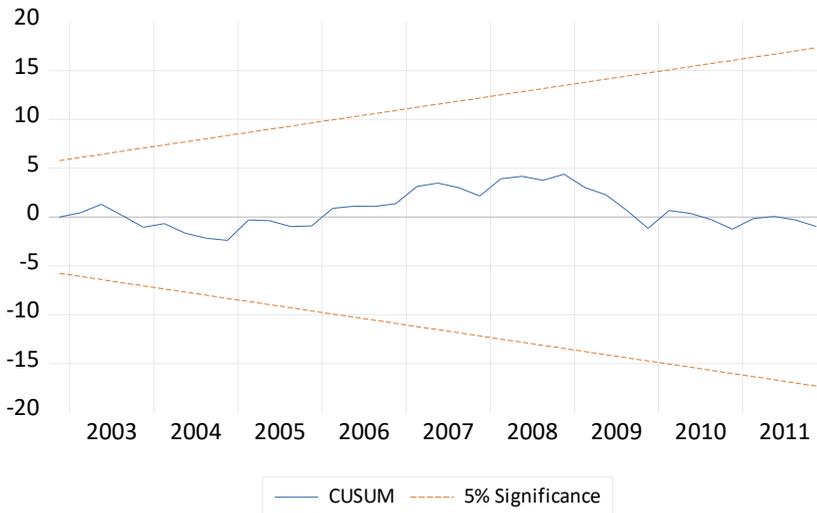
**Table 8: Diagnostic Tests**

|  | F-statistics | Probability |
|--|--------------|-------------|
| Heteroskedasticity Test: ARCH              | 0.9375       | 0.3382      |
| Breusch-Godfrey Serial Correlation LM Test | 1.2333       | 0.3037      |
| Jarque Bera Test for Normality             | 1.2643       | 0.5314      |

**4.8 Cumulative Sum of Recursive Residual Plot**

Graph 1 shows the graphical results of data distribution by the Cumulative Sum of Recursive Residuals. The CUSUM plots stay within the lines, confirming that the model is stable and accurately specified. The chosen model appears robust and accurate in assessing the short-run and long-run relationship between the determinants under consideration.

**Graph 1: Plot of Cumulative Sum of Recursive Residuals**

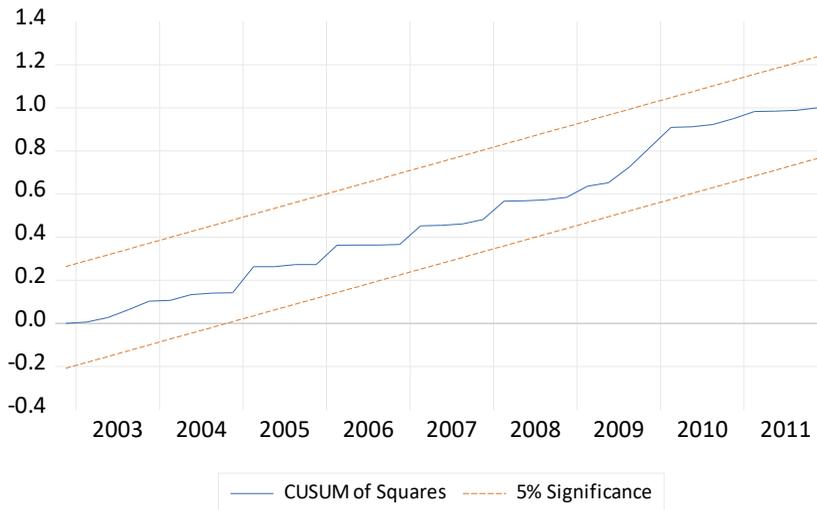


Source: Author Compilation from ARDL Estimation Technique

**4.9 Cumulative Sum of Square of Recursive Residual Plot**

Graph 2 shows the graphical results of data distribution by the Cumulative Sum of Squares of Recursive Residuals. The plots stay between the lines, confirming that the model is stable and accurately stated. The chosen model appears robust and accurate in assessing the short-run and long-run relationship between the examined factors.

**Graph 2: Plot of Cumulative Sum of Squares of Recursive Residuals**



Source: Author Compilation from ARDL Estimation Technique

#### 4.10 Discussion

The research explores the effect between oil prices and government spending to economic growth in Malaysia. The 2000-2021 time series data of the variables investigated by the ARDL model reveal that oil prices benefit Malaysia's economic growth. Suppose a country is able to create more revenue from the oil sector. In that case, it can generate more economic growth through various avenues, including increased investment, infrastructure development, human development, social and welfare development, research and innovation, etc. The findings are consistent with several earlier investigations (Adam, Rahim & Rosnawintang, 2019; Alom, 2015).

On the other hand, research indicates that a rise in oil revenue due to a high price harms economic activity (Talha et al., 2021; Musa & Maijama'a, 2020). As a result of the relationship between the price of oil and every area of a country's economy, from the agricultural to the industrial, rising oil prices negatively influence domestic growth (Dutta et al., 2021). In addition, some research indicates that the Malaysian government offers substantial energy sector subsidies to boost the country's productive industries (Lahiani et al., 2019). Therefore, the oil sector has a steady positive effect on Malaysia's economy.

The coefficients of government expenditure are likewise positive for the short-term periods. Even though oil revenue contributes to government expenditures, the country has several ways to fund government expenditures. During the analysed period, Malaysia incurred many public obligations and maintained positive economic growth from the government expenditure but at a minimal level (Hasnul, 2015).

The study also investigated the long-term impact of oil prices and government expenditure on economic growth. The results indicate that oil prices and government expenditure are favourably associated with long-term economic growth. The results suggest that oil revenues and government expenditures are essential to Malaysia's economy. Several studies proved

that the oil industry and government expenditure play critical roles in Malaysia's long-term economic growth (Hasnul, 2015; Shangle & Solaymani, 2020). Despite the Malaysian government pursuing an expansionary fiscal policy and increased government expenditure more than its aggregate revenue in recent decades but still, the country is able to run the economy positively (Lahiani et al., 2019; Alom, 2015), while the oil sector revenue and government expenditure have remained crucial to economic growth.

## 5.0 Conclusion

This study investigates the effect of oil prices and government expenditure on economic growth in Malaysia. This study concludes that oil rent and government expenditure contribute positively and significantly to Malaysia's short- and long-term economic growth. The findings are consistent with several earlier investigations (Adam, Rahim & Rosnawintang, 2019; Alom, 2015). Malaysia is one of the oil exporters, and the oil industry generates substantial revenue for the country's economy. Additionally, this revenue is invested in several industries and productive sectors through government expenditure, thus contributing to the national economy. Additionally, the results indicate that oil prices and government expenditure are favourably associated with the long-term economic growth of Malaysia. The results suggest that oil prices and government expenditures are essential to Malaysia's economy. However, we obtain the results by deploying the ARDL method for this study's time series data from 2000 to 2021.

This study has a number of implications and contributions, i.e., in policy, theoretical perspective and the body of knowledge. First, policymakers should make supportive policies so that the country can benefit continuously from the oil sector. Moreover, the globalised world is extremely concerned about carbon emissions, and the oil sector contributes to their increase. Consequently, governments should observe global carbon emission policies and formulate national oil policy critically to simultaneously address global and national oil sector interests.

Second, there is a paucity of literature on the impact of the oil sector on economic growth in oil-exporting Malaysia, considering government expenditures. Consequently, this study contributes to the topic in light of rigorous econometric model on the economic growth of Malaysia. Thus, the current study fills the gap in the relevant literature in the context of Malaysia. In addition, this study includes extensive short- and long-term evidence on the dynamics of the oil sector, government expenditure, and economic growth.

In addition to the study's robustness, some limitations are also highlighted. The research focused solely on Malaysia. Due to its reliance on monthly data, the study may be limited in its ability to describe the impact of the oil industry, government spending, and economic growth from yearly and daily perspective. The study employs the ARDL model for the estimate, although the CS-ARDL or other dynamic models might provide more robust results.

Given the limitations of the present study, there are several suggestions for further research. To understand the dynamics of oil sector, government expenditure, and economic growth, a future study may first focus on a few nations or regional oil exporters. Future research can be undertaken utilising annual and daily data and additional econometric models, such as CS-ARDL, quantile via moment, threshold regression, etc., to investigate the topic from various

angles. To study the relationship between oil price dynamics and oil rents, future research can consider additional variables, such as investment, inflation, trade, etc.

**Data Availability Statement:** Will be provided upon request.

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## Potential Adoption of Integrated Reporting – Case Study of a City Council

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### Abstract

**Purpose:** The purpose of the study is to examine the potential of Integrated Reporting (IR) adoption by a city council through the identification of its enablers and challenges.

**Design/Methodology/Approach:** The study utilised a qualitative interpretative case study of a city council that has the potential to pioneer IR adoption among local authorities. Data collection involved in-depth interviews as well as document analysis.

**Findings:** Findings from this study indicates that IR, which was originally seen as a private sector initiative, has relevance and application to public sector organisations. Challenges faced by the respondent to implement IR is the lack of knowledge on how to prepare the IR in tying together numerous aspects that can meet the requirement of information usefulness to stakeholders. The lack of benchmarking cases for reference and limited information on the cost involved in IR adoption are acknowledged as challenges. Training, management support and innovative culture are considered IR enablers at City Council ONE.

**Research Limitation:** This study is exploratory in nature as a single case study is used, and City Council ONE has not adopted IR.

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**Practical Implication:** Identifying challenges and enablers is important for city councils to assess their readiness prior to adopting IR. The findings could be used as input to the regulators and other public sector entities to facilitate the implementation of IR.

**Originality/Value:** This study is part of a more extensive research on IR enablers and challenges for Local Authorities of Malaysia.

**Keywords:** Integrated reporting, city council, enablers, challenges.

## Introduction

Generally, conventional financial reporting no longer satisfies the demands of organisations aiming to establish and sustain resilient and responsible operations in the near future and in the medium and long term. The financial statements disclosed in the annual report are based on historical data and are thus retrospective. In contrast, the success of many organisations now rests on other resources, such as the expertise of their employees, their intellectual property produced via research and development, and their interactions with the environments and cultures in which they operate. Integrated Reporting (IR) is more than simply corporate reporting; it is essentially a strategy to operating a corporation that is predicated on a clear grasp of value creation and erosion. Participants in the business supply chain are aware that the integrated reports produced by firms express their internal integrated thinking and management.

IR is a new structure for reporting that integrates financial and non-financial data into a single report. It combines novel reporting concepts that have the potential to alter the corporate reporting environment, enhance investors' capacity to evaluate organisations' future prospects and give answers to the frequent concerns on the weakness of existing accounting reporting models. IR was launched by the International Integrated Reporting Council (IIRC), an organisation with a large worldwide following and support, and by the IIRC's followers, including regulators as well as the accounting profession.

Initially, it was assumed that the IIRC Framework was primarily intended for the private sector; however, its use may be broader: "it may also be utilised and modified as required by the public sector and non-governmental organisations" (IIRC, 2012). Prior research acknowledges the prospect of extending IR operations outside the private sector (Adams and Simnett, 2011; Lodhia, 2015; Bartocci and Picciaia, 2013). Therefore, the public sector needs the appropriate reporting tools in order to effectively communicate accountability and transparency to its stakeholders because of the complex interrelationship between social responsibilities, public accountabilities, and social justice (Lapsley and Skaerbk, 2012), with arguably higher accountability expectations (Ball et al., 2014). Consequently, the public sector needs to take IR into consideration (Biondi and Bracci, 2018; Guthrie et al., 2017). Williams and Lodhia (2021) demonstrate public sector is beginning to engage with IR, albeit at different levels. However, the findings indicate limited organisational change in local council leads to low levels of integrated thinking. In order to help local council management transition from a siloed approach to one that integrates social and environmental issues into routine business

decisions, Williams and Lodhia (2021) provide guidance to local council management in Australia and around the world who are currently considering undertaking IR.

IR has gained interest among regulators, practitioners, and academics. In recent years, IR has gained prominence in the private sector and has attracted attention in the public sector. While companies have shown developments in adopting IR, little is known about IR practices in the public sector in Malaysia. This study is part of a more extensive research on IR enablers and challenges in Local Authorities of Malaysia. The study involved a case study of one city council that has the potential to pioneer IR in local authorities. The purpose of the study is to examine the potential of IR adoption through the identification of its enablers and challenges.

## **Literature Review**

### ***Benefits of Integrated Reporting***

Researchers have also voiced issues about the IIRC Framework's emphasis on the private sector (Oprisor et al., 2016; Rossi and Orelli, 2019). Literature has examined potential benefits that IR could offer the public sector, such as the opportunity to move beyond historical reporting practises (Bartocci and Picciaia, 2013; Cohen and Karatzimas, 2015; Veltri and Silvestri, 2015; Katsikas et al., 2017; Farneti et al., 2019; Montecalvo et al., 2018; Rossi and Orelli, 2019); that can generate more concise and balanced reporting on performance (Graaff and Steens, 2022); and an interconnected view of sustainability (Wijaya and Bens, 2022; Veltri and Silvestri, 2015; Lodhia, 2015; Oprisor et al., 2016).

According to a survey conducted by Black Sun in 2014, organisations from both the public and private sectors reported several key benefits of using integrated reporting (IR). These benefits include creating new opportunities for value creation, enhancing the accuracy of the information being measured, improving decision-making processes, fostering better relationships with stakeholders, and facilitating better communication and collaboration across departments to gain a broader perspective. Graaff and Steens (2022) also found that the adoption of IR has improved their interactions with stakeholders, employees and customers. In addition, integrated reporting could lead the employee to be more empowered to engage in meaningful work (Wijaya and Bens, 2022).

Adhariani and de Villiers (2018) surveyed IR in Indonesia and found a high level of interest among corporate report preparers and other stakeholders but a low level of expertise. The primary reason for implementing IR is to satisfy shareholders and other stakeholders. Adhariani and de Villiers's (2018) findings on perceived advantages were consistent with the MIA-ACCA (2016) survey on Malaysia, which showed that the benefits of IR included fostering integrated thinking, enhancing communication with external stakeholders, and enhancing transparency and governance. Hence, better decision making by focusing on the actual value drivers of business (Mohammed et al., 2020).

Currently, integrated reporting in Malaysia is relatively new because the status is voluntary. In 2017, the Malaysian Code on Corporate Governance (MCCG) incorporated integrated reporting as an emerging phenomenon and the best practice in Malaysia (Mohammed et al., 2020). PwC reported in 2014 that while companies in Malaysia have mastered the basics of reporting, their reporting is not yet integrated. As a result, there is a significant need to

improve communication with stakeholders as the country transitions to integrated reporting. Unfortunately, the value brought by integrated reporting to the business has still not been fully appreciated by the companies in Malaysia (PwC, 2014). Adhariani and de Villiers (2018) identified the perceived motivation and advantages of IR adoption, shown in Table 1.

**Table 1: IR Motivation and Benefits**

| Perceived motivation of IR adoption   | Perceived benefits of IR adoption   |
|---|---|
| <ul style="list-style-type: none"> <li>• To satisfy stakeholders and shareholders</li> <li>• Mandated by corporate regulations</li> <li>• Knowledge that competitors and similar companies are preparing IR</li> <li>• Mandated by accounting profession</li> <li>• Increase accuracy of financial information</li> <li>• Increase transparency</li> <li>• To show the value of utilizing various resources</li> <li>• To publish reports more quickly</li> <li>• To promote integrated thinking in management</li> </ul> | <ul style="list-style-type: none"> <li>• Lower cost of capital</li> <li>• Increase share price</li> <li>• Easier access to capital</li> <li>• Improve transparency and governance reporting</li> <li>• Improve communication with external stakeholders</li> <li>• Promote integrated thinking</li> </ul> |

Source: Adhariani and de Villiers (2018)

Integrated Reporting (IR) offers an excellent opportunity to communicate with all stakeholders by providing a comprehensive view of an organization's activities, strategies, resource utilization, opportunities, risks, financial and non-financial information. An organization can effectively address various conflicting public accountability issues by adopting IR, as noted by Nada (2021) and IIRC and CIPFA (2016).

CIMA (2016) has identified seven public sector organisations, including Fasset (South Africa), NZ Post Group (New Zealand), Rosatom (Russia), The NHS Greenwich Clinical Commissioning Group (GCCG) (United Kingdom), Maritime and Port Authority of Singapore, Auditor-General of South Africa (AGSA), and The Crown Estate (United Kingdom), that have successfully implemented the IR framework, despite differences in size, specialisation, and location. Table 2 outlines the benefits of IR reported by two of these organisations.

**Table 2: IR Benefits Based on Two Public Sector Organisations**

| NZ Post Group, New Zealand   | Rosatom, Russian Federation   |
|--|---|
| <ul style="list-style-type: none"> <li>• Emphasizing the associations throughout the company.</li> <li>• Providing a simpler perspective of the business.</li> <li>• Enhancing the appreciation of the value of non-financial assets.</li> <li>• Facilitating a longer-term view of the business.</li> <li>• A greater emphasis on material concerns.</li> <li>• More internal ownership of the report.</li> </ul> | <ul style="list-style-type: none"> <li>• The IR enables the organisation to show its management quality.</li> <li>• The creation of IR gives managers information that helps with complex decision-making in terms of performance.</li> </ul> |

Source: CIMA (2016)

## ***Integrated Reporting Challenges***

Lodhia and Hess (2014) found that the transition to IR enabled an organisation to differentiate its competitors and other organisations. Public sector institutions have faced many challenges due to the lack of resources, increased variation of activities, diversity of stakeholders and the broad definition of the value creation process. Such development requires public sector organisations to be more accountable and transparent in value creation (Greiling, 2013).

The voluntary nature of IR and the absence of adequate norms discouraged accountants from participating in integrated reporting (Arora, Lodhia and Stone, 2021; Gerwanski, 2020; De Villiers et al., 2017). In similar situations, inadequate norms and the absence of legislation prevented accountants from providing environmental performance data (Laine et al., 2017; Senn and Giordano-Spring, 2020). The lack of a clear understanding of how to approach integrated reporting has led to diverse conceptions of integrated reporting across organisations (Gibassier et al., 2018). Arora, Lodhia, and Stone (2021) discovered that accountants' competence in corporate reporting, understanding of the assurance process, in-depth understanding of an organisation, as well as their analytical and interpersonal abilities were beneficial when writing an integrated report.

Non-financial reporting is predominated by qualitative narratives, with little disclosure of financial facts (Amoako et al., 2017). Arora et al. (2021) discovered that accountants' engagement in IR was restricted because they did not value integrated reporting and found it difficult to transform numerical data into narratives. Numerous accountants lack education, expertise, and experience with narrative social and environmental data (Parker, 2001; Owen, 2013; Williams, 2015). Organisations that use IR express their value creation narrative by combining financial, social, and environmental performance data into a unified report. Non-financial and financial information reporting in a single report lends itself to the involvement of accountants in the reporting process.

Adhariani and de Villiers (2018) stated that corporate report writers recognise the advantages of internal reporting but are hesitant to use it. The cost of preparing IR, the absence of an adequate information system to develop IR, and the fear of disclosing market- and/or price-sensitive information were cited as the top three obstacles by respondents in their survey. Adhariani and de Villiers (2018) indicate that modifications to the university curriculum, training sessions, seminars, and conferences may be necessary to convey knowledge about IR. Other problems in the public sector include resistance to change in the acceptance of any new reporting (Guthrie et al., 2017); the relevance of reporting against all six capitals in the public sector; and a simpler reporting method that combines IR and popular reporting (Cohen and Karatzimas, 2015).

Since managers write integrated reports, these reports are susceptible to agency issues, indicating the need for integrated report assurance. The future-oriented, valuation-based, and comprehensive nature of IR material poses difficulties for traditional assurance techniques, particularly external assurance. The structure of the IR framework (which compels companies to describe their value creation while including only relevant aspects in their report) has a number of measuring implications. The first issue is the characteristics of a high-quality integrated report, and the second is how such quality may be measured. The fact that some companies simply rebrand their beautiful annual reports as integrated reports suggest that

the word "integrated report" is an insufficient indication that a company has implemented IR as envisioned by the IR framework.

### ***Public Sector Integrated Reporting***

The significance of comprehensive "external reporting" has grown in the public sector (Broadbent and Guthrie, 2008). However, even the most modern accounting tools taken from the private sector are often inappropriate (Cavicchi et al., 2019). As they are supposed to be responsible to society as a whole, public sector organisations are often more complex, including a greater range of stakeholders, and have inherent transparency and accountability duties (Biondi and Bracci, 2018; Osborne, 2018).

Due to the nature and purpose of public sector organisations, value creation is particularly pertinent and thus becomes a reason for the existence of IR. The public sector organisations are facilitators in dealing with matters pertaining to national development and providing services to the stakeholders, including the public. The conventional financial reporting reveals relatively little about how public businesses generate value for their stakeholders. On the other hand, the emphasis on value creation has spurred the development of investor relations and marketing strategies for value creation. IR strives to provide a more comprehensive view of an organisation's actions in a single document than sustainability or social responsibility reports.

On the one hand, the extensive use of human resources, the strong participation in social and environmental concerns, and the intangible character of the public sector's aims and outputs (Cinca et al., 2003) make it an appropriate setting for the implementation of IR (Bartocci and Picciaia, 2013; Cohen and Karatzimas, 2015). Public entities have value creation and stewardship responsibility, which emphasises the need for public services to nurture value co-creation, which refers to the possibility of facilitating stakeholders to be active participants in the delivery of services and to contribute to their own welfare (Osborne, 2018): (Katsikas et al., 2017). A stakeholder approach stresses active management of the corporate environment, relationships, and the promotion of shared interests, following the basic principles of the stakeholder theory (Freeman, 1984).

In the public sector, stakeholder management requires managers to devise plans and implement procedures that meet the needs and expectations of specific groups interested in the organization's activities (Mitchell et al., 1997). The primary goal is to integrate the relationships and interests of citizens, staff, suppliers, communities, and other stakeholders, while considering their identities, power, legitimacy, urgency, and importance in value creation (Best et al., 2019). In essence, stakeholder management in the public sector involves prioritizing the interests of relevant groups while maintaining a balance between their different needs and expectations.

There is also a need to consider the generation of public value and operationalisation of materiality in public institutions (Guthrie et al., 2017). The idea of value in public contexts is especially complicated, elusive, and highly contentious (Katsikas et al., 2017). Value creation in a public body is the growth or transformation of private and public assets, which are the organisation's and stakeholders' capitals, resulting from the organisation's actions and outputs (IIRC and CIPFA, 2016). Talbot's (2011) approach to determining public value focuses on five aspects: resources, services, social outcomes, faith in procedures, and legitimacy.

As value creation integrates strategy with business models emphasising transparency, accountability, the establishment of trust, and the involvement of stakeholders, which are crucial for public sector institutions, IR is regarded to be a viable instrument for illustrating public value (Caruana and Grech, 2019). While the public sector has not been extensively studied in IR. (Dumay et al., 2016), it has been the research focus in healthcare organisations and universities. These entities are knowledge-intensive, and therefore, creating intangible resources is critical in fostering value co-creation (Rossi et al., 2018; Cavicchi et al., 2019). IR adoption has also attracted the attention of state-owned firms (Guthrie et al., 2017; Farneti et al., 2019), which are comparable to private sector organisations and have used social reporting for decades (Biondi and Bracci, 2018). Recently, government agencies have also demonstrated an interest in IR (Caruana and Grech, 2019). In the public sector, IR is the catalyst for substantial organisational and managerial transformation (Katsikas et al., 2017). The use of IR at an accountability level, as opposed to just as a public relations instrument, requires more responsiveness to stakeholders and organisational changes at the technical and cultural levels (Doni and Gasperini, 2014; Veltri and Silvestri, 2015).

Caruana and Grech (2019) highlight the two ways in which IR can affect public organisations: on the one hand, principles and elements of IR can be introduced gradually to increase transparency and accountability; on the other hand, the internalisation of integrated thinking can lead to enhanced value creation and overcome the "silo mentality" (Black Sun, 2014) that frequently characterises the public sector. To investigate the potential of IR to influence strategic planning as well as decision-making in the public sector in order to not only report, but also promote and sustain value co-creation, this paper focuses on the following research questions: What, if any, changes does IR bring about in public sector organisations and through what mechanisms?

Two examples of public sector organisations that have adopted the IR Framework for several years are presented hereafter:

a. Fasset, South Africa

Fasset is a pioneer in South Africa in the public sector. As a custodian of public funds, Fasset understood that it needs to fully account how it spends its allocated income and adds value to levy-payers, non-levy payers and society. Fasset subscribes to the highest standards of governance and transparency and has voluntarily opted to produce an Annual Integrated Report to reflect its financial and non-financial performance. Following encouragement from the South African National Treasury to adopt by providing disclosure guidelines on non-financial information for the public sector, Fasset embarked on its journey in 2011. Its 2013/14 Annual Report was awarded the best integrated report in the public sector in the Chartered Secretaries Southern Africa and Johannesburg Stock Exchange Annual Integrated Reporting Awards.

IR enables Fasset to provide insights into its strategy and comprehensively disclose risks, opportunities and governance. Fasset believes that one of the key strengths is that it compels organisations to report the good and the bad in an open and balanced way. By providing full disclosure of their performance and impact and the challenges

they face and the things that 'went wrong' organisations are able to provide a credible account of their performance and achievements. Recognising issues and challenges 'face on' allows them to be addressed early to benefit the reporting entity. Since embarking on its journey, Fasset believes it is more transparent, accountable, and focused on its performance. Fasset would like to become the reporting standard for all public sector entities. ([www.fasset.org.za](http://www.fasset.org.za) – Report available at [bit.ly/1IWP](http://bit.ly/1IWP))

b. NZ Post Group

New Zealand Post Group consists of various businesses providing communication and solutions. The Group's mail business, New Zealand Post, delivers just under 700 million items annually to around 1.94 million delivery points. It provides postal, parcel and bill payment services through a nationwide physical store network, processing over 19 million financial transactions annually. The Group operates as a State-owned Enterprise within a deregulated postal market facing private sector competition. The Group started using the IR Framework in its 2013 annual report, recognising that to be successful, it needed to value all of its capital. This approach is seen to strengthen both the Group's strategic thinking and the way plans are executed. The Group's 2014 report is divided into six capitals: Relationships, Networks, Expertise, People, Environment and Finances.

Each section explains what the Group's capital entails and how events throughout the year have influenced the capital's worth. As a state-owned firm, the Group's major stakeholder is the Crown, which is also its only shareholder. It requires NZ Post to operate on a business basis, produce dividends, be a decent employer, and consider the community's best interests. IR offers the foundation for the group to show commitment to and achievement of these goals, as well as to promote continuing corporate transformation and integration by removing silos. (Report accessible at [bit.ly/1QgVHW6](http://bit.ly/1QgVHW6); [www.nzpost.co.nz](http://www.nzpost.co.nz)). Consistent with institutional theory, which emphasises the social context's conditioning effect on organisational behaviour (Higgins & Larrinaga 2014). Hence, this theory creates the cultural, legal, and moral boundaries within which organisations must work to succeed, controlling and limiting organisational behaviour (Scott 2013). Thus, the implementation of IR would assist in the achievement of these goals.

## Methodology

City Council ONE was established in the early 2000's following its upgrading from a municipal council. With this recognition, City Council ONE promises to continue its commitment to delivering quality service to its constituent and pledging towards upholding sustainability and corporate governance with integrity. The vision, mission, objectives, and functions of City Council ONE can be clearly drawn from its website. This study used a qualitative interpretative case study technique to examine a municipal council with strong potential as an early user of IR. Case studies are an excellent research tool for investigating how or why something occurs (Yin, 2014). Case studies, according to Nada (2021), are a suitable study tool for presenting the application of IR in the public sector. This research will use a case study methodology, including in-depth interviews as well as document analysis. Collecting data from

many sources allows one to triangulate study results, providing multiple sources of evidence to support interpretations. This helps confirm results and increase the study's overall validity.

Semi-structured interviews employing a discussion guide (refer to Appendix 1) offer respondents an in-depth understanding of IR. Interviews are conducted with the executives who had a crucial role in the implementation of integrated reporting at chosen firms. Previous research has interviewed the General Managers of Operations and Risk, Development, and Corporate Services and the Sustainability Officer (Lodhia and Hess, 2014). A "snowballing approach" (Minichiello et al., 2008) will be utilised to find additional participants in cases where the original interview was used to acquire access to other critical IR professionals. In addition to the interviews, telephone talks and email exchanges have been utilised to follow up on or expand upon significant issues. The identity of the interviewees will be kept anonymous, and the interviewees have validated the accuracy of the interview transcriptions.

The document analysis gives an overview of the firms' IR activities, validates interview replies, and elaborates on major problems addressed during interview sessions. Documents pertinent to IR practise include yearly reports, reports on sustainability, and website information. The interview information was transcribed and then examined. A thematic analysis is conducted, with primary topics focusing on the definition of IR and its distinction from financial and sustainability reporting, IR efforts, drivers and problems, the future of IR, and other issues pertinent to IR practise. Interview data are triangulated with document analysis data in order to fulfil the study's research objectives.

Letter of intent to conduct visit and interview was sent to ten city councils that publish up-to-date annual reports online, on their website. Follow-up emails and telephone calls were made to all prospective respondents; (1) Majlis Bandaraya Johor Bahru; (2) Majlis Bandaraya Pasir Gudang; (3) Majlis Bandaraya Melaka Bersejarah; (4) Majlis Bandaraya Seremban; (5) Majlis Bandaraya Pulau Pinang; (6) Majlis Bandaraya Seberang Perai; (7) Majlis Bandaraya Ipoh; (8) Majlis Bandaraya Shah Alam; (9) Majlis Bandaraya Petaling Jaya; and (10) Dewan Bandaraya Kuala Lumpur. An interview session with two representatives from the Finance Department of City Council ONE was conducted on 17 August 2022. Prior to the visit, the question guide (refer Appendix 1) is shared with the organisation to facilitate identification of suitable participants and to establish the scope of the interview. The two-hour interview took place at the City Council ONE office. The two respondents are as follows:

1. Name : Ms XX  
Position : Deputy Director  
Department : Finance  
Experience : 20 years of experience working in the finance area in a public sector setting. Started as a contract employee for 11 years and became an employee of City Council ONE for 9 years.

2. Name : Ms YY  
Position : Assistant Director Finance  
Department : Finance  
Experience : Started career in an accounting firm after graduating from a local university. Joined City Council ONE in 2015, accumulating 6 years of public sector service.

## Analysis

A summary of the thematic analysis is shown in Appendix 2. Six themes including (1) Preparation of Annual Report, (2) Extant of IR implementation, (3) Key drivers in IR implementation, (4) Organization's transition to IR, (5) Challenges in IR implementation, and (6) IR initiatives in the public sector with the categorisation, and indicators were analysed. The research outcomes indicate that respondents and the organisation involved have insufficient awareness of IR disclosures. They are not exposed to or introduced to IR, hence they are unaware of the significance and advantages of IR. Consequently, they did not prioritise IR in the compilation of the annual report. Confirmation of the annual report review for the application of the seven elements of the IR Guiding Principles was accomplished through a meeting with City Council ONE. Respondents agreed that IR was not practised and that acceptance of the Integrated Reporting Guiding Principles was limited to 'quantitative and qualitative information' and disclosure of 'activities involving stakeholders, specifically the community' and 'consistent data over time.'

Respondents demonstrated an interest in and a readiness to propose IR to management. As indicated by its involvement in a variety of innovative exhibits and contests at the state, national, and worldwide levels, the management welcomes creative ideas. Respondents provided instances of City Council ONE's community-oriented ideas. The Automatic Pedestrian System (APS) and the Pump Operation Monitoring System are two recent and notable award-winning developments (POMS). APS was established for the first time in 2019 to distribute traffic using an artificial intelligence algorithm. For actual deployment, the technology was improved to APS-1, which delivered Integrated Greenway Linking while saving 300 percent more time. The APS-1 system may be monitored and accessed via its control room and mobile apps. APS-1 has been implemented at 22 crossroads, and 11 other junctions are slated to get the system.

The POMS was created to enhance the monitoring of pump operations in flood zones. The system is linked to the pump control panel, allowing dialer notifications to be issued. POMS applications are particularly successful when pump failure or damage occurs during business hours, over the weekend, or on national holidays. POMS needs little installation and maintenance expenditures but has proved efficient in addressing flooding concerns, with zero percent of complaints relating to pump failure or damage. Based on the receptiveness of the management towards innovative ideas such as APS-1 and POMS projects, the Innovative and Creative Group (KIK) approach is expected to be suitable for the purpose of introducing the use of IR in this organisation. IR requires changes in the way information is disclosed. Thus, the change in annual report is expected to involve the Management and Human Resources Department, is responsible for preparing the entire annual report.

City Council ONE's latest annual report and City Council ONE 's 2020-2024 Strategic Plan are identified as the main reference documents for the organisation. The Strategic Plan is expected to serve as a five-year guide in implementing programs, projects, and action plans within City Council ONE's service scope. Hence, this report covers the first IR principle, "Strategic focus and future orientation". City Council ONE outlined 6 strategic objectives in its 5-year Strategic Plan. For each strategic objective, the strategies are specified, as shown in Table 3.

**Table 3: Strategic Objectives and Strategies**

| Strategic Objectives  | Strategies  |
|---|---|
| Efficient and Effective Governance                                  | <ul style="list-style-type: none"> <li>• Improve the competence of officers and staff.</li> <li>• Strengthen and improve the culture of innovation.</li> <li>• Empower information management and communication.</li> <li>• Maintain quality management.</li> <li>• Financial reports.</li> </ul>                                       |
| Efficient and effective financial management and revenue collection | <ul style="list-style-type: none"> <li>• Increase revenue.</li> <li>• Arrears reduction.</li> </ul>   |
| Smart, green, clean city  | <ul style="list-style-type: none"> <li>• Low carbon city.</li> <li>• Green practices.</li> <li>• Green neighborhood initiative.</li> <li>• Recreational facilities.</li> <li>• Smart city.</li> <li>• Cleaning.</li> <li>• Conservation.</li> <li>• Cheerfulness.</li> <li>• Community involvement.</li> <li>• Publicity.</li> </ul>    |
| Community Wellbeing   | <ul style="list-style-type: none"> <li>• Build independent community communities and empower social cohesion.</li> <li>• Corporate social responsibility activities and smart sharing.</li> <li>• Customer satisfaction index.</li> <li>• Improving and empowering business premises.</li> <li>• Improve support facilities.</li> </ul> |
| Sustainable Development   | <ul style="list-style-type: none"> <li>• Responsible development.</li> <li>• Malaysia Urban Indicators Network (MURNInet).</li> <li>• Safe city.</li> <li>• Open space.</li> <li>• Maintenance.</li> <li>• Control.</li> <li>• Enforcement.</li> </ul>  |

The Strategic Plan also identifies issues and challenges facing City Council ONE using the Strength-Weakness-Opportunity-Threat (SWOT) framework. SWOT Analysis is a technique for assessing these four aspects of a business. SWOT can also uncover areas of the business that are holding the organisation back or areas that competitors could exploit if the organisations fail to protect. A SWOT analysis examines internal and external factors - that is, what's going on inside and outside the organisation. Some of these factors will be within your control while others will not. In either case, the wisest action one can take in response will become clearer once many factors are discovered, recorded and analysed.

SWOT analysis is a method that may be used to assess a company's strengths and weaknesses and develop a successful plan for the future. SWOT analysis entails compiling lists of strengths, weaknesses, opportunities, and threats that may include links and inconsistencies worth emphasising and investigating. Before investigating new initiatives, updating internal policies, assessing possibilities to pivot, or modifying a strategy throughout its implementation, a SWOT analysis might be conducted. It is sometimes prudent to do a comprehensive SWOT analysis to assess the present state of company operations in order to make any necessary adjustments. The study may reveal the critical areas where the organisation works best, as well as the processes that need modification. As stated in Table 4, SWOT helps discover the traits that will assist City Council ONE in achieving its goals.

**Table 4: SWOT Analysis**

| <b>Strength</b>   | <b>Weakness</b>   |
|---|---|
| <ul style="list-style-type: none"> <li>• Strong source of financing</li> <li>• ICT facilities</li> <li>• Experienced staffs</li> <li>• ISO certification</li> <li>• Good facilities</li> <li>• Support from State Government</li> <li>• Main contributor to state Gross Domestic Product (GDP)</li> </ul>       | <ul style="list-style-type: none"> <li>• By-laws need review</li> <li>• Work culture and comfort zone</li> <li>• Inter department teamwork</li> <li>• Work in silo</li> <li>• Limited office space</li> <li>• Strategic plan does not align with the department's key performance index (KPI)</li> <li>• Reduction of the industrial area due to demarcation</li> </ul> |
| <b>Opportunity</b>  | <b>Threat</b>   |
| <ul style="list-style-type: none"> <li>• Investment opportunities</li> <li>• Community involvement</li> <li>• Political stability</li> <li>• Strategic location for tourism activities</li> <li>• Rich with local products</li> <li>• Good infrastructure</li> <li>• Center of state economic growth</li> </ul> | <ul style="list-style-type: none"> <li>• Bureaucracy</li> <li>• Low level of community awareness</li> <li>• Entry of foreign workers increases</li> <li>• Lack of local skilled workers</li> <li>• Limited job opportunity</li> <li>• Lack of community awareness on public property</li> </ul>   |

Review of The Strategic Plan also outlines the stakeholder's relationship, which covers the seventh IR principle. The stakeholders have been divided into three categories: main stakeholders, customer and strategic partners as shown in Table 5.

**Table 5: Stakeholders**

| Category          | Agency/ Department   | Requirement                  |
|-------------------|--|------------------------------|
| Main Stakeholder  | Minister of Kementerian Perumahan dan Kerajaan Tempatan (KPKT) | Full power                   |
|                   | Kementerian Perumahan dan Kerajaan Tempatan                    | Watchdog/ Controlling agency |
|                   | State Government   | Monitoring agency            |
|                   | Council members  | Policymakers                 |
| Customer          | Community  | Service recipient            |
|                   | Visitors/ Tourist  |                              |
|                   | Business community   |                              |
|                   | Business person  |                              |
|                   | Tenant   |                              |
|                   | Property holder  |                              |
| Strategic Partner | Government department  | Bilateral cooperation        |
|                   | Non-government department                                      |                              |

The respondents also identified City Council TWO as an organisation that benefitted from industrial activities and City Council THREE as organisations highly associated with innovations. In the past, City Council ONE arranged for benchmarking visits to learn about their innovations. City Council FOUR is perceived to experience good community support for its activities. These three city councils are also anticipated to be receptive to the introduction of IR.

## Results and Discussion

From the above discussion, the respondent partially disclosed three of seven IR principles in the Strategic Plan. Challenges faced by the respondent to implement IR is the lack of knowledge on how to prepare the IR in tying together numerous aspects that can meet the requirement of information usefulness to stakeholders. This finding is consistent with Mohammed et al. (2019), who found a lack of guidance to the preparers on practical ways to produce IR. In a more recent study, Williams and Lodhia (2021) highlight potential challenges in IR implementation in the public sector. IIRC Framework is argued as private sector focused (Oprisor et al., 2016; Rossi and Orelli, 2019), and lacking specific measures (Rossi, 2018). Hence, to get a clear picture of IR, the respondents may need an introductory training in IR. Training could improve the respondents' awareness and provide a better understanding of IR's benefits. IR, for example, can act as a medium of communication for the organisation to disclose information that creates value for its stakeholders.

Another challenge identified is the lack of benchmarking cases or success stories that City Council ONE can utilise for IR adoption. IR adopters are mainly concentrated in profit-oriented private sector organizations. The public sector faces several challenges, including limited resources, a broad range of activities, a diverse set of stakeholders, and the need for greater accountability and transparency in the value creation process (Greiling, 2013). These challenges can make it difficult for public sector institutions to effectively manage their operations and meet the needs of their stakeholders. Specifically, the public sector may struggle with resource constraints, balancing competing stakeholder demands and

demonstrating how they create societal value. To address these challenges, public sector organisations must find innovative solutions that maximise their resources, enhance stakeholder engagement, and improve transparency in their operations.

The respondents in the study were found to be unaware of the costs associated with the adoption of Integrated Reporting (IR). Therefore, it is important to note that implementing IR at City Council ONE will require a budget to ensure a comfortable adoption process. In other words, there are costs associated with the adoption of IR that need to be taken into account in the planning process for City Council ONE. It is crucial to allocate the necessary resources to implement IR effectively, as this will help ensure that the adoption process is smooth and successful.

Adhariani and de Villiers (2018) investigated IR in Indonesia from the perspectives of corporate report preparers as well as other stakeholders in their research. Awareness of IR, perceived advantages of IR, perceived problems of IR, key receivers and preparers of IR, standards and implementation, and support promotion and training were the focus of their research. Cost and the necessary information infrastructure for IR are considered the most significant obstacles. It is anticipated that new information will be obtained to fulfil the IR framework, and contributions from other departments will be required.

Compared to previous non-financial reports, IR presents additional issues since it is more intimately related to the business model and how a company creates value (Stubbs and Higgins, 2014). Guthrie et al. (2017) identify behavioural difficulties, including resistance to change, in the public sector context. Non-financial reporting is predominated by qualitative narratives, with little disclosure of financial facts (Amoako et al., 2017). Arora et al. (2021) observed that accountants' engagement in IR was restricted because they did not perceive the value in IR and it was difficult for them to turn numerical information into narratives.

City Council ONE's acceptance of IR is facilitated by its awareness of IR's advantages. Unfortunately, the level of awareness among the public sector is very low. Thus, there are policy implications related to the need for further education to help management comprehend the potential of IR and the need for additional training to broaden the pool of knowledge of IR in the public sector (Williams and Lodhia, 2021). Through guidelines and public sector integrated reporting knowledge networks, the IIRC might be extremely helpful in promoting the adoption of integrated reporting and thinking in the public sector (Williams and Lodhia, 2021).

Perceived advantages of IR include fostering integrated thinking and enhancing stakeholder dialogue (Adhariani and de Villiers, 2018). The desire and readiness to bring up the notion of employing IR to management is a favourable sign for the future implementation of IR. As indicated by its involvement in a variety of innovative exhibits and contests at the state, national, and worldwide levels, the management welcomes creative ideas. Similarly, a tour to the neighbouring municipal councils to learn about their advances for benchmarking purposes. Hassan Ali (2021) recommended three elements of an IR implementation process for a corporation in research: (1) identification of stakeholders, (2) allocation of resources, and (3) relocation of the new strategy.

IR is extensively used in the business sector and is seen to be suited for public sector application. The Innovative and Creative Group (KIK) strategy is anticipated to be

ideal for adopting IR inside this business. IR necessitates modifications to how information is provided. According to studies, IR is the impetus for fundamental organisational and managerial transformation in the public sector (Katsikas et al., 2017). State-owned firms have taken an interest in IR (Guthrie et al., 2017; Farneti et al., 2019), which parallels with private sector organisations and have used social reporting for decades (Biondi and Bracci, 2018). Caruana and Grech (2019) discovered that government agencies had shown an interest in IR.

Thus, the change in the annual report is expected to involve the Management and Human Resources Department responsible for preparing the entire annual report. IR shows how organisations integrate environmental and social information with the economic information of an organisation. IR is a concise assessment report on how an organisation's strategy, governance, performance and prospects lead to value creation in the short, medium and long term. An awareness programme should be in place to recognise the need to educate the public sector. The Malaysian Institute of Accountants (MIA) plays a major role in promoting the implementation of IR in Malaysia and has used IR since 2017, which is an appropriate point of reference.

## **Conclusion**

Incorporating IR into the Malaysian Code of Corporate Governance (MCCG) 2021, seen as exemplary best practice for publicly listed companies, created significant awareness, momentum and buy-in. MCCG encourages large companies to adopt IR based on a globally recognised framework. In the same year, IR Awards is introduced as a standalone category in the National Annual Corporate Report Awards (NACRA). Since then, various IR outreach events have been organised to build awareness and competency. There is currently no initiative to mandate the adoption of IR in Malaysia. Findings from this study indicate that IR, originally seen as a private sector initiative, has relevance and application to public sector organisations. Identifying challenges and enablers is important for city councils to assess its readiness before adopting IR. The findings could be used as input to the regulators and other public sector entities to facilitate the implementation of IR. This study contributes to the line of research on IR by providing empirical evidence of IR's potential in the public sector setting. Most studies in this area focused on IR in large private companies.

This study is exploratory in nature as a single case study is used, and City Council ONE has not considered adopting IR. Thus, future studies should consider more cases and include representatives from various departments as respondents. Similarly, more recent annual reports can be utilised to provide better comparability with the IR framework. It is anticipated that the international IR framework will continue to gain recognition and be modified to show responsibility for service delivery by local authorities and other entities in the public sector in Malaysia. Organisations must understand that adopting and executing IR needs time and effort. According to Paul Druckman, CEO of the IIRC, "IR is a journey that will need more than one reporting cycle to complete."

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## **Potential and Challenges of the Implementation of Integrated Reporting in Public Sector Organisations**

### **Discussion Guide**

1. How is the Annual Report prepared in your organisation?
  - Responsible party, Content of the report, Presentation of the report
  - Benchmark
  - To what extent has your organization implemented integrated reporting (IR)?
  
2. Discuss your organisation's potential transition to implement IR.
  - To what extent is your knowledge related to IR?
  - How is IR expected to benefit your organization?
  - Who are the key drivers in IR implementation and why do they need to play this role?
  - What is the main success factor of your organisation's transition to IR and why is this considered important?
  - What are the challenges in the implementation of IR in your organisation? How can organisations overcome those challenges?
  
3. How can IR initiatives be initiated and practiced in public sector organisations?
  
4. In your view, what is the future of IR implementation in Malaysia?

**Appendix 2**

**Summary of the Thematic Analysis: Themes, Categorization, and Indicators on the Data**

| <b>Themes</b>                    | <b>Categories</b>  | <b>Indicators</b>   |
|----------------------------------|--|---|
| Preparation of Annual Report     | Responsible party<br>Content of the report<br>Presentation of the report | <ul style="list-style-type: none"> <li>• Management and Human Resource Department compile the annual report</li> <li>• Content of annual report based on departments</li> </ul>   |
| Extant of IR implementation      | Benchmark  | <ul style="list-style-type: none"> <li>• 7 IR Guiding Principle</li> </ul>  |
| Key drivers in IR implementation | Knowledge related to IR  | <ul style="list-style-type: none"> <li>• Respondents and the organisation involved has insufficient awareness of IR disclosures</li> <li>• Demonstrated an interest in and a readiness to propose IR to management</li> </ul>                           |
| Organization's transition to IR  | Success factors  | <ul style="list-style-type: none"> <li>• Management support</li> <li>• IR Champion</li> </ul>   |
| Challenges in IR implementation  | Capitulation Factors   | <ul style="list-style-type: none"> <li>• Limited knowledge on IR – Training, create awareness and understanding of IR, IR as communication tool</li> <li>• Lack of benchmarking and IR success stories</li> <li>• Investment to implement IR</li> </ul> |
| IR initiatives in public sector  | Push factors   | <ul style="list-style-type: none"> <li>• The Malaysian Institute of Accountants (MIA) plays a major role in promoting the implementation of IR in Malaysia</li> <li>• IR adopters as point of reference</li> </ul>                                      |

# The Implications of Digital Audit Practice, Management Support and Team Support on Auditor Performance

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## Abstract

**Purpose:** The study investigates the direct effects of digital audit practice, management support, and team support on the auditor's performance on the adoption of digital audit in conducting the audit assessment.

**Design/Methodology/Approach:** A questionnaire survey was distributed to auditors from audit firms of varying sizes in Malaysia. The study received final usable 150 questionnaires. The data was analysed using Structural Equation Modelling-Partial Least Square (PLS) statistical tools.

**Findings:** The findings show that digital audit practice, management support, and team support significantly influence auditor performance, indicating that auditors require holistic cooperation from various stakeholders in adopting digital audits.

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**Research Limitation:** This study is subject to the perception of the auditors in responding to the practice of digital auditing, which could differ from the actual adoption of the digital audit.

**Practical Implication:** In the pursuit of digital transformation, the people and the work culture change the way audits are conducted and impose profound implications for audit professionals.

**Social Implications:** The opportunity and disruption in the era of digital audit has required the auditors' role to evolve, empowering auditors to put greater emphasis on risk identification and business insights.

**Originality:** This study provides evidence on the importance of digital audit techniques to move away from the traditional approach to more data-enabled technologies. This transformation sweeps across the audit value chain and auditors must comprehend emerging concerns regarding future audit involvements and progression

**Keywords:** Audit practice, management support, team support, digital audit, audit assessment.

## Introduction

Being one of the most highly valued professions, the quality of auditor's performance is critical. Modern auditing has expanded auditors' responsibilities to include attestation on the effectiveness of internal control and operations over an organization's financial statements (Kassem, 2018). Against the backdrop of the recent technological revolution, the notion of digital auditing has surfaced. Advancements in technologies, such as natural language processing, voice recognition, virtual or augmented reality and computer visioning, are radically changing the traditional business landscapes within the corporate world. Being the gatekeeper of public securities, auditors have the front row seats to this large-scale transformation and are directly impacted by the evolution of operating environments, business cycle disruption, changes to organisational models and the overall digitisation of process.

To achieve a high standard of professional work performance, while ensuring that audit engagements are performed effectively and efficiently, audits must comply with relevant auditing standards, utilising current technology intelligence. These provide the foundation for a structured method of risk assessment, planning, carrying out audit procedures, and eventually formulating and presenting an opinion, which is crucial to ensure an effective decision-making process for the auditors. Adequate knowledge, relevant experience, and technical skills in performing audit tasks with a professional attitude are essential for auditors to maintain and improve their competency (Alam et al., 2017). The integration of audit technology in the audit process would assist the auditors in performing audit tasks expediently and provide better assurance validation to the users of financial reporting. In a gist, audit technology can improve the quality of audit engagement while compelling the auditors to enhance their professional judgement and provide a more valuable role in ensuring financial reporting quality, accountability and credibility (Farooq & Shehata, 2018).

Nowadays, integrating information technology into the accounting and audit system affects processes and internal control in the organization. The developments of digital audit facilitated the audit techniques movement from traditional to more effective approach, auditors must understand how the future audit involvements and the audit progression (Byrnes et al., 2018; Dai & Vasarhelyi, 2016, Yang & Guan, 2004). In the era of digital audit, auditors will have to use their professional judgement, and a wide variety of skills to provide an audit opinion from the perspective of accountability, truthfulness and fairness (Ghani et al., 2017). Moreover, the technology would also enable auditors to increase the assurance that auditors can deliver and thereby contribute to providing trust in the system. Therefore, the digital audit is recognised as a tool for auditors in performing audit processes and expected better assurance to the users of financial reporting.

The advancement of digital audit in the acquisition and assessment of the evidence in the audit process is intended to evaluate and report on the degree of correspondence between client-information and auditing standards. According to the expectations of audit technology applications, auditors who make use of such technology would be rewarded with substantial benefits in audit performance and quality as a consequence of the significant upgrade of the audit process, which will lead to an enhanced audit judgement (Bierstaker et al., 2001; Tang & Karim, 2018). Hence, the audit technology's intention is to assist the auditor in producing audit opinions and improve audit job performance.

The auditor should employ computer-assisted auditing techniques to acquire more detailed evidence concerning data contained in important accounts or electronic transaction files. When combined with information technology, the audit can become more advanced in risk detection compared to the traditional methods, which use manual audit methods to complete the audit procedures (Higgins & Nandram, 2009). It is also claimed that an information system is an integral part of the audit process since it complements the auditor's role and supports the auditor's judgment on the quality of the information processed by computer systems (Majdalawieh & Zaghloul, 2009). According to the Malaysian Institute of Accountants (MIA)'s Digital Technology Blueprint, the world of the digital ecosystem is inevitable. Digital technology has proliferated across industries globally. It is transforming industries and business models, changing the skills that employers need and shortening the shelf-life of employees existing skill sets in the process. Hence, auditors who make use of such technology would be rewarded with substantial benefits in audit performance and quality due to the significant upgrade of the audit process, which will lead to an enhanced audit opinion (Bierstaker et al., 2001; Tang & Karim, 2018).

Nevertheless, audit technologies in developing countries are still at the minimum level (Mansour, 2016; Ismail & Abidin, 2009). This implies that some companies may be experiencing some disadvantages. From the perspective of auditing, this would indicate inefficient and ineffective audit performance and, maybe quality. Some studies (Al-Ansi, 2015 and Gibran, 2010) suggested that auditors should be held partially accountable for business failures or financial scandals as they are the assurance providers that convince the stakeholders of the credibility and quality of the financial reporting. Therefore, the current study intends to investigate the effects of technological and organisational factors by evaluating the digital audit practice, management support and team support in adopting digital audit that influences auditors' performance and audit quality. This study contributes in several ways. First, it has identified new influential digital audit adoption factors that enhance auditors'

performance. Secondly, the findings indicate that management and team support factors are important attributes that influence the transition during digital audit adoption.

The next section presents the literature review of the digital audit practice, management support and team support audit performance of effectiveness by the auditors. The overview of previous research leads to the development of the hypotheses of this study. Next section discusses the research methodology used in this study and detailed findings from the survey concerning each hypothesis. Lastly, a concluding section supporting the findings are provided together with the limitation of the research and implications for future research.

## **Literature Review and Hypotheses Development**

### ***Auditor Work Performance***

Individual work performance defines the capability of an individual who is able to execute their responsibilities and obligation with skills, experience, attitude and motivation (Liu & Li, 2012; Mohd Sanusi et al., 2018). Individual work performance also refers to the action or behaviour of employees at the workplace (Zeglat & Janbeik, 2019). According to Tavoletti et al. (2019), individual work performance is the consequence of the effort put forth in carrying out the tasks entrusted to them, which is dependent on their abilities, experiences, and determination, as well as the passage of time. An individual work performance is a combination of three crucial aspects: the advancement and interests of a worker, ability and acceptance upon explanation of the assigned chores, and the employee's role and motivation level. Likewise, auditors' performance is a multidimensional concept that can be categorised into three major sorts: task performance, contextual performance, and adaptive performance. Many researchers have stressed that the cumulative assessment of task, contextual and adaptive performance would be significant in evaluating the overall performance of auditors (Johnson, 2001; Pradhan & Jena, 2017; Bozionelos & Singh, 2017).

According to the auditing standards, using technology tools may be beneficial in increasing the efficiency and effectiveness of an auditor's work performance (International Standards on Auditing, 2012; Kozlowski, 2018). With the adoption of digital audit, the improvement the auditors show in performing audit tasks increases. This could be contributed to digital audit applications, productivity audit approach and automated audit working papers, which have provided auditors with technological aid in completing the audit work (Janvrin et al., 2009; Veerankutty et al., 2018). Hence, the adoption of digital audit could reduce the time in completing audit tasks and organise audit decision process more effectively, which would lead to increasing the quality of audit performance (Chan & Vasarhelyi, 2011; Dai & Vasarhelyi, 2016; Manson et al., 2010; Handoko, Wariyantao & Wraganegara, 2018). Consequently, better audit opinions would be produced as the auditors are able to perform better when there is the adoption of digital audit in their daily work routine.

### ***Digital Audit Practice***

Due to advancements in technology, including the integrated audit automation system, the use of digital audit has been introduced by large firms to assist the audit assessment processes (Byrnes et al., 2018; Omoteso, 2012). The auditor review has relied on a combination of audit assessments based on relevant, reliable, complete and undoubted audit

evidence from information collected by the system (Kim et al., 2009; Omoteso et al., 2008). Digital audit system requires the largest degree of human intervention by serving exogenous data and critical analysis that will advance the value of auditor performance and lower audit risk (Brown et al., 2007). Digital audit is a tool that requires auditor skills, expertise, experience, and knowledge in utilising computerised technology to derive audit opinions (Pathak et al., 2010). Thus, with digital audit practice, the automation of audit procedures helps the auditors to effectively achieve audit objectives, while simultaneously enhancing the auditors' scepticism in detecting fraud in the financial statements (Chan & Vasarhelyi, 2011; Ravisankar et al., 2011).

Several studies suggest that adopting digital audits can improve the quality of audits (Omoteso et al., 2008; Razi & Madani, 2013). Digital audit is predicted to offer advantages for the audit profession in understanding audit procedures, increased knowledge, and transferability of expertise (Omoteso, 2012). Adopting digital audit could potentially lower audit costs, eliminate human error, prevent manipulation and fraud, and immediately share information and enhance information integrity (Bradford et al., 2020; Halbouni et al., 2016).

The idea of the digital audit is geared toward using artificial intelligence to assist with vital audit tasks (Tarek et al., 2017; Wu et al., 2017; Allbabidi, 2021). The motivation of auditors who adopt the computer-assisted audit techniques (CAATs) framework can be influenced by several facilitating conditions. These include access to sufficient information on what CAATs can accomplish, assistance from vendors or software providers, and support from management. Studies by Braun and Davis (2003) and Mahzan and Lymer (2014) have highlighted the importance of these factors in facilitating the adoption of CAATs by auditors (Braun & Davis, 2003; Mahzan & Lymer, 2014). Audit intelligence is often described within the auditing field as "a hybrid set of technologies that enhance and change the auditing process" (Akbar & Suraida, 2017). Digital audit can be particularly beneficial to auditing processes (Otia & Bracci, 2022) because auditors must deal with a large volume of data and are frequently under time constraints in order to acquire insight into financial and non-financial performance. Furthermore, many audit duties are structured and repetitive, so they can be delegated to digital audit systems. As a result of the continuous growth of digital audit technology, most significant accounting firms have implemented audit intelligence in making audit opinions as part of their integrated audit automation systems (Omoteso, 2012).

Furthermore, numerous different literature on computer assisted audit techniques (CAATs) has revealed that usage of CAATs by the auditors allows them to perform a variety of functions, including testing programme controls (Braun & Davis, 2003; Mahzan & Lymer, 2014), gaining a comprehensive understanding of their information technology controls (Ghani et al., 2017), facilitating risk assessment during specific audit planning processes (Wu et al., 2017), and increasing the efficiency of audit testing (Ghani et al., 2017). Thus, CAATs are seen as a significant tool for auditors in executing audit tasks. Moreover, the development of digital audit has important implications for the auditing field, as it can be a useful tool for supporting accounting management, automating control mechanisms and functions, and improving decision-making processes by facilitating the process of accounting and performance information more efficiently (Dagilienė & Klovienė, 2019). Auditor would be more confident in producing audit reports and reliable financial statements with the application of audit technology (Malaescu & Sutton, 2014). Thus, based on the above arguments, the following hypothesis is proposed:

H1: Digital audit practice positively influences auditor performance.

## **Management Support**

Management support significantly impacts employees' job performance (Woolfolk et al., 2005). Management support, among others, includes information sharing (Widuri et al., 2016), physical equipment and infrastructure (Ferguson & Cheek, 2011), and training (Ghani et al., 2017). With management support, employees experience work satisfaction and would therefore display positive job performance (Lee & Chui, 2019). Management support motivates employees to develop beliefs for acceptance, esteem, and connection, as well as to appraise the rewards of increased job effort. Management support boosts employees' emotional duty to assist the organisation to achieve its goals, their affective attachment to the organisation, and their anticipation that greater performance would be rewarded (Singh, 2020).

For the auditors, appropriate training and development programs planned by the firm management will encourage them to maintain professional behaviour in a digital audit environment (Ghani et al., 2017; Veerankutty et al., 2018; Widuri et al., 2016). Although CAATs are capable of improving the efficiency and efficacy of auditing functions, such tools are underutilised in practice due to a lack of competencies on the part of the auditors. Therefore, the management must design appropriate training programs to assist the auditors in achieving a fuller adoption and utilisation of CAATs (Janvrin et al., 2008). Any audit automation programme will be incomplete without adequate training, increasing the possibility that auditing professionals will take full advantage of the advantages that automated technologies can give.

Should the auditors be content with the support the management provides regarding infrastructure and training, they will devote their full attention to the tasks at hand (Brunetto et al., 2013). Omoteso (2012) acknowledged that modern technology can make complex activities easier to do, improving auditor performance. Management should provide adequate support to the auditor so that they can retain a high level of quality service. As a result, this may ultimately result in higher subsequent support for the extension of automated audit practises and programmes. It may also considerably boost the possibilities of eventually meeting the future audit goal (Veerankutty et al., 2018). Thus, based on the above arguments, the following hypothesis is proposed:

H2: Management support positively influences auditor performance.

## **Team Support**

Information sharing and a cooperative attitude among the team members have an impact on the employees' ability to do their jobs effectively (Lin et al., 2010). Therefore, when working as a team, sharing knowledge about the task with the other team members is mandatory. It is possible for members to share information, thoughts, and experiences with one another, which in turn helps to improve the overall efficacy of the task performed by the team. Furthermore, employee experiences will aid the team in improving the overall quality of their work (Lin et al., 2010; Wu et al., 2017). Because of this, when individuals collaborate, they are more likely to be willing to share their knowledge with other group members.

Tavoletti et al. (2019) agreed that teams could promote cooperative conduct among employees by encouraging them to work together. For example, when employees are team players, they are more likely to accomplish their tasks better, resulting in increased job effectiveness and productivity (Tavoletti et al., 2019). According to Lin et al. (2010), common goals cannot be

accomplished if there is a lack of trust among the group's participants. When team members can put their trust in one another, they have a healthy working relationship (Brunetto et al., 2013). This improves the flow of information, support, and resources inside the team as well as within the organisation.

Employees can increase their knowledge by exchanging information with co-workers (Lin et al., 2010). When team members can put their trust in one another, they have a healthy working relationship (Brunetto et al., 2013; Lin et al., 2010). This will improve the flow of information, support, and resources inside the team as well as within the organisation (Brunetto et al., 2013). The support received within the team has the potential to overcome any challenges that may arise throughout the course of the job. Thus, based on the above arguments, the following hypothesis is proposed:

H3: Team support positively influences auditor performance.

## **Methodology**

The study has been designed to gather information on the effect of digital audit practice, management support and team support on audit performance by the auditor in Malaysia. The questionnaires were distributed to the auditor to gather quantitative data. Quantitative data analysis was made using structural equation modelling-partial least squares (SEM-PLS) using the bootstrapping method.

## **Measurement**

The audit performance as a dependent variable has been adopted and modified by Kabuye et al. (2017) to meet the needs of this research (Kim et al., 2016). The audit performance was measured based on job relevance, output quality, and result demonstration. All variables are measured with the seven-point Likert scale ranging from "strongly disagree" to "strongly agree".

Audit technology has been designed and developed to maintain data integrity, safeguard assets, allows organisations to achieve goal successfully, fully utilise resources in the process of collecting and evaluating the audit evidence. Computerised assisted auditing is a computer tool that extracts and analyses data from computer applications to ensure data integrity, completeness, and validity of information collected (Ghani et al., 2017). Increased auditor and audit function productivity are permitted in a technology environment (Veerankutty et al., 2018). The measurement items for audit technology are adopted and adapted from Ahmi & Kent (2012) to meet the needs of this research. There are two (2) elements covered in audit technology: the requirement of audit profession factor and technological factor of the implementation. A seven-point Likert scale ranging from 1 (very low) to 7 (very high) was used for the respondents to indicate the degree to which they agreed or disagreed with each statement, assuming all other things remain equal.

Management support in audit technology refers to the involvement and commitment of senior management in promoting the use of technology in the auditing process. This includes providing resources, establishing policies, and creating a culture that encourages adopting and implementing audit technology (Widuri et al., 2016; Ferguson & Cheek, 2011; Ghani et al., 2017). With strong management support, auditors are able to utilise technology to its full potential, improving the quality and efficiency of their work (Lee & Chui, 2019). Additionally,

management support can help ensure that auditing technology is used in a way that complies with regulations, enhances risk management, and supports the organisation's overall goals (Lee & Chui, 2019).

Meanwhile, team support in audit technology refers to the cooperation and collaboration among audit team members in using technology as a tool to enhance their work. This involves training and education on the use of technology, as well as promoting a culture of innovation and continuous improvement within the team. Team support is important because it helps ensure that audit technology is used effectively and efficiently and that all team members are able to leverage its benefits (Lin et al., 2010; Wu et al., 2017). This can lead to improved accuracy and speed in data analysis, increased productivity, and better quality results overall. Additionally, team support helps to foster a culture of innovation, where new ideas and approaches are encouraged and embraced, leading to ongoing advancements in the use of audit technology (Brunetto et al., 2013; Lin et al., 2010)

All measurement items for management support and team support are taken from Widuri et al. (2016) and Wu et al. (2017). In order to express their level of agreement or disagreement with each statement, the respondents were asked to utilise a seven-point Likert scale ranging from 1 (very low) to 7 (extremely high), with 1 being the most agreeable and 7 being the most disagreeable.

The demographic characteristics that are more pertinent to adoption decisions are measured. Several authors mentioned that the demographic characteristics of senior executives are useful predictors of their acceptance of IT and education level influences the adoption of audit technology (Veerankutty et al., 2018).

### ***Participants***

The sample for this study is auditors from Malaysia's small, medium, and big accounting firms. The external auditors are chosen based on their expertise, abilities, and ability to carry out their assigned responsibilities to present the users with a high-quality audit report. The questionnaire was distributed electronically. The participants possess the necessary experience, capabilities, and expertise in the audit technology environment. To achieve a good response rate for this study, 500 questionnaires were randomly distributed to the audit firms in Malaysia. Of the 500 questionnaires, 150 responses were received, equivalent to a 30% response rate. For a behavioral and social science studies, a response rate between 20% to 30% is considered adequate to proceed with the analysis (Bartlett, Kotrlik & Higgins, 2001; Faul, Erdfelder, Lang & Buchner, 2007). All questionnaires received have been checked to verify that the obtained data can be analysed.

The sample was chosen from population firms registered as Malaysia Institute of Accountant (MIA) members. Based on the information provided by the MIA, as of 2021, 3,260 registered member firms provide audit services. The auditor certified by MIA can indicate professionalism and capacity with a high level of skills or expertise in the accounting and audit field. This study used a probability sampling design by employing a simple random sampling approach. A simple random sample is a technique where a researcher can choose a sample from a larger population. Among the key advantages, this technique is simple and lacks bias.

Table 1 shows the demographic information of the respondents. Of 150 respondents, around 37% of respondents were working at small-size audit firms (37%) and big 4 audit firms (35%) levels. Almost about 57% of respondents were female and the remainder were males (43%). Most of the respondents were junior auditors (45%) who are the field auditors who performed the technology-enabled auditing directly, followed by the senior auditor (34%) who were involved in supervising and monitoring the work of junior auditors. Almost 77% of the respondents had auditing experiences of three (3) years and about 71% of the respondents had experience using audit technology over three (3) years and more.

**Table 1: Demographic Profile of Respondents**

| Sample                                       | N=150                           |           |                |
|--|---------------------------------|-----------|----------------|
|  | Details                         | Frequency | Percentage (%) |
| Gender:                                      | Male                            | 65        | 43.3           |
|  | Female                          | 85        | 56.7           |
| Age:   | 18-24                           | 4         | 2.7            |
|  | 25-34                           | 86        | 57.3           |
|  | 35-44                           | 44        | 29.3           |
|  | 45-54                           | 11        | 7.3            |
|  | 55 and above                    | 5         | 3.3            |
| Qualification:                               | PhD                             | 1         | 7.0            |
|  | Master's Degree                 | 8         | 5.3            |
|  | Bachelor Degree                 | 75        | 50.0           |
|  | Professional Certificate        | 59        | 39.3           |
|  | Diploma                         | 7         | 4.7            |
| Audit firm size:                             | Big 4 audit firm                | 53        | 35.3           |
|  | International other than Big 4  | 8         | 5.3            |
|  | Medium size national audit firm | 33        | 22.0           |
|  | Small-size national audit firm  | 56        | 37.3           |
| Position:                                    | Junior Auditor                  | 67        | 44.7           |
|  | Senior Auditor                  | 51        | 34.0           |
|  | Audit Supervisor                | 11        | 7.3            |
|  | Audit Manager                   | 14        | 9.3            |
|  | Audit Partner                   | 2         | 1.3            |
|  | Senior Audit Partner            | 4         | 2.7            |
|  | Other                           | 1         | 0.7            |
| Experience in auditing (years):              | Less than 3 years               | 34        | 22.7           |
|  | 3-6                             | 40        | 26.7           |
|  | 7-10                            | 20        | 13.3           |
|  | More than 10 years              | 56        | 37.3           |
| Experience in computerized auditing (years): | Less than 3 years               | 44        | 29.3           |
|  | 3-6                             | 39        | 26.0           |
|  | 7-10                            | 22        | 14.7           |
|  | More than 10 years              | 45        | 30.0           |

### **Data Analysis**

The structural equation modelling technique was chosen to test the research model, and partial least squares (PLS) using SmartPLS (Ringle, et al., 2020) was used as the statistical tool to examine the measurement and structural model because it makes no assumptions about data distribution and survey research is not normally distributed (Abdi et al., 2013). The research model was evaluated first based on its measurement model (validity and reliability of the

measurements), and then based on its structural model (testing the hypothesized correlations) (Hair et al., 2012).

## Results

### ***Assessment of Measurement Model***

In this study, three types of assessments were performed in assessing the measurement model: construct validity, convergent validity, and discriminant validity. As recommended by Hair et al., (2019) the assessment was done by examining loadings, average extracted (AVE) and composite reliability (Rönkkö & Evermann, 2013). Construct validity signifies how well the results obtained from the use of measures fit the theories around which the test is designed (Zhang et al., 2021). A satisfactory measurement model tends to have internal consistency reliability above the threshold value of 0.708 (Hair et al., 2011). However, Hair et al. (2016) contended that with any outer loading values between 0.4 and 0.7 although considered weak, the researchers should carefully examine the effects of item removal on the composite reliability (CR) as well as content validity of the constructs and should only consider for removal from the scale those that when deleting the indicator led to an increase in CR.

There is an issue with CR values of 0.95 and higher since they signal that the items are redundant and that there is a chance of undesired response patterns such as straight line, which leads to inflated correlations between the indicators' error terms and reduces construct validity (Hair et al., 2019; Henseler et al., 2014). If construct reliability is much greater than the specified minimal level, researchers can utilise bootstrap confidence intervals (Hair et al., 2019; Rönkkö & Cho, 2020). Most of the loading of items was more than 0.7 (significant at  $p < 0.01$ ) and met the fit criteria.

Furthermore, the AVE value of 0.5 or higher indicates the construct achieves adequate convergent validity (Bagozzi et al., 1991; Fornell & Larcker, 1981) and the construct is able to explain more than half of the variance of its indicators. The loadings for all the items were more than 0.5 and the composite reliabilities were greater than 0.7 (Hair et al., 2011). The AVE measures the variance captured by the indicators relative to measurement error and the AVE for this study was in the range from 0.720 to 0.855. Table 2 summarises the results and shows that all four (4) constructs are valid measures for the respective constructs.

**Table 2: Results of the Measurement Model**

| Construct   | Measurement Items   | Loading Range | AVE   | CR    |
|---|---|---------------|-------|-------|
| Digital Audit                                     | My task requires advanced audit technology due to the requirement of auditing standards.  | 0.767-0.916   | 0.752 | 0.948 |
|   | My task requires advanced audit technology to perform professional audit judgement.   |               |       |       |
|   | My task requires the current audit methodology to follow.   |               |       |       |
|   | My task requires advanced audit technology to assess the audit risk level (i.e. to investigate fraud cases).                            |               |       |       |
|   | My task requires advanced audit technology due to the application's usefulness for auditing.  |               |       |       |
|   | My task requires audit technology due to the compatibility of software.   |               |       |       |
|   | My task requires audit technology due to the requirement updated firm's Information, Communication and Technology (ICT) infrastructure. |               |       |       |
|   | My task can be done faster due to the ease of use of the audit technology.  |               |       |       |
| Management Support                                | My task can be done faster using audit technology due to adequate and sufficient documentation to follow.                               | 0.802-0.906   | 0.720 | 0.928 |
|   | My task requires advanced audit technology because easy to modify and upgrade the software.   |               |       |       |
|   | My task requires full support and effort from the top management.   |               |       |       |
|   | My task requires strong IT support from IT staff.   |               |       |       |
|   | My task requires the availability of IT audit expertise in the organization.  |               |       |       |
| My task requires effective and adequate training. |   |               |       |       |
|   | My task requires audit technology due to workloads on multiple audit engagements.   |               |       |       |
|   | My task can be done faster as I received enough resources to use audit technology.  |               |       |       |

| Construct         | Measurement Items  | Loading Range | AVE   | CR    |
|-------------------|--|---------------|-------|-------|
| Team Support      | My team is contributing expertise in different areas.                                | 0.642-0.877   | 0.668 | 0.923 |
|                   | My team members will share their experiences with others.                            |               |       |       |
|                   | My team can work together in a well-coordinated manner.                              |               |       |       |
|                   | My team members can be trusted.  |               |       |       |
|                   | My team can combine the best position to achieve the goal.                           |               |       |       |
| Audit Performance | My team can accomplish the task smoothly and effectively.                            | 0.897-0.976   | 0.855 | 0.938 |
|                   | I am able to perform the task given on time.   |               |       |       |
|                   | I am able to evaluate reliable information gathered during my work.                  |               |       |       |
|                   | I am able to form an audit opinion based on the information gathered during my work. |               |       |       |
|                   | I am able to identify initiatives for the improvement of work processes.             |               |       |       |
|                   | I am able to identify and mitigate risk through the effective audit process.         |               |       |       |

The discriminant validity of the constructs of this study was assessed using the heterotrait-monotrait (HTMT) technique. An assessment using HTMT techniques as suggested by Henseler et al. (2015) was conducted as per Table 3, which specifies that all the values were less than the HTMT.85 value of 0.85 (Goodboy & Kline, 2017) or HTMT.90 value of 0.90 (Gold et al., 2001), thus specifying that discriminant validity has been met (Gold et al., 2001; Henseler et al., 2015).

**Table 3: HTMT Criterion (Discriminant Validity)**

|                    | Audit Performance | Digital Audit | Management Support | Team Support |
|--------------------|-------------------|---------------|--------------------|--------------|
| Audit Performance  |                   |               |                    |              |
| Digital Audit      | 0.705             |               |                    |              |
| Management Support | 0.740             | 0.887         |                    |              |
| Team Support       | 0.381             | 0.562         | 0.643              |              |

### Assessment of Structural Model

The assessment of the structural model for this study was analysed using five-step procedures proposed by Hair et al. (2019), which includes assessment of collinearity issues, path co-efficient; coefficient of determination ( $R^2$ ); effect size  $f^2$ ; and predictive relevance ( $Q^2$ ). Even if the discriminant validity requirements are met, issues on lateral collinearity may mislead the results due to the strong causal effect (Kock and Lynn 2012). The variance inflation factor (VIF)

measures the collinearity among the indicators. The result as per Table 3 on the VIF values of each construct indicates that the score of VIF is below the recommended threshold value of 5 (Sarstedt et al., 2014) and there were no collinearity issues in this model.

**Table 4: Lateral Collinearity Assessment (VIF)**

| Construct          | Audit Performance (VIF) |
|--------------------|-------------------------|
| Digital Audit      | 4.252                   |
| Management Support | 4.649                   |
| Team Support       | 1.725                   |

The relationship between variables was investigated by running the SmartPLS 3 Software algorithm and was further analysed using SmartPLS 3 Software bootstrapping of 1000 was applied to test the level of significance and t-statistics for all paths. Table 4 summarises the results on R<sup>2</sup>, f<sup>2</sup>, Q<sup>2</sup> and the respective t-values and the results of the path analysis. The results indicate that the effective audit performance component, which consists of the digital audit practice ( $\beta = 0.475, p < 0.05$ ), management support ( $\beta = 0.385, p < 0.05$ ) and team support ( $\beta = -0.158, p < 0.05$ ). Thus, the H1, H2 and H3 supported this study's hypothesis. The R<sup>2</sup> value was above the 0.35 value recommended by Cohen (1988), indicating this is a substantial model.

**Table 5: Hypothesis Testing**

|                | Relationship                           | Std Beta | Std Error | T-Value | P Values | Decision  | f <sup>2</sup> |
|----------------|--|----------|-----------|---------|----------|-----------|----------------|
| H1             | Digital Audit → Audit Performance      | 0.475    | 0.135     | 3.532   | 0.000    | Supported | 0.117          |
| H2             | Management Support → Audit Performance | 0.385    | 0.138     | 2.790   | 0.003    | Supported | 0.070          |
| H3             | Team Support → Audit Performance       | -0.158   | 0.080     | 1.974   | 0.024    | Supported | 0.030          |
| R <sup>2</sup> |  | 0.539    |           |         |          |           |                |
| Q <sup>2</sup> |  | 0.480    |           |         |          |           |                |

Note: \* $p < 0.005$  = significant

The results of f<sup>2</sup> effect size in Table 5 showed that digital audit, management support and team support have small effect sizes. Hair et al. (2010) have highlighted that the effect size is problematic to establish based on the rule of thumb because the effect size depends on the model complexity and research context as well as the research field. A value of Q<sup>2</sup> more significant than zero for a specific reflective endogenous construct shows the path model's predictive relevance for a particular dependent construct. By applying the blindfolding procedure, the result shows that the research model has medium predictive relevance (Q<sup>2</sup> = 48%).

## Discussions and Conclusion

Numerous findings about digital audit adoption variables were discovered in this study. As customers expand in size and technology advances at a rapid pace, the necessity to use innovations such as digital audits to better fulfil their requirements and impact the auditor's audit performance becomes apparent (Thottoli & K.V, 2020; Veerankutty et al.,

2018). Another fascinating conclusion is that audit technology adoption is mostly a result of management assistance to ease the adoption choice and enhance audit job performance by the auditor (Kim et al., 2016; Raudeliuniene et al., 2020; Tarek et al., 2017). Then, assuming favourable organisational and technical conditions exist, such as robust policy and support and adequate IT skills for auditors, the choice to buy and use audit technology will follow.

Specifically, it is discovered that management and team support variables are significantly important in digital audit adoption; yet these aspects have received less attention in earlier studies. Auditors rely more on encouragement and get unwavering support from businesses when it comes to implementing audit innovation, particularly in developing nations such as Malaysia (Ahmi & Kent, 2013; Kim et al., 2016; Widuri et al., 2016). Our findings indicate that management and team support are identified as influential in implementing digital audits. As a universal phenomenon, the effort to change will almost certainly be more manageable if progress is made gradually and cautiously in digital audit adoption with full support from the management and team members that are able to enhance the auditor performance (Ghani et al., 2017; Sabir et al., 2022; Singh, 2020). If we continue on our current path, we may eventually see increased successive support for expanding automated audit procedures and programmes, which might considerably boost our prospects of finally attaining the future audit goals (Widuri et al., 2016).

From the practical perspective, the proposed research model may offer a comprehensive understanding for professional bodies or industry regulators who desire to increase the credibility of auditing services by the auditor perspective. This study recommends that the performance of auditors can be enhanced through their personal, professional skills in the adoption of the digital audit supported by the management. Furthermore, the findings of this study are consistent with international auditing standards (ISA) issued by International Auditing and Assurance Standard Board (IAASB). The findings may therefore be useful to policymakers in developing and implementing essential policies and initiatives anchored on the ISA principles.

This study contributes significant pieces to the adoption of digital audit in Malaysia. This has revealed other important criteria for digital audit adoption and the data indicate that management support and team support variables are significant antecedents of digital audit adoption. However, earlier research has not stressed the importance of management support and team support factors, which have been found to be extremely influential in digital audit adoption. It is more common for auditors to rely on encouragement and complete cooperation from organisations and teams members when it comes to implementing audit innovation, particularly in developing nations such as Malaysia which will affect their audit performance (Ghani et al., 2017; Raudeliuniene et al., 2020; Sabir et al., 2022; Singh, 2020).

This study also indirectly significantly impacts the adoption of digital audit for public sector auditors. Utilisation of digital tools and processes can similarly assist public sector auditors in the same way as the external auditors. In particular, public sector auditors should consider integrating digital audit approaches like data analytics and automated testing, which can assist them in detecting potential risks and anomalies more quickly and accurately. This is crucial considering the fraud risk in the operations of the public sector. Additionally, the audit quality in the public sector can also be improved should the audit is conducted digitally, as a digital audit can enhance the effectiveness and efficiency of the audit conduct. Hence, public sector

auditors should take the initiative to keep abreast with the latest development in digital auditing as well as build their competencies in this area. The public sector auditors could also extend collaboration with the external auditors to share knowledge and skills and provide feedback and support to one another.

Finally, there are certain ramifications for academics and researchers. Arguably, significant research is still required on the topic of auditors' performance in emerging markets in order to ensure that conclusions are generalizable. As a result, the framework of this study could be expanded, explored, and investigated from a variety of perspectives. Although this study is limited to auditors working in audit firms in Malaysia exclusively, the findings should be evaluated cautiously, as they may be misleading. When performing this study from the perspectives of an auditor working in the public sector and an internal auditor, there is the possibility of findings differing from one another.

Due to these constraints, future research should concentrate on a multi-country study with a larger sample size in diverse work contexts to provide a comparative analysis of digital audit practice, management support, and team support in different work environments. Future research might concentrate on commercially accessible digital audit tools and examine their impact on the practice of digital auditing. Moreover, it would be interesting to examine how the implementation of the digital audit has changed, grown and how this compares to other country's digital audit practices.

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# Integrated Reporting Disclosure Level in Malaysian Public Universities: Signalling and Institutional Theories Perspective

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## Abstract

**Purpose:** This study intends to examine whether Research Universities (RUs) provide more Integrated reporting (IR) disclosure levels than non-Research Universities (RUs) in Malaysia. The evaluation is supported by signalling and institutional theories.

**Design/Methodology/Approach:** This research utilises quantitative content analysis of 16 public universities' annual reports in Malaysia from 2016-2018.

**Findings:** The result reveals that Malaysian RUs deliver better IR disclosure levels than non-RUs. RUs are expected to disclose a great deal as to communicate their accountability. Signalling theory shows that the RUs expose higher IR disclosure levels to signal their distinction and reputational edge in contrast to non-RUs. The hypothesis is in line with the institutional theory because RUs are compelled to report in a superior format because they are pressured to perform well and be ranked highly.

**Research Limitation:** This study is limited to the accessible annual reports of Malaysian public universities.

**Practical Implication:** The results provide insights for policymakers to adopt IR framework in the public sector, in this case - Malaysian public universities as to communicate the organizations' value creation to various stakeholders.

**Originality/Value:** This paper is among the few publications that study the financial reporting of public sectors in Malaysia, focusing on Malaysian public universities. Furthermore, this study is among the early studies investigating the trendy issue of the potential adoption of the IR approach in Malaysian public universities.

**Keywords:** Integrated reporting, research universities, non-research universities, signalling theory, institutional theory.

## 1.0 Introduction

The transparency and accountability of an organisation may be enhanced by a comprehensive document that combines all relevant informational components (Manes-Rossi, 2018). In recent years, Integrated reporting (IR) has emerged as a new benchmark in the financial reporting environment. IR is concerned with expressing a larger message about an organisation's strategy, governance, performance, and prospects within the context of its external environment in order to create value in the short, medium, and long-term (IIRC, 2017). A public sector organisation's value creation should prioritise public value production (Manes-Rossi, 2018). As a result, with their objective of providing public services to create value co-creation within society and offer stewardship responsibilities, adopting IR is appropriate for public sector organisations (Osborne, 2018). IR is vital for public sector organisations since they rely heavily on human capital, their activities entail social and environmental issues, as well as their objectives and outputs, are intangible (Iacuzzi et al., 2020).

The International Integrated Reporting Council (IIRC) forecasted that the IR initiative would satisfy government requirements and enable the public and stakeholders to evaluate financial and non-financial data in a single, comprehensive, and straightforward document (Villiers et al., 2014). Consequently, IR aims to provide insight into a company's resources and relationships, often known as the capitals, as well as how the organisation interacts with the external environment and the capitals to create value. The IIRC emphasises on six capitals: financial, manufactured, intellectual, human, social and interpersonal, and natural. None of these capitals can function independently. According to the IIRC (2013), companies should employ integrated thinking to translate the six capitals toward business plans to create value. As a result, IR is designed to sustainably explain integrated thinking techniques, be more transparent, and demonstrate the value creation process (IoDSA, 2016).

A literature review reveals that IR has evolved as a sort of future reporting that embraces the value-based reporting paradigm. This strategy is significant for the public sector because of the critical role that public sector organisations play in creating value for society in addition to their critical function in driving economic growth in their respective countries. Despite being in its infancy, global IR study does not ignore the public education sector. Higher Education serves a crucial role in both the development of human capital and the promotion of national growth. Consequently, institutions of higher education must adopt integrated thinking and consider IR as a future reporting framework.

All public universities in Malaysia other than the International Islamic Universities of Malaysia (IIUM) table their annual reports to the Parliament of Malaysia (Perbendaharaan

Malaysia, 2021: MoHE, 2017a). As statutory bodies in Malaysia, their annual reports communicate accountability on how public funds are used and report the key performance indicators of the Ministry of Higher Education (MoHE) (MoHE, 2017a). Their preparation of financial statements is under the monitoring of the Accountant General's Department of Malaysia and their financial statements are audited by the Auditor General's Department of Malaysia. The IIUM is established as a corporation under the Companies Act 1965. Therefore, the university submits its annual returns and financial statements to the Companies Corporation of Malaysia.

Transparency and accountability are emphasized for Malaysian public universities under Shift #5 Financial Sustainability in higher education as stated in the Malaysian Blueprint 2015-2025 for Higher Education (MoE, 2015). The Malaysian Code of Corporate Governance (MCCG) (2017: 2021) suggests IR is a voluntary approach and is encouraged to be applied by organisations in Malaysia (SCM, 2017; 2021). Although Malaysian public universities are not obligated to adopt the IR framework, para 2.8 MCCG (2017: 2021) explain good governance practices to be applied by listed companies and encourages non-listed entities, including public universities, to adopt good governance practices that include the adoption of IR framework. MCCG (para 11.2, 2017; para G12.2, 2021) describes IR as a concise communication medium for communicating greater transparency and accountability in organisations. In delivering transparency and accountability, integrated thinking is required to translate the six capitals, namely financial, manufactured, intellectual, natural, human and social relationships, into business strategies to create value for the organisations. The extent of the IR disclosure level implies whether the universities are ready to adopt the IR framework in reporting.

There is a dearth of research on Malaysian Public Universities reporting, despite the significant resources allocated to these organisations. The reporting is critical for the stakeholders' scrutinisation of public spending and value creation. Furthermore, one initiative to boost the performance of Malaysian public universities in par with global development is by establishing RUs. Thus, it is vital to examine the reporting of RUs as opposed to non-RUs reporting using the recent global framework, that is IR. Hence, this paper investigates whether RUs provide higher IR disclosure level than non-RUs. The next section is on literature review, followed by research methodology, research findings and, a section to discuss and conclude the issue.

## **2.0 Literature Review**

### **2.1 Integrated Reporting (IR)**

South Africa was the first nation to adopt IR as a concept, for future corporate reporting during the mid-1990s. The Institute of Directors in Southern Africa pioneered the notion of IR prior to the IIRC, the global organisation tasked with promoting IR as the standard for corporate reporting. The IIRC was initially constituted as a committee in August 2010 and subsequently evolved into an international coalition of accounting authorities, standard-setters, regulators, investors, and other stakeholders who seek to form a global compact of simple, easy-to-understand corporate reporting strands. IIRC pursues the core objective of disclosing an organisations' ability to create long-term value (IIRC, 2011). The IIRC Pilot Program (2011) gave companies space to experiment with IR, and after two years of extensive consultation processes, the International IR Framework was made available for companies worldwide

to voluntarily adopt as its corporate reporting framework in December 2013 (IIRC, 2013). IR is holistic, strategic and relevant, representing more meaningful reporting. In the business environment, corporate reporting is an essential instrument for decision-making. Companies are increasing their non-financial information disclosure. Companies can include IR as part of their business strategy. In fact, IR is the current endeavour designed to satisfy the stakeholders' aspirations for transparency. Vian et al. (2017) analysed 187 papers on government transparency from 1990 to 2015 to investigate whether transparency can achieve the variety of goals attributed to public sectors. The writers concluded that transparency is important for attaining goals such as enhancing involvement, financial management, and eliminating corruption. They discovered substantial evidence that transparency was indeed increased, contributing to new policies and improved civil society's capability. However, the effect on government accountability is unclear.

Initially, IR is meant to enhance transparency and accountability of companies reporting and now its application has spread into the public sector accounting and non-profit organisations (NGOs). The benefits of IR have been investigated by previous research. Tlili et al. (2019) researched the impact of IR on the value and relevance of organisational capital (OC) in South Africa from 2006 to 2015. This study demonstrated the substantial impact of applying IR directly to OC. Adopting IR would enhance the quality of information offered to capital providers and increase investors' access to diverse funds. It is supported by previous researchers describing that IR has a positive relationship with firm valuation (Lok & Phua, 2021). Consequently, IR increases investors' image of capital, enhances external information by enhancing investment efficiency, and contributes to an increase in future cash flow.

The worldwide acceptance of the IR framework has extended its applicability to the public sector. Globally, public sector entities are entrusted with delivering service and governance excellence without compromising financial, economic, social, and environmental sustainability. Apparently, IR is suitable to balance the reporting of a public sector entity in delivering their accountability (KPMG, 2012). IR introduces a reporting approach that perfectly aligns with stakeholder inclusivity, providing the public sector with a platform to contextualise risks and opportunities resulting from existing trends and upcoming challenges. The public sector entities can take advantage of IR by incorporating and communicating multiple avenues of capital. Moreover, qualitative data reflecting public sector entities' missions, visions, and forward-looking strategies that IR helps present in an integrated manner should be policymakers' focal point of attention.

Consequently, IR has also attracted the attention of researchers in regard to government-related institutions. According to Ramli (2019), IR is a principle-based reporting and a new reporting concept. This study aims to investigate the implementation of IR in Malaysian publicly traded enterprises. In addition, the study also examined whether there are differences in the IR between Government-linked Companies (GLCs) and non-GLCs listed in Malaysia. The findings show that both types of companies adopted IR in their annual reporting. However, the scores of GLCs are lower than non-GLCs. Research on IR has also been conducted in the public sector by applying the IR framework at the University of Udine, Italy (Iacuzzi et al., 2020). The results showed that IR was better fitted with the university's strategic aims. Additionally, the study supported IR as a means to improve co-creation value in public sectors. IR is suitably applied for public sectors as the nature of the public sector is to create public value for society, utilise a significant amount of human capital, and their products are intangible in nature.

Higher education institutions (HEIs) are important agents for the value creation of society. Regarding IR, Aras et al. (2022) analysed the extent of Yildiz Technical University (YTU), a public university in Turkey, which disclosed IR content elements. This indicates the presence of integrated thinking. In addition, this study aims to determine whether the features of HEIs institutions influence the level of disclosure adhering to the IR framework and how IR might increase the value creation for HEIs' stakeholders in the context of voluntary reporting. The YTU has set the standard for HEIs to disclose non-financial information and improve accountability mechanisms.

Nevertheless, despite the adoption of IR, Rinaldi et al. (2018) identified the challenges in preparing IR, where the primary function of IR is to identify the most significant challenges, opportunities, strengths, and weaknesses faced by organisations. In this study, the challenges highlighted are a lack of awareness of the potential IR, various interpretations and applications of the new reporting framework by employees inside the business, excessive dependence on rules or guidelines, and a compliance-based approach to reporting. Tirado-Valencia et al. (2020) empirically analysed how the reports prepared by public sector enterprises are now adapting IR. Despite realising the benefits of integrated thinking in the IR framework, the results of the study indicate that integrated thinking has not been fully implemented in organisational reporting. According to Iacuzzi et al. (2020), IR is more incremental than a revolutionary transformation of existing arrangements and approaches. The analysis revealed that the vagueness, complexity, and inherent discrepancy between the IR concept and its operationalisation prompted the university to challenge and debate the IR approach and, ultimately, to reconceptualise and implement its own version that is better suited to its strategic goals, its intended audience, and its public entity status.

## 2.2 Theories of IR in HEIs

Several theories, including signalling, stakeholder, and institutional, have been used in the research of HEIs and IR. Adhikariparajuli et al. (2021) considered introducing signalling theory to investigate the notion that effective communication through integrated thinking can close the gap between an organisation and its stakeholders by increasing the IR disclosure level when examining higher education in Scotland, Northern Ireland, and Wales. The signalling theory presupposes that enterprises will indeed divulge information only when the advantages outweigh the costs, as providing the information is costly (E.Verrecchia, 2001). An organisation can bridge the gap between itself and its constituents by communicating effectively. In the context of higher education, there is an informational asymmetry largely in the advantage of universities. Adhikariparajuli et al. (2021) hypothesised, relying on the signalling theory, that if universities implement integrated thinking to signal to stakeholders how HEIs create value for society, this will be reflected in an upsurge in IR disclosure content and, therefore will raise their accountability. The results of this analysis revealed substantial growth in the trend and scope of IR disclosure levels. Formation of the HEI, implementation of the IR framework, and the size of the governing board are all statistically and positively associated with IR content elements disclosure. By completing this research, the results will be of interest to policymakers and regulators to assess the benefits of adopting integrated thinking in improving the level of transparency on IR content pieces. This insight may provide evidence for the possibility of mandatory IIRC guidelines implementation.

Stakeholder theory also serves as the foundation in IR studies (Ioana & Adriana, 2014). This theory explains the interaction between the organisation and its stakeholders. This idea is applied in IR study to highlight the management's responsibilities and accountability for providing stakeholders with relevant and valuable information. This is because, according to this principle, organisations or businesses should try to maximise the value of their various stakeholders. According to Freeman (1984), stakeholders can be any group or person who has the power to influence or who is affected by the accomplishment of the organisational aim. Donaldson and Preston (1995) argued that stakeholders are individuals who have sincere interests in business transactions. Since its origin, the stakeholder approach has grown to play a significant role in an organisation's efforts to boost performance from the lenses of society and various parties (Andriof & Waddock, 2002). This is in line with IR mandates to define an organisation's value by incorporating environmental, social, and governance factors in addition to financial and economic ones.

Additionally, the institutional theory provides a valuable framework for investigating sustainability reporting by discovering how institutions impose isomorphic pressure that compels members of society to implement similar patterns of conduct. These isomorphic forces include coercive, normative and mimetic pressures (e.g., mandating sustainability reporting), mimetic (e.g., smaller businesses imitating the practices of their larger counterparts), and normative pressures (e.g. the introduction of sustainability reporting standards). IR is a kind of sustainability reporting. The advent of legislation mandating the implementation of IR in South Africa, as evidenced by the King III and King IV reports, is an example of the coercive mechanism (Vaz et al., 2016). In addition, the founding of the IIRC and the release of the International IR Framework imposes normative pressure on companies, pushing them to employ effective IR practices (Maroun & Warren, 2017). Furthermore, organisations have been subjected to mimetic pressure as a result of successful organisations that have implemented efficient IR procedures and served as catalysts for others to follow in their footsteps (Vaz et al., 2016).

Institutional theory is utilised by Kılıç et al. (2020) to study if the institutional context is connected to the adoption of IR. This research uses the Fortune Global 500 list of companies as its sample. According to institutional theory, organisations respond to institutional constraints by acting in generally accepted manners to achieve legitimacy and appear legitimate to their stakeholders (Aerts et al., 2006). The study indicated that code law orientation and institutional quality strength are substantially connected with the IR of Fortune 500 firms. Additionally, the findings also bring significance to policymakers and various stakeholders such as the public, customers, press and civil organisations. Institutional theory is also utilised in Hassan et al. (2019) to examine the factors associated with the level of IR content elements in HEIs. They documented that pre-1992 UK HEIs were more pressured to disclose more on IR contents. The older universities are coerced to do as such in meeting societal expectations following the arguments from the institutional theory. This finding has led this study to examine whether the classifications of research and non-RUs are associated with the extent of IR disclosure level.

### **2.3 Research of HEIs in Malaysia**

Presently there is a paucity of studies regarding reporting HEIs within the Malaysian context. For example, Ismail and Bakar (2011) evaluated selected Malaysian Public Universities (MPUs) to identify the extent of disclosing accountability information through

annual reports and websites. Using a disclosure index, the authors highlighted that MPUs disclose relevant information in the annual reports but exhibited a comparatively low disclosure level on their websites. Furthermore, longstanding and respectable MPUs released more information in their annual reports and on their webpages than freshly founded MPUs. Therefore, the state must mandate increased accountability disclosure in MPUs' annual reports and on their webpages. Acknowledging the significance of the information, the government may wish to amend the current minimum disclosure rules to incorporate more pertinent accountability data. In addition, because the nature and activities of public universities differ from those of other government statutory entities, the study advises that the disclosure required items to be changed to incorporate information directly connected to the operations and demands of university stakeholders. Basically, the government should implement distinct disclosure rules for various sorts of statutory entities Ismail and Bakar (2011).

Similarly, Basnan et al. (2016) suggested that annual reports should be comprehensive by incorporating financial and non-financial data, suggesting the development of an accountability reporting framework for MPUs. The study also highlighted varying importance levels of accountability put forward by different groups of stakeholders of a public university. The outcomes further corroborate Patton's (1992) assertion that a complex public sector environment with various dimensions of responsibility may result in varying information and disclosure requirements. This recommends that, for accountability purposes, a wide variety of information should be reported to meet the information needs of various stakeholder groups. The literature review suggested IR as a future reporting tool that embraces the concept of value-based reporting. This approach is essential for the public sector due to the critical role of organisations in creating value for society, thereby generating the countries' economic growth.

## **2.4 Synthesis of Literature**

Based on the preceding review of relevant literature, the role of IR in the public sector has been increasingly important in communicating the value creation of organisations to various stakeholders. In line with this development, the accountability and transparency of HEIs globally have also been enhanced through reporting using the IR framework. The study of Malaysian public universities with regards to financial reporting is very limited and unexplored despite the critical role of these organisations in moulding human capital and simultaneously utilise a significant amount of public resources. The context of RUs and reporting is not examined in prior research. Thus, within the context of Malaysia, it is essential to examine whether RUs disclose more IR content elements than non-RUs in discharging accountability and transparency to various stakeholders. The above review reveals that signalling and institutional theories are able to explain the hypothesis proposed by this paper.

## **2.5 Hypothesis Development**

Global RUs have assumed a more significant role in society, primarily because they represent the most important knowledge resources (Singh & Allen, 2006). Additionally, RUs have become the quickest means for the government to advance the nation towards a knowledge-based economy and achieve greater prosperity (N. Ramli et al., 2013). As the economic value of new knowledge, its application, and its commercialisation grows, so does the significance of the competence and performance of RUs. Consequently, Malaysian public universities are divided into RUs and non-RUs. The Malaysian RUs are Universiti Malaya, Universiti Sains Malaysia,

Universiti Kebangsaan Malaysia, Universiti Putra Malaysia and Universiti Teknologi Malaysia. The primary objectives of the RUs are to be a leader in innovation, to establish and enhance centres of excellence in prioritised areas of the country, to produce world-class research outputs, to generate high-impact research publications, to attract graduate students of high calibre, and to provide a research-friendly environment (MoHE, 2004). In the new hierarchical university model, the Malaysian government has increased its financial support for RUs aimed at research administration, research activities, RUs incentive grants, quality assurance, and specialised research services such as intellectual property rights, patenting, and repository (MoHE, 2004). Therefore, RUs are anticipated to be more highly regarded and ranked than non-RUs in accomplishing government goals.

From the above, it can be said that signalling and institutional theories are able to explain the expectation of RUs to disclose more IR disclosure levels than non-RUs. IR disclosure comprises many voluntary disclosures, including non-financial information. According to the signalling theory, since RUs are perceived as better performed and possess higher expectations, these organisations can use voluntary disclosures as a signalling device to indicate that they are better quality organisations in line with the explanations by Spence (1973) and Cohen et al. (2012). Albertini (2018) demonstrated that French companies typically provide details on capital appreciation in IR, suggesting that management employs IR to emphasise the superior quality of the organisation. Frias-Aceituno et al. (2014) also suggested that based on the signalling theory, profitable organisations differentiate themselves from low-quality companies using IR to reduce their cost of capital and maintain or improve their company value. A similar argument can be applied in this case where RUs are considered as elitists, differentiating themselves by disclosing better quality reporting in terms of IR disclosure level.

According to scholars of the institutional theory, institutional pressures are the cause of organisational procedures, structures, and practices (Maroun & Warren, 2017). In the case of RUs, they are formed with the government's aspiration thus, they are subjected to government pressure to perform, driving them to incorporate their performance in the reporting. Furthermore, they are allocated with a significant amount of resources. Resource reliance results in coercive pressure, resulting in an organisation that effectively controls the resources to constrain other institutional activities that rely on them (Hoque, 2018). Typically, coercive isomorphism results from laws, rules, or social forces that compel organisations to conform to the requirements (Maroun & Warren, 2017). Since RUs are established with many expectations from the government, that is, the institution that controls them, as well as from the society, it is likely that RUs disclose higher IR disclosure levels to conform to coercive pressure from the controlling institutions and to be socially acceptable. Accordingly:

**H1: RUs provide higher IR disclosure level than Non-RUs.**

### **3.0 Methodology**

This analysis is based on 16 out of 20 public universities in Malaysia for the years 2016-2018. The total observation for this study is 48 public universities' annual reports, which explains 16 public universities' annual reports being studied each year. These 16 public universities annual reports are available for three years. The annual reports are sourced from various online mediums and personal requests from the institutions. The sample size is similar to earlier

studies in this area, despite the small sample size (Manes-Rossi, 2018; Tirado-Valencia et al., 2020). This sample size is sufficient for the investigation because it is exploratory in nature and it considers taking almost the whole population of public universities in Malaysia. The results of this study could provide other public sector organisations, particularly HEIs, with ground-breaking knowledge.

Following prior research in this sector, this study analysed content quantitatively, which is often applied to study organisational disclosure (Gunarathne & Senaratne, 2017). An observational method and an analysis of the text in organisations' annual reports are used to determine the index score. By using content analysis, annual reports may be replicated, their intended audience can be understood, and the disclosures made by for-profit and non-profit organisations can be scrutinised (Krippendorff, 2004). HEIs studies frequently utilise content analysis to examine voluntary organisational disclosure (Hassan et al., 2019).

The IR disclosure index used in this study is from Hassan et al. (2019) and was taken from the 2013 IIRC framework, where eight content areas are utilised as the foundation for the framework: governance, value creation model, risk and opportunity, strategy and resource allocation, performance, outlook, and basis for preparation and presentation, in addition to an organisational evaluation and the external environment. The details of the IR disclosure index can be referred to in Appendix 1 in Hassan et al. (2019, pp. 874–876). By referring to this index, each content areas consists of 7 detail items. Thus, each content area can score a maximum of 21 (7X3), while the maximum total score for 8 content areas is 168 (8X21).

The disclosure index score for this study was developed using the weighted scoring approach. Each disclosure item was given a weight to account for the variation in each disclosure to calculate the disclosure items' magnitude (Hassan et al., 2019). The weighted scores are as follows;

“0 = No disclosure; 1 = Descriptive disclosure without any link to strategy, governance, performance and prospect; 2 = Descriptive disclosure with link to strategy, governance, performance and prospect compared with past information; 3 = Descriptive disclosure with link to strategy, governance, performance and prospect compare with past, current and future outlook (Hassan et al., 2019).”

The limitation of using the weighted scoring approach is to deal with judgement in giving the scores for each content area. This research addresses this limitation by following the procedure suggested by Potter and Lehvine-Donnerstein (1999), as cited in Moggi et al. (2019), using two coders to assign scores to ensure the weighted scores are reliable. Should there is any disagreement, the two coders would discuss the scores until an agreement is reached. In that case, the absolute scores given in this study cannot be compared to those in other studies, for example, with the UK sample in Hassan et al. (2019), as judgement varies with different coders. Hence, the analysis is limited to the trend and behaviour comparison.

To determine whether there are significant differences between the level of IR disclosure level, disclosure index and the university classifications, the T-test and Mann-Whitney U test were conducted for the total disclosure as well as the individual themes. A t-test is employed in hypothesis testing to analyse whether the IR content element differs between disclosure index for RUs from non-RUs. The t-test is a parametric test of means difference. Therefore, the

assumption of data in the t-test are independent data; normal data distribution and homogeneity of variance. Alternatively, Mann-Whitney U is analysed to see whether there are variations in group medians if the dependent variable is ordinal or continuous and the data is not normally distributed. This analysis can also be used as the nonparametric substitute for the independent t-test to compare differences between RUs and non-RUs. For robustness of analysis, both methods have been used in this analysis.

#### 4.0 Results Analysis

The normality distribution analysis shows that all the data are normal, evidenced by low skewness and kurtosis, except for the content of Strategic Resource Allocation. Both the t-test and Mann-Whitney U tested this matter effectively. The results of both tests are displayed in Table 1 below.

#### Linking disclosure items to University Classification of RUs and Non-RUs

**Table 1: Connection Between IR Disclosure Level and RUs/NRUs**

|  | RUs   |       | Non-RUs |        | T-test |         | Mann Whitney U Test |         |
|--|-------|-------|---------|--------|--------|---------|---------------------|---------|
| <i>IR disclosure level (disclosure index components)</i>   |       |       |         |        |        |         |                     |         |
|  | Mean  | STD   | Mean    | STD    | T      | P-value | Z                   | P-value |
| Total IR disclosure score                                  | 82.80 | 7.789 | 73.27   | 10.690 | -3.096 | 0.003   | -3.362              | 0.001   |
| (1) Organisational Overview and External Environment (OEE) | 15.07 | 1.033 | 13.18   | 1.758  | -4.643 | 0.000   | -3.530              | 0.000   |
| (2) Governance (GVN)                                       | 5.33  | 1.718 | 3.30    | 1.447  | -4.249 | 0.000   | -3.483              | 0.000   |
| (3) Value Creation Model (VCM)                             | 12.13 | 2.386 | 10.97   | 1.357  | -2.152 | 0.037   | -2.631              | 0.009   |
| (4) Risk and Opportunity (RO)                              | 8.60  | 2.501 | 7.70    | 3.423  | -0.914 | 0.365   | -1.119              | 0.263   |
| (5) Strategy and Resource Allocation (SRA)                 | 11.07 | 2.890 | 12.33   | 1.797  | 1.859  | 0.069   | -1.254              | 0.210   |
| (6) Performance (PM)                                       | 12.40 | 1.805 | 9.42    | 1.714  | -5.484 | 0.000   | -4.363              | 0.000   |
| (7) Outlooks (OLK)   | 10.60 | 2.131 | 9.24    | 2.862  | -1.638 | 0.108   | -1.931              | 0.054   |
| (8) Basis of Preparation and Presentation (BPP)            | 7.60  | 1.993 | 7.12    | 2.484  | -0.655 | 0.515   | -1.570              | 0.116   |

The total observation for the above analysis is 48 universities' annual reports that consist of 16 universities' annual reports for each year between 2016 -2018. As there are 5 RUs in Malaysia, for each year, the sample consists of 5 RUs' annual reports and 11 non-RUs' annual reports. Thus, the final sample for the three years (2016-2018) consists of 15 RUs' annual reports and 33 non-RUs' annual reports. From Table 1 above, apparently, the mean of the total score for RUs (82.80) is almost half of the maximum total score (168). As seen by a significant difference in the T-test results for both the overall scores and most individual theme scores, the results reported in Table 1 demonstrate that Malaysian RUs generally have higher IR disclosure levels than non-RUs. The T-test and Mann-Whitney test both have significant results for the total content element (T-test p = 0.003 and Mann-Whitney p = 0.001). For individual theme results, the results are significantly better for RUs (M = 15.07, SD = 1.033; M = 5.33, SD = 1.033; M = 12.40, SD = 1.805) compared to Non-RUs (M = 13.18, SD = 1.758;

M = 3.30, SD = 1.447; M = 9.42, SD = 1.805) for theme OEE, GVN and PM respectively at 1% significance level (T-test  $p = 0.000$  and Mann-Whitney  $p = 0.000$ ). RUs (M = 12.13, SD = 2.386), compared to non-RUs (M = 10.97, SD = 1.357) demonstrated significantly better VCM disclosure, T-test  $p = 0.037$  and Mann-Whitney  $p = 0.009$ . On the other hand, non-RUs reported more SRA (M = 12.33, SD = 1.797) compared to Rus (M = 11.07, SD = 2.89) at 10% level.

From this analysis, it is revealed that when compared to non-RUs, Malaysian RUs tend to offer better IR disclosure levels. RUs are expected to disclose a lot since they need to stand out to compete and obtain the benefit of reputation (Veltri & Silvestri, 2015). Signalling theory explains that the RUs disclose more IR contents to signal about their operation and they are in a better position than their counterpart. This conjecture is also in line with the institutional theory that RUs are expected to perform better and be in the high rankings thus, they are coerced to report in a better form. This finding is parallel with Hassan et al. (2019) who discovered that older universities (pre-1992) in the UK report more IR disclosure content than younger (post-1992) universities in the UK. Hassan et al. (2019) posit that pre-1992 universities engage IR and thinking to gain support from various parties in the environment. The findings also reveal that both types of universities disclose less about governance. The institutional theory also explains mimetic isomorphism, where specific organisations adopt a new system without understanding the clear vision and mission of doing that. The approach is merely to mimic other organisations, for example, by appointing the board of directors. This finding prompts public universities to revisit and clarify the role of board of directors in reporting.

## 5.0 Discussion and Conclusion

This study compares the level of IR disclosure between Malaysian RUs and non-RUs. The IR practices adopted in the paper are based on the IIRC framework, which consists of eight elements of IR disclosure. The findings of this study showed that RUs have a higher level of IR represented by the total IR content. The results indicate that Malaysian RUs embrace IR disclosure better compared to non-RUs. The RUs disclose better information in four elements out of eight IR disclosure: organisational overview and external environment, governance, value creation model and performance. Malaysian non-RUs, on the other hand, provide better disclosure concerning strategy and resource allocation than RUs.

The study's results have three main implications for practice, theory and policy. First, the implication in practice is learning and understanding the IR concepts, framework and disclosure level. Based on the results, RU disclosure levels are generally better than non-RUs. Thus, the non-RUs should learn and understand the concept and framework of IR from RUs to ensure better reporting in the future. This can be done through the sharing and exchanging of knowledge between the preparers of the IR. Sharing knowledge on the best practices of IR disclosure can encourage healthy competition. The university should avoid mimetic approach without proper understanding and embrace IR for strategic positioning, viability and sustainability. Furthermore, the university preparers should also enhance their disclosure in the other four disclosure contents of IR: risk and opportunity, strategy and resource allocation, outlook, and basis for preparation and presentation. Incorporating integrated thinking in the preparers' minds can help enhance the disclosure of IR practices. This element is currently

lacking, evident by means of the total score for both RUs and non-RUs, which are less than half of the total maximum score.

The second implication is the theoretical implication. This study utilised the signalling theory to explain the expectation of the hypothesis. The result supports the conjecture that RUs deliver better quality IR disclosure levels to signal their superior performance than non-RUs. In addition, the institutional theory was employed to explore the idea that the disclosure practice of IR by universities is influenced by isomorphic pressures, including coercive isomorphism, mimetic and normative. According to institutional theory, coercive pressure is when organisations are pressured or influenced by authority or regulatory bodies to comply or to behave in a certain way while normative pressure results from practice or norms specified by the industry, professional body or society. Mimetic pressure happens when an organisation engages in a competition seeking superior performance.

The research findings suggest that Malaysian universities are not pressured by coercive isomorphism in the IR practice because IR is optional and voluntary. However, RUs are coerced to afford better IR disclosure levels to meet the government's expectations to have high-performance capability. RUs are also coerced in resource reliance as they are given large public funds to achieve excellent performance in the academic line globally, hence more IR disclosure communicates their accountability. Malaysian RUs are pressured or influenced by normative pressure, which is their desire to prove to stakeholders that their existence is legitimised to gain stakeholders' buy-in and acceptance. Additionally, the universities are also pressured by mimetic pressure, that is, the desire to copy the behaviour of others, in this case, evidently by the governance component. The low disclosure of the governance component indicates that they do not really understand the purpose and concepts of governance in universities but follow what others have done in form.

Third, the result of the study reveals that non-RUs are lacking in relation to IR. To ensure non-RUs' IR practices are at par with their counterpart, the policymaker, in this case, the Ministry of Higher Education should encourage all higher educational institutions, both public and private, to incorporate IR concepts and frameworks in their reports. Setting up non-mandatory policies or regulations on IR is preferable to mandatory ones to encourage a culture of transparency. This will allow universities to be more innovative and creative. However, if policies and regulations are rigid, it will limit the universities' creativity and innovativeness. Accordingly, the principle-based IR framework for public universities is recommended to guide and educate on how to enhance reporting of public universities' value creation.

There are several limitations to the study. The sample involved in the study can be considered small. However, the number of higher educational institutions in Malaysia is small in terms of the number of universities, with limited data availability. To expand the scope of future research on this topic, it may be beneficial to include a wider range of public and private universities to make more comprehensive comparisons.

The variable of focus in the study is mainly on IR content based on the IR framework because the study aims to examine the level of IR disclosure practices among Malaysian public universities. As such, future research may look at the association between the characteristics of the university, like size, age, and university specialisation /classification and the level of IR disclosure among universities. Other factors such as quality of disclosure and

performance of the university could also be considered if the researcher is interested in examining the association between IR disclosure practices and other dependent variables, as discussed previously.

All data with respect to the content of IR are collected from the annual reports of the respective universities. Although data in the annual report can be considered valuable and reliable, the data is recognised as historical and past (obsolete) data. Future research on the same topic should also include data or information from the universities' websites which can be considered to be more updated than data from the annual reports.

The present study adopts a quantitative research approach using content analysis. This technique of data collection is appropriate to be used for this kind of research. Nevertheless, suppose the researcher wishes to gain a better understanding from the preparer's perspective, a qualitative research approach using an interview is a more appropriate tool if the researcher is interested in exploring the preparers' human aspect (behavioural aspect). Understanding the preparers' behaviour (psychology aspect) might reveal the intention and motivation behind the reason for adopting IR. This is important because the actual concept of IR requires integrated thinking on the part of the preparers, which subsequently contributes to enriching the value creation of the universities.

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## Appendix 1

**Table A1: Integrated Reporting Disclosure Level**

|   | 0 | 1 | 2 | 3** | Source of index   |
|---|---|---|---|-----|---|
| <b>Organisational Overview and External Environment (OEE)</b> |   |   |   |     |   |
| OEE1  |   |   |   |     | IR framework 2013; BUFDG (2016), Low et al., (2015)             |
| OEE2  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| OEE3  |   |   |   |     | IR framework 2013; BUFDG (2016), Gallego-Alvarez et al., (2011) |
| OEE4  |   |   |   |     | IR framework 2013; BUFDG (2016), Low et al., (2015)             |
| OEE5  |   |   |   |     | IR framework 2013; BUFDG (2016), Gallego-Alvarez et al., (2011) |
| OEE6  |   |   |   |     | IR framework 2013; BUFDG (2016), Sanchez et al., (2009)         |
| OEE7  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| <b>Governance (GVN)</b>                                       |   |   |   |     |   |
| GVN1  |   |   |   |     | IR framework 2013; BUFDG (2016), Ntim et al., (2017)            |
| GVN2  |   |   |   |     | IR framework 2013, BUFDG (2016), Ntim et al., (2017)            |
| GVN3  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| GVN4  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| GVN5  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| GVN6  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| GVN7  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| <b>Value Creation Model-Business Model (VCM)</b>              |   |   |   |     |   |
| VCM1  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| VCM2  |   |   |   |     | IR framework 2013; BUFDG (2016), Low et al., (2015)             |
| VCM3  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| VCM4  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| VCM5  |   |   |   |     | IR framework 2013; BUFDG (2016), Gallego-Alvarez et al., (2011) |

(continued)

|   |  | 0 | 1 | 2 | 3** | Source of index   |
|---|--|---|---|---|-----|---|
| VCM6  | Student and staff satisfaction and student employability after graduation (SES)                |   |   |   |     | IR framework 2013; BUFDG (2016), Low et al., (2015)             |
| VCM7  | Organisational change adoption and staff training and development (OCSD)                       |   |   |   |     | IR framework 2013; BUFDG (2016), Low et al., (2015)             |
| <i>Risk and Opportunity (RO)</i>              |  |   |   |   |     |   |
| RO1   | Identifying significant Risk and Opportunity (IRO)   |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| RO2   | Set of significant RO and net risk (SRNR)  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| RO3   | Risk managing process (RMP)  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| RO4   | Significant opportunity for value creation (SOVC)  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| RO5   | Opportunity seeking procedure and utilization for institution's benefit (OSPB)                 |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| RO6   | Risk monitoring, mitigate and reporting system (RMMR)  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| RO7   | Disclosure of source of risk, opportunity and institutional affordability towards those (SRIO) |   |   |   |     | IR framework 2013; BUFDG (2016), Gallego-Alvarez et al., (2011) |
| <i>Strategy and Resource Allocation (SRA)</i> |  |   |   |   |     |   |
| SRA1  | Short, medium and long-term objectives (SMLS)  |   |   |   |     | IR framework 2013; BUFDG (2016), Gallego-Alvarez et al., (2011) |
| SRA2  | Current and planned institutional strategies (CPS)   |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| SRA3  | Resource allocation plans to implement strategy (RAIS)   |   |   |   |     | IR framework 2013, BUFDG (2016), Gallego-Alvarez et al., (2011) |
| SRA4  | Financial sustainability for short, medium and long term (FS)                                  |   |   |   |     | IR framework 2013; BUFDG (2016), Gallego-Alvarez et al., (2011) |
| SRA5  | Performance measurement for short, medium and long term (PM)                                   |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| SRA6  | Sector wise institutional differentiation and reflection in strategy (IDRS)                    |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| SRA7  | Intellectual capital utilization for revenue maximization (ICRM)                               |   |   |   |     | IR framework 2013; BUFDG (2016), Sanchez et al., (2009)         |
| <i>Performance (PM)</i>                       |  |   |   |   |     |   |
| PM1   | Strategic objectives for the period and its achievement (SIA)                                  |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| PM2   | Balance and complete view of performance (BCP)   |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| PM3   | Institutional performance towards strategic, financial and environmental issue (IPEI)          |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |
| PM4   | Institutional performance towards all resources of institution based on (IPRB)                 |   |   |   |     | IR framework 2013; BUFDG (2016); Sanchez et al., (2009)         |
| PM5   | Relationship between key stakeholders and respond towards their legitimate needs (SHR)         |   |   |   |     | IR framework 2013; BUFDG (2016)                                 |

(continued)

|  |  | 0 | 1 | 2 | 3** | Source of index                 |
|--|--|---|---|---|-----|---------------------------------|
| PM6  | Linkage with past, current and future outlook performance (PCFP)   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| PM7  | Carbon emission and sustainability activities and its financial impact (CESA)                                    |   |   |   |     | IR framework 2013; BUFDG (2016) |
| <i>Outlook (OLK)</i>                               |  |   |   |   |     |                                 |
| OLK1   | Institutional expected external environment (IEEE)   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| OLK2   | External environments` impact for all resources (EEIR)   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| OLK3   | Respond towards critical challenge and uncertainties (RTCCU)   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| OLK4   | Institution`s strengths, weakness and market position to tackle external environment (SWMP)                      |   |   |   |     | IR framework 2013; BUFDG (2016) |
| OLK5   | Legal and regularity requirement that institution need to comply (LRIC)  |   |   |   |     | IR framework 2013; BUFDG (2016) |
| OLK6   | Tackling challenge and uncertainties for short, medium and long term (TCU)                                       |   |   |   |     | IR framework 2013; BUFDG (2016) |
| OLK7   | Interrelationship between institution`s objectives, external source and any forecast or assumption if any (IOEA) |   |   |   |     | IR framework 2013; BUFDG (2016) |
| <i>Basis of Preparation and Presentation (BPP)</i> |  |   |   |   |     |                                 |
| BPP1   | Content of report decision process and the individuals involved on this (RCPI)                                   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| BPP2   | Disclose the individuals involved in preparation and review the report (RPR)                                     |   |   |   |     | IR framework 2013; BUFDG (2016) |
| BPP3   | Materiality identification and measure framework (MIMF)  |   |   |   |     | IR framework 2013; BUFDG (2016) |
| BPP4   | Any uncertainty for data used for report preparation (DUC)   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| BPP5   | Material matter identification process (MIP)   |   |   |   |     | IR framework 2013; BUFDG (2016) |
| BPP6   | Materiality identification, measurement and prioritization (MIMP)  |   |   |   |     | IR framework 2013; BUFDG (2016) |
| BPP7   | How institutions focus on value creation form material matter (IFM)  |   |   |   |     | IR framework 2013; BUFDG (2016) |

Notes: \*This disclosure index is adapted from the IIRC report (2013). \*\*No disclosure = 0, Descriptive disclosure without any link to strategy, governance, performance and prospect = 1, Descriptive disclosure and link with all strategy, governance, performance and prospect compared with historic position = 2, Descriptive disclosure linked with all strategy, governance, performance and prospect compared with historic, present and future position = 3

# Role of Governance in Outcome-Based Budgeting Implementation Towards Accountability in the Malaysian Public Sector

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## Abstract

**Purpose:** This study investigates the perceived influence of outcome-based budgeting implementation towards accountability in public sectors and the moderating role of governance.

**Methodology:** The quantitative method was applied using simple random sampling techniques. Eighty-two usable questionnaires were collected from the prospective respondents of public sector departments/agencies in the Federal Territories of Kuala Lumpur and Putrajaya, Malaysia. The primary data analysis technique for this study is Multiple Linear Regression analysis.

**Findings:** The research findings indicate a significant and positive influence of OBB implementation on accountability in public sectors. There is no significant direct influence of governance towards accountability. However, governance has a significant moderating role between the OBB implementation and accountability.

**Practical Implications:** This study can become a platform for public sectors to continue implementing outcome-based budgeting as their budgetary system, even though they face some challenges in setting up the performance measure for each activity. This study also seeks to inform policy-making within the government, which will support the shaping of better-managed, more legitimate, trusted and accountable public service in Malaysia.

**Originality/Value:** Few studies link new budgetary practices, outcome-based budgeting, with accountability and good governance. Given the lack of extensive literature on this topic, this is probably one of the first studies that provide evidence of the moderating role of governance in the relationship between OBB implementation and accountability, which is in line with the stakeholder theory.

**Keywords:** Outcome-based budgeting, accountability, governance, public sector.

## 1.0 Introduction

The issue of governance has become attention and a critical issue for the public sector, including those in Malaysia (Kamal, Romle, & Yusof, 2015). According to Rosli et al. (2015), governance in public administration has become a global issue due to the continuous stream of governance failures, fraud, inefficiency, corruption, and poor internal control and financial management. The public sector's function is to deliver services to the public to promote a better lifestyle in the community. Therefore, there is a need for corruption-free public institutions that should be accountable to the government and the public to achieve excellence in service delivery (Rana et al., 2019). Nowadays, citizens are increasingly asking for workable solutions to everyday problems. Their shared concerns are ensuring accountability and preventing corruption in the public sector (Irfan et al., 2019). The act of governance by the government through various ministries, departments and agencies tending towards efficient and effective service delivery (Ali et al., 2018).

A government aims to safeguard public interest through an efficient and effective governance system that improves rights protection and establishes accountability practices in its daily activities and from its public officers (Mutula & Wamukoya, 2009). Therefore, enhancements in the governmental system and social and spiritual aspects are important factors in promoting good governance. Good governance and accountability are crucial elements expected to propel Malaysia's economy towards higher growth. They are considered essential factors in achieving the country's vision and play a significant role in the nation's overall development. One of the elements that may affect the quality of the public sector is the good governance practice of public departments, ministries, statutory bodies and others. Thus, the government puts much effort into programmes and budgets to ensure that public funds are managed wisely (Said et al., 2016).

The use of performance information in budgeting also cannot be detached from the challenges and problems of implementing budget reforms. Barrett (2004, p. 252) has argued that four key factors to the failure of budget reform implementation.

Firstly, a lack of clear policy objectives can lead to differing interpretations and preferences when it comes to taking action. Secondly, the involvement of multiple agencies can result in communication and coordination problems along the implementation chain. Thirdly, differences in values and interests between these actors and agencies can also impede implementation. Finally, implementing agencies may have relative autonomy, which limits administrative

control. Furthermore, a sound governance system is vital in enhancing accountability in the public sector (Said et al. (2016).

On the other hand, Abdullah, Sulong and Said (2014) highlighted several issues relating to accountability, integrity and ethical behaviour in the Malaysian public sector. For example, bribery and corruption issues in the Malaysian public sector can be attributed to poor communication of the Code of Conduct and complaints regarding its inefficiency and ineffectiveness in operations (Ibrahim, Ghani, & Salleh, 2014). Malaysian government accountability is also being impacted by improper public infrastructure and facilities management, which weakens public satisfaction (Pawi et al., 2011).

The government of Malaysia has increased its focus on transparency, accountability, integrity and openness in the public sector. Malaysian public sector can become more effective, efficient and performing by having these values. The introduction of Outcome Based Budgeting (OBB) was one of the initiatives by the government to enhance its accountability through government expenditure and improved public sector service delivery. OBB is one of the budgeting tools that focuses on outcomes in which accountability in the public sector and authority over resources are needed. Compared to the other traditional budgeting system, OBB is seen as the best budgeting tool for the public sector because the government can measure its performance based on the outcome. Moreover, in current practices, there is an emergence of measuring the influence of good governance and accountability in the practice of OBB in public sectors in Malaysia. Thus, this study intended to examine the roles of governance in enhancing the accountability of public sectors through the OBB implementation.

## **2.0 Literature Review and Hypotheses Development**

### **2.1 Overview of Budgetary Practices in the Malaysian Public Sector**

In Malaysia, line-item budgeting was inherited from the British upon independence. The line-item budgeting system focused on detailed line-item requirements of a ministry or government agency. The federal budget was divided into three categories or “vote heads” which are emoluments, other annual recurring charges and other special expenditures through this system. Similar to profit organisations, the budget is prepared annually through this system, with a year-end rush to spend. The budget follows a typical incremental approach favouring existing programmes, regardless of any priority that might take place. Based on line items of expenditure, control is on inputs rather than outputs or impacts. Reports are produced by an institution for compliance purposes detailing approved costs and providing stabilisation and control over aggregate spending. However, additional economic classification maybe required. (Din et al., 2015).

The line-item budgeting is argued as not an ideal practice for the national level because it would not assist in promoting performance or achieving objectives. However, in contrast, it is a supreme system for budgeting and control at the departmental and lower management levels (Din et al., 2015). Therefore, due to the weaknesses in the line item budgeting system, the government introduced a new one, namely, Programme Performance Budgeting System (PPBS).

From 1969 through 1990, Malaysia started to implement PPBS. It is one of the management tools for better control and planning of government expenditure. This budgeting system was implemented to assist departmental management in making informed decisions about allocating resources among various options, thereby helping achieve the government's objectives. The integration of budget and accounting classification assists in fund reporting, fund control and performance reporting (Joon-Chien, 1981). On the other hand, PPBS accommodates all departments to propose their budgets from cost-benefit analysis estimation (Gnareswari, 1994). This is why PPBS is much superior to the traditional line-item budgeting system.

Later, the modified budgeting system (MBS) was officially introduced for the 1990 annual operating budget preparation. The system was implemented in all ministries in 1992 and applied to relevant Statutory Bodies that received an allocation for operating expenditure from the Treasury in 1997 (Treasury, 1996). The MBS was developed through optimising resource allocation and improved program performance while increasing accountability based on philosophies of Result Based Management (RBM) using an Integrated Performance Framework to drive results (Din et al., 2015). A Top-Down planning methodology is applied in MBS whereby the basis of 'let managers manage' was introduced, where managers were empowered to generate outputs as cost-efficient as possible, resulting in programme effectiveness. The main objective of MBS is to promote a coherent allocation of resources to a government programme. This rationality of MBS is to achieve fiscal limits upon agencies and forge a link between inputs and outputs. Besides, it also seeks to promote better programme management by adopting better management practices and encouraging greater delegation of authority from the Treasury to government organisations and then to line managers (Treasury, 1988). A meaningful performance assessment will be possible when the outcomes and results of given resources and activities achieve their intended purposes. As reflected in efficiency and effectiveness indicators, understanding the relationships between outputs and inputs is vital to measure performance (Mohamad & Karbhari, 2009).

In practice decentralisation of authority, MBS seeks to reorient accountability's focus on programme efficiency and effectiveness issues. First, programmes and activities must be evaluated to assess their impact and relevance. Then, managers would be held accountable for overall performance. Indirectly, it means managers would be given greater flexibility in managing resources in exchange. If managers were responsible for accountability (for outputs) and authority (over resources), the mismatch between both drivers thereby can be eliminated (Din et al., 2015). OBB addressed the mismatch between output and input. It revolved around the best-formulated budget to ensure the optimal allocation of resources to meet the policy target (Gianakis, 1996). It is to ensure the focus on the government's vision, mission and strategy to ensure the best applicable budgeting system for the public to enjoy. The OBB focuses on the management information system, performance monitoring and evaluation, integrates the national plans to achieve long-term objectives, and aims to provide clarity and present a holistic view of programmes and activities that are systematically aligned to the national development framework. The government will improve budget allocation and expenditure structure to be more efficient and effective. The emphasis given under the OBB approach is on the impact and effectiveness of projects and programmes, compared with expenditure and output.

Compared to performance budgeting, such as MBS, which emphasises outputs, economy and efficiency, outcome-based budgeting (OBB) concerns outcomes and effectiveness (Hendrick & Forrester, 1999). Xavier (1996) argues that one of the main weaknesses of the MBS is that it focuses only on operating budget processes but does not cover the whole budget process and the related institutional arrangements. Supposedly, MBS should include a development budget, another part of the budget process that is operated and monitored by the Economic Planning Unit of the Prime Minister's Department. The reason for separating these two types of budget is because it is tightly linked to the government's agenda for economic development (Esman, 1972). Moreover, Mauro et al. (2001) argued the need for management reforms in performance base budgeting in the public sector. Shah and Shen (2007) elaborated on four important advantages of outcome-based budgeting which would overcome MBS's weaknesses. First, OBB enhanced communication between budget preparers and citizens as it clarifies programme goals/objectives and identifies outcome targets, which gives agencies and employees a better sense of expectation for their performance. Second, it improved management in government agencies by assisting programme managers in specifying organisational goals/ achievements, monitoring programme performance, having better knowledge about problems with programme structure and operation, planning for the future, improving internal control, and communicating programme results. Third, OBB provides more informed budgetary decision-making as it provides appropriate information for politicians to exercise pressure for improvements and to better understand the issues involved. Lastly, OBB serves as a significant tool for higher transparency and accountability. The following paragraphs explain how these advantages can be attained.

The OBB system emphasises strategic and performance plans with measurable results, performance budgets, accountability processes, performance evaluation that de-emphasises micro-managing of line-item spending, and annual reports for communicating to stakeholders (Aristigueta, 1999). Under this approach, line managers are given the flexibility to manage lump-sum allocations that may be used for various needs and agree to be held accountable upon results in service delivery. Furthermore, departments can carry over a significant portion of their unutilised authority (Cothran, 1993). However, its implementation depends on policymakers' ability to uphold the contractual agreement (Hendrick & Forrester, 1999). Martin (1997) further indicated that, while outcome-based budgeting may be easy to implement at the programme/service level, it is challenging to implement at the community or state level because it relates outcomes and resources to change in state and community indicators and raises issues not encountered at other levels. OBB is argued to be able to enhance communication between budget preparers and citizens, improve management in government agencies, provide more informed budgetary decision-making, and encourage higher transparency and accountability (Shah & Shen, 2007).

The OBB document can be important for transparency and accountability to the legislative body and the public. Traditional budgets, typically budgeted according to line-item inputs, fail to deliver meaningful information regarding what and how well the government is doing. In contrast, an outcome-based budget classifies resources by programmes and presents performance indicators. The budget makes it much easier for the public to understand significant government activities and achievements. The government performance is under public enquiry with annual or semi-annual performance reports. Accountability in the public sector has traditionally been based on compliance with rules and procedures. The

outcome-based budgeting system seeks results-based accountability in holding managers accountable for what they achieve, not how they do it.

## 2.2 Budgetary Practices and Accountability

Accountability is defined as the "giving and demanding of reasons for conducting in the assurance that a certain task is performed in a responsible manner and the individuals or organisations answerable for their action and performance" (Ali et al., 2014). According to Barton (2006), accountability involves an obligation by an agent to answer to the principal by providing the information required, either by written report or verbal communication. He further argues that accountability in the context of government arises from the nature and role of governments in a democratic nation that requires the government to make the best decisions since citizen pays taxes, which later reflects the relationship between principal and agent. Both members and managers generally perceive accountability in terms of who was responsible for what, to whom they were responsible, and how an account was rendered (Goddard, 2004). These aspects are referred to as accountability responsibilities, accountability relationships and the nature of the account, which is in line with the view of Barton (2006).

There was consensus across all cases that the prime accountability responsibility was for public service delivery, although financial accountability was also perceived to be important. However, there was substantial variation concerning accountability responsibilities across organisations. (Goddard, 2004).

Several worldwide studies in their rankings have captured the state of affairs of the Malaysian government's transparency and accountability. Malaysia needs to put rigorous effort into improving its accountability and transparency (Bakar & Ismail, 2011). Usually, public information is not readily available (Barracrough & Phua, 2007; Yaakob, Kadir, & Jusoff, 2009), and in many circumstances, the information is difficult to access (Siddiquee, 2010). As a result, citizens face challenges in holding the government accountable for managing the public's money. This transparency would provide much-needed opportunities for democratic oversight of the data to hold the government accountable for its performance (Green & Kuch, 2022).

Since the budget documents showed limited performance data in the Malaysian context, and the problem of connecting actual allocations and performance targets happened. To some extent, it creates problems because political representatives' involvement tends to focus on allocation control rather than performance. However, success in controlling the allocation does not mean success in discharging accountability because efficiency and effectiveness are more credible in measuring accountability (Shah, 2003). It could be concluded that to be an accountable government, one of the aspects that need to be given attention is the management of public money by monitoring the performance of its activities (Ali et al., 2014). Mujannah et al.(2019) showed that implementing an effective budget influences government performance and accountability.

## 2.3 Governance

The perspective of good governance for the public sector refers specifically to efficient service delivery and improvement in the public sector performance, whereby it depends on

transparency, accountability and equality in ways that are responsive to the needs of people (Goddard, 2004). Good governance is often perceived as good leadership (Nofiantia & Suseno, 2014). The Organisation for Economic Co-operation and Development (OECD) claims that the criteria of good governance comprise fairness, transparency, accountability, and responsibility (Agoes, 2004). Satisfied and trusting citizens are supposedly reflected in good governance, whereby the concept of good governance recommends the ultimate administrative behaviour and rejects unethical or questionable behaviour (Bouckaert & Walle, 2003).

Governance is governing or directing an organisation which involves setting goals and using power to monitor their implementation (Bevir & Rhodes, 2003). There are three policies of governance: coercive governance, governance for performance and governance for a mission, as highlighted by Bevir and Rhodes (2003). Coercive governance is normative and punitive (English, 2013). It applies disclosure of information to monitor how accounts have complied with the rules and norms issued by their hierarchy (Forbes, Hill, & Lynn Jr, 2007). In contrast, governance for performance is output-focused (Saliterer & Korac, 2013) and relies on monitoring accountability through quantitative and non-quantitative data (Ebrahim, 2009; Forbes et al., 2007). Governance for mission is often applied in public and non-profit organisations, aiming to fulfil their ideal mission without profit (Ebrahim, 2009; English, 2013; Forbes et al., 2007). Governance for mission is adaptive between coercive and performance policies in monitoring budgetary accountability (Ebrahim, 2009).

Based on a study conducted by Kaufman, Kraay, and Mastruzzi (2008) for The World Bank on Governance Indicators in the aspect of 'Voice and Accountability' ranked Malaysia at 125th place out of 194 countries for the year 2017 with a score of -0.4 points. The result seems to support the governance problem in Malaysia. According to Carlitz (2013), a growing body of research tests that transparency facilitates accountability and leads to various developmental outcomes. Islam (2003) found that countries with better information flows have better quality governance. According to Kaufmann and Bellver's study in 2005, countries that prioritise transparency tend to have better socio-economic and human development indicators, as well as higher competitiveness and lower corruption rates, even when compared to countries with similar income levels. In addition, a transparent environment generally leads to more efficient government agencies, particularly in the provision of public services. They also decompose their transparency measure and show that government effectiveness is influenced more by institutional transparency (including budget transparency) than by political transparency.

## **2.4 Underpinning Theory**

This study utilises stakeholder theory in establishing the relationship between the OBB implementation, accountability and governance in the public sector. A stakeholder is "any group or individual who can affect or is affected by an organisation's achievements" (Freeman & McVea, 2001, p. 4). Therefore, a stakeholder in this study context is the citizens, and the management is the government representing the Malaysian public sector.

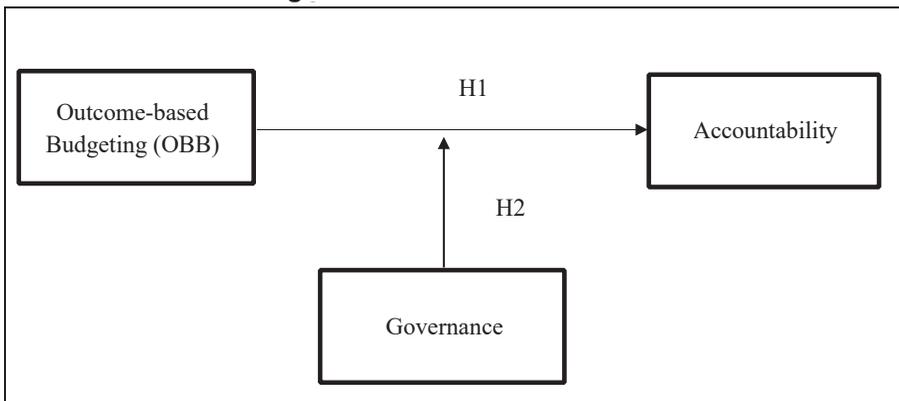
In order to successfully identify the Malaysian public sector budgetary process towards accountability and good governance, the objectives of these stakeholders need to be attended to. That does not necessarily mean that all stakeholders' needs can or should be met, but the

decision on which to attend should be made on a rational foundation (Flak & Dertz, 2005). Stakeholder theory has been developed as a response to this need in the context of non-profit organisations.

In the public sector context, decision-makers arrive at budget decisions in a political environment, and it is difficult to accurately predict the ultimate consequences of these actions (Ibrahim, 2016). It might abuse the right of other stakeholders when political actors interfere in public sector management. Moreover, it is not always clear which political actors and interests will side with which proposed program allocations (Ibrahim, 2016). Thus, budgetary politics often create odd coalitions and expected conflicts towards public needs and self-interest.

Based on the theoretical arguments, this study is carried out to examine the perception of public sectors towards OBB implementation in Malaysia and its influence towards accountability, and how the governance practice moderates the relationship between the two variables. The conceptual framework for the study is shown in Figure 1 as follows:

**Figure 1: Research Framework**



## 2.5 Hypotheses Development

### ***Outcome-based budgeting and accountability***

According to Ouda (2015), outcome-based budgeting is defined as presenting the purpose and objectives for which funds are requested, the cost of anticipated programmes for achieving those objectives, and the quantitative data for quantifying the accomplishment and task completed under each programme. The outcome-based budget aims to provide a systematic method of enhancing the allocation process; to incorporate in the planning activity the recognition of costs/benefits of alternative programmes and resources available; and to provide a basis for choosing the most economically feasible programme (Shah & Shen, 2007). The relationship between the inputs and the outputs represents the outcome-based budget, includes whether the resources have been effectively used and whether the target objectives have been achieved. On the other hand, it focuses on the purpose of the expenditure and the results/outcomes of the expenditures and provides data that can be used to evaluate those outcomes. As a result, the development of the budgeting system has gone beyond the scope of the output-based budget. Thus, a linkage between policy, performance, and resources must

be established (Ouda, 2015). Administrative leakages in the budgeting system initiated the Malaysian government to implement the OBB in 2012, for which the government, through its annual budget circulars, requested outcome information from all public organisations to monitor its compliance (Curristine, 2015).

In Malaysia, the public sector is currently subject to a more rigorous system of checks and balances. In order to stay relevant within the Malaysian political landscape, the public sectors need to work hard to meet the public's expectations and call for change Bakar, Saleh, and Mohamad (2011). According to Huzaila-Majid and Singaravelloo (2017), most budgetary management issues are financial non-compliant, negatively affecting the government's accountability. Thus, the first hypothesis is developed:

*H1: OBB implementation is perceived to influence accountability among Malaysian public sectors.*

### ***The moderating effects of governance***

Good governance in the public sector is established to safeguard the public entity at any time and act according to public interests (Wardhani, Rossieta, & Martani, 2017). Implementing good governance practices enables the government to adopt policies consistent with the principles of public governance. According to Easterly and Levine (1997), good governance is an aspect that is essential in pursuing high economic growth.

The role of governance in budgeting is to provide the framework and oversight for the budget process. Kamal et al. (2015), the current perspective of good governance refers specifically to efficient service delivery and improvement in the performance of the public sector, whereby it depends on transparency, accountability and equality in ways that are responsive to the needs of people. Whereas accountability involves an obligation by an agent, in this context, the government, to answer to the principal by providing the information required, either by written report or verbal communication (Barton, 2006). To ensure a robust central coordination between the Prime Minister Office's and the Cabinet, there is a need to involve all parts of society, including businesses, investors and civil society (Abhayawansa, 2021). Thus, accountability provides a significant role in creating a good governance activity to improve public confidence in government performance.

Many studies have examined the relationships between budget transparency and good governance (Kolstad & Wiig, 2009; Mejía Acosta, 2013). Most studies have found that transparency in government operations positively impacts the quality of governance. For example, Benito and Bastida (2009) reveal the relationship between budget transparency, economic development and fighting corruption. Diversification of culture and political systems among all countries might affect how each country applies public budget transparency standards. Nevertheless, there is a strong relationship between budget transparency, economic development, and efforts to fight corruption in all countries. In addition, the study concludes that budget transparency increases a government's accountability and improves the decision-making process.

Zuccolotto and Teixeira (2014) found the influence of budget transparency on corruption, accountability, quality of legislature institutions, and democracy in countries which concludes

that "countries that are more transparent have better accountability mechanisms and, consequently, a greater level of democracy and less corruption, all of which points to the importance of transparency in the process of democratic consolidation". Although the literature has reached mixed conclusions in connecting transparency and budget transparency to good governance, there has been increasing interest in the potential of transparency to improve the quality of governance (Schmidt-Hebbel, 2012). According to Masud (2011, p. 43), "budget transparency has arisen as a key component in governance reform, particularly since citizens worldwide frequently lack some basic information about government decisions and actions at every stage of the budget process". To sum up, while budget transparency has been connected to good governance practices by governments, the public must assess the information provided by the government to ensure better governance practices. In order to have an effective and efficient system, the public (e.g., citizens and non-profit organisations) must be able to monitor authorities and hold them accountable for their actions. In conclusion, governance plays a central role in shaping a government's budget and accountability processes. It leads to the second hypothesis as follows:

*H2: Governance will moderate the perceived influence of OBB on accountability among Malaysian public sectors.*

### 3.0 Research Design

This study utilises the quantitative approach to achieve its research objectives. In order to examine the perceptions of public sectors towards OBB, the data were collected using a questionnaire survey. The sample in this study embraces public sector accountants in Malaysia. Data for the study were collected based on a random survey from public sector accountants from the ministries and government agencies in Klang Valley. The public sector accountants were chosen as the accountants are believed to have better knowledge and understanding of the budgeting process as compared to others. Thus, they can provide a reliable response to the questions. The survey questionnaire was sent either by hand to respondents, through e-mail or Google Form application. A total of 155 surveys were distributed to individuals involved in budget preparation and the budget set for their departments and agencies with the guarantee of information confidentiality. Before sending out questionnaires, a list of respondents was compiled through respective ministries and agencies' websites to obtain the name and e-mail addresses of the respective person in each ministry or agency. Eighty-two (82) sets of questionnaires were received from the respondents (52.90%). The distribution of respondents is shown in Table 1 below:

**Table 1: Tabulation of Respondents**

| Job Position                     | Distributed | Collected |
|----------------------------------|-------------|-----------|
| Accountant (W41 and above)       | 102         | 68        |
| Assistant Accountant 1 (W27-W36) | 32          | 8         |
| Assistant Accountant 2 (W17-W26) | 21          | 6         |
| <b>TOTAL</b>                     | <b>155</b>  | <b>82</b> |

The questions used in the questionnaire survey were adopted from previous studies relevant to the chosen variables. A five-point Likert-type rating scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used in the questionnaire.

The questionnaire is divided into four sections. Section A requests the respondents to measure outcome-based budgeting adoption in their departments or agencies. Section B requests the respondents' opinion on good governance practices in their departments or agencies, while Section C requests respondents to measure accountability practices of good governance in their departments or agencies. Lastly, Section D comprises questions relating to the respondent's demographic profile.

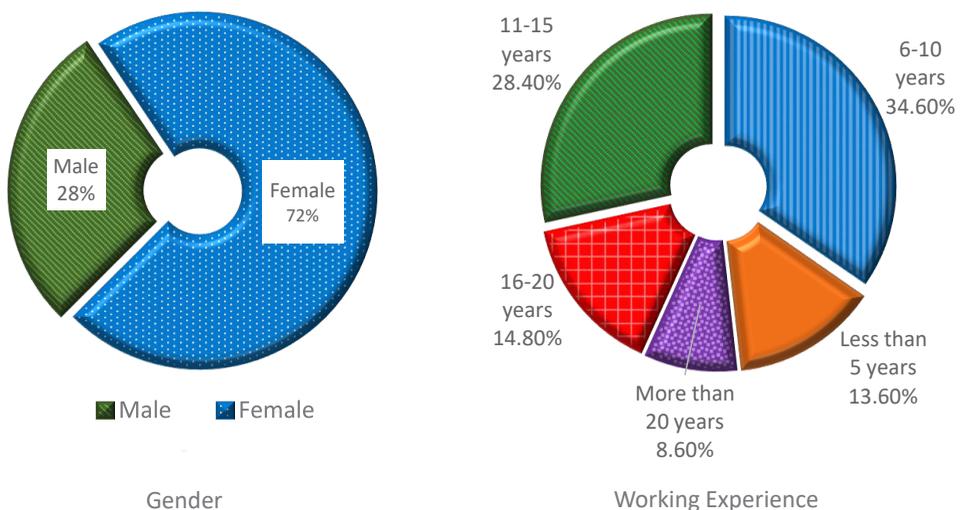
## 4.0 Results

### 4.1 Demographic Profile

Respondents were chosen among the accountants in public sectors, as they usually have a better understanding of budgetary practices. The demographic distribution of the respondents includes gender, work experience, work designation, department, and educational background. Out of the 82 responses received, only 81 were suitable for analysis because one response was identified as an outlier.

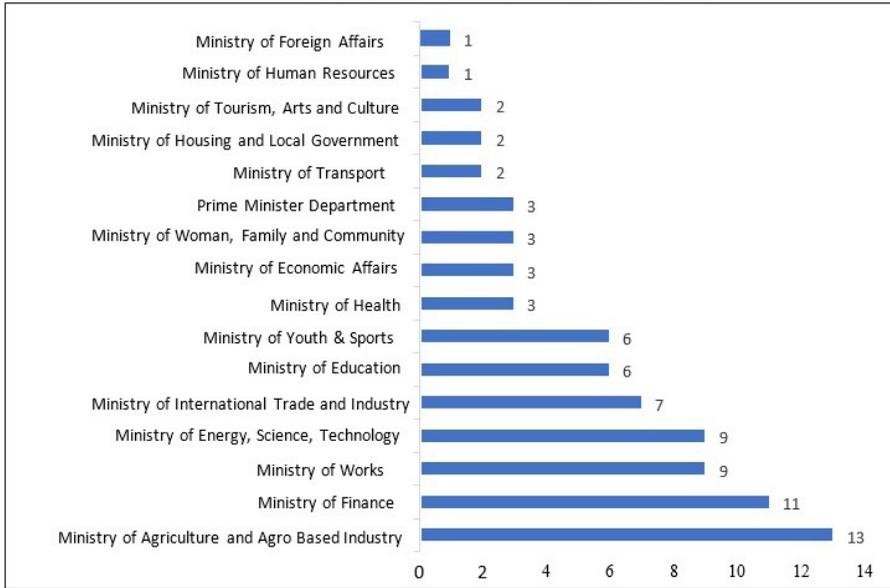
Figure 2 shows the distribution of the respondent's gender and working experience. Of 82 respondents, 58 (72%) are female, and 23 respondents (28%) are males. 34.6% have 6-10 years of work experience in current employment, followed by 11-15 years of experience (28.4%). The third highest is 16-20 years of work experience (14.8%), followed by work experiences below five years, 13.6% and 8.6% above 20 years.

**Figure 2: Distribution of the Respondent's Gender and Working Experience**

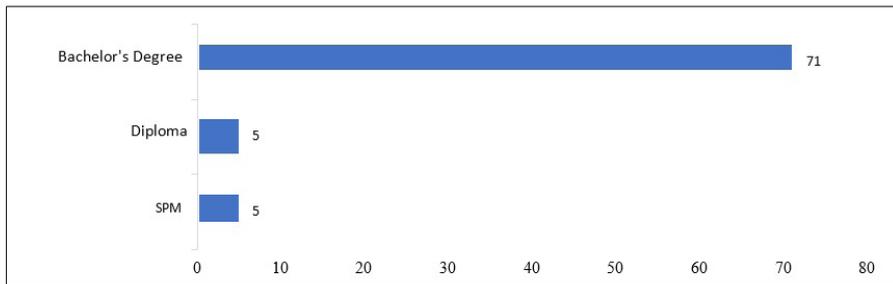


Figures 3 and 4 present the summary of respondents' Ministries and their educational backgrounds. The responses were received from sixteen ministries (out of twenty-four ministries, excluding the Prime Minister Department, when this study was conducted), and a majority of respondents have a bachelor's degree.

**Figure 3: Respondents' Ministry**



**Figure 4: Respondents' Education Background**



The majority of respondents have working experiences of more than six years and consist of accountants in Grade W41 and above. In addition, the majority of them are bachelor's degree holders. Therefore, it indicates that the responses are reliable as the respondents are perceived to have sufficient knowledge and experience in existing budgetary practices. However, further validity and reliability analysis is conducted to obtain statistical evidence.

#### 4.2 Descriptive Analysis for the Variables

Out of the total respondents, 66.7% are entirely responsible for the budgeting process, 25.9% are involved primarily, and the remaining 7.4% of respondents have somewhat involved in the budgeting process. This study analyses the perceptions of public sectors towards OBB implementation using descriptive analysis. Results show that 100% of respondents use outcome measures information or programme outcomes in making a budget decision. Also, the OBB implementation will be carried out to measure department performance in the near future. The use of outcome measures information must be central to outcome based-budgeting.

Managers can use this information to make decisions about the levels of resources for programmes to either assess their efficiency and effectiveness or choose among alternative programmes (Ngoyi, 2004). Most respondents agree that OBB served as the best budgeting practice in public sectors. The overall mean is 4.629, with the standard deviation is 0.521 (Likert scale of 1 to 5: 1 being strongly disagreed; and 5 being strongly agreed).

To examine the perceived influence of OBB implementation, the respondents were asked to what extent OBB implementation can serve as an effective budgetary practice. Most respondents agreed that OBB implementation improves the budgeting system in public sectors. The overall mean score is 4.807, and the standard deviation is 0.302. It shows that they perceived OBB as a better tool for budgetary practice in public sectors. This result is consistent with the previous study by Ngoyi (2004), Shah and Shen (2007), Srithongrung (2017) and Widodo (2017), which found that OBB increases the efficiency and effectiveness by focusing on resources for the most critical and important outcomes. Second, OBB will enhance decision-making in using limited public resources effectively. Third, OBB improves processes by linking the budget to programme performance over time. Fourth, it improves understanding and communication about critical issues and priorities relative to resources. Fifth, it makes managers more accountable for programme decisions that affect budget outcomes. Sixth, it supports management by connecting budget results and budget performance measurement with programme performance measurement in monitoring, evaluating, and reporting results.

The governance system's role in implementing outcome-based budgeting is measured using a 5-point Likert scale. Respondents' were asked whether the implementation of OBB improved the governance system in their organisation's departments. The overall mean for the governance system is 4.779, and the standard deviation is 0.300. The high mean score of close to 5 perceived that good governance is important to be implemented in the public sector in line with OBB implementation. It is consistent with the views of other authors from previous studies by Bouckaert and Van de Walle (2003), Langlands (2004), Kamal et al. (2015) and Octariani, Akram, and Animah (2017), which found that government will provide efficient service delivery and improvement in the performance of the public sector. Good public governance can also assist the government in evaluating and monitoring government spending to increase performance.

To assess the impact of implementing the OBB on accountability in the public sector, respondents were asked to express their opinions using a 5-point Likert scale, where 1 indicated strong disagreement and 5 indicated strong agreement.

The overall mean for accountability is 4.828, and the standard deviation is 0.287. The result shows that accountability is important in enhancing the budgetary system in public sectors to improve public service delivery to other public sectors stakeholders. This result is consistent with previous studies by Yaakob et al. (2009), Mejía Acosta (2013), Said, Alam, and Aziz (2015) and Rana et al. (2019), which found that accountability is an essential factor in determining good governance, and hence the legitimacy of power. A budget preparer must be accountable for his action or behaviour. Thus, public service delivery can be optimised even with limited resources. (Refer to appendix for detailed results of the descriptive analysis.)

### 4.3 Hypotheses Testing

This study tests the hypotheses using Multiple Linear Regression analysis based on the following regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1X_2 + \epsilon_i \text{ Where:}$$

$$\text{Accountability} = \beta_0 + \beta_1 \text{Outcome-based Budgeting} + \beta_2 \text{Governance} + \beta_3 \text{Outcome-based Budgeting} * \text{Governance} + \epsilon_i$$

#### Assumption Test

Before regression analysis, the data's reliability, normality and multicollinearity were tested. Table 2 depicts the preliminary test results of the data collected. The skewness and kurtosis for outcome-based budgeting, governance and accountability (dependent variable) are between 2 and -2. According to George and Mallery (2010), data can be considered normal within the 2 and -2. There are also slight differences (0.037, 0.031, and 0.036) between the mean and the trimmed mean for outcome-based budgeting, governance and accountability of the normality test. Thus, it is assumed that the normality of the data is not violated. Factor analysis was also conducted to measure the extent to which shared variance (the intercorrelation between measures) exists between variables or items within the item pool for a developing measure. The result showed all items loading above the threshold value, ranging between 0.60 to 0.884. The Cronbach's Alpha for all variables is also above the threshold value, indicating that the variables are reliable for further analysis.

**Table 2: Summary of Variables Testing**

| Variables               | Mean  | 5% Trimmed Mean | Normality Test |          | Cronbach's Alpha |
|-------------------------|-------|-----------------|----------------|----------|------------------|
|                         |       |                 | Skewness       | Kurtosis |                  |
| Outcome-based Budgeting | 4.807 | 4.844           | -2.037         | 3.112    | 0.960            |
| Governance              | 4.779 | 4.810           | -1.585         | 1.482    | 0.853            |
| Accountability          | 4.828 | 4.864           | -1.990         | 2.942    | 0.909            |

To examine multicollinearity, the correlation matrix and the value of tolerance and Variation Inflation Factor (VIF) is used (Table 3 and 4).

**Table 3: Correlation Coefficient Matrix**

|                | OBB    | Governance | Accountability | OBB*Governance |
|----------------|--------|------------|----------------|----------------|
| OBB            | 1      |            |                |                |
| Governance     | .695** | 1          |                |                |
| Accountability | .753** | .637**     | 1              |                |
| OBB*Governance | .983** | .815**     | .769**         | 1              |

\*\*Correlation is significant at the 0.01 level (2-tailed)

Pearson correlation reveals a moderate effect between outcome-based budgeting and governance (r=0.695, n=81). Meanwhile, outcome-based budgeting and accountability have a significant positive effect (r=0.753, n=81) and a moderate positive effect between governance

and accountability ( $r=0.637$ ,  $n=81$ ). All these correlations are statistically significant. In addition, the VIF values are less than 10, and the tolerance values are more than 0.1. Thus, no multicollinearity issue exists, and all variables can be retained for the hypotheses testing.

**Table 4: Variation Inflation Factor**

| Independent Variable | Dependant Variable | Collinearity Statistics |       |
|----------------------|--------------------|-------------------------|-------|
|                      |                    | Tolerance               | VIF   |
| OBB                  | Accountability     | 0.517                   | 1.934 |
| Governance           | Accountability     | 0.517                   | 1.934 |
| OBB * Governance     | Accountability     | 0.336                   | 2.977 |

### **Multiple regression analysis**

Multiple linear regression analysis was used to analyse two hypotheses in this study. First, the model encompasses outcome-based budgeting as an independent variable and a moderating effect of accountability measured by governance. Table 4 presents the results of multiple regression conducted to test the relationship between outcome-based budgeting, accountability and the moderating effect of good governance.

The overall model is significant ( $p<.001$ ). The coefficient of determination indicated  $R^2$  is a number of the proportion of variance in the dependent variable that is predictable from the independent variable. The  $R^2$  in Table 5 indicates that the model of outcome-based budgeting implementation explains the variance in the accountability practice. In this case, the value is 0.687 or 68.7% of accountability practice is explained by outcome-based budgeting implementation. The adjusted  $R^2$  is 0.679 or 67.9%. According to Pallant (2011), the adjusted  $R^2$  can be reported if small-size samples were used to provide a better estimate of the true population value.

Beta ( $\beta$ ) values denote the contribution of each independent variable to the dependent variable. According to Pallant (2011), the largest beta value represents the strongest unique contribution by the independent variable to the dependent variable. A positive value of beta indicates a positive relationship between the independent and dependent variables; a negative value of beta indicates a negative relationship between the independent and dependent variables (Field, 2009).

**Table 5: Multiple Regression Analysis Result**

| Variables                     | Accountability |       |       |
|-------------------------------|----------------|-------|-------|
|                               | B              | t     | Sig.  |
| (Constant)                    | 1.080          | 3.002 | .004  |
| OBB                           | 0.571          | 5.969 | .000* |
| Governance                    | 0.210          | 2.184 | .032  |
| OBB * Governance              | 0.026          | 5.969 | .000* |
| <b>R<sup>2</sup></b>          |                | .592  |       |
| <b>Adjusted R<sup>2</sup></b> |                | .582  |       |

*Significant at p-value = 0.01*

### ***H1: OBB implementation is perceived to influence accountability among Malaysian public sectors***

The results show a beta value of 0.571, indicating that accountability increases on average by 0.571 for a unit increase in outcome-based budgeting, net of the effects of changes due to governance and outcome-based budgeting multiplied with governance. The result significantly influences OBB implementation and accountability in Malaysian public sectors ( $p = .004$ ). Thus, H1 is supported.

The OBB is perceived to influence accountability practices in Malaysian public sectors. This finding is consistent with studies by Goddard (2004), Bakar et al. (2011), Said et al. (2015) and Rana et al. (2019). According to Said et al. (2015), public sector accountability requires governments to justify the source and utilisation of public resources because governments are mostly perceived as inefficient and poorly performing in service delivery. Thus, through outcome-based budgeting implementation, the budget preparer needs to be accountable for his action because his performance will be measured and evaluated via the programme outcome. As a result, growing concern about how the government spends money can be accountably disclosed to the public.

### ***H2: Governance will moderate the perceived influence of OBB on accountability among Malaysian public sectors***

The second hypothesis (H2) developed in this study examines whether governance will moderate the influence of OBB implementation on accountability in Malaysian public sectors. The result shows the beta value for this hypothesis is 0.210, indicating that accountability increases on average by 0.210 for a unit increase in governance, net of the effects of changes due to outcome-based budgeting and outcome-based budgeting multiplied with governance. In addition, it showed that governance has no significant direct influence on accountability. However, it has a significant moderation effect on the influence of OBB on accountability ( $p$ -value  $< .001$ ). Thus, H2 is supported.

The finding proves that good governance practice could help enhance accountability among public sectors in OBB implementation. This result is in line with previous studies by Committee (2001), Langlands (2004), Mutiganda (2013) and Wardhani et al. (2017). For example, according to Mutiganda (2013), governance involves setting goals and monitoring their implementation, and this led to the accountability practices of public sectors in managing public funds effectively.

## **5.0 Conclusion**

The findings showed that most respondents strongly agreed that OBB is one of the budgetary practices used in Malaysian public sectors. OBB is the budgetary practice that uses an outcome to make budget decisions by linking the outcome result with the performance of ministries/departments/agencies. Thus, the efficiency of government spending will increase, and high-quality service can be provided to the public.

This study's findings confirmed a significant relationship between budgetary practices and accountability, as stipulated by (Octariani et al., 2017). The result showed a strong positive

effect between OBB implementation and accountability ( $r=0.753$ ,  $n=81$ ). A strong positive relationship is supported by a previous study (Ngoyi, 2004; Ngoyi, Miller, & Holzer, 2004; Widodo, 2017). It is consistent with the previous study whereby OBB is perceived to influence accountability in Malaysian public sectors. According to Widodo (2017), it was found that outcome information is available not only for the fulfilment of formal requirements in the planning and budgeting process.

Public sector outcome information can be used to measure the outcome of a ministry, department or agency and is also useful for more routine managerial purposes (Widodo, 2017). Outcome information has generally become well integrated into the outcome management systems of most line ministries or agencies. As a result, adequate accountability and an effective evaluation system are applied to budgetary practice in Malaysia (Said et al., 2015). Therefore, it is believed that implementing OBB would help the government increase its accountability and indirectly restore public confidence.

This study also highlights the important roles of governance in moderating the influence of OBB on accountability. According to Wardhani et al. (2017), public governance focuses on the relationship of power between government authorities, civil society and the market to enforce rules and regulations and deliver services to the community of citizens. Good governance in OBB implementation will help enhance accountability in Malaysian public sectors by creating a better disclosure on public service delivery. As a result, more accountable and transparent practices are promoted and thus, creating a strong, independent, prosperous, and democratic country (Sudaryati, Heriningsih, & Fitriyani, 2018).

Effective budgetary practice is important in a government as it will ensure public money is monitored and managed effectively. Due to scarce literature on outcome-based budgeting, this study can be added as part of the literature for outcome-based budgeting. Findings from this study can contribute to the public sector's management accounting literature. This study may add literature for the public sector from the perspective of federal government budgetary activities and policies. Besides, few studies link new budgetary practices, such as outcome-based budgeting, with accountability and good governance. This study can be a platform for public sectors to continue implementing outcome-based budgeting as their budgetary system even though they face some challenges in setting up the performance measure for each activity. Besides, the contributions are not only to highlight the perception of public sector practitioners of new budgetary practices but also seek to inform policy-making within government and elsewhere. Overall, it is hoped that this input will support the shaping of better-managed, more legitimate, trusted and accountable public service in Malaysia.

This study also faced several limitations that could be addressed in future research. First, in this study, only sixteen ministries were considered, even though there are 24 ministries in Malaysia, including the Prime Minister's department. The survey only included a few representatives of a department. Due to time constraints, only 82 responses managed to be collected. Thus, more samples should be obtained for future research to better findings. Second, other variables that may affect the outcome-based budgeting implementation in public sectors in Malaysia can be added in future research to ensure the implementation can enhance public sector transparency and efficiency. Thirdly, despite using a questionnaire survey to collect data, future studies may consider using various methods such as case studies and interviews (Modell, 2005). Using this method, direct opinions from the top-level,

public sector representatives can be recorded and analysed to ensure the appropriateness of opinion can be gathered. Lastly, outcome-based budgeting is still in the early stages, and there are no genuinely mature examples of integrated outcome-based budgeting systems (Shah & Shen, 2007). In addition, there are only a few literature and empirical research regarding outcome-based budgeting preparation or implementation in Malaysia, which cause some limitations for further review on outcome-based budgeting in the Malaysian scenario. The scope of budgetary involvement of an individual could be different in the other ministries and among other government officers, which could be addressed in future research. For future research, a new variable, such as integrity, can be proposed in setting up a new framework for outcome-based budgeting, governance, accountability and integrity. The sample frame for future study may focus on different tiers of the Malaysian government, such as local authority. The smaller scope of budgeting territory may create different results for outcome-based budgeting and accountability and governance systems.

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## Appendix

### 1. Descriptive Statistics of the variables

#### Public sector respondents' opinions on the use of outcome measures information or programme outcomes in budget making-decisions

| Item   | Yes (%) | No (%) |
|--|---------|--------|
| Does organisation now use outcome measures information or programme outcomes in making budget decision                       | 100     | 0      |
| Does organisation with implement Outcome-based budgeting in order to measure department/units performance in the near future | 100     | 0      |
| <b>N=81</b>  |         |        |

#### Descriptive Statistics for Involvement in Budgeting Process

| Involvement in Budgeting Process     | Frequency | Percent      |
|--------------------------------------|-----------|--------------|
| Involved Somewhat                    | 6         | 7.4          |
| Involved Primarily                   | 21        | 25.9         |
| Entire Responsibility for the Budget | 54        | 66.7         |
| <b>Total</b>                         | <b>81</b> | <b>100.0</b> |

#### Descriptive Statistics for Outcome-based Budgeting Purposes

| No.                 | Item  | Mean         | SD           |
|---------------------|---|--------------|--------------|
| 1.                  | Outcome-based budgeting is a legislative requirement in our organisation  | 4.691        | 0.539        |
| 2.                  | Outcome-based budgeting activities are only based on administrative directives, policies and procedures in our organisation | 4.592        | 0.685        |
| 3.                  | Our organisation can be considered a best practice for outcome-based budgeting  | 4.604        | 0.605        |
| <b>Overall mean</b> |   | <b>4.629</b> | <b>0.521</b> |

(Likert scale of 1 to 5: 1 being strongly disagree; and 5 being strongly agree)

#### Descriptive Analysis for Outcome-Based Budgeting Implementation

| No. | Item  | Mean  | SD    |
|-----|---|-------|-------|
| 1.  | Improvement of fiscal discipline by limiting growth in expenditures             | 4.740 | 0.494 |
| 2.  | Improvement of fiscal discipline by cutting the budget                          | 4.765 | 0.454 |
| 3.  | Increase of public accountability by promoting a focus on results               | 4.802 | 0.400 |
| 4.  | Increase of public accountability by promoting a focus on service quality       | 4.864 | 0.344 |
| 5.  | Increase of public accountability by promoting a focus on customer satisfaction | 4.802 | 0.400 |
| 6.  | Improvement of executive decision making with objective information             | 4.839 | 0.369 |
| 7.  | Improvement of legislative decision making with objective information           | 4.827 | 0.380 |

| No.                 | Item  | Mean         | SD           |
|---------------------|---|--------------|--------------|
| 8.                  | Enhancement of communication with citizens  | 4.839        | 0.401        |
| 9.                  | Integrating outcome information in the budget is difficult due to budget incapability with long term performance plans  | 4.753        | 0.461        |
| 10.                 | Integrating outcome information in the budget is difficult due to the prohibitive cost of developing and implementing new information systems                                     | 4.839        | 0.401        |
| 11.                 | Information on outcome measures is included but not integrated in the agency written budget such information simply accompanies the budget  | 4.740        | 0.565        |
| 12.                 | My organisation has worked with the executive budget office to determine how outcome measures information will be represented in the budget                                       | 4.802        | 0.400        |
| 13.                 | My organisation prepares its budget requests by integrating and presenting goals and objectives, performance plan, and resources requests into one document                       | 4.765        | 0.426        |
| 14.                 | Information on outcome measures is included in the negotiations when top executives address policy and budget issues at the organisation level                                    | 4.839        | 0.369        |
| 15.                 | Information on outcome measures is included in the negotiations when the top executives address policy and budget issues at the department level                                  | 4.827        | 0.380        |
| 16.                 | Program managers, stakeholders and other decision-makers deem useful and encourage the incorporation of outcome information into budget submission to the executive budget office | 4.777        | 0.418        |
| 17.                 | My organisations top level mangers encourage the use of outcome information in communications with stakeholders   | 4.876        | 0.331        |
| 18.                 | Executive branch leaders encourage their budget office to consider the use of outcome measures information in reaching its budget decisions                                       | 4.839        | 0.369        |
| 19.                 | Programme managers, and their supervisors, develop and fully integrate outcome measure information in reaching its budget decisions   | 4.827        | 0.380        |
| 20.                 | The annual performance plan is an integral part of the organisation's budget requests   | 4.777        | 0.418        |
| 21.                 | Funding allocation are based on outcome measures information, hence, resources needs and outcome levels are directly linked in  | 4.839        | 0.369        |
| 22.                 | The outcome based budget used by my organisation is formulated based on variables levels of achievement according to variable levels of resources                                 | 4.765        | 0.426        |
| <b>Overall mean</b> |   | <b>4.807</b> | <b>0.302</b> |

(Likert scale of 1 to 5: 1 being strongly disagree; and 5 being strongly agree)

### Descriptive Statistics for Role of Governance

| No.                 | Item   | Mean         | SD           |
|---------------------|--|--------------|--------------|
| 1.                  | My department focuses most attention on drivers of organisational success              | 4.654        | 0.478        |
| 2.                  | My department ensures that audit reports are timely and understood                     | 4.740        | 0.440        |
| 3.                  | My department ensures that internal controls exist to minimise risk of fraud           | 4.777        | 0.418        |
| 4.                  | My department ensures that managers are exposed to good practice outside the sector    | 4.790        | 0.409        |
| 5.                  | My department determines that good forecasting and performance management system exist | 4.851        | 0.357        |
| 6.                  | My department ensures that staff development programs exist and are valued             | 4.814        | 0.390        |
| 7.                  | My department ensures that maintenance management is planned                           | 4.827        | 0.380        |
| <b>Overall mean</b> |  | <b>4.779</b> | <b>0.300</b> |

(Likert scale of 1 to 5: 1 being strongly disagree; and 5 being strongly agree)

### Descriptive Analysis for Accountability

| No.                 | Item  | Mean         | SD           |
|---------------------|---|--------------|--------------|
| 1.                  | My organisation prepares financial reports annually   | 4.839        | 0.369        |
| 2.                  | My organisation will report any serious incidence which may have a negative impact on the public to the higher authority            | 4.839        | 0.369        |
| 3.                  | My organisation gives a chance to beneficiaries to view and raise issues about the performance reports                              | 4.703        | 0.459        |
| 4.                  | My organisation has a regular reporting system on the achievements and results of its programs or projects against their objectives | 4.839        | 0.369        |
| 5.                  | My organisation produces several performance measures concerning the quality of services delivered                                  | 4.864        | 0.344        |
| 6.                  | My organisation provides a provision of transparent financial and governance information  | 4.864        | 0.344        |
| 7.                  | My organisation engages with beneficiaries in the evaluation of projects  | 4.876        | 0.331        |
| 8.                  | My organisation provides complaints and readiness's mechanism   | 4.753        | 0.488        |
| 9.                  | My organisation allows auditors to examine reports before being submitted to donors   | 4.814        | 0.450        |
| 10.                 | My organisation openly receives monitoring visits from funding and oversight agencies   | 4.888        | 0.316        |
| <b>Overall mean</b> |   | <b>4.828</b> | <b>0.287</b> |

(Likert scale of 1 to 5: 1 being strongly disagree; and 5 being strongly agree)



# Social Impact of Sustainable Development Goals and Corporate Governance on Malaysian Government-Linked Companies – The Malaysian Perspective

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## Abstract

**Purpose:** To determine the public perception of the social impact of Sustainable Development Goals (SDGs) and Corporate Governance (CG) on public sector companies focussing on government-linked companies (GLCs) in Malaysia.

**Design/Methodology/Approach:** To ascertain the social impact of SDGs and CG, a mixed-method approach of quantitative survey and qualitative interviews were employed. In this descriptive study, a purposive sampling technique was used to distribute a self-administered questionnaire to 400 respondents throughout the nation while 15 participants were interviewed.

**Findings:** The majority of the respondents in the primary survey are aware of SDGs and have some knowledge about SDGs implemented by GLCs. However, it is interesting to note that when it comes to Corporate Governance, the major concern noted is that many programmes and projects by the GLCs are good but do not have the far-reaching effects that were expected.

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This article is part of a research on The Practices of Corporate Governance and Sustainable Development Goals (SDGs) between Malaysian Public Sector Companies and Developed Countries supported by the Accountant General's Department of Malaysia through *Geran Penyelidikan Perakaunan dan Kewangan Sektor Awam Tahun 2022* (JANM.IPNCPD.100-3/3/2 Jld. 3(37)).

**Originality/Value:** The results of this study contribute to policymakers, regulators and practitioners by presenting the public perception on the SDGs and CG practices being implemented by the GLCs in Malaysia. The results will assist the Malaysian government in understanding the gaps between what the GLCs set out to do and how the public perceive the initiatives carried out. Improved and widespread education of the younger generation as to their legitimate rights and the benefits accruing from SDGs will enable them to articulate their needs and vocalise precise expectations from their leaders to improve decent work and economic growth in an era which is increasingly becoming competitive and combative, both locally and internationally.

**Keywords:** SDG, CG, social impact, Malaysians.

## 1.0 Introduction

In 2015, Bursa Malaysia introduced sustainability reporting when the Sustainable Development Goals (SDGs) were developed by the United Nations, followed by a revamp of the Malaysian Code on Corporate Governance (MCCG) by the Securities Commission in 2017. These transformative regulations improved, both the transparency as well as the corporate sector's impact on environment, social and governance (ESG). This also meant that corporate governance reporting became a mandated requirement to be published separately from the annual report by all public listed companies in the country.

The term Government-linked companies (GLCs) refers to public listed companies in which the government owns the majority or single largest stake and has the power to exercise or influence significant decisions. GLCs hold a more significant position than other public listed companies to serve the interests of the nation. The ownership is distributed among ordinary public shareholders through publicly traded stock (Ang & Ding, 2006). In other words, GLCs can be defined as companies that have a primary commercial objective in which the Malaysian government has a direct controlling stake. GLCs are controlled by the Malaysian government via Federal Government-linked Investment companies (GLICs) (Lau & Tong, 2008). In this study, the public sector companies focus are the GLCs.

According to Bursa Malaysia, there are 53 listed GLCs (Bursa Malaysia 2022). Some of the more prominent examples of Malaysia's GLCs are Sime Darby Berhad, Telekom Malaysia Berhad, UMW Holdings Berhad, Dutch Lady Milk Industries Berhad, Maybank Berhad, Pharmaniaga Berhad, Tenaga Nasional Berhad (TNB), Petroliaam Nasional Berhad (Petronas), Shangri-La Hotels (M) Berhad, KPJ Healthcare Berhad and various others.

SDGs are an initiative by the United Nations (UN) that encompasses a set of 17 global sustainable development issues with goals and targets to be achieved by the year 2030. (Please see Figure 1). The SDGs are targeted to combat poverty, promote gender equality, preserve nature and others (Ricart & Rey, 2022).

**Figure 1: Sustainable Development Goals (SDGs) outlined by United Nations General Assembly (UN-GA)**



Source: United Nations - <https://www.un.org/sustainabledevelopment/development>

Corporate Governance (CG) on the other hand is used as a guide for their business model to create value for other people i.e. stakeholders (Ricart & Rey, 2022). CG practices are required because there is a need for clear separation of powers between control of the systems and ownership of the businesses which companies direct and govern (Cadbury, 2000). CG also acts as a tool to control corruption and mismanagement to achieve its objective (Ali & Asmah, 2019).

According to the Malaysian Code on Corporate Governance (MCCG), CG can be divided into three key principles and seven sub-themes: The three key principles are Board Leadership and Effectiveness, Effective Audit and Risk Management and Integrity in Corporate Reporting and Meaningful Relationship with Stakeholders. While the seven sub-themes are board responsibilities, board composition, remuneration, audit committee, risk management and internal control framework, engagement with stakeholders, and conduct of general meeting (MCCG, 2021)

The public sector companies are crucial in delivering adequate and quality public services to citizens. Nonetheless, most public sectors cannot realise their budget effectively and efficiently without powerful governance. Additionally, if there is a lack of sustainable goals, it can lead to a negative impact on the development of a nation in the long term (Boros and Fogarassy, 2019).

With all the transformative regulations and the importance given to SDGs, many GLCs started implementing CG practices and SDGs programmes nationwide. However, the extent of public perception on the social impact of all these initiatives is yet to be fully researched.

Social impact refers to the positive effects that an act, activity, program, or policy can have on the well-being of individuals and communities (Casey & Zeman, 2021). Understanding and measuring social impact is important because it promotes the principle of giving back to society and encourages individuals and organizations to contribute to the betterment of their communities.

Hence, there is a need to examine the social impact of Malaysian GLCs in terms of SDGs implementation and CG practices. This study uses a mixed-method approach to determine the public perception, both awareness and knowledge to determine the perception of Malaysians on the SDGs and CG practices implemented by Malaysian GLCs.

## **2.0 Literature Review**

### **2.1 SDGs & CG in Developed Countries**

Developed countries have well demonstrated that the impact of SDGs and CG is evident on public sector business enterprises. Better governance and SDGs practices have prompted higher cash flows and valuations for public sector companies compared to private sector companies (Ang & Ding, 2006) where the impact of governance and SDGs is evident. Corporate governance practices in Singapore also show that public sector companies have higher cash flow and valuations compared to private sector companies due to better practices of governance and SDGs (Ang & Ding, 2006).

Corporate governance and sustainability practices in the United Kingdom and United States of America help support economic efficiency, sustainable growth and financial stability. In the long term, these practices lower investment costs. Therefore, investors consider a company's performance in this regard to be a crucial factor in investment decisions (Aguilera, Williams, Conley & Rupp, 2006). Concurrently, better practices of governance and SDGs reduce the cost of debt financing due to higher protection of investors' rights to reduce agency problems within Canadian firms (Ghouma, Ben-Nasr & Yan, 2018). Hence, the practices of SDGs and CG in developed countries show that financial market performance, firm performance and social impact do improve. It remains to be examined whether this has the same results in developing countries such as Malaysia.

### **2.2 SDGs & CG Practices in Malaysia**

Corporate governance research of listed companies in Malaysia is not new in academic research, but polarised views on its contribution to corporate performance are controversial. Studies such as Khatib and Nour (2021) and Atan, Alam, Said and Zamri (2018) found the impact of CG adoption and good code compliance make a significant contribution to a company's capital structure and hence increase the company's performance.

On the other hand, Zabri, Ahmad & Wah (2016) in their investigation of the top 100 listed companies in Bursa Malaysia argue that board responsibilities and composition do not influence firms' performance. This statement is supported by Wai Kee, Yu Hock & Chee Kueng (2017), and Kamalluarifin (2016) who argue that governance in the Audit Committee does not improve audit quality and not all elements of governance can contribute to the financial market and firm performance.

These controversial results prompted us to further investigate whether implementing good corporate governance contributes to a company's improved performance. If the results show positive contributions, then this will lead to more companies that would prefer to implement it. Ultimately, this will also lead to the achievement of the SDGs.

### **2.3 SDGs and CG of GLCs in Malaysia as Compared with Developed Countries**

Buniamin, Jaffar, Ahmad, and Johari (2022) found that Malaysian companies have limited engagement with the SDGs. The participation of Malaysian energy companies in SDGs remains low. Furthermore, in Canada and the UK, CG is significant for Canadian companies with small transactions based on two variables: financial performance and the quality of accounting returns. Firms can enhance their financial performance by implementing governance mechanisms (Kyerem & Ausloss, 2021).

Nonetheless, only a few studies have investigated these aspects of Malaysian GLCs versus developed countries. Even though previous studies ignored social impact, GLCs in developing countries may have different social impact than GLCs in developed countries.

Therefore, there is a need to examine polar views to persuade GLCs to adhere to best practices in SDGs and CGs. These differences can give us a better understanding of whether the SDGs and CG aspects of these two different countries will affect national awareness of SDGs and CG, and ultimately drive SDGs to be better achieved.

### **2.4 Social Impact**

Since the 1970s, sociologists and other social scientists have increasingly focused on studying social impact. Initially, social impact research was limited to environmental concerns, but it has since been expanded to encompass a broader range of social issues. Numerous studies have explored methods for evaluating social impact, making it a relatively mature field of assessment (Esteves et al., 2012; Freudenburg, 1986). Therefore, it is essential to consider social impact when evaluating the effects of policies, programs, and activities.

### **2.5 Demographic Factors and Social Perception**

Research has shown that people of different ages have varying perceptions of the SDGs (Mawonde & Togo, 2021; Odelami & Fasakin, 2019). Furthermore, the level of education of individuals can have a greater impact on the SDGs (Arkorful, Basiru, Anokye, Latif, Agyei, Hammond, Pokuuah, Arkoful & Abdul-Rahaman, 2019). People with different incomes also have different levels of exposure (Wackernagel, Hanscom, & Lin, 2017). A better understanding of the implications in this regard may allow us to have better policy and strategic execution guidelines so that SDGs are achievable.

### **2.6 Awareness of SDGs Among the Public**

Public awareness is closely related to whether the SDGs can be achieved because it is closely related to whether the SDG is known or not (Liu et al., 2019; Yamane & Kaneko, 2021). Insufficient knowledge levels may significantly impede the development progress of SDGs (Omisore, Babarinde, Bakare, & Asekun-Olarinmoye, 2017). Merely raising awareness is

insufficient to achieve the SDGs. Instead, it is necessary to raise awareness through diverse mediums such as mobile phones, educational institutions, ecological projects, stakeholder engagement and others (Yamane & Kaneko, 2021; Yuan, Yu & Wu, 2021; Manolis & Manoli, 2021).

Hence, it is essential to conduct a comprehensive study on the awareness and understanding of the SDGs to ensure that we are on the right path towards achieving them. This is crucial not only for the future of the earth but also for humanity, as it can help us to identify areas where we need to improve and avoid deviating from our goals.

## **2.7 Knowledge of SDGs Among the Public**

As education can influence attitudes towards the SDGs, higher education institutions play a critical role in this aspect. To enhance the effectiveness of the entire process, it is essential to identify sustainability aspects and knowledge gaps in the SDGs (Saitua-Iribar, Corral-Lage, & Peña-Miguel, 2020; Smaniotto, Brunelli, Miotto, Del Pin, Ruscio, E., & Parpinel, 2022; Afroz, & Ilham 2020).

Although most students have a moderate to high understanding of sustainability, particularly sustainable consumption, however, the widespread implementation of this knowledge is only at a moderate level due to their unfamiliarity with it (Nurul & Mariani, 2018). Therefore, gaining a clear understanding of the public's comprehension of the SDGs can be instrumental in advancing our efforts towards achieving these goals successfully. Such insights can help us identify areas where we need to improve, raise awareness, and promote greater engagement and participation, ultimately leading us towards a more sustainable and prosperous future for all.

## **2.8 Public Perception of the Implementation of SDGs**

Public perception of the economic, ecological and social aspects related to the SDGs vary greatly. Some societies see SDGs implementation more as development than environmental policy. It can be constructive or non-constructive depending on the opinions obtained in the polls (Dowler, Green, Bauer, & Gasperoni, 2006).

The issue of bias between social perception and reality are two different things. There is a mismatch between the SDGs official reports and cultural perceptions of these achievements (Tandrayen-Ragoobur, Lamy-Giner, Moncada, and Taglioni, 2021).

Perception is a primary human cognitive contact with the world. Perception can be either good or bad and can come from anyone. Respondents with attitudes and perceptions towards all sustainability dimensions and the development of education in higher education institutions apply a sense of responsibility towards sustainability (Balakrishnan, Tochinai, & Kanemitsu, 2020).

To better understand the issues, perception is one of the critical elements needed aside from knowledge and attitude. Better perception leads to a better understanding of the SDGs and vice versa (Shehu & Shehu, 2018). Good perception eventually leads to acceptance of any

SDGs-based activities that aim to empower the community in the long term (Izurieta, Torres, Patino, Vasco, Vasseur, Reyes & Torres, 2021).

### 3.0 Methodology

To ascertain the public awareness level and perception of Malaysians regarding the implementation of the UN's SDGs on GLCs in Malaysia, a mixed method approach was conducted. A questionnaire survey was conducted for the quantitative approach and an interview was conducted for the qualitative approach.

In the first phase, a self-administered questionnaire was sent out to 400 respondents online. Using a purposive sampling technique, respondents were identified based on two criteria namely, they must be Malaysians and secondly, they must be above 18 years old. A pre-test was done before the questionnaire was distributed. Out of the 400 questionnaires received, only 351 were usable. Based on the feedback, modifications were done to the questionnaire followed by a pilot test which was conducted to ensure the reliability and validity of the questionnaire items. These tests helped identify any potential issues or concerns with the questionnaire and allowed for adjustments to be made as necessary, ensuring that the final questionnaire was effective in collecting the intended data.

The main objective of the questionnaire was to ascertain the awareness and perception of Malaysians regarding SDGs and the implementation of SDGs by GLCs. Confidentiality was observed and respondents were assured that no names will be disclosed. The questionnaire consisted of six sections and took less than 10 minutes to complete. The survey was conducted in August 2022.

Items were adapted from reliable sources as shown in Table 1.

**Table 1: Source of Items Adopted in Questionnaire Survey**

| No | Section | Section Title   | No of Items | Source                   |
|----|---------|---|-------------|--------------------------|
| 1  | A       | Demographic   |             |                          |
| 2  | B       | Awareness of Sustainable Development Goals among citizens                       | 5           | Ejechi (2018)            |
| 3  | C       | Perception of Sustainable Development Goals                                     | 6           | Ejechi (2018)            |
| 4  | D       | Contribution of GLCs towards the actualization of Sustainable Development Goals | 9           | Ejechi (2018)            |
| 5  | E       | Engagement with SDGs  | 8           | Leal Filho et al. (2019) |
| 6  | F       | Implementation of the SDGs  | 6           | Omisore et al. (2017)    |

In the second phase, interviews were conducted with 15 identified participants. This technique was done to answer the research objective and get an in-depth view of the public perception of the social impact of Sustainable Development Goals (SDGs) and Corporate Governance (CG) on GLCs. Using the maximum variation technique, the participants were identified carefully to reflect the phenomenon in the discussion and to ensure representativeness across age, gender, occupational status and type of organisation currently working. There were equal number of males and females, a balanced age group, and respondents working at different

management level including academics. To ensure that the study captures a variance in response, participants were selected from the private sector, public sector and universities. Saturation point was reached at 15 participants; hence no further interviews were conducted.

Data was transcribed manually and analysed using thematic analysis, an approach for identifying, analysing and reporting patterns or themes. All participants were assured of their anonymity and reiterated that the objective of the study was to get an understanding of how Malaysians perceive the social impact of SDGs & CG by GLCs. The transcribed data was analysed by using thematic analysis.

The purpose of this qualitative approach is not to draw generalizations, but rather to understand the perception of the public as to how they perceive SDGs and CGs are being implemented by Malaysian GLCs.

## 4.0 Findings

### 4.1 Demographic Analysis

**Table 2: Demographic Profile of the Respondents (N=351)**

| Variables                    | (%) |
|------------------------------|-----|
| <b>1) Age:</b>               |     |
| 21-30                        | 50  |
| 31-40                        | 29  |
| 41-50                        | 10  |
| 51-60                        | 5   |
| 61 and above                 | 6   |
| <b>2) Gender:</b>            |     |
| Male                         | 41  |
| Female                       | 59  |
| <b>3) Educational Level:</b> |     |
| Bachelor's degree            | 33  |
| Master                       | 28  |
| DBA/PhD                      | 15  |
| Diploma                      | 3   |
| Form 5/Form 6                | 13  |
| Others                       | 8   |
| <b>4) Marital Status:</b>    |     |
| Single                       | 66  |
| Married                      | 34  |

| Variables   | (%) |
|---|-----|
| <b>5) Region:</b>   |     |
| East Malaysia (Sabah & Sarawak)   | 19  |
| Federal Territory Putrajaya, Kuala Lumpur, Selangor and Negeri Sembilan | 57  |
| Malacca and Johor   | 8   |
| Pahang, Kelantan & Terengganu   | 6   |
| Perak, Penang, Perlis & Kedah   | 10  |
| <b>6) Occupational Level:</b>   |     |
| Academic  | 19  |
| Government  | 10  |
| NGO   | 3   |
| Private   | 43  |
| Student   | 25  |
| <b>7) Management Level:</b>   |     |
| Executive   | 24  |
| Middle Management   | 21  |
| Non-Executive   | 49  |
| Top Management  | 6   |
| <b>8) Household Income:</b>   |     |
| Not Applicable  | 20  |
| RM1,001 – RM3,000   | 25  |
| RM3,001 – RM4,000   | 11  |
| RM4,001 – RM6,000   | 12  |
| RM6,001 – RM8,000   | 7   |
| RM8,001 – RM10,000  | 10  |
| RM10,001 – RM15,000   | 9   |
| Above RM15,000  | 6   |
| <b>9) Ethnicity:</b>  |     |
| Malay   | 45  |
| Chinese   | 20  |
| Indian  | 17  |
| Others  | 18  |

| Variables                   | (%) |
|-----------------------------|-----|
| <b>10) Working in GLCs:</b> |     |
| Yes                         | 17  |
| No                          | 83  |
| <b>11) Having a child:</b>  |     |
| Yes                         | 28  |
| No                          | 72  |

Table 2 shows the demographic profile of the respondents which includes age, gender, educational level, marital status, region of the respondents, occupational level, management level, monthly household income, ethnicity, experience working with GLCs and number of children. Majority (50%) of the respondents are young and below 30 years of age while 89 percent of the respondents are below 40 years old. This age structure is generally similar to the Malaysian population. The views of these age categories are significant to the development of SDGs. In addition, the data shows that majority (59%) of the respondents are females. From the perspective of educational level, majority of the respondents are educated with most of them (33%) holding at least a bachelor's degree. Hence the survey results may be more indicative of the views of highly educated people.

A majority (66%) of the respondents are single. About 57 percent of the respondents are from the central zone of Federal Territory of Putrajaya, Kuala Lumpur, Selangor and Negeri Sembilan which follows the population demography of Malaysia. A majority (43%) of the respondents work in the private sector and the sample constitutes 25 percent students. 24 percent of the respondents at executive level and 21 percent of the respondents from the middle management, showing that majority of the respondents are at the management level.

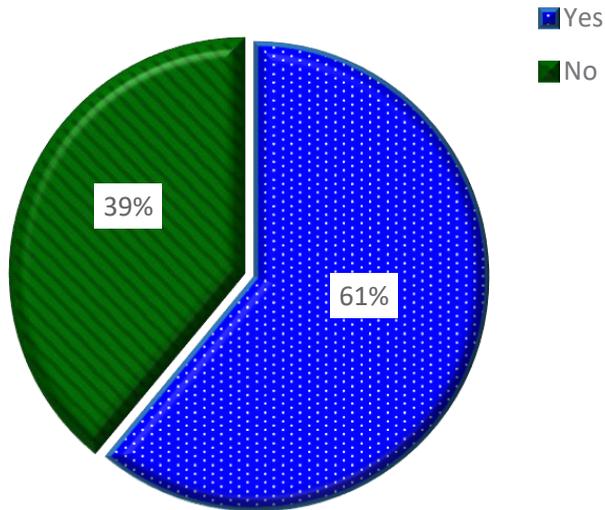
Majority (25%) of the respondent's household income per month is below RM 3,000 with 6% in the Top 20 (T20) category with a monthly household income of above RM 15,000. 20% of the respondents had no income as they were students with a majority (45%) of the respondents being Malays. Majority (83%) of the respondents have never worked with GLCs and only 17 percent are currently working or have worked with GLCs.

#### 4.2 Awareness of SDGs

Five questions were posed to the respondents to determine the level of awareness of the respondents in terms of SDGs, their key sources of information about SDGs, what SDGs are all about, which are the SDGs that are to be achieved and whether they have attended any conferences or workshops related to SDGs.

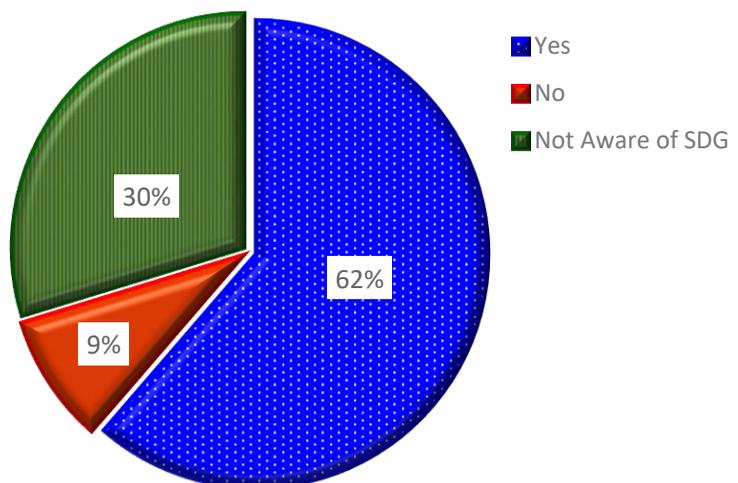
Figure 2 shows that only 61 percent of the respondents are aware of the SDGs. While 39 percent of their major source of information regarding the SDGs is from social media, 15 percent are from company projects and 4 percent from newspapers and word of mouth. Also, 54 percent of the respondents know what the SDGs are all about and only 16 percent of the respondents do not know what SDGs are about.

**Figure 2: Awareness of Respondents about SDGs**



Furthermore, as shown in Figure 3, more than half (62%) of the respondents feel that the SDGs are targeted to be achieved by 2030. Most of the respondents do not seem to be interested in knowing more about SDGs as the majority (42%) of the respondents have never attended any workshop or conference about SDGs. 29% of the respondents are not aware of SDGs which implies that 71% of the respondents have never been involved with SDGs. These results reflect that the low level of awareness of SDGs is due to the low implementation of SDGs (Guan, Meng, Liu & Xu, 2019) in the country. There is a high possibility that Malaysians only get involved in SDGs through company projects and work-related activities. This also shows the lack of interest among the public to know more about SDGs and the low effective implementation of SDGs in Malaysian companies.

**Figure 3: Respondents' Awareness that SDGs Goals are Targeted to be Achieved by 2030**



### 4.3 Knowledge of SDGs

In addition to awareness, another way to ascertain public perception is based on the knowledge component. Three questions were asked to the respondents to determine their knowledge level on SDGs. Only 65 percent of the respondents knew that there are 17 goals in SDGs. Considering that majority of the respondents had a university education, this is an alarming fact.

Nearly 42 percent of the respondents reflected that SDGs can be described as “a form of development that finds a balance between environmental, social and economic issues. Only 29 percent of the respondents answered correctly saying that *“it’s a form of development that meets the needs of the present without compromising the ability of future generations to meet their own needs”*. In addition, knowledge of the concept of sustainable development among the public is still lacking. In summary, the knowledge on SDGs among the public is still not very high and stands in the 60 percent range.

Though many know that there are 17 goals and it was proposed by the UN, we still have a long way to go. We highlight here that most of the respondents are educated with a minimum Bachelor degree and yet their knowledge and awareness is at the low level.

In addition to awareness and knowledge on SDGs, it’s important to identify in what way do the public contribute or volunteer in SDGs implementation in the country. There are more than half (56%) of the respondents who do not contribute or do any volunteerism activities to any socio-economic/environmental development of their community in their town or state.

However, among the 44 percent who do contribute or do volunteerism activities, most of them (29%) are actively involved in education and empowerment-related matters, while another 23 percent have contributed to environmental protection. These results are in line with (Arkoful, Basiru; Anokye, Latif; Agyei, Hammond; Pokuuah, Arkoful & Abdul-Rahaman, 2019) who state that there is more exposure of SDGs among educated persons compared to those less educated individuals as the educated individuals have access to more resources and materials.

### 4.4 Perception of SDGs

Once knowledge and awareness of public was determined, the study goes on to determine the perception level of the public. Five questions were posed using Likert Scale to measure their response. The descriptive analysis and means show interesting results.

More than 80 percent of the respondents feel that SDGs can enhance human development and that SDGs are a positive development for the development continuity. However, a small number (16%) are still in doubt as to whether SDGs will do any good for human development. A large majority (81%) of the respondents agree that the knowledge of SDG is required by the public. Therefore, the government or regulators need to be more active and effective in disseminating this knowledge to the public so that the public can better understand the SDGs and make them successful.

Even though more than 67 percent of the respondents agree that it is not a waste of time and resources for the citizen’s involvement in SDGs, only 51 percent of the respondents are of the

view that SDGs are achievable by 2030. One might consider this to be a pessimistic view but it could be due to the awareness level and that not enough is being done to implement the SDGs in the nation. Besides, it shows a positive perception on SDGs, but there are still some scepticisms among the public as to whether the resources are being used efficiently and if the goals will be achieved by 2030.

Most of the respondents are not optimistic about the success of the SDGs. Further probing during the qualitative interviews revealed that many GLCs are conducting SDGs related activities but they are not far-reaching to the targeted society. A better perception will lead to a better understanding of the SDGs and vice versa (Shehu & Shehu, 2018). Good perception eventually leads to acceptance of any SDGs-based activities that aim to empower the community in the long term (Izurieta, Patino, Vasseur & Torres, 2021).

#### **4.5 GLCs and Factors Limiting the Actualisation of SDGs**

There is a mixed feeling on the GLCs' lack of funding being a cause of the actualisation of SDGs projects. While majority (45%) of the respondents do not agree that GLCs lack funding, more than 40 percent are undecided on their response showing their lack of clarity. A similar response is also noted with regards to lack of interest on the part of GLCs. In other words, public perception is that GLCs may have enough funds to support these SDGs, but their lack of interest could be the main reason for the manner of implementation of SDGs projects.

Interestingly two major factors which have led to the actualisation of the SDGs by GLCs seem to be the misappropriation of funds and the non-challenging attitudes of policy makers where more than 60 percent of the respondents have this perspective. In summary, public perception on what are the main factors which limit or hinder the actualisation of SDGs by GLCs are high level of corruption, the non-challenging attitude of policy makers as well as poor publicity of SDGs among GLCs. These results indirectly reflected the research conducted by Mokhtar and Sulaiman (2012) that almost 30 percent of the companies did not report on the environment which held back the contribution of actualisation in SDGs.

#### **4.6 Importance of SDG as perceived by the Respondents**

In a bid to understand how the public perceives the importance of SDGs, the ranking was analysed using the mode values. It looks like 'bread and butter' matters remain to be the main concern universally where SDG 1 (No Poverty) and SDG 2 (Zero Hunger) ranked as the topmost important SDGs. SDG 3 (Good Health & Well Being) comes third in importance while SDG 4 (Quality Education) comes only 6th in importance. Respondents believe that if you do not have food on the table, nothing else matters. Therefore, the government should take this issue very seriously in drawing up their policies.

#### **4.7 Views on the Social Impact of SDG**

More than 70 percent of the respondents agree that "the development of human beings has resulted from economic growth and technical development. Therefore, we should pay more attention to "economic and technical progress to promote future development". Nearly 60 percent of the respondents truly care about global sustainable development which shows there is a good level of concern among the public on this matter and more than 70 percent of the

respondents support the SDGs. In response to the statement on 'having a job with a high salary even if they have little interest in it', a majority (44%) of the respondents agree; showing that salary remains the first choice when looking for a job. This could probably be due to the current high cost of living and lifestyle.

#### **4.8 Qualitative Interviews on the SDG and CG practices of GLCs**

A qualitative interview was conducted on 15 selected participants to capture a more in-depth perception of the impact SDG and CG on GLCs.

Some of them agreed that there are many GLCs who have implemented programmes which are in line with SDGs and environmental, social and governance (ESG). More than half the participants were aware of the SDGs programmes and could name at least one GLC which had implemented programs or events in line with one of the 17 SDGs. There were about ten participants who could name more than four GLCs that had implemented policies and programmes in line with SDGs.

SDGs implementation is done by some GLCs however, *"many of these are not visible."* Visibility could be due to poor promotion or due to benefits not being far-reaching enough. There is still a gap for SDGs to be achieved in general. This gap can be addressed only through education intervention and a culture shift. It doesn't matter whether the corporate is a GLC or not, SDGs should be implemented.

As for CG, most of the participants needed to be educated about what it refers to, before they exclaimed how important CG practices are especially among GLCs. CG has more efficiency on GLCs business operations than towards society. Without CG, there will be no market confidence in the company and consequently, the business cannot sustain itself.

The qualitative interviews showed that awareness of SDGs policies among Malaysians are still low. However, those who know about it highlighted some of the popular examples which are significant. The biggest drawback highlighted was that "some of the programmes are good but not far-reaching to the targeted people". As for CG, again most of the participants needed to be educated about CG practices only to subsequently highlight that it is very important for all companies, more so among GLCS.

#### **5.0 Conclusion & Policy Recommendation**

A few major conclusions which emerge from this study using descriptive analysis and thematic analysis are:

Firstly, majority of the respondents have little knowledge and awareness about SDGs which could be due to their own lack of interest or due to low promotional initiatives.

Secondly, "bread and butter" issues are the main concern in the country as "Zero Hunger" and "No Poverty" were the crucial SDGs identified.

Thirdly, Malaysians are positive about SDGs and citizen's involvement, however many of them are not part of volunteerism.

Fourthly, the interviews revealed that knowledge and awareness of CGs are extremely low among the public as the participants needed to be educated about the subject matter before they finally exclaimed how important CG practices are especially among GLCs.

Finally, Malaysians feel that CG practices are very important as they will lead to more efficiency in GLCs business operations and contribute to society. Without CG, there will be no market confidence in the company and subsequently, the business cannot sustain itself.

SDGs implementation is done by some GLCs but many of these activities and results are not visible. Visibility could be either due to lack of interest among the GLCs or due to reasons that the programmes conducted are not far-reaching enough. There are still gaps for SDGs to be achieved in general. These gaps can be addressed only through education intervention and a culture shift. It doesn't matter whether the corporate is a GLC or not, SDGs should be implemented.

The well-established business enterprises of developed countries have long realised that growth and profitability are realised through enhanced quality, reduction of waste and continuing education. These are some of the basic tenets that are encapsulated in CG and the SDGs.

While Malaysian authorities have gradually begun to accept and implement some of these components, namely through ESG and CSR requirements for public companies, the findings of the study show that much more needs to be done and they need to be done effectively and efficiently, if the SDGs are to be achieved within the targeted date.

As regards CG, the various aspects of Board responsibilities, Conduct of General Meetings and Engagement with stakeholders can be made part of the essential curriculum for all directors of private companies and senior government officials, as these are the same persons who may later transition to become future leaders of public sector companies.

Additionally, governance warrants that continually evolving standards and regulations are required to meet contemporary requirements. This means the implementation of enhanced oversight systems and methods need to be established by the authorities to ensure efficient management of scarce resources and funds of public sector companies and NGOs to meet the critical needs of the growing population in an era where cyber-crimes and misappropriation are becoming rampant.

Improved and widespread education of the younger generation as to their legitimate rights and the benefits accruing from SDGs will enable them to articulate their needs and vocalise precise expectations from their leaders to improve decent work and economic growth in an era that is increasingly becoming competitive and combative, both locally and internationally. Further studies should be done with a larger sample size and using more rigorous analysis.

The contribution of this mixed method study is useful to understand the significance and contribution of Malaysian public sector companies, especially GLCs. Based on the public perception, there is a need to increase citizens' satisfaction through corporate social responsibilities, and create awareness of the important roles of companies in the public sector in shaping economic and social developments.

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# Call for Papers

## IPN Journal of Research and Practice in Public Sector Accounting and Management

**Volume 14, No. 1, 2024 - Submission Deadline: 31<sup>st</sup> December 2023**

**Volume 14, No. 2, 2024 - Submission Deadline: 30<sup>th</sup> June 2024**

*The frequency of this journal has been changed from  
annually (December) to bi-annual (Jun, December) with effect from 2023.*

### Scope of this Journal

The ***IPN Journal of Research and Practice in Public Sector Accounting and Management*** is a scholarly, peer-reviewed journal of the National Accounting Institute, Accountant General's Department, Malaysia. Manuscripts appropriate for publication in this journal include critical reviews of best practices in public sector management and accounting, theoretical and conceptual syntheses, literature reviews and empirical research using quantitative or qualitative methods. Manuscript length should be in the range of 3,000 to 7,000 words, exclusive of tables, figures and appendices. Manuscripts submitted to this journal should not have been published or being considered for publication elsewhere. However, revision or re-publication of a manuscript that has been published in conference proceedings or under equivalent circumstances will be considered. Manuscripts can be written in English or Bahasa Malaysia.

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