Kertas Diskusi

SIMPOSIUM PENYELIDIKAN PERAKAUNAN, KEWANGAN DAN TADBIR URUS

Siri 1/2020

(RESEARCH SYMPOSIUM IN ACCOUNTING, FINANCE AND GOVERNANCE 2020)

UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia

GRACE
GOVERNANCE RESILIENCE & ACCOUNTABILITY CENTRE

Fakulti Ekonomi Dan Pengurusan
UNIVERSITI KEBANGSAAN MALAYSIA

ISI KANDUNGAN

SIMPOSIUM PENYELIDIKAN PERAKAUNAN, KEWANGAN DAN TADBIR URUS 2020
(RESEARCH SYMPOSIUM IN ACCOUNTING, FINANCE AND GOVERNANCE 2020)
(SAFAG 2020)
&
BENGKEL PEMURNIAN ARTIKEL GRACE 2020/2021

PUSAT KAJIAN KEUTUHAN TADBIR URUS & AKAUNTABILITI (GRACE)
FEP, UKM

Pengenalan

Pusat Kajian GRACE meneruskan perancangan penerbitan 2020 bagi meningkatkan penerbitan yang berkualiti dengan membantu ahli penyelidik (penulis utama atau penulis koresponden) yang telah mempunyai artikel penuh dan hampir selesai. Sasaran penerbitan GRACE adalah WOS (Q1-Q4) dan Jurnal Berindeks (Scopus, ESCI dan yang diiktiraf untuk MyRA).

Berdasarkan keputusan Mesyuarat Pengurusan Bil 7/2020, pihak GRACE diminta untuk membuat penambahbaikan pengisian program bagi bengkel ini. Bengkel 3 hari 2 malam ini akan dijalankan dengan pengisian bengkel dan simposium.

SAFAG 2020 diadakan bertujuan untuk memberi peluang ahli GRACE mendapatkan pandangan dan idea penambahbaikan artikel dari penceramah / penilai jemputan. Aktiviti seperti ini juga dapat mengekalkan momentum ahli untuk terus menulis dan menerbit.

Bengkel Pemurnian Artikel GRACE diadakan bagi meneruskan perancangan penerbitan 2020/2021 dalam meningkatkan penerbitan yang berkualiti dengan membantu ahli penyelidik yang mempunyai penulisan 75% hampir selesai. Bengkel ini akan memberi ruang kepada ahli untuk menyiapkan penulisan tersebut dan syarat penyertaan adalah pada akhir bengkel sekurang-kurangnya satu artikel telah sedia untuk dihantar ke jurnal yang disasarkan.

GRACE mengambil inisiatif untuk menjadikan kertas kerja yang telah dibincangkan di bengkel ini kepada Siri Kertas Diskusi sebagai rujukan kepada ahli FEP secara langsung kepada pelajar yang memerlukan rujukan penulisan penyelidikan dalam bidang yang berkaitan.

Objektif

a. Memberi ruang dan peluang kepada ahli (penulis utama atau penulis koresponden) untuk mendapatkan cadangan penambahbaikan artikel sedia ada dari penceramah jemputan dan rakan-rakan ahli penyelidik

b. Memberi ruang dan peluang kepada ahli (penulis utama atau penulis koresponden) untuk menyiapkan penulisan yang 75% hampir selesai

c. Mencapai sasaran penerbitan pusat dan seterusnya FEP, UKM.

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Tentatif Program

SAFAG 2020
&
BENGKEL PEMURNIAN ARTIKEL GRACE 2020/2021
Klana Beach Resort Port Dickson, Negeri Sembilan

28 – 30 Ogos 2020 (Jumaat – Ahad)

Hari Pertama Bengkel Pemurnian Artikel GRACE 2020/2021

HARI	MASA	AKTIVITI
28 Ogos 2020 (Jumaat)	2.45 petang	Daftar Masuk di Klana Beach Resort Port Dickson, Negeri Sembilan
	3.00 petang	Aluan dan taklimat: **Pengerusi GRACE** ***Prof. Dr. Mohamat Sabri Hassan*** **Bengkel Pemurnian Artikel GRACE 2020/2021:** Proses Menyiapkan Penulisan - (penulis utama atau penulis koresponden)
	5.00 petang	Minum Petang Rehat
	7.00 malam	Makan Malam
	8.00 malam	**Bengkel Pemurnian Artikel GRACE 2020/2021:** **Penetapan jurnal yang sesuai untuk artikel oleh setiap peserta** ***-WOS Journal*** ***-Australian Business Dean Council (ABDC)*** **Proses Menyiapkan Penulisan - (penulis utama atau penulis koresponden)**
	10.00 malam	Minum Malam Tamat Sesi Bengkel Hari Pertama

Hari Kedua : SAFAG 2020

HARI	MASA	AKTIVITI
29 Ogos 2020 (Sabtu)	8.00 pagi	Pendaftaran Ahli GRACE
	8.30 pagi	**Aluan:** **Pengerusi GRACE** ***Prof. Dr. Mohamat Sabri Hassan***
	8.45 pagi 20 minit 20 minit 10 minit	**SAFAG 2020** Pembentangan ringkas artikel 1: **Corporate Disclosure and Cost of Equity: An Explanation** **Pembentang:** ***Datin Dr. Zaini Embong*** **Pembahas:** ***Prof. Madya Dr. Romlah Binti Jaffar*** **Pemudahcara:** ***Dr. Shifa Mohd Nor*** **Komen Peserta:** ***Dr. Mohd Mohid Rahmat*** **Sesi Soal Jawab**
	9.35 pagi	**Minum pagi**
	9.50 pagi 20 minit 20 minit 10 minit	**SAFAG 2020** Pembentangan ringkas artikel 2 : **A Systematic Literature Review of Industry 4.0 on Bridging the Information Asymmetry Between Corporate Governance** **Pembentang:** ***Dr. Mohd Hasimi Yaacob*** **Pembahas:** ***Prof. Dr. Mohamat Sabri Hassan*** **Pemudahcara:** **Dr. Mohd Hafizuddin Syah Bangaan Abdullah** **Komen Peserta:** ***Dr. Mohd Hafizuddin Syah Bangaan Abdullah*** **Sesi Soal Jawab**
	10.35 pagi	**SAFAG 2020**

	 20 minit 20 minit 10 minit	Pembentangan ringkas artikel 3**: Controlling Shareholder and Auditor-client Relationship : Insight Evidence from Related Party Transactions.** **Pembentang:** ***Dr. Mohd Mohid Rahmat*** **Pembahas:** ***Prof. Dr. Norman Mohd Saleh*** **Pemudahcara:** ***Dr. Mara Ridhuan Che Abdul Rahman*** **Komen Peserta:** ***Dr. Mara Ridhuan Che Abdul Rahman*** **Sesi Soal Jawab**
	11.20 pagi 20 minit 20 minit 10 minit	**SAFAG 2020** Pembentangan ringkas artikel 4 **: Islamic Governance and Risk Disclosure in Saudi Arabia: The Role of Corporate Life Cycle** **Pembentang:** ***Prof. Madya Dr. Romlah Binti Jaffar*** **Pembahas:** ***Prof. Dr. Norman Mohd Saleh*** **Pemudahcara:** ***Datin Dr. Zaini Embong*** **Komen Peserta:** ***Dr. Shifa Mohd Nor*** **Sesi Soal Jawab**
	12.15 tengahari	**Makan Tengahari** **Solat**
	2.15 petang 20 minit 20 minit	**SAFAG 2020** Pembentangan ringkas artikel 5 : **Hubungan di antara Urusniaga Pihak Berkaitan dengan Yuran Audit** **Pembentang:** ***Dr. Hamezah Md Nor*** **Pembahas:** ***Datin Dr. Zaini Embong*** **Pemudahcara:**

	   10 minit	**Dr. Rosiati Ramli** **Komen Peserta:** ***Dr. Rosiati Ramli*** ***Prof. Madya Amizawati Mohd Amir*** **Sesi Soal Jawab**
	3.15 petang	**Minum Petang**
	3.30 petang 20 minit 20 minit 10 minit	**SAFAG 2020** Pembentangan ringkas artikel 6: **Intellectual Capital Disclosure in Integrated Reporting and Cost of Equity: The Role of Size, Business Strategy and Industry** **Pembentang:** ***Prof. Dr. Mohamat Sabri Hassan*** **Pembahas:** ***Prof. Dr. Norman Mohd Saleh*** **Pemudahcara:** **Dr. Mohd Hasimi Yaacob** **Komen Peserta:** ***Dr. Mohd Hasimi Yaacob*** **Sesi Soal Jawab**
	4.30 petang	SAFAG 2020 Tamat
	7.00 malam	Makan Malam
	8.00 malam	**Bengkel Pemurnian Artikel GRACE 2020/2021:** **Proses Menyiapkan Penulisan - (penulis utama atau penulis koresponden)**
	10.00 malam	Minum Malam Tamat Sesi Bengkel Hari Kedua

Hari Ketiga Bengkel Pemurnian Artikel GRACE 2020/2021

HARI	MASA	AKTIVITI
30 Ogos 2020 (Ahad)	7.30 pagi	Sarapan Pagi
	8.30 – 10.30 pagi	**Pendaftaran ahli GRACE** **Bengkel Pemurnian Artikel GRACE 2020/2021: Pembentangan artikel progres penulisan – semua peserta yang terlibat**
	10.30 – 11.00 pagi	Minum pagi
	11.00 pagi – 12.30 tengahari	**Rumusan Bengkel Pemurnian Artikel GRACE 2020/2021 dan SAFAG 2020**
	12.30 tengahari – 2.30 petang	Daftar Keluar Makan Tengahari Tamat Bengkel

Corporate Disclosure and Cost of Equity: An Explanation

Zaini binti Embong

Norman Mohd Saleh

Universiti Kebangsaan Malaysia

Disclosure, Information Asymmetry and Cost of Equity

Abstract

This study offers an explanation to the relationship between disclosure and cost of equity by formally testing it. Previous studies have shown that there is a significant negative relationship between disclosure and cost of equity. Among explanations offered for this relationship is that disclosure reduces estimation risk, hence reduces uncertainty regarding returns. This in return induces investors to be contented with lower return. Another well-known explanation is that disclosure reduces information asymmetry. Lower information asymmetry encourages traders to get involved in capital market, due to lower transaction cost and lower adverse selection problem. In short, the relationship between disclosure and cost of equity can be explained either by reduction in estimation risk or by its effect through information asymmetry. Although these explanations are used in the discussion of the relationship between disclosure and cost of equity, no formal test are offered by previous studies. This study is therefore an attempt to fill this gap. Results show that estimation risks explain the relationship better than the effect through information asymmetry. The results also suggest that firms that disclose more information voluntarily enjoy benefits in terms of lower cost of equity as well as lower information asymmetry. This enhances the beliefs that higher corporate disclosure not only leads to more efficient capital market and resource allocation but also benefits the firms themselves. Lower information asymmetry however does not significantly lead to lower cost of equity. The results may be used by firms as a guideline in setting their disclosure strategies.

Keyword: Disclosure, cost of equity capital, information asymmetry, estimation risk

JEL classification: M410

1.0 INTRODUCTION

Disclosure refers to the act of conveying information to other parties either voluntarily or for the purpose of fulfilling requirements set by authority. Corporate disclosure refers to disclosure made by firms to interested parties especially investors. Shaw (2003) defines disclosure as actions by firm to convey its private information to interested users regarding its performance, forecasts, current operation and any related information that might be of interest to the users, especially investors. More disclosure is encouraged as this is said to lead to less information asymmetry (Krishnamurti, Šević and Šević 2005). Lower information asymmetry reduces moral hazard and adverse selection problem (Akerlof 1970). In capital market, this will lead to investors being able to make better decision about their investment, hence more efficient resource allocation (Healy and Palepu 2001). Lower information asymmetry will also attracts more players into the capital market, making it more liquid market, hence lowering transaction cost.

Higher disclosure by firms means less private information. With information being made publicly available, investors can make estimation about their returns without having to pay for the information. This lowers their estimation risk and prompts them to settle for a lower return. Lower returns required by investors mean lower cost of equity capital to the firms. This indicates that, not only investors and markets benefit from higher disclosure, but also firms themselves. However, there are costs involved in disclosing private information to the public. Costs such as proprietorship cost (Hayes and Lundholm 1996) can be a major factor for firms not to disclose their information. It is imperative that firms disclose their private information only if benefits outweigh the costs of disclosing. Previous research have identified several benefits to the disclosing firms including good reputation (Landgraf and Belkaoui 2003), more stable and informative share price (Gelb and Zarowin 2002; Schadewitz and Kanto 2002), higher earnings and returns association (Douthett, Duchac, Haw and Lim 2003), able to borrow at lower cost (Mazumdar and Sengupta 2005) and lower cost of equity (Botosan 1997).

Having lower cost of equity may be the most compelling reason for firms to disclose. Cost of equity constitutes part of cost of capital of firms. Firms finance their operation by either internal or external sources. External source comes from either debt or equity. Cost of debt is comparatively easy to calculate as this is basically determined by the lender. Cost of equity is however more difficult to determine as this is subjected to the perception and action of investors in the market. If these two costs can be kept as low as possible, then firms may be able to engage in more investment and or activities as the cost to finance these activities is low. Botosan (1997) shows that firms with higher disclosure level enjoy lower cost of equity compared to the ones with lower disclosure level. Even the cost of debt is also lower for firms with higher disclosure (Sengupta 1998). These studies show that firms get real benefits in terms of lower cost of capital by disclosing more.

Explanation to the relationship between disclosure and cost of equity is based on two perspectives. Botosan (1997, 2006), Botosan, Plumlee and Xie (2004) explain the relationship from the perspective of estimation risk. Estimation risk relates to accuracy of estimation made by investors regarding returns on their investments. The more accurate the estimation, the less estimation risk there is. One factor that may lead to a more accurate estimation is information. If information is not made publically available, investors may need to pay for private information making the cost of investment higher and hence request higher returns as compensation. However, if information is made publically available, there will be no cost of getting this information; hence estimation of returns can be made with better accuracy without having to pay additional cost. This in return leads investors to be contented with lower return that is lower cost of equity for the firms. This explains why firms that disclose more enjoys lower cost of equity.

Another frequently used explanation of the relationship between disclosure and cost of equity is from the perspective of information economics. Based on economic theory, disclosure reduces information asymmetry in two ways; first, disclosure reduces private information and this secondly reduces the needs to acquire the information (Verrecchia 2001). In other words, private information will be made public through disclosure. Since information is publically available, investors may use the information in their decision making process without incurring cost of getting the information. This creates an environment of low information asymmetry.

Information asymmetry exists when certain parties have more information than the other party in a transaction. This may lead to the party with more information taking advantage of the information over those without the information. Information asymmetry may lead to adverse selection and moral hazard problems (Akerlof 1970). Adverse selection problem refers to bad or sub-optimal decision or choice being made due to lack of information. Moral hazard relates to the inappropriate action by those with information, even to the extent that this action may be detrimental to those without the information. These problems may lead to an inefficient resource allocation. In capital market, information asymmetry may discourage investors (especially those without the privilege of information) from taking part in the transaction. This may cause capital market to be less liquid, hence increases transaction and holding costs. Higher cost may lead investors to request for higher return, therefore higher cost of capital to firms. In short, higher disclosure leads to lower information asymmetry, hence lower cost of capital.

Researches linking disclosure to cost of equity have used the above mentioned explanations to justify the relationship. There is however no formal test being offered as to whether estimation risk or information asymmetry better explains the relationship between disclosure and cost of equity. This paper attempts to fill this gap by formally testing the two explanations. Besides, Diamond and Verrecchia (1991) suggest that more disclosure does not necessarily leads to lower cost of equity. If, for example, higher disclosure leads to a more volatile share price, this may lead to higher cost of equity as investors deem the firms to be riskier. They also suggest that large firms benefit more from higher disclosure compared to smaller firms. This indicates that a lot more researches in the area of disclosure need to be done to understand it (Berger 2011).

Findings from this study are expected to provide inputs to firms regarding their disclosure strategies. Making private information public has its own drawback, for example, the possibility of having to face litigation if the information supplied is disputed by interested parties. The main drawback, as has been discussed is the proprietary cost where information disclosed may be used by competitors to the detriment of the disclosing firms. This shows that firms need to be selective in what to be disclosed so that the benefits gained are more than the costs incurred. Firms have discretion in disclosing information other than the mandatory information required by authority. Therefore, if the firm knows what information is valued by the users and at the same time beneficial to the firm, then a strategy on what to disclose and how much to disclose can be formulated. If for example, the advantage of disclosure is from lowering estimation risks, then firms may disclose more information that can facilitate users in making estimation. If on the other hand, reducing information asymmetry is more important, then firms may increase their information channels.

This paper tries to ascertain as to which explanation better suited the relationship between disclosure and cost of equity. Is the negative relationship between disclosure and cost of equity is due to it lowering estimation risk or because of its effect on information asymmetry. Analysis is performed on 436 firms listed on Bursa Malaysia and the results suggest that there is a significant negative relationship between disclosure and cost of equity. Results also suggest that for this particular sample, the relationship is better explained from the perspective of estimation risk. This paper continues with literature review and hypothesis, followed by methodology section. Then, analysis and results are discussed before the paper is concluded.

2.0 LITERATURE REVIEW AND HYPOTHESES

Corporate disclosure is defined as a process of providing information on items included in the financial statement through notes to the accounts and other schedules (Shaw 2003). Financial statement is an important source of information that is included in the annual report of firms. Besides financial and other mandatory information such as corporate governance statement, there is also information which is disclosed voluntarily, for example chairman's statement included in the annual report. There has been an increase in voluntary disclosure over the years due to pressure for more transparency by users. Annual report is not the only means of providing information to users. Corporate disclosure is also made through press conference, websites and management's announcement. However, annual report is seen as an important and credible channel of corporate disclosure (Botosan 1997; Botosan and Plumlee 2002).

Gelb and Zarowin (2002) find that disclosure made by firms assists investors in making estimates about the firms' earnings and future cash flow. This in return assists them in making estimates of their returns. In line with this, Schadewitz and Kanto (2002) suggest that corporate disclosure provides investors with additional information and understanding regarding earnings and other factors that affect the firm's future performance.

Botosan (1997) shows that there is a significant negative relationship between disclosure and cost of equity. With higher disclosure, investors are more equipped with information regarding their investment. This then increase their confidence and reduce their estimation risks, hence lower their expected returns. At the same time, as firms disclose more, this will lower the investors' costs of getting information since information is made publically available. This in return lower investors' transaction cost, and hence induce them to settle for lower return, that is lower cost of equity for firms. This is in line with Merton's (1987) model that shows informative disclosure is capable of reducing the cost of getting the information. This finding is supported by Fishman and Hagerty (1989) as well as Diamond and Verrecchia (1991).

Cost of capital for firms is actually an opportunity cost to investors who invest in those particular firms (Pagano and Stout 2004). Firms finance their operations through two main sources that are debt (including debenture) and equity. Weighted Average Cost of Capital (WACC) that includes both cost of debt and cost of equity is often used in decision-making process especially relating to investment (Cotner and Fletcher 2000). According to Beneda (2003), it is important to know cost of capital because it enables comparison between alternatives in terms of financing the operations. In other words, cost of financing the project or investment will be one of the determining factors in whether or not the project is undertaken. If the cost of financing is low, this means more project can be taken. This shows that cost of capital is important to firms.

Cost of debt is relatively easy to determine as it relates to interest charged on the debt. Cost of equity is however more difficult to ascertain as it involves investors' expectations. The more certain investors about their investment, the more likely they are to settle for lower returns. Returns to investors are cost of equity to firms. Botosan (1997) has provided an empirical evidence of a negative relationship between disclosure and cost of equity. Her results have been supported by Botosan and Plumlee (2002). The difference between the two studies is that while Botosan (1997) uses a self-constructed measure of disclosure, Botosan and Plumlee (2002) use disclosure score that is provided by a third party (Association for Investment Management and Research, AIMR). The Botosan and Plumlee (2002) study strengthen Botosan's (1997) results as it covers more industry. Among other studies that lead to the same findings are Richardson and Welker (2001), Botosan et al. (2004), Francis, Nanda and Olsson (2008), Cheng, Collins and Huang (2006) as well as Embong, Mohd-Saleh and Hassan (2012).

Botosan et al. (2004) investigate relationship between information precision and cost of equity. They find a significant negative relationship. Explanation offered for this relationship is that disclosure not only reduce transaction cost (as no information cost involved), but also estimation risk. Estimation risk relates to how precise an estimate an investors can make on the returns of their investment. Estimation risk is found to contribute in the decision regarding investment portfolio (Alexander and Resnick 1985; Jorion 1985). Information provided by firms through corporate disclosure facilitates investors in making estimation of returns, and with greater accuracy. In other words, estimation risk for investors is lower and this leads them to be contented with lower returns to compensate for lower risk on their investments. This explains the relationship between disclosure and cost of equity. In line with findings from previous studies, the hypothesis below is proposed:

H_1 There is a negative relationship between disclosure and cost of equity.

The test on the relationship between disclosure and cost of equity as hypothesized in H_1 is the first step in formally testing the two perspectives or explanations for the negative relationship between disclosure and cost of equity. The test on direct relationship between disclosure and cost of equity will indicate whether the relationship can be explained from the perspective of estimation risk. Subsequent hypotheses are to test whether the effect of disclosure on information asymmetry better explain the relationship. The following discussion is focused on disclosure, information asymmetry and cost of equity.

Based on information economics theory (Diamond 1985; Verrecchia 2001), corporate disclosure reduces information asymmetry in two ways; making private information public and this naturally leads to less need to seek for private information. Information asymmetry may lead to imbalanced transaction as those with more information might take advantage of those without the information (Akerlof 1970). By making private information public through disclosure, firms are revealing to potential investors about their performance, capability and future plans. Therefore, disclosure not only reduces agency problem because no one is better off in terms of information but also problems associated with information asymmetry such as adverse selection and moral hazards. Studies linking disclosure and information asymmetry however are scarce, maybe due to the fact that information asymmetry is an unobservable variable making the relationship difficult to establish (Verrecchia 2001).

Among studies that investigate the relationship between disclosure and information asymmetry is by Frankel and Li (2004). This study shows that information asymmetry is reduced when firms made more informative disclosure (in financial statement) and when there is analyst following. This finding indicates that when information is made public through disclosure, information asymmetry between investors and management as well as among investors is reduced. Similarly, Brown, Hillegeist and Lo (2004) find that conference call that is made continuously can be associated with lower information asymmetry. Conference calls are made to dispense private information to the public. This finding confirms earlier study by Brennan and Subrahmanyam (1995) that find more analyst followings is associated with reduction in transaction costs, specifically those related to adverse selection. More analyst followings mean more private information being made public. This however relatively confined disclosure if compared to disclosure made in annual report. Analyst following is for a specific period and reaches limited numbers of audience. By comparison, annual report is in printed form and hence can span over time as well as reaching through a wider spectrum of audience. Therefore it will not be overrated to assume that disclosure made in annual report to have a greater impact on information asymmetry.

Khrishnamurti et al. (2005) provide empirical evidence that firms with higher disclosure level are associated with lower component of adverse selection in their bid and ask spread. Bid and ask spread is one of the measures that are commonly used to represent information asymmetry. High information asymmetry is indicated by a wide bid and ask spread. In the same line, Lim, Yeo and Liu (2003) show that bid and ask spread is lower for firms that disclose additional information on joint-venture. These empirical findings prompted the following hypothesis as part of the test on explanation of relationship between disclosure and cost of equity from the perspective of information economics.

H_{2a} There is a negative relationship between disclosure and information asymmetry.

In discussing screening theory, Stiglitz (1975) explain that disclosure can reduce the problems of adverse selection and moral hazard. Adverse selection problem relates to sub-optimal decision by investors and moral hazard refers to the opportunistic behaviors of those with more information. These problems constitute part of the reasons why investors ask for higher returns. Higher returns for investors mean higher cost of equity to firms. Studies that relate information asymmetry and cost of equity are scant. Chordia, Subrahmanyam and Anshuman (2001) use number of shares traded as a measure of information asymmetry and show that lower information asymmetry is associated with lower expected returns. Besides this empirical evidence, a model by Diamond and Verrecchia (1991) leads to the same conclusion.

In the discussion on their findings, Diamond and Verrecchia (1991) also noted that although it has been shown that the relationship between information asymmetry and cost of equity is positive, it is not impossible for it to be negative. According to them, market may be more liquid as a result of lower information asymmetry as more investors are attracted into the market, including petty traders/investors. If there was an influx of pretty traders into the market, this may cause the market to be volatile and unstable. This then cause erratic changes in share prices, making investment riskier. In this scenario, lowering information asymmetry does not lead to lower cost of equity but instead increasing it. This argument however has yet to be proven empirically.

Besides Chordia et al. (2001), study by Easley, Hvidkjaer and O'Hara (2002) also finds a positive relationship between information asymmetry and cost of equity. This finding is supported by Leuz (2003) and Brown et al. (2004). Although the relationship between information asymmetry and cost of equity could be negative as argued by Diamond and Verrecchia (1991), in line with empirical findings, this study propose the following hypothesis;

H_{2b} There is positive relationship between information asymmetry and cost of equity.

Combining hypotheses 2a and 2b, as well as review of the literatures, it can be deduced that when disclosure is high, information asymmetry is low and this leads to lower cost of equity. These relationships indicate that information asymmetry mediates the relationship between disclosure and cost of equity. In other words, disclosure reduces cost of equity because of its effect on information asymmetry. This explanation to the relationship is therefore based on information economics perspective.

In discussion leading to H_{2a}, empirical findings have provided evidence of negative relationship between disclosure and information asymmetry. Discussion leading to H_{2b} on the other hand shows positive relationship between information asymmetry and cost of equity. The role of information asymmetry as mediator in the relationship between disclosure and cost of equity, to our best of knowledge has yet to be provided empirically. This partly motivates this study. Testing these relationships in a whole enable us to test on the two possible explanations for the relationship between disclosure and cost of equity. Core (2001) has also recommended that these relationships be tested jointly to further understand the issues of disclosure. Berger (2011) has also proposed that a lot more need to be done in order to understand matters surrounding disclosure. The following hypothesis is therefore to test whether the relationship between disclosure and cost of equity can be explained from the perspective of information economics theory.

> **H_{2c} The relationship between disclosure and cost of equity is mediated by information asymmetry.**

3.0 METHODOLOGY

3.1 Sample

Most studies on disclosure were done in the information rich environment such as the USA and Europe. In this environment, the effect of additional disclosure or new information may not be obvious (Verrecchia 2001). The setting of this study can therefore be seen as an additional contribution to the knowledge, where sample consists of fims listed in Bursa Malaysia. Malaysia, as in other Asian countries is still considered as an environment with low information and transparency (Ball, Robin and Wu 2003). The findings from this study may provide new insights into the issues of disclosure and capital market.

Large firms have more resources to disclose voluntarily (Ousama and Fatima 2010). Diamond and Verrecchia (1991) also suggested that large firms benefit more from disclosure than smaller firms. For these reasons, only large firms will be considered as sample in this study. Sample therefore consists of firms listed under main board of Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange). Firms listed on the main board are among the largest listed firms in Malaysia. All firms listed under this board are a potential sample. However, the calculation of dependent variable, cost of equity capital requires historical earnings forecasts of two years ahead. Not all firms listed have this forecast. Therefore sample has to be reduced to only firms with required forecasts. To increase the number of samples included in the study, three years of observations are used, covering year 2004, 2005 and 2006.

There were 648 firms listed under the main board of Bursa Malaysia in years 2004, 2005 and 2006. From this number, firms with two years ahead earnings forecasts were only 208 firms in 2004, 223 for year 2005 and 244 for year 2006. This makes a total of 675 observations. From this total, 97 observations were excluded as they belong to financial institution and banking industry which subjected to different requirement. From the remaining 578 samples, a further 142 firms have to be excluded due to incomplete data. This makes a final sample of 436 observations, 128 firms in 2004, 145 for year 2005 and 163 for year 2006.

3.2 Variables and Measurements

Variables of interest are disclosure, information asymmetry and cost of equity. Disclosure is the independent variable and measured from what is being disclosed in the annual report. Annual report is used because it has been identified as an important channel in communication of corporate information (Botosan 1997). The focus of this study is on information that is being disclosed voluntarily (not mandated by regulation) as well as general in scope. This includes corporate social reporting, employees' information, performance forecast as well as vision and mission. The scoring of disclosure level is done based on checklist employed by Nazli Anum Mohd Ghazali and Weetman (2006). This checklist is chosen because the study was done on Malaysian firms and has been adapted to suit the requirement of Malaysian authority. The checklist used is attached as Appendix 1.

To gauge the level of disclosure, 51 items are included in the checklist. These 51 items are further classified under eleven categories. The categories are general corporate information, specific corporate information, chairman's report, review of operations, product/service information, segmental information, research and development, employee information, social and environmental reporting, financial ratios and market related information. Firms are given a point for each item disclosed and zero if there was no disclosure on the item listed in the checklist. Obtained scores are then totalled and divided by total possible score. Total possible score may be less than 51, as some items may not be applicable to that particular firm. Disclosure score is therefore in percentage or index form. The score is not weighted because this is perceived as more appropriate for study that do not focus on needs of specific group (Cooke 1989). The use of un-weighted index can avoid the issue of subjectivity in determining the weight to be given to items in the checklist (Courtis 1996).

Cost of equity, the dependent variable has been measured in a number of ways. Botosan (1997) provides a detail discussion on these measurements. Methods such as average realized returns and CAPM are *ex-post* in nature. This is seen as inappropriate because this study tries to relate disclosure with decision-making, specifically those of investors. Therefore, the cost of equity calculated must be forward looking or *ex-ante*. Calculation of cost of equity that is based on accounting numbers and taking into consideration the economic profit has been proposed as alternative by researchers such as Ohlson (1995). This is generally known as implied cost of equity. The basis of this calculation is the dividend discount formula/model. This model assumes that current share price is equal to the total dividend receivable for some time into the future (infinity) discounted at cost of equity. Several methods or models have been generated from this basic formula. Among them is the residual income model or accounting based valuation formula (Ohlson, 1995) and another one that is based on dividend discount growth model (Ohlson and

Juettner Nauroth (OJ) 2005[1]). The Ohlson Model has been employed in studies, such as Botosan (1997) and Gebhardt, Lee and Swaminathan (2001). The OJ model has also been applied by Gode and Mohanram (2003). The two models are slightly different but the underlying concept is the same and both give implied cost of equity that is *ex-ante* in nature. Hribar and Jenkins (2004) provide a good insight of the two models.

This study employs or calculates cost of equity using model applied by Gode and Mohanram (2003) for two reasons; one, Gode and Mohanram's (2003) model only needs two year ahead forecasts whereas Gebhardt et al. (2002) requires twelve years into the future forecast as well as terminal value. Due to this, Gebhardt et al. (2002) model could be argued as subjected to more uncertainty as compared to Gode and Mohanram (2003) model. Second, the model is more parsimony. Details of the model are presented in Appendix 2. Data regarding earnings forecast is collected from I/B/E/S while other related data are collected from Datastream. Current share price is taken as the price at the end of the third month after year-end. This is so assuming that all the information disclosed in the annual report is fully utilized by users within the period.

Information asymmetry is deemed as mediating variable in this study. There are several measurements that have been used by previous studies. The most commonly used are three. They are bid and ask spread, trading volume and volatility (Krishnamurti et al. 2005; Botosan 2006). These three measurements are found to be highly correlated, meaning they do measure the same thing that is information asymmetry (Foster and Viswanathan 1993; Greenstein and Sami 1994). This study uses relative bid and ask spread as a proxy for information asymmetry consistent with previous studies (Greenstein and Sami 1994; Leuz and Verrecchia 2000; Mohd 2005). Bid and ask spread is the difference between the highest bid price that buyers are willing to pay and the lowest ask price that sellers are willing to accept. Instead of using absolute spread, this study uses relative spread to avoid confounding effect of share price. Share with higher price may have larger difference compared to share with lower price. By using relative spread, the price of share is taken into consideration because the spread is divided with the current share price. Consistent with the calculation of cost of equity, current share price is taken as the price at the end of the third month after financial year-end. The same procedure is used by Zhang and Ding (2006). Data for daily bid

[1] Previously made available as working paper, New York University (2000).

and ask spread are taken from Datastream and averaged for the period of three months for the same reason applied to the data of current share price.

Control variables included in the analysis are beta, leverage and book-to-market value because these are found by previous studies to be related to cost of equity. All data are obtained from Datastream. Beta is a measure of risk and expected to be positively related to cost equity. Book-to-market represents growth. High growth firms are deemed to be more risky, therefore book-to-market and cost equity is expected to be positively related. Highly leveraged firms are also deemed to me more risky, therefore is expected to be positively related to cost of equity.

Previous studies have also included size as one of the control variables as size has been identified to influence cost of capital. Large firms normally have lower cost of capital compared to smaller firms. One of the reasons being that large firms are deemed less risky. We do not include size as part of control variables because the sample is selected from among the largest firms listed on Bursa Malaysia. Diagram 1 which shows the scatter plot of firms in terms of size included in the sample confirmed our assumption. The firm size is measured by log total asset. Similar plot resulted when size is proxied by log market value (see Appendix 3).

[Inset Diagram 1: Scatter plot size of firms here]

Usual process of data analysis is followed. Descriptive analysis is performed to get an indication of data distribution. Skewness and Kurtosis values are analyzed as indication whether or not data are normally distributed. This is important as linear regression requires the residuals to be normally distributed. Hypotheses testing are subsequently performed using multiple regression analysis. Next section discusses the results from analysis performed.

4.0 ANALYSIS AND RESULTS

4.1 Descriptive Analysis

Hypotheses are tested using multiple regressions. As a prerequisite, the data need to be of normal distribution. Test for normality is therefore performed. Based on the results of Kolmogorov-Smirnov normality test, all variables are having a non-normal distribution. Besides univariate test of normality, multivariate test is also performed where mahalanobis distance is referred to. The multivariate test results confirmed the outliers to be the same cases as those indicated by the univariate normality test. To normalize the distribution, the data are winsorized. The replacement of values is done based on percentile taken from Tukey's Hinges generated in the descriptive analysis. Normality test is then performed on the transformed data and the results show that the distributions of data are normal (Table 1).

[Insert Table 1: Descriptive Statistics here]

The result shows that average disclosure level by firms in the sample is 30.73% with minimum of 9.80% and maximum of 67.65%. Comparison is made with the result obtained by Nazli Anum Mohd Ghazali and Weetman (2006). Their result shows an average of 31.40%, minimum of 6.30% and maximum of 74%. The sample consists of firms listed under KLSE Composite Index in year 2001. It can be seen that the results are similar although our samples are taken for the year 2004 to 2006. This shows that disclosure policy is a sticky policy and remains constant over time. This justifies the use of a year's data in most studies on disclosure (Botosan 1997).

The mean for cost of equity is 18.02% with minimum of 3.10% and maximum of 34.71%. Comparative figures are not readily available as the cost of equity is calculated based on a relatively new model. The closest comparative figure is taken from Hail and Leuz (2006), comparing cost of equity across countries using averages of four different models (one of them is Gode & Mohanram's (2002) model). Taking average over 10 years (1992-2001), cost of equity for Malaysia is 9.75%, much lower than this research's result which is at 18.02%. From the same study (Hail and Leuz 2006), the cost of equity for US is reported at 9.75% whereas Botosan's

(1997) that uses Ohlson (1995) model shows an average of 20.1%. Therefore results obtained for this particular sample is seen justified.

Information asymmetry that is being measured by relative spread shows an average of 0.0123. Comparison is made with results obtained from studies in other Asian countries such as China and Thailand due to unavailability of data from Malaysia. Research by Zhou (2007) reported an average in bid and asks spread of 0.417 before and 0.328 after the adoption of new auditing standards in China. Using listed firms in China between 2001 and 2004, Zhang and Ding (2006) documented an average bid ask spread of 0.2001 for "Type A" shares and 0.2163 for "Type B" shares. From these two results, it can be seen that it is quite difficult to gauge the comparable average for bid and ask spread. Other studies that have reported relative bid and ask spread include Pukthuantong-Le and Visaltanachoti (2009) using Thailand's firms as their sample. The result shows an average relative bid ask spread of 0.841. Study on Singapore shows an average of 0.0358 before changes in method of joint-venture investment and an average of 0.0234 after the changes (Lim et al. 2003).

Table 1 also reports descriptive statistics on control variables included in this study. This includes leverage, beta, book-to-market (BTM) as a proxy of growth, volatility and turnover. All the control variables show similar results to previous studies. Leverage, for example shows similar mean of 40.9% to study done by Deesomsak, Paudyal and Pescetto (2004). The same goes for other variables and hence will not be discussed in detail here.

Bivariate correlation analysis is also performed to give an indication as whether or not relationships between the studied variables exist. The correlation results will also give an early indication of the existence of multi-collinearity problem. Results from the correlation analysis are presented in Table 2.

[Insert Table 2: Correlations here]

Inspection of the results shows that all the variables in the study are correlated in the expected directions. The variables of interest namely disclosure (DISC), information asymmetry (IA) and cost of equity capital (CoEC) show significant bivariate correlations, in the expected direction. Disclosure and cost of equity capital is hypothesized to be negatively correlated and this is confirmed by the result shown. The same goes for disclosure and information asymmetry that is negatively related. Information asymmetry and cost of equity capital is hypothesized to be positively related. The result shows that the relationship between these variables is in the expected direction, however it is not significant. All the control variables show a significant relationship to the dependent variables and are in the expected directions except for volatility. Volatility and information asymmetry has been shown by previous studies to be positively related. However, the result for this study shows a negative relationship, although not significant. Diamond and Verrecchia (1991) proposed that less information asymmetry may cause the market to be more volatile. The result obtained by this study is an indication of the possibility of this proposal, which should be pursued by future research. Having done with the preliminary analysis, the paper proceeds with the results on hypothesis testing.

4.2 Hypothesis Testing

The main objective of this study is to find explanation regarding the relationship between disclosure and cost of equity capital. As discussed in the background to this study, there are mainly two explanations used by previous research. The first explanation is based on estimation risk. Higher disclosure by firms enables investors to make a more accurate prediction on the returns of their investment. This means a lower estimation risk. Because of this lower risk, the investors will be willing to accept a lower return, hence lower cost of equity to firms. The second explanation is based on the ability of disclosure in reducing information asymmetry problem. In other words, disclosure is negatively related to cost of equity capital because it reduces information asymmetry. The following discussion is focused on the results obtained in testing the hypotheses.

Hypothesis 1 is to establish whether or not there is a negative relationship between disclosure and cost of equity capital. The test on the direct relationship is based on the explanation from the perspective of estimation risk. Variables that have been found by previous studies to influence cost of equity capital are included in the regression model as control variables. These include beta, book-to-market value to represent growth and leverage. The regression model and the result from the regression analysis are presented in Table 3.

[Insert Table 3: Regression result for H1 here]

The adjusted R^2 of 0.174 shows a good model. As can be seen from the table, all independent variables are significant at $p<0.01$. The positive relationships between cost of equity and all control variables namely leverage, beta and book to market are as expected. The significant negative relationship between cost of equity and disclosure support the hypothesis. The result shows that higher disclosure can be associated with lower cost of equity capital. This supports the view that disclosure results in lower cost of equity due to its ability to reduce estimation risk. This however cannot be said in definite unless the competing explanation is tested. Next, hypothesis two is tested which attempts to answer whether the relationship between disclosure and cost of equity can also be explained through the effect of disclosure on information asymmetry. In other words, information asymmetry as mediating variable in the relationship between disclosure and cost of equity capital will be tested.

Procedure proposed by Baron and Kenny (1986) in testing mediation is utilized. There are several steps involved. First, the relationship between independent variable, disclosure and mediating variable, information asymmetry need to be established. This will be a test on hypothesis 2a. Next, relationship between mediating variable, information asymmetry and cost of equity will be tested and this will provide result for hypothesis 2b. Once these two relationships are established, the mediating relationship, hypothesis 2c can be tested.

Hypothesis 2a tests the relationship between disclosure and information asymmetry. The relationship is hypothesized to be negative, meaning the more firms disclose, the less information asymmetry will there be. The result is presented in Table 4 below.

[Insert Table 4: Regression result for H_{2a} here]

The result presented in Table 4 shows the relationship between disclosure and information asymmetry is in the expected direction and significant at $p<0.01$ value. This confirms previous findings that higher disclosure will result in lower information asymmetry. The control variables, turnover and volatility are also in the expected direction. Volatility is however not significantly associated with information asymmetry. Next, the relationship between mediating variable, information asymmetry and dependent variable, cost of equity as hypothesized in H_{2b} is tested. The result is presented in Table 5.

[Insert Table 5: Regression result for H_{2b} here]

Hypothesis 2b predicts that when information asymmetry is high, cost of equity capital will also be high. The result depicted in Table 5 confirms the positive relationship between information asymmetry and cost of equity capital. For this particular sample, however, the relationship is not significant at $p<0.01$. The significant value of t-statistic is at 0.118 leading to the rejection of H_{2b} at significant level of $p<0.05$. The statistics show that there is a very weak positive relationship between information asymmetry and cost of equity capital. The control variables, as in the test of H_1, are all in the expected direction and significant at $p<0.01$.

According to Baron and Kenny (1986), in order to test for mediation effect, a significant relationship between the mediating variable and the dependent variable must exist. In this case, in order to test for mediation, the relationship between information asymmetry and cost of equity capital must be significant. There is however only a very weak relationship of those. This therefore brings to a conclusion that the hypothesis on mediation, H_{2c} cannot be accepted. In other words, information asymmetry does not play a role of mediation in the relationship between disclosure and cost of equity capital.

The result shows a positive relationship between information asymmetry and cost of equity, although not significant. The t-statistic shows a very weak association. As an academic pursuit, H_{2c} on mediating relationship is tested. To proceed with testing the hypothesis, the dependent variable is regressed against the independent and mediating variables, as well as the control variables. The coefficients from this regression is then compared with regression on the main variables, that is from H_1, where the dependent variable is cost of equity capital and the independent variable is disclosure. If there was a significant difference in the coefficient of independent variable, namely disclosure from regression of H_1 and regression of H_{2c}, then can be concluded that the mediating relationship exists. The result of the regression to test H_{2c} is presented in Table 6.

[Insert Table 6: Regression result for H_{2C} here]

Full mediation can be concluded if the relationship between independent and dependent variables that were originally significant became insignificant with the inclusion of mediating variable in the regression. Referring to the result presented in Table 6, disclosure is still significantly associated with cost of equity. Therefore, full mediation is dismissed. There however, may be partial mediation. This is inferred from comparing the coefficient of disclosure from regression without information asymmetry (H_1) and full regression, with information asymmetry included (H_{2c}). Coefficient of disclosure from H_1 as shown in Table 3 is -0.095 and coefficient of disclosure from H_{2c} as shown in Table 6 is -0.091. The slight difference gives an indication that it is not significantly different. Nevertheless, Sobel's test is performed to confirm whether the difference is significant or not. Sobel's test was introduced by Sobel (1982) to test the influence of mediating variable on the relationship between independent and dependent variable. A detail explanation on the test can be read from Sobel (1982) as well as Preacher and Hayes (2004). An interactive calculation provided by http://quantpsy.org/sobel/sobel.htm enables the calculation on whether or not the mediation is significant to be made easily.

Regression results from testing hypothesis 2a, that is establishing whether there is negative relationship between disclosure and information asymmetry and hypothesis 2c where independent and moderating variables are regressed against dependent variable are used. The coefficient and standard error of disclosure from H_{2a}, together with coefficient and standard error of information asymmetry from regression of H_{2c} are used. These numbers are plugged onto the interactive calculation provided by the mentioned website. The result generated show the t value of -0.984 with p value of 0.325, confirming the earlier conclusion. The results from regressions of H_{2a}, H_{2b} and H_{2c} together with Sobel's test therefore indicate that information asymmetry does not mediate the relationship between disclosure and cost of equity capital. Regression result from testing H_{2a} however confirms earlier findings that higher disclosure will result in lower information asymmetry, and this is good for investors as well as the market.

5.0 DISCUSSION AND CONCLUSION

This paper tries to ascertain as to which explanation better suited the relationship between disclosure and cost of equity. Is the negative relationship between disclosure and cost of equity is due to it lowering estimation risk or because of its effect on information asymmetry. Hypothesis 1 is proposed on the premise of estimation risk explanation while hypothesis 2 is to test the information asymmetry explanation. The results provide support to the explanation that disclosure is able to reduce cost of equity capital because of its ability to reduce estimation risk. Although the mediation effect of information asymmetry on the relationship between disclosure and cost of equity capital cannot be proven, there is a significant negative relationship between disclosure and information asymmetry. This should be highlighted in order to induce firms to increase their corporate disclosure. As has been discussed, the benefits of higher disclosure are plentiful including a more efficient capital market. The mediation effect of information asymmetry failed to be proven partly due to the insignificant relationship between information asymmetry and cost of equity capital. This partly supports the argument by Diamond and Verrecchia (1991) that the relationship between information asymmetry and cost of equity need not be positive. If reduction in information asymmetry attracts more petty traders into the market, this may increase the volatility of the shares, hence leading to higher cost of equity. This could be an area of study to be pursued by future research.

In summary, the result from this study suggests that higher disclosure reduces estimation risk. With more information, investors are able to make better predictions of their future returns, lowering estimation risk. This in return leads investors to be willing to accept lower return as compensation for having lower risk, that is, lower cost of equity capital to firms. The results obtained by this study can serve as a guideline for firms in strategizing their corporate disclosure. It has been empirically shown that the benefits from disclosure are through its ability in enabling investors to make better prediction of the returns on their investments. Therefore, firms should include in their disclosure items that relates to these needs of investors. This way, firms will also get benefits from their disclosure through lower cost of equity.

This study is nevertheless not without limitation. Sample consists of firms that are categorized as large. Having a more varied size of firm in the sample may give a different outcome. This may be pursued by future study. The mediation hypothesis failed to be accepted because the relationship between mediating variable, information asymmetry and dependent variable, cost of equity capital is not significant. Besides the argument by Diamond and Verrecchia (1991) as discussed above, this could also be due to a crude measure of information asymmetry. Although the measure used in this study is an established measure being used by previous research, there could be other measure that is more appropriate. Further study may be conducted to look into this.

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APPENDIX 1 DISCLOSURE CHECKLIST (Source: Nazli Anum Mohd Ghazali and Weetman 2006)

			Type	Score
(A)	**General corporate information**			
	1	Brief history of company/company profile	S	
	2	Corporate vision and mission	S	
	3	Corporate structure	S	
	4	5 year financial highlights	F	
(B)	**Specific corporate information**			
	5	Statement of strategy/objectives	S	
	6	Significant events calendar	S	
	7	Acquisition and expansion	S	
	8	Disposals and cessation	S	
(C)	**Chairman's report**			
	9	Overview of economic performance	F	
	10	General discussion of future industry trend	S	
	11	Discussion of factors affecting company's prospects	S	
(D)	**Review of operations**			
	12	Review of operations by divisions - turnover	F	
	13	Review of operations by divisions - operating profit	F	
	14	Review of operations - productivity	F	
(E)	**Product/service information**			
	15	Discussion of major types of products/services/projects	S	
	16	Improvement in product quality	S	
	17	Improvement in customer service	S	
	18	Distribution of marketing network for finished products	S	
	19	Customer awards/ratings received	S	
(F)	**Segmental information**			
	20	Geographical production	F	
	21	Line of business production	F	
(G)	**Research and development**			
	22	Discussion of company's R & D activities	S	
(H)	**Employee information**			
	23	Breakdown of employees by line of business	CSR	
	24	Breakdown of employees by level of qualification/exec vs. non-execs	CSR	
	25	Breakdown of employees by ethnic origin	CSR	
	26	Employees appreciation	CSR	
	27	Employees training	CSR	
	28	Amount spent on training	CSR	
	29	Number of employees trained	CSR	
	30	Discussion of employee welfare	CSR	
	31	Safety policy	CSR	
	32	Information on accidents	CSR	
(I)	**Social and environmental reporting**			
	33	Statement of internal control	CSR	
	34	Value added statement	CSR	
	35	Product safety	CSR	

	36	Environmental policies	CSR	
	37	Charitable donations/sponsorships	CSR	
	38	Participation in government social campaigns	CSR	
	39	Community programs (health education)	CSR	
(J)	**Financial ratios**			
	40	Profitability ratios	F	
	41	Gearing ratios	F	
	42	Liquidity ratios	F	
	43	NTA per share	F	
(K)	**Market related information**			
	44	Stock Exchanges where shares are traded	F	
	45	Volume of shares traded (trend)	F	
	46	Volume of shares traded (year-end)	F	
	47	Share price information (trend)	F	
	48	Share price information (year-rend)	F	
	49	Market capitalization (year-end)	F	
	50	Domestic and foreign shareholdings	F	
	51	Distribution of shareholdings (type)	F	

S *Strategic*
F *Financial*
CSR *Corporate social responsibility*

APPENDIX 2 Cost of equity based on Gode and Mohanram (2003) model

The calculation of cost of equity that is applied by Gode and Mohanram (2003) in their study is based on Ohlson and Juettner-Nauroth (2005) (OJ) model (originally discussed in a working paper published in 2000). The model is used because of its appealing features namely;

1. the model works directly with earnings instead of dividends and does not require forecasts of book values or return on equity (ROE). Thus, one need not make assumptions about dividends beyond dividend per share in year one (dps_1).
2. the OJ model is parsimonious

The details of the model, as being explained in Gode and Mohanram (2003) are reproduced below;

- The OJ model relate price to expected earnings and growth in expected earnings
- Analysts typically provide three growth forecasts: eps_1, eps_2, and annualized five-year growth
- Although analysts do not provide estimates of perpetual growth, all valuation model assumes a perpetual growth either explicitly or implicitly when they assume a terminal value
- Based on generalization of Gordon growth model with the following assumptions;
    1. Price equals the present value of expected dividends
    2. There is a fixed dividend payout in relation to earnings – assume full payout for simplicity
    3. There is a constant perpetual earnings growth rate $g_p = \gamma - 1$
- These assumptions yield the following well-known formula;

    $P_0 = eps_1/(r_e - g_p)$ where re is the cost of equity capital
- Adding and subtracting eps_1/r_e to the right-hand side of the above equations yields the following;

$$P_0 = \frac{eps_1}{r_e} - \frac{eps_1}{r_e} + \frac{eps_1}{r_e - g_p} = \frac{eps_1}{r_e} + \frac{g_e eps_1}{r_e(r_e - g_p)}$$

Because $g_p eps_1 = eps_2 - eps_1$ due to the uniform growth rate assumption of the Gordon Growth model, we get;

$$P_0 = \frac{eps_1}{r_e} + \frac{eps_2 - eps_1}{r_e(r_e - g_p)}$$

The OJ generalizes this formula in the following ways:

i. It makes the basic assumption that price equals present value of expected dividends
ii. It imposes no restriction on the payout policy where the abnormal change in earnings is defined to be the change in earnings in excess of the return on net reinvestment during the period
iii. Instead of a single constant perpetual growth rate $g_p = \gamma - 1$, the OJ model allows the short-term growth $\hat{g}_2 = (eps_2 - eps_1 - r_e(eps - dps_1))/eps_1$ to differ from g_p. The short-term growth is assumed to decay asymptotically to g_p. The decay rate is also determined by g_p.

- Assumptions of the OJ model;

1. $P_0 = \sum_{t=1}^{\infty} dps_t \Big/ (1+r_e)^t$ where $r_e > 0$ is a fixed constant

2. Let $z_t = (eps_{t+1} - eps_t - r_e(eps_t - dps_t))/r_e$. The sequence $\{z_t\}_{t=1}^{\infty}$ satisfies $z_{t+1} = \gamma z_t$ $t = 1$, 2, …, where $1 \leq \gamma \leq (1 + r_e)$ and $z_1 > 0$

The OJ model yields the following pricing equation:

$$P_0 = \frac{eps_1}{r_e} + \frac{(eps_2 - eps_1 - r_e(eps_1 - dps_1))}{r_e(r_e - g_p)}$$

Rearranging and substituting $g_p = \gamma - 1$, one gets the following;

$$r_e = A + \sqrt{A^2 + \frac{eps_1}{P_0}(g_2 - (\gamma - 1))}$$

where;

$$A \equiv \frac{1}{2}\left((\gamma - 1) + \frac{dps_1}{P_0}\right) \text{ and}$$

$$g_2 = \frac{eps_2 - eps_1}{eps_1}$$

The above expression would be the same as Gordon growth model if; $dps_t = k * eps_t$ and $g_2 = \gamma - 1$.

To implement the OJ model, the following choices were made;

1. Use the average of two-year growth and five-year growth as the estimate for short-term growth. OJ model does not explicitly use the five-year analyst earnings forecasts.
2. The OJ model does not explicitly deal with inflation. Yet analyst forecasts are in terms of nominal dollars. So while estimating the risk premium across time, we use estimates of the nominal long-term growth rate by setting $\gamma - 1 = r_f - 3\%$ where r_f is the yield on 10-year notes.

Appendix 3 Size of firms based on Log Sales and Log Total Assets

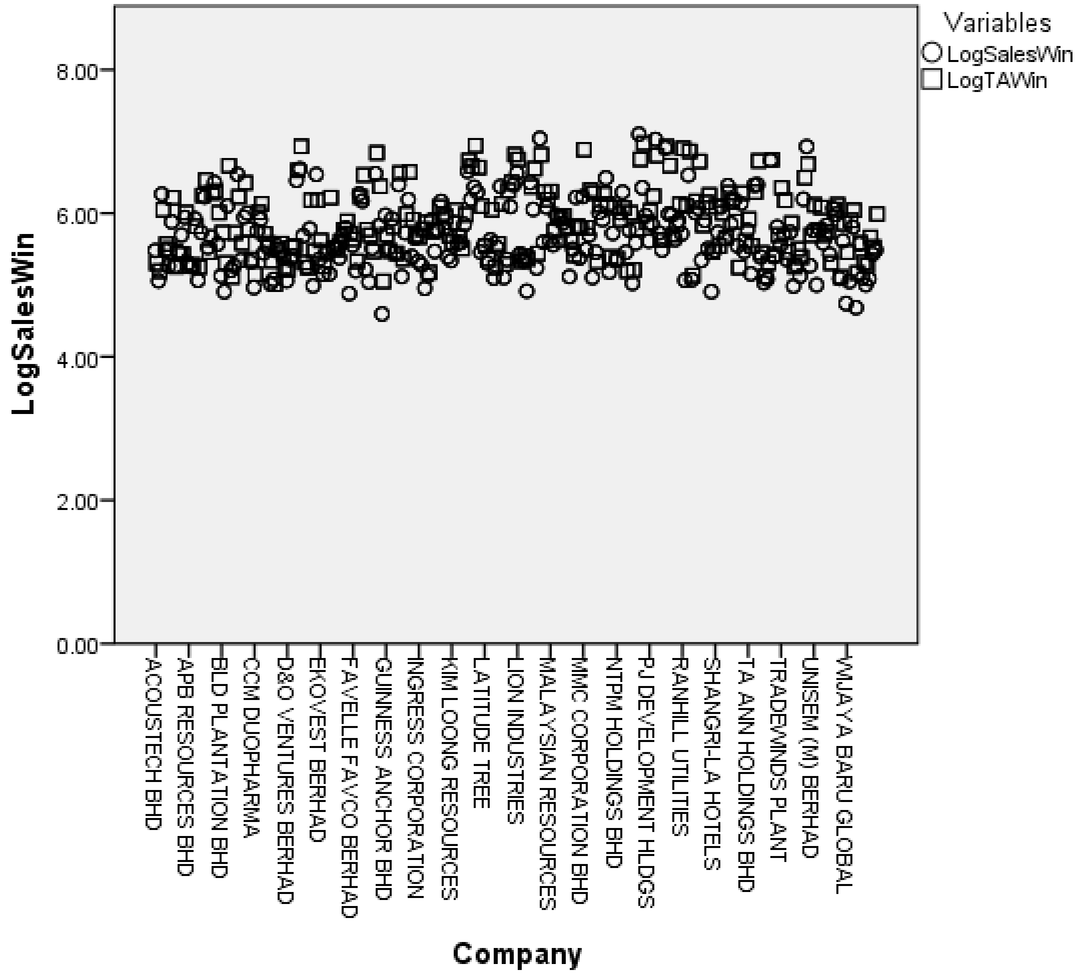

Diagram 1 Scatter plot size of firms

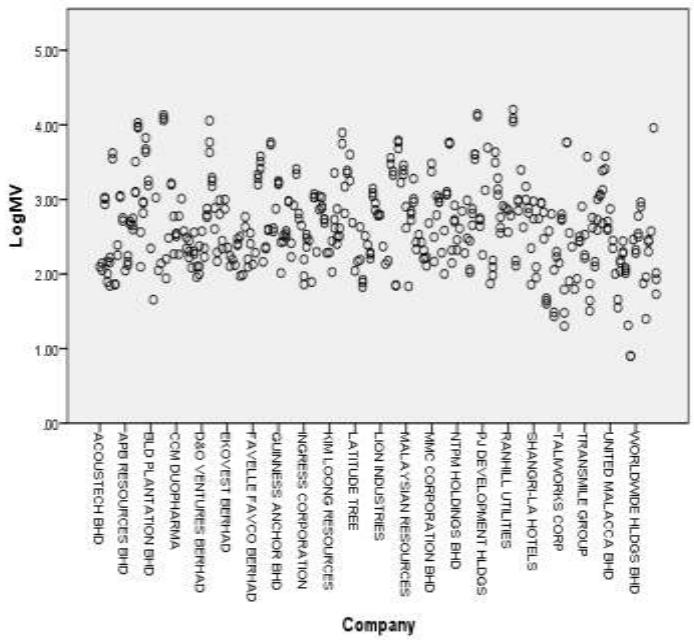

Table 1 Descriptive Statistics

Variables	Minimum	Maximum	Mean	Median	Std. Deviation	Skewness	Kurtosis
DISC	0.098	0.676	0.307	0.280	0.129	.872	0.226
CoEC	0.031	0.347	0.180	0.164	0.074	.742	-0.150
IA	0.003	0.025	0.012	0.011	0.006	.976	-0.119
Leverage	0.010	0.960	0.409	0.400	0.193	.189	-0.712
Beta	0.259	2.038	1.037	1.040	0.321	.051	-0.085
BTM	-0.569	2.225	0.920	0.830	0.594	.599	-0.054
Turnover	0.001	0.224	0.076	0.050	0.070	1.073	-0.110
Volatility	2.000	17.500	7.979	8.000	3.743	.525	-0.260
LgMV	1.016	4.203	2.654	2.594	0.589	.330	-0.050
LgSales	4.595	7.219	5.702	5.658	0.502	.479	-0.168
LgTA	5.010	6.977	5.889	5.848	0.489	.392	-0.734

Table 2 Correlation Analysis

	DISC	CoEC	IA	Leverage	Beta	BTM	Turnover	Volatility
DISC	1							
CoEC	-.133**	1						
IA	-.181**	.048	1					
Leverage	.120*	.232**	-.039	1				
Beta	.075	.293**	-.175**	.174**	1			
BTM	-.050	.228**	.140**	-.009	.173**	1		
Turnover	-.041	.345**	-.379**	.290**	.314**	.034	1	
Volatility	-.040	.297**	-.081	.161**	.513**	.136**	.292**	1

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

* Correlation is significant at the 0.05 level (2-tailed).

Table 3:Regression result for H1

Dependent Variable: CoEC			
	Coefficients B	t	Sig.
(Constant)	.099	6.902	.000
DISC	-.095	-3.725	.000
Leverage	.081	4.681	.000
Beta	.054	5.167	.000
BTM	.022	4.009	.000
Adjusted R^2	0.174		

$CoEC = \beta + \alpha_1 DISC + \alpha_2 Leverage + \alpha_3 Beta + \alpha_4 BTM + \varepsilon$

Where:

CoEC	=	Cost of equity capital measured using Gode and Mohanram's (2003) model
DISC	=	Disclosure score based on Nazli Anum Mohd Ghazali and Weetman's (2006) checklist
Leverage	=	Total debts/Total assets
Beta	=	monthly returns for 60 consecutive months, taken from Datastream
BTM	=	Book to market value, taken from Datastream

Table 4 Regression result for H_{2a}

Dependent Variable: IA			
	Coefficients B	t	Sig.
(Constant)	0.017	19.267	.000
DISC	-0.008	-4.291	.000
Turnover	-0.032	-8.288	.000
Volatility	0.000	0.568	.570
Adjusted R^2	0.177		

$IA = \beta + \alpha_1 DISC + \alpha_2 Turnover + \alpha_3 Volatility + \varepsilon$

Where:

IA	=	Information asymmetry measured by relative bid and ask spread
DISC	=	Disclosure score based on Nazli Anum Mohd Ghazali and Weetman's (2006) checklist
Turnover	=	Shares turnover measure by total trading/shares outstanding, data taken from Datastream
Volatility	=	Volatility of share price measured by changes in prices, taken from Datastream

Table 5 Regression result for H_{2b}

Dependent Variable: CoEC			
	Coefficients B	t	Sig.
(Constant)	.060	3.857	.000
IA	.960	1.565	.118
Leverage	.074	4.252	.000
Beta	.055	5.083	.000
BTM	.022	3.842	.000
Adjusted R^2	0.152		

$CoEC = \beta + \alpha_1 IA + \alpha_2 Leverage + \alpha_3 Beta + \alpha_4 BTM + \varepsilon$

Where:

CoEC	=	Cost of equity capital measured using Gode and Mohanram's (2003) model
IA	=	Information asymmetry measured by relative bid and ask spread
Leverage	=	Total debts/Total assets
Beta	=	monthly returns for 60 consecutive months, taken from Datastream
BTM	=	Book to market value, taken from Datastream

Table 6 Regression result for H_{2C}

Dependent Variable: CoEC			
	Coefficients B	t	Sig.
(Constant)	.089	5.104	.000
DISC	-.091	-3.513	.000
IA	.608	.992	.322
Leverage	.081	4.664	.000
Beta	.057	5.261	.000
BTM	.021	3.785	.000
Adjusted R^2	0.174		

$CoEC = \beta + \alpha_1 DISC + \alpha_2 IA + \alpha_3 Leverage + \alpha_4 Beta + \alpha_5 BTM + \varepsilon$

Where:

CoEC	=	Cost of equity capital measured using Gode and Mohanram's (2003) model
DISC	=	Disclosure score based on Nazli Anum Mohd Ghazali and Weetman's (2006) checklist
IA	=	Information asymmetry measured by relative bid and ask spread
Leverage	=	Total debts/Total assets
Beta	=	monthly returns for 60 consecutive months, taken from Datastream
BTM	=	Book to market value, taken from Datastream

A SYSTEMATIC LITERATURE REVIEW OF INDUSTRY 4.0 ON BRIDGING THE INFORMATION ASYMMETRY BETWEEN CORPORATE GOVERNANCE

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ABSTRACT

With the growing literature to information asymmetry and industry 4.0 (IR4.0), a systematic review of the application of IR4 on mitigating information asymmetry is inevitable. Most of the existing literature focuses on the area of management and computer science individually, limited study links the analysis directly to the impact of technology on mitigating information asymmetry in the corporate governance. Therefore, this study aims to fill in the literature gaps with refine and identify the linkage between adoption IR4.0 or enabling technologies of IR4.0 (Blockchain, Cyber-Physical System (CPS), Internet of Things (IoT), and Cloud Computing) related to mitigating information asymmetry. Firstly, the systematic review found a total of 521 research articles from Scopus and Web of Science database and finally analyzed 9 articles based on inclusion and exclusion criteria. The review analysis found that blockchain technology plays a vital contribution as representation of enabling technologies of IR4.0. Most of the review analysis discussed about blockchain technology on mitigating information asymmetry in the corporate governance. Only one review article discussed widely with enabling technologies of IR4.0 on mitigating information asymmetry. However, the particular article which linked with management field was discussed too widely with theory and concept which more related with computer science literature. Therefore, this study will focus on the discussion of blockchain technology on mitigating information asymmetry. The findings conclude that the enabling technologies of IR4.0 will mitigate information asymmetry in the corporate governance in the form of enabling open information transactions, decentralized governance, representing faithfulness of financial reporting, enable smart contracts, and enhance market competitiveness and social welfare. Finally, this study emphasized a framework based on the systematic literature review with suggested that IR4.0 will be a new mechanism to mitigate information asymmetry in the corporate governance, which it will directly influence the intention of the corporate governance players to mitigating information asymmetry.

Keywords: Information Asymmetry; Industry 4.0; Blockchain, Corporate Governance

INTRODUCTION

Information asymmetry remains an unresolvable problem on corporate governance. Major prior studies determined that an individual tend to involve in information asymmetry for the sake of their own benefits or to realize organization’s objective (e.g., Connelly et al. 2011; Hagedoorn 2006; Zaheer & Soda 2009). For instance, management manipulating accruals, constructing transactions, and disclosing false information to mislead information users (Healy & Palepu,2001; Lie 2005). Bergh et al. (2018) emphasized a linkage between antecedent conditions that will lead information asymmetry such as unobservable or uncertain qualities, strategic and behavioral barriers to sharing information, and structural barriers and resolutions on solving it. Hence, resolutions on solving information asymmetry has increasingly been focused upon as a means by which organizations can reduce information asymmetry or increase information asymmetry and gain benefits from it (Bergh et al. 2018) such as monitoring and rewards or decoupling. However, there are necessities to adopt technology, thereby improving the resolution of mitigate information asymmetry, meanwhile decrease the cost and increase the performance.

The terms of Industry 4.0 (IR4.0) or the fourth industrial revolution is based on the integration interconnected systems through the actions of data volume uses, emergence of analytics and business-intelligence capabilities, generate new forms of human-machine interaction, and improvements in the transferring digital instructions to the physical world in order to bring a new level of value chain organization and management across the lifecycle of products (Baur & Wee 2015; Kagermann 2013). The world started to engage in research and funding programs towards IR4.0 adoption for the purpose of take a pioneering role in the manufacturing industries (Kagermann, Helbig, Hellinger & Wahlster 2013). By adoption IR4.0, it will impact on traditional methods of industrial production and corporate governance business regulation. For instance, it will decentralize the corporate governance structure, and the disclosed information would be high transparency, traceable, and tamper-proof (e.g. Yu, Lin & Tang 2019). Moreover, IR4.0 make a contribution towards product quality and corporate performance. However, a question of whether adoption IR4.0 will mitigate the problem of information asymmetry is unclear.

Prior studies have focused on studying the antecedent conditions that will lead information asymmetry, the motivation and resolutions on solving information asymmetry, and the impacts of information asymmetry towards the organizations. For instance, Bergh et al. (2018) classified antecedent conditions that will lead information asymmetry into three categories, which is unobservable or uncertain qualities, strategic and behavioral barriers to sharing information, and structural barriers. However, information asymmetry remains an unsolvable issue in the corporate governance. On another hand, from the viewpoint of IR4.0, most of the prior studies mainly focuses on introducing, technology applied, research and development (R&D), opportunities and challenges on IR4 (e.g. Zhou, Liu & Zhou 2015; Ghobakhloo 2018; Moktadir, Ali, Sarpong & Shaikh 2018). While most of the existing literature focuses on the area of computer science, limited study links the analysis directly to the impact of technology on mitigating information asymmetry in corporate governance. Therefore, a systematic literature review study is required to help refine and identify the linkage between adoption IR4.0 or enabled technologies of IR4.0 (Blockchain, Cyber Physical Systems (CPS), Internet of Things (IoT), and cloud computing) related to mitigating information asymmetry.

LITERATURE REVIEW

The information asymmetry is understood here by previous studies in various ways with different theories. To provide a better understanding with a theoretical basis, the literature and the enable technologies IR4.0 adoption as a resolution on mitigating information asymmetry are discussed in the following section.

INFORMATION ASYMMETRY

Information asymmetry defined as a condition wherein imbalance information within two parties in a relationship (Akerlof 1970). Information asymmetry exist in all exchange relationship, including commerce relationship (Hambrick & Manson 1984). Previous studies had explored information asymmetry in various ways with different theories. Bacharach (1989) explored that information asymmetry plays a mechanism role in Bacharach's theoretical models, which will give an impact on the flow of independent to dependent variables. Stinglitz (2002) depicted information asymmetry is a condition wherein different party gain different information towards a thing. Moreover, Connelly et al. (2011) further explained that information asymmetry is a type of private information, which information-rich actors tend to involve in self-interest activity. Therefore, prior studies examined that information asymmetry is a mechanism, which can be arbitrary use by actors for the purpose of pursing self-interest. Despite the dynamic research on information asymmetry theory, the amount of extensive research studies towards information asymmetry is sufficient to prove that information asymmetry is serious problem in corporate governance. For instance, Healy and Palepu (2001) reported capital markets and organizations encountering losses consequences corporate disclosure which related to the problem of information asymmetry. Bergh et al. (2018) justified with the proof that information asymmetry made a serious risk to organization.

Information asymmetry became a serious problem in corporate governance. Therefore, numerous researchers have identified various resolutions on solving information asymmetry. According to Bergh et al. (2018), the resolutions of information asymmetry can be classified into two: (i) reduce information asymmetry and (ii) increase information asymmetry for the sake of self-benefits. Eisenhardt (1989) and Jensen (1983) explained that outcome-based incentives can reduce information asymmetry. Mejia and Balkin (1992) supported it by explained that monitoring systems consider as a costly and challenges system, which some agent has high autonomy, independence and high specialized information. However, Abrahamson and Park (1994) argued that agent will unable to deceive their principle, which will directly reduce information asymmetry problem by the action of monitoring agent's behavior. Moreover, some author argues that information asymmetry can be reduced by using incentives to gather and disclose information (e.g., Madhok & Tallman 1998; Heeley, Matusik, & Jain 2007). However, Bovivie et al. (2016) argues that information asymmetry should be exploiting by engaging in information concealment behaviors. Therefore, the reviewed evidences show that the resolutions of information asymmetry remained unclarified and need further improve and adopt new technology mechanism indeed to reduce information meanwhile minimize unanticipated cost and risk. This study aims to deliver a better understanding of new technology mechanism adoption on solving information asymmetry in research and literature.

INDUSTRY 4.0 AND ITS ENABLING TECHNOLOGIES

The concept of industry 4.0 (IR4.0) manifested at Germany Hanover Fair in 2011 then officially declare as Germany National Strategy in 2013. IR4.0 is also called as industrial revolution, smart manufacturing, industrial internet, and smart product. Prior studies Kagermann et al. (2013) claimed that the world starting to engage in research and funding programs towards IR4.0 for the purpose of taking the pioneering role in the manufacturing industries. Although there is still no unanimously adopted the definition of IR4.0, Baur and Wee (2015) describe IR4.0 or the fourth-stage of industrialization as "the next phase in the digitization of the manufacturing sector, driven by four disruptions: the astonishing rise in data volumes, computational power, and connectivity, especially new low-power wide-area networks, the emergence of analytics and business-intelligence capabilities; new forms of human-machine interaction such as touch interfaces and augmented-reality systems; and improvements in transferring digital instructions to the physical world, such as advanced robotic and 3-D printing." Moreover, Zhou, Liu and Zhou (2015) depicted that the integrations of IR4.0, which is horizontal integration, vertical integration and end-to-end integration, will bring interconnection with man to man, man to machine, machine to machine or service to service. Therefore, IR4.0 will influence on traditional methods of industrial production and corporate governance business regulations.

Numerous applied technologies for the purpose of implementing IR4.0. These technologies included cyber-physical system (CPS), Internet of Things (IoT), cloud computing, blockchain, and other related technologies (Xu,Xu & Li 2018; Gobakhloo 2018). Xu et al. (2018) explored that IR4 mainly dependent on the use of CPS, IoT and cloud computing. Moreover, Viyasitavat et al. (2018) explained that blockchain is one of the core applied technologies in IR4.0. Therefore, although there are various applied technologies in IR4.0, this study only will examine on selected core technologies that are particularly significant of IR4.0, which is CPS, IoT, cloud computing and blockchain. However, there are no means meant to be exhaustive for the coverage of the enabling technologies in this section. In the context of IR4.0, IoT usually referred to Industrial Internet of Things (IIoT) (Wang, Wan, Zhang, Li & Zhang 2016). However, the function is akin with IoT, which enables physical objects to communicate with each other and further share information and to coordinate decisions (Ashton 2009; Xu, He & Li 2014). CPS further defined as a collection of transformative technologies that enables connection of the operations of physical assets and computational capabilities (e.g., Varghese & Tandur 2014; Lee, Bagheri & Kao 2015; Mladineo, Veza & Gjeldum 2017). Moreover, the implementation of cloud computing allows all data store in a pricate and public cloud server. Viryasitavat et al. (2018) further explained that blockchain provides a solution which can build trust, reduce costs and accelerate transactions in business process management (BPM) framework for service composition in IR4.0. Prior studies show a deep explanation on what enabling technologies of IR4.0. However, there is a need to further improve in literature how these enabling technologies in IR4.0 can solve the problem of corporate governance, such as information asymmetry. Therefore, this study aims to deliver a better understanding of how these enabling technologies solve information asymmetry in research and literature, as abovementioned.

METHODOLOGY

All studies with information asymmetry and where applied technology of industry 4.0 were identified via two world renowned indexed electronic database: Web of Science (WoS) and Scopus, using the following search strings: ("information asymmetry") AND ("industry 4.0" OR "industrial revolution" OR "smart manufacturing" OR "industrial internet" OR "smart product") OR ("cyber physical system" OR "CPS*" OR "internet of things" OR "IoT*" OR "cloud computing" OR "blockchain"). A research article was considered eligible for inclusion if: (1) it is on Finance area; (2) technology of industry 4.0 is applied to study the information asymmetry issue; (3) it is a peer-reviewed article. Article types of paper were only limited to Journal types with written in English. Initial searches were conducted in August 2019, and then updated in September 2019 to ensure that all 1990 to September 2019 papers were included.

In phase 1, a total of 521 peer-reviewed research articles were retrieved at this stage. Restricting the search to WoS and SCOPUS means our review is not exhaustive and provides only a sample of the literature on information asymmetry in finance area and its applied technology of industry 4.0 research. In phase 2, we scanned titles and abstracts to selected articles with clear relevance to information asymmetry issue and with implied use of industry 4.0 technique. 22 papers were retained and went through full-text review, of which, 9 articles fulfilled the inclusion criteria. Seven articles were retrieved from Web of Science and two articles from SCOPUS, of which, no papers were common to the two databases. This illustrated in Figure 1.

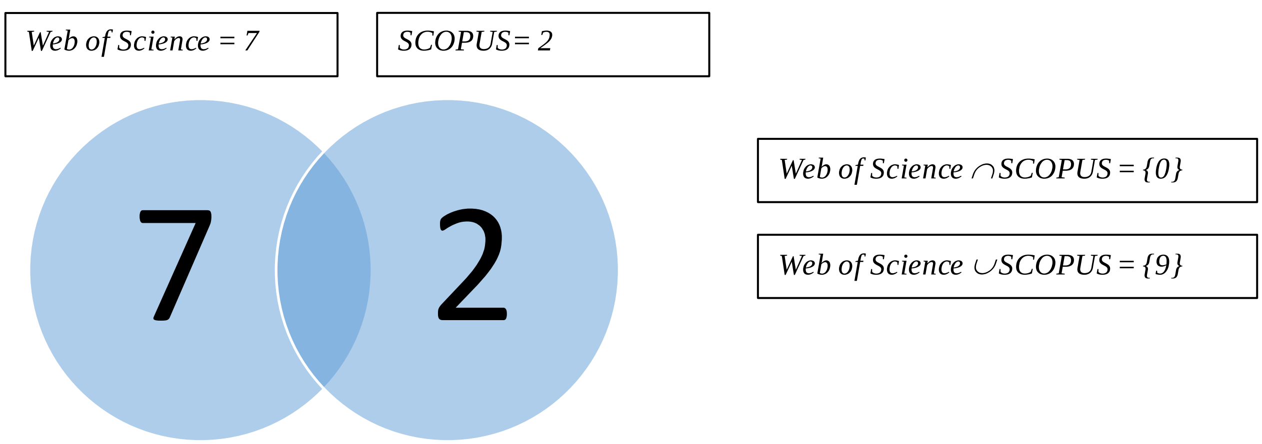

FIGURE 1. Distribution of reviewed articles by database.

FINDINGS AND DISCUSSIONS

From the systematic literature review, most of the articles discussed the blockchain technology – one of the enabling technologies in IR4.0. This section integrated blockchain with mitigate information asymmetry in corporate governance.

1. Open Information Transactions

Blockchain potentially mitigate the traditional information transaction asymmetries. The prior studies emphasized that blockchain systems plays significant role in accounting and supply chain transaction. The transaction information of accounting and supply chain would be visible to all blockchain participants with kept in public ledgers or consortium-based quasi-public ledgers. In general, the peer-to-peer public blockchain system is fully decentralized, and anyone has the authority to access and amend the transactions with ensuring the availability of information is authenticity. Therefore, all transaction information would be publicly exposed and solve the information transaction asymmetries using the peer-to-peer public blockchain systems. On another hand, from the perspective of New Institutional Economics (NIE), blockchain technology enables anyone to share information in a fully transparent manner without the need of centralized clearinghouse. Hence, except than accounting and supply chain systems, some organizations apply blockchain in their governance aid system to reduce information asymmetry and increase effectiveness (O'Leary 2017; O'Leary 2018; Reinsberg 2018).

2. Decentralized Governance

Blockchain and smart contracts can disintermediate traditional organizational governance structures. Traditional systems of corporate governance tend to be centralization and hierarchy, with different degrees of hierarchical top-down command and rule-setting decision-making, in which the agent tends to involve in self-benefits activities by using their authority with ignorance the order from principle. Alternatively, the blockchain system introduces decentralized and spontaneous coordination with resolving the problem of traditional centralized governance, known as the principle-agent dilemma (information asymmetry). In a simple form, blockchain enable a database system in which decentralized agents or institutions can jointly record information and maintain it. For instance, the Schelling points (kind of blockchain solution) allow people to converge on a mutually consistent decision framework, in the absence of direct communication and centralized coordination. Moreover, blockchain technology enhances a responsible and accurate record keeper which will reducing the problem of manipulation and tampering. Hence, blockchain and smart contracts might exterminate information asymmetry with introducing new ways of coordinating activities such as task allocation, coordination, and supervision of a group of people who share common economic interests but are geographically distributed, without the necessity of a centrally managed organization (Shermin 2017; O'Leary 2017; Cong & He 2018; Eling & Lehmann 2017).

3. Representational Faithfulness of Financial Reporting

Stakeholders find it challenging to establish whether financial reporting information does represent what it purports to because of information asymmetry and agency problems. In theory, insiders used to mislead outside capital providers about the financial positions and operating performance of the entity to obtain more capital or out of personal interests of insiders. Thus, the emergence and development of financial accounting and independent auditing to solving information asymmetry. However, it cannot completely solve due to conflicting interests between insiders and outsiders, the opaqueness of accounting and auditing, and nonindependence of the auditing, financial accounting and external auditing. The use of blockchain technology creates a new Accounting Information System (AIS), which able to address the information asymmetry and agency problems inherent in financial reporting and audit. These systems will enhance the representational faithfulness of financial reporting. The blockchain records and validates information in a decentralized way, and the entire process does not require any authority intermediaries, and the blockchain technology guarantees the information to be transparent, secure, tamperproof and reliable. As a result, the application of blockchain technology in financial accounting has the potential of making firm's accounting process transparent, improving the quality of external reporting information and effectively reducing the information asymmetry between firms and outside investors. In the short run, the blockchain technology could be used as a platform for firms to voluntarily disclose information, which is a high quality signaling that enables firms to solve the trust problem with investors. In the long run, the application will impact on financial accounting, in which could effectively reduce the errors in disclosure, increase the quality of accounting information, and mitigate the problem of information asymmetry. In sum, this concept will reduce the agency problems and costs inherent in financial reporting an audit and enhance the credibility and transparency of the financial reporting system (McCallig, Robb & Rohde 2019; Yu, Lin & Tang 2019).

4. Smart Contracts

The problem of incomplete contracts is one of the challenges of governance as they cannot specify all contingencies such as information asymmetry and agency slack. Blockchain technology enables smart contract with some codes that run on top of a blockchain (Diedrich, 2016; Swan, 2015; Szabo, 1994). In theory, smart contracts can bind parties effectively with mitigate uncertainty in relational contracting. In smart contracts, the parties will lose their stake resources if they did not behave compliant with not follow through on its promise to provides an incentive or information. Moreover, the smart contracts will evaluate and verified whether a party complies with the terms and regulations of an agreement. Once the smart contract has been set up, the modifications will be recorded on the blockchain with traceable. Hence, blockchain, notably smart contracts, particularly provide a mechanism for bringing trusted data which can reduce uncertainty around contract enforcement, while also reducing information asymmetry by providing an impeachable record of transactions (Reinsberg 2018; Yu, Lin & Tang 2019).

5. Enhance Market Competitiveness and Social Welfare

Blockchain enables a decentralized record-keeper which can decrease manipulation and misreport with allowing a better and efficient information aggregation. This information distribution process changes the information environment and the economic behaviors of blockchain participants. The blockchain technologies will mitigate information asymmetry as a barrier for entry the market and greater the competition, meanwhile enhancing welfare and consumer surplus. In the traditional world, market players do not able to observe about their competitive business activities. In contrast, blockchain enable the market players at least infer the aggregate business condition by serving as record-keepers (a system in blockchain) and hence able to detect deviations in any collusion equilibrium because the information is open and transparent. The market players (blockchain node) can observe all trade information in the exchange as well as all incoming exchange transactions. With this information, the market player can exploit the information asymmetry between what they can see and other market players, then enhance market competitiveness.

However, even though the blockchain can mitigate information asymmetry barrier and encouraging entry for market players, it can also lead to greater collusive behavior (Cong & He 2018; Freund & Stanko 2018).

6. Discussions

As mentioned, the issue of information asymmetry is a common but impactedness problem in the corporate governance. This particular problem plays a major problem in both shareholder and stakeholder perspective. Information asymmetry commonly can be related with an individual tends to involve in information asymmetry for the sake of own benefits or to realize organization's goals (e.g., Connelly et al. 2011; Hagedoorn 2006; Zaheer & Soda 2009). The loopholes in management had create various opportunities for corporate governance player involve in information asymmetry. Thus, the corporate governance players tend to lack of intention on mitigating information asymmetry due to own benefits. Hence, information asymmetry still being unresolvable and have negative consequences even though prior studies trying to mitigate the problem of information asymmetry. However, prior studies argue that in this technology era there are necessities to adopt technology, thereby improving the resolution of mitigating information asymmetry. Therefore, this study filled in the research gaps and answer whether adoption IR4.0 will mitigating the problem of information asymmetry. This study concludes and suggests that IR4.0 will be a new mechanism to mitigate information asymmetry in corporate governance. The adoption of IR4.0 will increase the intention of corporate governance players on mitigating information asymmetry with enabling open information transaction, decentralized governance, representing faithfulness of financial reporting, and enable smart contracts. Hence, without the necessity of a centrally managed organization, the corporate governance players have no opportunity to involve in information asymmetry activity for the sake of self-benefits or the organization. On another hand, the role of blockchain technology enable the transaction of corporate be transparent, improve the information quality, meanwhile effectively reduce the information asymmetry between insider and outsider. Therefore, we suggest that the adoption of IR4.0 in corporate governance will boost the intention of solving asymmetry and mitigate information asymmetry. The framework below shows that the adoption of IR4.0 will be a mechanism to mitigating information asymmetry and increase their intention of solving information asymmetry.

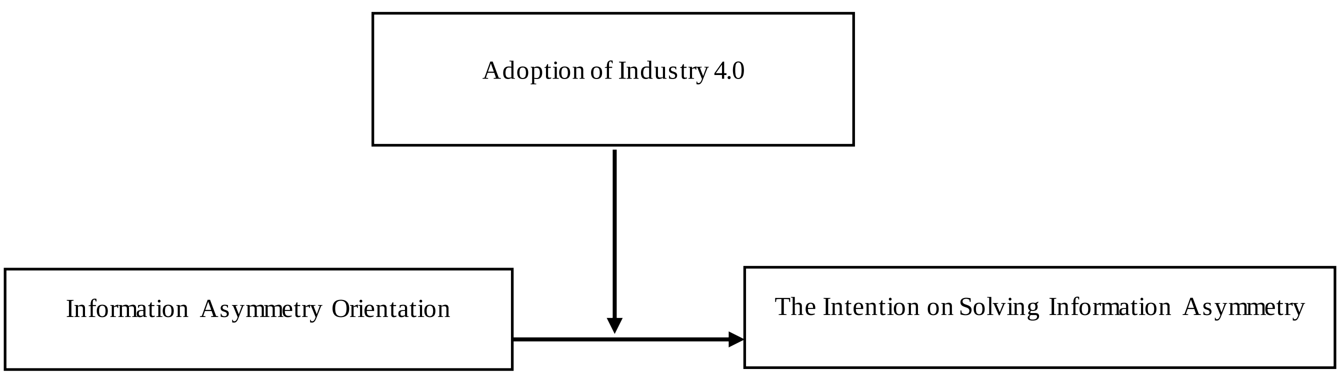

FIGURE 2. Proposed Framework

CONCLUSION

This study applied systematic literature review to presents the influences of IR4.0 in corporate governance and provides a set of empirical features related to resolutions of information asymmetry corporate governance. Most of the prior studies focuses IR4.0 on the area of computer science. There are limited study links the analysis directly to the impact of technology on solving information asymmetry in corporate governance. Although some of the previous studies have emphasized how the influences of enabled technologies in corporate governance but there are not fully focuses on the issues of information asymmetry. Hence, prior studies have rarely addressed the qualitative and systematic preferences. Importantly, the literature does not have systematical study-related integration of IR4.0 on mitigating information asymmetry corporate governance. Therefore, this study integrated all related articles to address those dilemmas from prior studies.

The findings conclude that the enabling technologies of IR4.0 will mitigate information asymmetry of corporate governance in the form of enabling open information transactions, decentralized governance, representing faithfulness of financial reporting, enable smart contracts, and enhance market competitiveness and social welfare. The enabling technologies of IR4.0 will decentralized governance. Hence, this decentralized and spontaneous coordination will resolve the problem of information asymmetry. In addition, IR4.0 enable open information transactions which anyone can share, access, and amend information in a fully transparent manner without the need of centralized clearinghouse, meanwhile provide a representational faithfulness of financial reporting. Moreover, the decentralized record-keeper encouraging entry for market players meanwhile improve social welfare. Smart contracts, known as one of the enabling technologies of IR4.0, provide a mechanism for bringing trusted data which can reduce uncertainty around contract enforcement. Specifically, this study emphasized a framework based on the systematic literature review. The framework suggested that IR4.0 will be a new mechanism to mitigate information asymmetry in corporate governance, and it will directly influence the intention of corporate governance players to mitigating information asymmetry.

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Controlling Shareholders, Auditor-client Relationship, and Related Party Transactions

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Abstract

Purpose – This paper aims to examine the associations between controlling shareholders and RPT. This study also investigates the association between an auditor-client relationship (ACR) and RPT and also examines the ACR role in mitigating the controlling shareholder-RPT relationships.
Design/methodology/approach – Data of 580 companies listed in Bursa Malaysia from 2014-2017 is analyzed with the final sample consist of 2,900 observations. The controlling shareholder is measured on two different levels of ownership, i.e 20 percent (CS20) and 33 percent (CS33).
Findings – The findings show that CS20 and CS33 positively related to RPT. The ACR positively associated with RPT which depicts that long tenure has increased auditor's skills to detect and disclose RPT. However, the long tenure of ACR-controlling shareholder's interaction reduces RPT-conflict engagement and disclosure. A similar and consistent result is found upon CS20 and CS33. Overall, this finding may imply that the long tenure ACR is formed in a healthy relationship to protect minority shareholders' wealth but it is disappeared in the presence of the controlling shareholder.
Practical implications –The regulators and policymakers may consider revisiting auditors' re-appointments policy as precautions action to avoid auditors from compromising their skepticism, specifically in a close ACR.
Originality/value – Empirical evidence on the link between controlling shareholders, ACR, and RPT is limited, particularly from an emerging country context. This paper provides new insight evidence from Malaysia – one of the rapidly developing economies in South East Asia.

Keywords: Auditor client relationship, auditor tenure, controlled companies, related party transactions, social network theory.

1. Introduction

Related party transactions (RPT) are a normal business transaction perceived as genuine business transactions that rationally fulfill the economic demands of a company in need (Hwang et al. 2013; Jian and Wong 2010; Williams et al. 2013, Rahmat et al. 2020). However, past studies argue that controlling shareholders often misuse RPTs as a tool to exert companies' resources that subsequently cause severe expropriation to minority's right (Berkman et al. 2009; Chen and Wu 2010; Dahya et al. 2008, Du et al. 2013; Liew et al. 2015). The controlling shareholders may exercise their dominant voting rights due to a concentrated ownership structure to execute RPTs (Bertrand et al. 2008; Chen and Wu 2010; Juliarto et al. 2013). Despite holding substantial shareholding, the controlling shareholder is also positioning themselves and their family members in a key management position (Courteau et al. 2017; Lo et al. 2010) or further inherited the top management position to their descendants (Bertrand et al. 2008; Bjuggren et al. 2011; Villalonga and Amit 2006). This collusion provides a great advantage to controlling shareholders to design RPTs according to their preferences to enjoy their benefit (Malan et al. 2012, Paligorova and Xu 2012, Zhang et al. 2014). However, we find limited evidence in which the level of ownership that the controlling shareholders capable to exercise these advantages to utilize and abuse RPTs. Thus, we aim to re-examine the controlling shareholders-RPTs relationships in two different levels of ownership i.e., at 23 percent (CC23) and 33 percent (CC33)[2].

Additionally, we respond to Gordon et al. (2007) who imply that related-party companies most likely commit to contractual arrangements with an individual auditor who they know or have prior experienced to work with. This concern is aligned with Beattie and Fearnley's (1998) indictment that clients (controlling shareholders) may appoint their preferred auditor among personal networks. Since auditor client relationship (ACR) is an interaction between human beings, the nature of human beings is unavoidable, and the quality of this human relationship may influence audit quality (Ruyter and Wetzels, 1999, Beattie et al., 2004, Schmidt and Cross, 2014). Although a few past studies such as Bennouri et al. (2015) and Gallery et al. (2008) suggest that Big 4 audit firms reduce the frequency of RPTs and may transform RPTs conflict in facilitating the efficient transactions, the studies do ignore and not adequately indicate the potential emotional attachment in the longer ACR tenure. The controlling shareholders may intentionally reappoint the auditors in longer tenure to establish close ACR and dominate the auditor to reach to a unanimous agreement easily, including the RPT engagement and disclosure (Bamber and Iyer, 2007, Fontaine and Pilote 2012; Fontaine and Pilotti 2016, Gordon et al. 2007, Karim and Zijl 2013, Rahmat and Ali, 2016). Nevertheless, our concern is not empirically tested, and this leads to our next objective to examine an association between long tenure ACR and RPTs. We also examine the association between long tenure ACR-controlling shareholder's interaction and RPTs engaged by the controlling shareholders.

RPT is a legal and normal business transaction, except for the execution is circulated only among related parties. The RPT is classified as an efficient if the transactions are performed to increase company's efficiency of daily business operation (Chen et al. 2012) or to prop up underperforming related-party companies (Hwang, Chiou, and Wang 2013; Jian and Wong 2010; Tsai 2015, Williams et al. 2013). The RPT can also be used to minimize cost since it is allowable to be agreed in a non-arm length contract which can be lower or higher than the market price. However, the nature of RPTs that rationally fulfill companies' economic demands in need, increase the abusive RPT by the opportunist related parties (Aharony et al., 2010, Berkman et al. 2009, Jiang & Wang, 2008; Ying & Wang, 2013). However, it is difficult to identify

[2] In the context of Malaysia, Bursa Malaysia defines a controlling shareholder as an individual that exercises control of more than 33% (CC33) of the voting rights. In contrast, the CC23 is determined based on prior studies that indicate controlling of 23%-25% of the voting rights is sufficient for the entrenchment effect (Morck et al., 1988, Anum, 2010, Germain et al., 2014).

the underlying objective of RPTs whether the RPT is done to fulfill economic needs or the controlling shareholders' personal benefits (Louwers et al., 2008). Thus, the Bursa Malaysia listing requirement and FRS124 *Related Party Disclosure* require companies to disclose RPTs by documenting the existence of the related parties' interests either the transaction occurs between companies, individually related parties (managers, directors and controlling shareholders) or occur between business entities where exist individual related parties.

The auditors may also confront difficulty to audit the related parties and RPTs since the controlling shareholders may have the capability to hide their identity behind the complexity of the ownership structure (Bianchi and Bianco 2006; Dietzenbacher and Temurshoev 2008; Louwers et al., 2008). Auditing the RPT has been remarked as among the most difficult task to audit (Beasley et al., 2010) and the top causes of audit failure (Beasley et al. 2000). The auditing process might get easier if the auditor and client is having a close ACR. However, the ACR is primarily discussed based on the agency theory, which implies a vital monitoring role because the long term ACR may gradually enhance auditor's skill and experience (Rahmat and Ali, 2016, Wilson et al., 2018). During an audit, auditors are required to communicate with clients to negotiate and discuss a lot of accounting issues (Beattie et al., 2004, Schmidt and Cross, 2014). Both clients and auditors may influence each other, however, the longest tenure of reappointment may create economic dependence may cause the auditor become reckless and lack of scepticism (Bamber and Iyer, 2007, Rahmat and Ali, 2016). Thus, the auditor's ability to remain independence and scepticism become debatable. These circumstances and also a limited evidence to date motivate our study to investigate the ACR in the context of controlling shareholders-RPTs relationships.

This study uses 580 companies listed in Bursa Malaysia from 2014 to 2017 which consists of 2, 900 observations. The features of Malaysia's governance such as poor governance enforcement and weak legal protections over minority shareholders provide a conducive environment for controlling shareholders to misuse RPTs (Ariff and Hashim, 2013, Peng and Jiang, 2010, Aswadi Abdul Wahab et al., 2011). A recent real bailout case of Genting Malaysia Berhad (GenM) as reported by The Edge 2019 may provide further evidence on this apprehension. Briefly, our findings show that the controlling shareholders are consistently engaged with RPT through related-party companies most probably to increase personal benefit. As compared to 20 percent shareholding, the controlling shareholder has lessened their RPT's engagement if they hold more than 33 percent of shareholding. The finding depicts auditor's skill improve along with audit tenure ACR hence enables auditors to detect and disclose more RPTs engaged by the controlling shareholders. Additionally, we find evidence that suggesting an interaction between long tenure ACR and controlling shareholders may impair and jeopardize auditor's skeptical in detecting and ensuring RPT disclosure engaged by the controlling shareholders. It is indicating that the close (long tenure) ACR involving controlling shareholders establish an unhealthy relationship and maybe not capable enough to protect minority shareholder's rights from expropriation risk by the controlling shareholder. This finding supports Gordon et al.'s (2007) argument about the controlling shareholders-auditors reappointment, as well as consistent with Beattie et al. (2004), Schmidt and Cross (2014), and Rahmat and Ali (2016).

We contribute to the literature in the following ways. First, we shed some light by discussing that RPT among RP companies might not necessarily be classified as an efficient transaction if both companies are controlled by the same controlling shareholder. The RPT among companies belong to controlling shareholders might be harmful to minority shareholders. Second, we respond to Gordon et al. (2007) and Monin et al. (2007) who suggest that human behavior should be incorporated in discussing ACR. Even though auditing the RPT is difficult, overall, we provide the empirical evidence that long tenure ACR increases auditor's ability to detect RPT while protecting minority shareholder's rights from being oppressed by moderating the controlling shareholder-RPTs engagement.

The remainder of the paper is organized as follows: Section 2 presents the institutional background of ownership structure, ACR, and RPT in Malaysia. Section 3 discusses the literature review and hypotheses development. Section 4 describes the research design and Section 5 reports the empirical results. The final section discusses the results and concludes the paper.

2. Institutional Background of Ownership Structure, ACR, and RPT.

2.1 Controlling shareholders in Malaysia

In Malaysia, more than 67% of listed companies and 28% of capital markets are controlled by the controlling shareholder (Claessens et al., 2000, Porta et al. 1999, Rahmat et al. 2016). However, to date, there is no unanimous agreement among regulators and researchers in deciding at what percentage of shareholding implies a dominant control by the controlling shareholder. According to MFRS10 Consolidated Financial Statements, any companies holding more than 51% shareholding in other companies are required to consolidate their financial statement. Hence more than 51% of shareholding implies substantial control by the controlling shareholder. Meanwhile, the Bursa Malaysia defines a controlling shareholder as anyone who is holding more than 33% of the shareholding, and most of the prior studies, including study in Malaysia, suggest that 23-25% of the shareholding is sufficient to imply the existence of control by the controlling shareholder (Claessens et al. 2002; Ghazali 2010; Morck et al. 1988).

Despite the ability to control the chain of companies, the controlling shareholder is also attached with unique altruism features in which the controlling shareholders do not only exert companies' wealth for their benefit but extended the wealth to other family members as well (Schulze et al. 2003). The controlling shareholder's ability to control the chain of companies is not acquired only through substantial shareholding, but also by becoming part of key management position (Courteau et al. 2017; Ghazali 2010) and inherited the position to their next generations (Bertrand et al. 2008; Bjuggren et al. 2011; Villalonga and Amit 2006). In Malaysia, more than 40% of board composition among Malaysian listed companies comprises controlling shareholder's family members (Ameer and Rahman 2009), who come from a wealthy family and also holding a very high social status (Satkunasingam and Shanmugam 2006).

It is Malaysian norm accept power distance and inequality of power that makes it unlikely for shareholders to challenge any decision made by the controlling shareholder (Song et al. 2006). Therefore, the controlling shareholders have more opportunities to seek rents through RPT (Chen and Wu 2010). However, Malaysia has taken some proactive approach in protecting shareholder's rights by regularly revising the Malaysian Code on Corporate Governance (MCCG)[3] but the enforcement is still considered weak (Aguilera and Cuervo-Cazurra 2009; Al-Hiyari 2017; Htay et al. 2013). Malaysia has also institutionalized shareholder activism through the establishment of Minority Shareholder Watchdog Group (MSWG) but the impact of MSWG is also been considered as unsatisfactory (Azizan and Ameer 2012). The environment in Malaysia may motivate the controlling shareholders to hide their ability to enjoy personal benefit through RPT which commonly be seen as a genuine transaction (El-Helaly et al. 2018; Gordon et al. 2004; Jian and Wong 2010).

2.2 Related party transaction (RPT)

RPT refers to a sharing of resources and obligations among related parties. Past literature discussed RPT from two perspectives, RPT as a genuine business transaction called the RPT-efficient and RPT as a mechanism to exert personal benefit which is also known as the RPT-conflict. The RPT-efficient was

[3] MCCG was introduced in 2000 and has been revised several times in 2007, 2012 and 2017.

commonly be portraying as RPTs that are necessary to be executed to help related-party companies in need. On the other hand, the RPT-conflict usually involved RPT with any individual RP such as the key management personnel or the controlling shareholder. However, some studies proved that the controlling shareholders might still be able to exert companies' benefit through the RPT among related-party companies, although this RPT type is commonly be perceived as an efficient transaction.

Both types of RPT were executed through 'tunneling' or 'propping' depending on the objective of RPT (Cheung et al. 2009; Peng et al. 2011). Generally, tunneling refers to RPT activities that could reduce companies' assets (Johnson et al. 2000) while propping is about to bring in capital injections or asset's into companies (Ying and Wang 2013). As the controlling shareholder able to control the entire chain of companies, including both companies committed with RPT, the propping and tunneling might be manipulated. For example, Bertrand and Mullainathan (2003) and Ying and Wang (2013) found that propping was followed by tunneling by requiring subsidiaries to repay financial aid received from the parent company at higher prices hence the controlling shareholder of the parent company will be entitled to a higher benefit. Nevertheless, the main objective of RPTs implementation is not easy to be identified (Louwers et al. 2008). While past studies concluded RPT among related-party companies as RPT-efficient, we argue that the controlling shareholders may find ways to enjoy benefit behind the execution of this RPT-efficient. Hence the RPT among RP companies may no longer be executed as a genuine business transaction.

2.2.1 RPTs in Malaysia

In Malaysia, there are a few regulations that govern the RPT disclosure. Chapter 10 of Bursa Listing Requirements sets out requirements for various types of RPT that are subject to stock exchange disclosure, financial reporting, and some RPTs require public disclosure and shareholder approval. In the most recent development, the Bursa Malaysia announced the Practice Note 12 on Recurrent RPTs that requires the disclosure on any recurring RPT incurred once in every three years to be declared accordingly. The Companies Act 1965 also regulated that any substantial property transaction with individual RP must be attached with shareholder approval before the commencement of the transaction. According to MFRS 124 Related Party Disclosures, disclosures of RPT need to be segregated into three categories which are; RPT with any individual RP, RPT engaged among RP entities and RPT between entities where both entities are controlled by individual RP. A related party is defined by MFRS 124 as a person or entity connected to other entities through any type of shareholding. The definition of RP is not only limited to individuals or groups of individuals but also may include any entity or group of entities. The auditor is responsible to ensure all RPT has been disclosed following the MFRS 124.

2.3 Background of ACR and Auditor Rotation in Malaysia

Past studies have shown that audit mitigate RPT (Chien and Hsu 2010; Wahab et al. 2011) and it is more apparent among auditors is the Big 4 auditors (Bennouri et al. 2015; Rahmat and Ali 2016). However, auditor's ability to detect RPT might be influence by ACR (Monin et al. 2007). A formal relationship that binds auditor and client was started after an engagement letter was signed by both parties. As communication is needed throughout the auditing process, controlling shareholder's preferred to appoint auditors among personal networks (Beattie and Fearnley 1998; Beattie et al. 2001) without considering auditor competencies' level (Karim and Zijl 2013). This preference might be driven by the nature of audit work that requires good cooperation between auditors and clients (Knechel and Vanstraelen 2007). Therefore, the auditing process becomes easier if auditors and clients knowing each other before the formation of a formal ACR (Chowdhury 2012; Morgan and Hunt 1994; Ruyter and Wetzels 1999). Although the auditor is appointed by an independent audit committee, however, the controlling shareholder who also becomes part of key management is still been able to interfere in the auditor selection process (Almer et al. 2014; Fiolleau et al. 2013). The controlling shareholder, i.e client, who satisfied with past auditing experience is likely to reappoint the same auditor (Herda et al. 2014; Ismail et al. 2006) hence keeping the same auditor for a long tenure may signal to a close ACR (Levinthal and Fichman 1988; Seabright et al. 1992).

Past studies discussed the consequences of long ACR into two streams. First, long tenure may result in a conflict ACR and second long tenure result to an efficient ACR. The efficient ACR perceived long reappointment as an opportunity for auditors to gain client-specific knowledge. Hence, a long tenure may enhance the auditor's ability to limit the client's ability in managing earnings (Ho et al. 2010; Myers et al. 2003) and limit the client's involvement in fraud (Carcello and Nagy 2004). However, an efficient ACR will only be realized if the auditor able to maintain his/her skepticism throughout audit engagement.

On the other hand, a conflict ACR perceived long ACR has caused auditors to become too familiar with the client that could compromise their skepticism's level (Baker and Al-thuneibat 2011; Garcia-Blandon and Argiles-Bosch 2013; González-díaz et al. 2015). Auditors might see reappointment as only repeating the same audit procedure as prior years (Ball et al. 2015; Gavious 2007) hence no longer attentive to auditing procedure (Arel et al. 2005; Sinason et al. 2001). Moreover, auditor's failure to maintain skeptically might be influenced by the dependency on the client's audit fees (Cahan et al. 2008; Lim and Tan 2010). The auditor may purposely build a good ACR to ensure the sustainability of the audit firm's income. Nevertheless, the effects of long tenure either as a conflict or efficient ACR discussed by prior studies were based on a contractual perspective that ignored human behavior aspects. Since the audit process requires human interaction, human behavior should not be neglected in discussing ACR.

Since controlling shareholders can influence an auditor's appointment, thus, the controlling shareholder may intentionally develop a close ACR to earn benefit from the relationship. Moreover, according to Rahmat and Ali (2016), the controlling shareholders could manipulate a close ACR to hide their involvement in RPTs. However, in Malaysia, a mandatory rotation was exercised to ensure the auditor can maintain their skeptical while maintaining a close ACR. The mandatory rotation requires an audit partner to be rotated for every seven years of reappointment and subject to a cooling-off period for two years. Nevertheless, Daugherty et al. (2013) suggest that mandatory rotation does not limit the development of close ACR.

2.4 ACR from the Networking Perspective and RPTs

Most of the past literature discussed auditing from the agency theory perspective perceives. According to this theory, ACR was perceived as a contractual discrete relationship in which the auditor is expected to be independent in rendering their opinion towards the client's financial position. However, to complete audit work, auditors and clients should be working together (Beattie et al. 2004). Chemistry in ACR motivates reappointment subsequently affect the auditor's ability to detect RPTs. As the controlling shareholder has the opportunity to interfere in auditor's appointment and reappointment thus it is important to incorporate human behavior in discussing ACR.

We incorporate the Social Network Theory in understanding auditor's ability to remain skeptical in a long tenure ACR. Generally, the Social Network Theory explained that actors develop networking to enable them to achieve their objectives (Gibson et al. 2014; Hoang and Antoncic 2003). There are three phases of networking which are; creating a contact, maintaining contact, and using a contact (Wolff and

Kim 2012). In the first phase, networking was developed by creating a contact either through an arm's length or an embedded contact (Uzzi 1997). An arm's length relationship was formed outside a regular contact of the actor (Katz et al. 2004) and usually associated with weak emotional ties (Granovetter 1973; Uzzi 1997). In contrast, an embedded relationship was formed with a person whom the actor knows or has experience dealing with. Actors in an embedded relationship commonly shared beliefs (Morgan and Hunt 1994) and shared values (Robert Dwyer 1987). Hence embedded relationship was attached with a high level of trust (Katz et al. 2004) at a certain degree of emotional intensity and this is known as a strong tie relationship (Granovetter 1983). A strong tie depicts mutual confiding and both actors were ready to commit for a long tenure of relationship (Stanko et al. 2007).

The strength of ties may vary over time depends on the frequency of meetings (Zhao and Aram 1995) regardless of how the relationship was initiated either through the arm's length or embedded contact. While the actor was expected to fulfill contract obligation and yet to understand each other's' behavior in the early years of the relationship, with frequent meetings, emotional attachment intensifies that depicts a long tenure as a close relationship (Lewicki and Bunker 1996). Once a close relationship was maintained, it is presumed that the relationship has entered into the second phase of networking, i.e maintaining a contact. In the last phases of networking, both actors were using each other in reaching their common objective and this was realized through cooperation (Chowdhury 2012). Because trust instilled in a close ACR, hence cooperation is easier to be acquired (Morgan and Hunt 1994).

In the context of ACR, the auditor must be appointed among the third party, who is free from any close relationship either with management or shareholders to avoid auditor's compromising their judgment. However, in real cases, auditors have usually been appointed among the client's network or those whom they have experience dealing with. The auditor will be reappointed if the client were satisfied with the auditor's cooperation in previous auditing work (Beattie and Fearnley 1998; Reheul, Van Caneghem, and Verbruggen 2013). It is easier to develop chemistry between auditor and client if the auditor was appointed among the client's network. While reappointment leads to the development of close ACR that might increase the client's trust towards the auditor, however, the auditor has to be careful in putting their trust over the client. In the audit, the auditor was obliged to practice a professional skepticism, and over trust may jeopardize the auditor's skepticism. Most past studies demonstrate that clients manipulate close ACR (Schmidt and Cross 2014) but the most recent finding by Fontaine and Pilotti (2016) shows that clients prefer to have a close relationship without influencing the auditor's judgment. However, because RPT itself is complex hence the client may take advantage of close ACR by hiding RPT from auditor's attention.

3. Literature Review and Hypotheses Development

3.1 Controlled Companies by Controlling Shareholders and RPT

The controlling shareholder is in power to manipulate business transactions for their benefit. By holding substantial shares and positioning themselves as part of top management, the controlling shareholder could easily plan and manipulate the RPT (Ronald and Jeffrey 2017). Moreover, according to DeAngelo and DeAngelo (2000), appointing key management with professional qualifications didn't stop the controlling shareholder from expropriating activities. This manager willingly colludes with controlling shareholder to conceal the RPT (Zhang et al. 2014). In addition to that, the large percentage of shares and key top management positions were reserved to be inherited by the controlling shareholder's descendants (Bertrand et al. 2008; Villalonga and Amit 2006). Therefore, it is merely impossible to eliminate expropriation in concentrated companies.

Numerous past studies proved that there is strong evidence between controlling shareholders and RPT (Berkman et al. 2009; Cheung et al. 2009, 2006; Juliarto et al. 2013; Kang et al. 2014) but RPT among related-party companies will only be executed if controlling shareholder earned subsequent benefit (Bae et al. 2002; Hwang et al. 2013; Jiang and Wang 2008). Aharony et al. 2010) found that the controlling shareholder provides financial aid to the subsidiary in need but in a later year the same controlling shareholder does not repay any loan made from the same subsidiary. Friedman et al. (2003) also proved that the controlling shareholder was being selective and only willing to give personal financial assistance if the subsidiary has the potential to repay the loan. Bae et al. (2002) has documented that any merger and acquisition will only be done if it brings ultimate benefit to the controlling shareholder. While Hwang and Kim (2016) showed that an excessive RPT was purposely done to provide financial assistance to the related-party companies in need but in subsequent years RPT again be used to perpetuate control over subsequent generations. From all cumulative findings above, the controlling shareholder executed the RPT among related-party companies only to secure a greater benefit in the future. Consistent with prior studies, the controlling shareholders are predicted to utilize their dominant power to engage in RPT-conflict. Therefore, we propose the following hypothesis:

H1: Controlled shareholders are positively associated with RPT-conflict engagement and disclosure.

3.2 Close (Long Tenure) ACR and RPT

According to the Social Network Theory, any professional services should ideally be formed through an arm's length contract to avoid any emotional attachment in business operations (Granovetter 1983). However, an emotional attachment may still foster if the relationship was maintained for a long tenure regardless of whether the relationship was initially formed through embedded or arm's length contract. Nevertheless, past studies show that the auditor was appointed among embedded contact (Beattie and Fearnley 1998; Guan et al. 2015) and will be reappointed if there is a chemistry between auditor and client (Jenkins and Vermeer 2013; Reheul et al. 2013). A long tenure reappointment built a close ACR that may ease communication (Fontaine and Pilote 2012; Saiewitz and Kida 2018) and negotiation throughout auditing work (Meyer et al., 2007, Ball et al., 2015).

However, long ACR may compromise auditor's skepticism level (Garcia-blandon and Ma-Argiles 2015; Jenkins and Vermeer 2013; Kyriakou and Dimitras 2018) but some past studies have discussed that long tenure may increase auditor's skills because reappointment gives more time for the auditor to have a better understanding on client's industry, business operation, ownership structure and others (Azizkhani et al. 2018; Ball et al. 2015; Daugherty et al. 2013; Hapsoro and Santoso 2018; Siregar et al. 2012). Skepticism is crucial in the auditing profession, thus audit firm and regulators have to take precautions action to ensure that auditor is keeping a balance in putting trust and maintaining a professional behavior. According to McCracken et al. (2008), the audit firm will match the client's personality with the audit partner's personality to avoid conflict while discussing any accounting issues (Gibbins et al. 2010). Additionally, the mandatory rotation policy that is also practiced by Malaysia can be an effective tool to prevent auditors from jeopardizing their skeptical level (Bowlin et al. 2015). Therefore, the reappointment may allow auditors to develop auditor skills including the ability to detect and ensure disclosure RPTs appropriately. Thus, we propose the following hypotheses:

H2: Close (long term) ACR is positively associated with RPT-conflict engagement and disclosure.

3.3 ACR as a Moderating Role

By being part of key management, the controlling shareholder has the advantage to interfere with auditor's appointment (Almer et al. 2014; Fiolleau et al. 2013). It is more likely for the auditor to be appointed among management's network or at least have an experienced dealing with (Beattie et al. 2001), to ease cooperation during auditing work. Chemistry in ACR motivates the controlling shareholder to keep the same auditor over the consecutive years that indirectly developed a close ACR. The close ACR may attach to an increase in trust and emotional attachment between auditor and client (Reheul et al. 2013). It would become conflicting since the auditor is required to be independent at all the time hence failure to keep a moderate level of trust may jeopardize the auditor level of skepticism that may put the auditor at risk (Glover and Prawitt 2014).

Some studies found that client has variously dominated a close ACR. According to Messier et al. (2015) and Schmidt and Cross (2014), the client is only more cooperative in the early years of engagement but become more contentious in later years (Schmidt and Cross, 2014, Robertson and Simon, 2015). They are more aggressive in getting auditors to agree with their chosen accounting treatment over the subjective accounting issues (Luippold et al. 2015).

Despite the dominance by the client in a long ACR, the auditor by themselves may become more reckless hence more likely to accept the client's preferred accounting treatment (Baker and Al-thuneibat 2011; Kerler III and Brandon 2010). The Enron-Arthur Andersen accounting scandal is the best example that exposes auditor's inability to maintain skepticism in close ACR. Moreover, Garcia-blandon and Ma-Argiles (2015) and Louwers et al. (2008) documented that, although auditors could identify the existence of related parties they tend to conceal the RPTs in a close ACR. Nevertheless, the consequence of close ACR is not widely explored.

However, the quality of the close ACR is determined by the auditor's ability to maintain independence throughout the audit process (Fontaine 2011). Therefore, we argue that the skepticism level exercised by auditors determined the auditor's ability to mitigate controlling shareholder's engagement in RPT. By maintaining a sufficient skepticism level, auditors should be able to influence controlling shareholders to limit their expropriation activities through RPT. Therefore, less RPT will be disclosed. In contrast, the inability to maintain skeptically allows the client to dominate the close ACR hence clients do not perceive the presence of the auditor is to limit their expropriation activities. As ACR is getting closer, the client may become more daring in engaging RPT. Contingent with the ability of auditors to remain skeptical and withstand independence, hence, we propose the following hypotheses:

H3: Close (long tenure) ACR-controlling shareholder interaction is associated with RPT-conflict engagement and disclosure.

4. Research Design

4.1 Sample

We use companies listed in Bursa Malaysia from 2014-2017 as samples under study. As compared to the other East Asian developing countries, Malaysia is considered more advanced on the reformation of corporate governance practices especially through the introduction of the Malaysia Code on Corporate Governance (MCCG) in 2000. Since its introduction, the MCCG has gone through a few times of updates. The first revamped was in 2007, in which the RPT loans to or from directors have been banned. The MCCG was again be revamped in 2012 and recently in 2017. We limit our sample up to 2017 because there was a recent revision of MCCG in 2017 that effective starts at year-end 2018. However, MCCG enforcement in

Malaysia is still considered weak (Peng and Jiang 2010). There is a unique culture in Malaysia where the people do not like to challenge those in power, including the controlling shareholder, that gives an advantage for the controlling shareholder to manipulate company transaction for their good (Azizan and Ameer 2012; Satkunasingam and Shanmugam 2006). Moreover, the ability for controlling shareholders being part of management will ease the execution of the RPT conflict. Hence, issues about RPT seem more common in the Malaysian environment.

4.2 Data Collection

Some of the data used by our study were gathered through Datastream and manually collected from annual reports especially data for RPTs and non-financial data. The annual reports were downloaded from Bursa Malaysia websites. The total sample used by this study comprised of 580 companies listed in Bursa Malaysia with 2,900 observations. Financial institutions were eliminated from this study because this sector was governed by more complex regulations. Any incomplete data were also eliminated.

Table 1: Sample selection

	Total samples
Total companies listed in Bursa Malaysia as at 6th November 2018	800
Less:	
The financial institution, insurance, and banking	(34)
Missing data	(186)
Total sample	580
The total years of observations (5 years, from 2013 to 2017).	2,900

4.2 Regression model and Variable Measurements

We use a pooled regression to examine the hypotheses. The regression models are as follows:

$$\begin{aligned} \textbf{\textit{RPT-conflict}}_{i,t} = {} & \beta_0 + \beta_1 \textbf{\textit{CSType}}_{i,t} + \beta_2 \textbf{\textit{AudTen}}_{i,t} + \beta_3 \textbf{\textit{CSType}}_{i,t} * \textbf{\textit{AudTen}}_{i,t} + \beta_4 \textbf{\textit{AudQ}}_{i,t} \\ & + \beta_5 \textbf{\textit{SIZE}}_{i,t} + \beta_6 \textbf{\textit{LEV}}_{i,t} + \beta_7 \textbf{\textit{GROWTH}}_{i,t} + \beta_8 \textbf{\textit{ROA}}_{i,t} + \beta_9 \textbf{\textit{BDSIZE}}_{i,t} \\ & + \beta_{10} \textbf{\textit{BDIND}}_{i,t} + \beta_{11} \textbf{\textit{ACIND}}_{i,t} + \beta_{13} \Sigma^3_{i,j} \textbf{\textit{Year}}_{i,t} + \beta_{14} \Sigma^4_{i,j} \textbf{\textit{Ind}}_{i,t} + \varepsilon_{i,t} \quad \textbf{\textit{Eq. 1}} \end{aligned}$$

Where:

RPT-conflict$_{i,t}$ represents the natural log of RPT-conflict. RPT-conflict is defined as RPT among RP companies where both companies are controlled by the controlling shareholder. ***CSType***$_{i,t}$ denotes a binary variable that represents controlled by the controlling shareholder share was either at 20 percent of share (CS20) or 33 percent of share (CS33); the value is equal to "1" if a company is controlled by controlling shareholders at a classified level of ownership or "0" otherwise. ***AudTen***$_{i,t}$ denotes an auditor's tenure and measured by the years of reappointment. ***AudQ***$_{i,t}$ is a binary variable that represents audit quality and has a value equal to "1" if a firm is audited by the Big 4 or "0" otherwise. ***SIZE***$_{i,t}$ is a natural logarithm of a company's total assets. ***LEV***$_{i,t}$ represents a company's leverage scaled by a ratio of total debt over total assets. ***GROWTH***$_{i,t}$ represents a company's market value at the end of year t divided by the book value of total assets. ***ROA***$_{i,t}$ represents the ratio of return on assets. ***BDSIZE***$_{i,t}$ represents the board size based on the number of directors. ***BDIND***$_{i,t}$ represents the proportion of independent non-executive directors to total board members. ***ACIND***$_{i,t}$ represents the proportion of independent non-executive members to the total number of members on an audit committee. ***Year***$_{i,t}$ represents a vector of year indicator variables for 2013, 2014, 2015, 2016, and 2017 and finally, ***Ind***$_{i,t}$ represents a vector of industry indicator variables based on the Bursa Malaysia industry classification. $\varepsilon_{i,t}$ is the error term.

We define RPT-conflict as RPT transaction between RP companies and both companies are controlled by the controlling shareholder. Controlled companies are classified *CS20* and *CS33*, differentiated according to the percentage of ownership that is held by the controlling shareholder. The controlling shareholders are determined by the level of shareholding which *CS20* depicts a minimum of 20% shareholding and *CS33* is a 33% shareholding. The 20% ownership was used as a benchmark because past studies found that proved 20%-23% of ownership was sufficient to indicate the existence of control while the benchmark of 33% was determined by Bursa Malaysia's regulation. A binary coding equal to "1" denotes the existence of control by the controlling shareholders and "0" otherwise. Additionally, the tenure of ACR (*AudTen*) is measured by the tenure or number of consecutive years that auditors have worked with the client. A small *AudTen* indicates that the ACR is in its initial stage and a larger *AudTen* is indicative of a close ACR.

The model includes control variables to represent company-specific characteristics, performance, corporate governance patterns, and audit quality levels that may affect controlling shareholder's engagement in RPTs. Company growth (*GROWTH*) is measured based on the market value of a firm divided by the beginning book value of total assets for the year. Firm size (*SIZE*) is measured using the natural logarithm for the book value of year-end total assets, and firm leverage (*LEV*) is measured based on total debt divided by total assets. Return on assets (*ROA*) is measured by earnings after tax divided by the year-end total assets as the earnings quality of companies that are engaged in RPTs is associated with poor performance.

Also, *AudQ* is controlled for differences in audit quality level, which is coded as 1 for companies that have been audited by a Big 4 auditor, and otherwise, a value of 0 is assigned. Board size (*BSIZE)* is measured by the number of directors who sit on the board. Board independence (*BIND)* is measured as the ratio of independent non-executive directors to total board members and represents the presence of independent monitoring of RPTs from outside directors. Audit committee independence (*ACIND)* is measured by the proportion of independent non-executive members relative to all members on the audit committee. Consistent with (Mitton 2002) approach, this study controls also for the differential effects of *Year* and *Industry*. The *Year* indicator is a vector of year indicator variables (2011, 2012, 2013, and 2014). The *Industry* indicator is a vector of industry indicator variables based on the Bursa Malaysia industry classification.

4.3 Results

4.3.1 Descriptive analysis

Table 2 presents details of descriptive statistics for each variable used in this study. All continuous variables are winsorized to 1% level to reduce the skewness problem. A mean (median) value for RPT is 5.909 (6.900) with a standard deviation of 2.715. A maximum and minimum value for RPT are 9.400 and 0.000 respectively. A 0.000 minimum value of RPT depicts there are few companies understudy that do not engage with and disclose RPT, specifically RPT-conflict. Meanwhile, the mean value for *CS* is 50.434 which shows that most controlling shareholders on average are holding 50.434% of shares in companies. However, this study used *CS* as a binary variable and the breakdown of *CS* is presented in panel B. Meanwhile, for *AUDTEN*, the mean, maximum and minimum values are 4.600, 8.000, and 0.000 respectively. This figure indicates that companies in Malaysia, on average, keeping the same auditor for 4.6 years (~5 years) but some companies do not reappoint the same auditor while some companies reappoint the same auditor for 8 years in a row. Hence, on average, companies in Malaysia are perceived as having a close ACR with their auditors. The mean for *SIZE*, *LEV*, *ROA* was 5.713, 0.1818, and 0.056 respectively. While for *BDSIZE,* on average is having 7.307 (~7 number) board of directors.

Table 2: Descriptive analysis

Panel A: Continuous variables

	RPT	***CS***	***AUDTEN***	***SIZE***	***LEV***	***ROA***	***BDSIZE***	***ACIND***
Mean	5.909	50.434	4.600	5.713	0.181	0.056	7.307	0.892
Median	6.900	53.345	5.000	5.670	0.160	0.060	7.000	1.000
Maximum	9.400	98.010	8.000	8.160	0.760	1.050	13.000	1.000
Minimum	0.000	0.000	0.000	1.410	0.000	-0.940	4.000	0.600
Std. Dev.	2.715	17.771	2.345	0.646	0.155	0.111	1.809	0.148

Notes: RPT is a natural logarithm of total RPT-conflict. CS is a remark for controlling shareholder based on total shareholding, ***SIZE*** *is a natural logarithm of a company's total assets.* ***LEV*** *represents a company's leverage scaled by a ratio of total debt over total assets.* ***GROWTH*** *represents a company's market value at the end of year t divided by the book value of total assets.* ***ROA*** *represents the ratio of return on assets.* ***BDSIZE*** *represents the board size based on the number of directors.* ***BDIND*** *represents the proportion of independent non-executive directors to total board members.* ***ACIND*** *represents the proportion of independent non-executive members to the total number of members on an audit committee.*

Panel B: Dummy variables

Panel B1: Controlling shareholder (CS)

	Frequency	**Percentage**
CS>20	2 728	94.069
CS<20	172	5.931
	2 900	100.000
CS>33	2 499	86.172
CS<33	401	13.828
	2 900	100.000

Panel B2: AudQ

Big 4	1,462	50.414
Non-Big 4	1,438	49.586
	2 900	100.00

Notes: CS20> is a controlling shareholder with more than 20 percent shareholding and CS<20 is a controlling shareholder with less than 20 percent of shareholding, CS33> is a controlling shareholder with more than 33 percent shareholding, and CS<33 is a controlling shareholder with less than 33 percent of shareholding. Big 4 refers to Big 4 companies which are Ernst&Young, PwC, KPMG, Deloitte while non-Big 4 refers to others.

Panel B in Table 2 depicts the frequency of dummy variables used in this study which refers to *CS* and *AudQ*. Results in Panel B1 shows a frequency detail of *CS* at 20% and 33% of the shareholding. There are more than 94.069% of controlling shareholders were holding shares at more than 20% of shareholding and only 86.172% holding shares at more than 33%. This trend shows that the controlling shareholder has lessened their shares at higher shareholding, i.e., at 33 percent of shareholding. Meanwhile in Panel B2, shows 50.414% of our sample were audited by the Big 4 and 49.586% by the non-Big 4. There are no multicollinearity issues among variables used in this study as shown in Table 3.

Table 3 Correlation analysis

	CS	***AUDTEN***	***AQ***	***SIZE***	***LEV***	***ROA***	***BSIZE***	***ACIND***
CS	1.000	0.063	0.149	0.092	0.018	0.064	0.121	-0.033
AUDTEN	-	1.000	0.231	0.152	0.017	0.061	0.042	-0.003
AQ	-	-	1.000	0.268	0.101	0.047	0.143	-0.128
SIZE	-	-	-	1.000	0.367	0.181	0.266	-0.092
LEV	-	-	-	-	1.000	0.098	0.142	0.014
ROA	-	-	-	-	-	1.000	0.060	-0.009
BSIZE	-	-	-	-	-	-	1.000	0.034
ACIND	-	-	-	-	-	-	-	1.000

4.3.2 Multiple Regression Result

reports the regression result used in this study. In Model 1, we find that the positive coefficient on CS20 is 0.726 (t-statistic = 2.832, $p < 0.05$). The coefficient implies that controlling shareholder with more than 20 percent shareholding increases their involvement in RPT by 0.726. Hence, H1 is supported. In addition to that, in Model 2, CS33 was also positively related to RPT but the coefficient reduced to 0.569 (t-statistic = 9.069, $p < 0.01$) which shows that, at 33 percent of shareholding, the controlling shareholder has slightly lessened their engagement in RPT as compared to the 20 percent shareholding. Our findings are consistent with prior studies by Liew et al. (2015) and Munir et al. (2013). However, we find that the controlling shareholder is trying to keep the balance between expropriation activities and negative perception from the market. The controlling shareholder limits their expropriation activities at a higher percentage of shares because, at this point, it might be easier for the market to identify the existence of controlling shareholders. Therefore, this study suggests that controlling shareholder are not excessively but moderately engaged in RPT.

AudTen is significant and positively related to RPT with the coefficient 0.119, (t-stat. = 3.404, p <0.001), and 0.094 (t-stat. = 7.656, p <0.001) respectively in Model 1 and Model 2 which depicts that auditor's ability to detect and ensure disclosure RPT has increased in a long tenure relationship. This finding supports the efficiency theory view which suggests that long tenure enables auditors to acquire relevant skills and knowledge hence increase auditor's ability to detect RPT. Thus, H2 is also supported. Despite the complexity of RPTs and the client's ability to hide RPTs, long ACR gives chances for the auditor to improve their current knowledge and acquire new skills hence more RPT will be detected and disclosed. As a result, the controlled companies may have difficulty to hide or conceal their engagement in RPT-conflict from the auditor's knowledge. We interpret that auditor can maintain their professional skepticism to query and detect, and ensure the RPT-conflict disclosed appropriately although it is in a close ACR. Hence the long ACR has built a healthy relationship.

Table 4 Multiple Regression Result

	Model 1		Model 2	
	Coefficient	t-Statistic	Coefficient	t-Statistic
C	3.107	4.528***	3.438	5.328***
CS20	0.726	2.832**		
CS33			0.569	9.069***
AudTen	0.119	3.404***	0.094	7.656***
CS20*AudTen	-0.096	-2.071**		
CS33*AudTen			-0.075	-3.623***
AudQ	-0.162	-0.733	-0.150	-0.685
SIZE	0.349	3.388***	0.350	3.402***
LEV	0.498	1.266	0.520	1.351
ROA	0.927	2.577*	0.925	2.575***
BSIZE	-0.026	-1.029	-0.03	-1.259
ACIND	-0.028	-0.104	0.006	0.0219
Year	Included		Included	
Industry	Included		Included	
n	2,900		2,900	
Adjusted R2	82.27%		82.28%	
Durbin-Watson stat	1.718		1.723	
F-Statistic	23.888		23.889	
Prob (F-statistic)	0.000		0.000	

Notes: RPT-conflict represents a vector that describes the total magnitude of RPT-conflict, scaled by the beginning total assets. *CSType* represents a vector that describes different levels of controlling shareholders and denotes a binary variable that represents either *CS23* or *CS33*; the value is equal to "1" if a company is controlled by controlling shareholders at a classified level of ownership or "0" otherwise. *AudTen* denotes an auditor's tenure and is measured by the number of consecutive years that the audit firm has worked for the client. *AudQ* is a binary variable that represents audit quality and has a value equal to "1" if a firm is audited by the Big 4 or "0" otherwise. *SIZE* is a natural logarithm of a company's total assets. *LEV* represents a company's leverage scaled by a ratio of total debt over total assets. *ROA* represents the ratio of return on assets. *BDSIZE* represents the board size based on the number of directors. *ACIND* represents the proportion of independent non-executive members to the total number of members on an audit committee. *Year* represents a vector of year indicator variables for 2013, 2014, 2015, 2016, and 2017 and finally, *Industry* represents a vector of industry indicator variables based on the Bursa Malaysia industry classification. $\varepsilon_{i,t}$ is the error term. *Year* and *Industry* are not reported for brevity.

***significant level p<0.01, **significant level p<0.05, *significant level p<0.10.

The results of the interaction between *CS* and *AudTen* show a similar direction to the result between CS20 and CS33. In Model 1, *CS20*AudTen* is negatively related to RPT with coefficient -0.096, (t-stat. = -2.071; $p < 0.05$) while Model 2 shows that CS33 is negatively related to RPT with coefficient -0.075, (t-stat. = -3.623; $p < 0.01$). Therefore, H3 is supported. The findings show that the close ACR due to long tenure reappointment has restricted the auditor's ability to detect and disclose RPT, specifically the RPT-conflict. It is indicating that the close ACR may impair auditor independence, jeopardize auditor skepticism, and lead to poor audit quality in querying RPT involving controlling shareholders. This finding provides empirical evidence to Gordon et al.'s (2007) argument that companies involved in potentially abusive RPTs are more likely to maintain close relationships with their favorable auditors. Controlling shareholders may appoint preferred auditors from their established networks opportunistically for influencing the auditors, specifically concerning RPT-conflict disclosure. Our results are aligned with Beattie et al. (2004), Schmidt and Cross (2014), and Rahmat and Ali (2016). We interpret that the long tenure auditor reappointment by controlling shareholders makes clients more comfortable to influence auditor's decisions in auditing RPT engaged by the controlling shareholders. In this circumstance, the long ACR with controlling shareholders has built an unhealthy relationship. Meanwhile, for control variables, there are the only *SIZE* and *ROA* significant to RPT conflict in Model 1, meanwhile, *SIZE* and *ROA* are positive and significant to RPT in Model 2.

4.3.3 Robustness check (Will be updated soon)

4.3.3.1 Examine if there is a difference in result between the Big 4 and non-Big 4

We recompute the regressions by segregating samples which were audited by the Big 4 and the non-Big 4. The result in Table ***5*** shows that either the Big 4 or non-Big 4 can influence controlling shareholders to reduce their engagement in RPT after a close relationship between auditor and client was developed. This finding is consistent with our main findings.

Table 5: Regression result for Big 4 audited companies only (n=1 462)

	Big 4		Non-Big 4	
Variable	Coefficient	Prob.	Coefficient	Prob.
Constant	1.453	0.200	3.713	0.001
CS33	0.535	0.013**	0.746	0.000***
CS33*AUDTEN	-0.056	0.023**	-0.116	0.000***
AudTen	0.056	0.008***	0.161	0.000***
SIZE	0.637	0.002***	0.158	0.374
LEV	0.810	0.156	0.088	0.825

ROA	0.797	0.148	1.320	0.002***
BSIZE	0.711	0.000***	-0.247	0.670
ACIND	-0.038	0.917	0.194	0.768
Year	Included		Included	
Industry	Included		Included	
n	1462		1438	
Adjusted R-squared	0.864		0.790	
Durbin-Watson stat	1.835		1.761	
F-statistic	29.407		17.936	
Prob(F-statistic)	0.000		0.000	

Notes: RPT-conflict represents a vector that describes the total magnitude of RPT-conflict, scaled by the beginning total assets, CC33 is equal to "1" if a company is controlled by controlling shareholders at a 33% level of ownership or "0" otherwise. AudTen denotes an auditor's tenure and is measured by the number of consecutive years that the audit firm has worked for the client. AudQ is a binary variable that represents audit quality and has a value equal to "1" if a firm is audited by the Big 4 or "0" otherwise. SIZE is a natural logarithm of a company's total assets. LEV represents a company's leverage scaled by a ratio of total debt over total assets. ROA represents the ratio of return on assets. BDSIZE represents the board size based on the number of directors. ACIND represents the proportion of independent non-executive members to the total number of members on an audit committee. Year represents a vector of year indicator variables for 2013, 2014, 2015, 2016, and 2017 and finally, Industry represents a vector of industry indicator variables based on the Bursa Malaysia industry classification. $\varepsilon_{i,t}$ *is the error term. Year and Industry are not reported for brevity.*

****significant level p<0.01, **significant level p<0.05, *significant level p<0.10.*

5. Conclusion

Overall, the main objective of our study is to examine the relationship between controlling shareholders and their engagement in RPTs. We also investigate the impact of long tenure ACR on auditors' ability to detect and ensure RPT disclosure and it's moderating role on the controlling shareholders-RPT-conflict relationship. The controlling shareholder is holding significant shares through concentrated ownership and also positioning themselves in a top management position hence it is easier for them to plan and executed the RPT for their benefit. Although the audit is the most governance tool to reduce expropriation by the controlling shareholder is also able to interfere in the auditor selection process. Auditors have usually been appointed among controlling shareholder's networks hence auditor's ability to reduce expropriation activities by the controlling shareholders is still in question. We use Malaysia listed companies between 2012 until 2017 to re-examine that in which level of ownership (CS23 or CS33) the controlling shareholders more ambitious to engage in RPTs. We also test the ability of long tenure ACR to detect and disclose RPTs as well as moderating the controlling shareholders-RPT relationship. The findings show that both levels of ownership encourage RPTs engagement but the CS23 is found more ambitious to engage with RPT-conflict than CS33.

We fill a gap in current knowledge raised by Gordon et al. (2007) by investigating the effects of a close ACR and controlling shareholders' engagement in RPT-conflict. The arguments originated from two different perspectives: an audit agency's monitoring role and the opportunistic advantages of close networking. The results indicate that long tenure (close) ACR is healthy to provide opportunities for the auditor to gain more required skill, knowledge, and experience in identifying, detecting, and ensuring the appropriate RPT disclosure. Overall, we interpret that the auditor capable to withstand independence and skeptical in a close (long tenure) ACR. The long tenure of ACR provides an opportunity for the auditor to gain more required skills specifically in auditing the RPT. However, the result of the interaction between controlling shareholders and long tenure ACR reduces the ability of the auditor to detect and disclose RPT-conflict. The finding supports the argument raised by Beattie et al. (2004), Gordon et al. (2007), Schmidt and Cross (2014), and Rahmat and Ali (2016) that controlling shareholders may reappoint preferred auditors from their established networks opportunistically to influence the auditor's monitoring role, specifically involving controlling shareholders engagement in potentially abusive RPTs.

We assumed that all RPT-conflict are detected by the auditors and disclosed appropriately in companies' annual reports. The measurement may ignore the potential existence of RPT-conflict engaged by controlling shareholders maybe not disclose accordingly. Additionally, RPT companies do not disclose the market price of the reported RPTs; therefore, abusive RPTs are related to their potential effects and not the actual expropriation process. It is difficult to judge when RPT-conflict is abused because not all RPT-conflict is abusive and actual intentions are not revealed in legal transactions. Thus, our conclusions regarding close ACRs are limited and cannot be simply interpreted to represent negative impressions.

The results of our study urge policymakers to consider recurring auditors' appointments, particularly for controlled companies that are involved in RPT-conflict. Although the evidence indicates that auditors with long tenure ACR likely effective in ensuring RPTs disclosure, close ACRs provide controlling shareholders with an opportunity to influence auditors to accept their preferred treatment. Auditors may get influenced subconsciously, which may subsequently compromise their skepticism. Therefore, policymakers in Malaysia need to revisit auditor rotation policies.

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ISLAMIC GOVERNANCE AND RISK DISCLOSURE IN SAUDI ARABIA: THE ROLE OF CORPORATE LIFE CYCLE

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ABSTRACT

Corporate governance mechanism aim to provide effective internal monitoring mechanisms that reduces information asymmetry and improves transparency in reporting practices. The main objective of study is to investigate the relationship between Shari'ah corporate governance mechanism and the level of voluntary risk disclosure (VRD). The study also investigate the role of corporate life cycle (CLC) in the relationship. Islamic corporate governance mechanism represented in this study is the effectiveness of Shari'ah Supervisory Board (SSB). The sample of study consists of 167 firm-year observations of financial firms listed on Saudi Stock Exchange (Tadawul) during the years of 2013–2017. Data were collected from companies' annual reports using content analysis method. The results show that SSB's effectiveness has a positive impact on level of VRD. Additionally, the results also show that SSB is associated with higher level of VRD in mature-stage firms. The study enhances the current understanding on the importance of Shari'ah internal corporate governance mechanism to reduce the information asymmetries between firms and investors. A strong relationship between SSB and VRD for mature firms is economically justified by resource dependency theory that suggest, mature firms have more resources to report higher quality and transparent disclosure The findings are also be useful to accounting and regulatory bodies by providing possible solutions to improve the risk reporting of firms in Saudi financial sector. This study improve the methodology used past studies on the measurement of SSB's effectiveness, which include the combination of SSB size, number of meetings, reputation, and cross membership.

Keywords: Risk disclosure, Islamic governance, corporate life cycle, Shari'ah Supervisory Board, Saudi Arabia

1.0 INTRODUCTION

Recently, the demand for risk management reporting by corporations has increased significantly. The main factors which led to the increased importance of risk reporting are, among others, corporate scandals perpetrated by top executives, accounting irregularities and the financial crisis (Adamu, 2013). The 2008 financial crisis, for example, was due to the lack of transparency in reporting practices and a poor level of risk management in the financial sector (Ntim, Lindop & Thomas, 2013). The risk management reporting has the capability not only to address compliance with regulatory requirements, but can also influence companies' survival and success (Abdul Rahman, Tafri, & Aljanadi, 2010).

Mandatory risk reporting alone seems insufficient for investors and stakeholders to make an informed decision (Elshandidy et al. 2013). Thus, voluntarily risk information reporting in companies' annual reports is becoming more important to meet the different information needs of investors and stakeholders. Voluntary risk reporting is defined as a category of risk information that is provided by firms beyond the requirements of regulations where information is considered to be relevant to investors or other users of financial reports for decision making.

Voluntary risk disclosures are important because higher disclosures convey transparency in risk management practices. Timely and precise disclosures keep shareholders well informed and can make better investment decisions by making more updated risk-return analysis (Elshandidy rt al., 2013). However, the current level of voluntary risk reporting is still low and considered not sufficient to be relied on to make sound economic decisions (Alzead & Hussainey, 2017).

Companies operate in Islamic Financial Institutions (IFIs) face different types of business risk. Apart from facing typical business risks as in any conventional banks, IFIs face additional risks due to the nature of their business, to be in compliance with Shari'ah law and regulations (Abdul Rahman, Tafri, & Aljanadi, 2010). IFIs' inherent risks can have a possible spillover effect on the rest of the financial system (Merton, 1995). Thus, it is becoming increasingly imperative that IFIs have an effective risk management system that addresses the unique characteristics of the industry and discloses how these risks are being managed.

One of the governance structure requirements in IFIs is the establishment of the Shari'ah Supervisory Board (SSB) (AAoifi, 2016). SSB has a fiduciary duty to certify islamic products, services and procedures to ensure they are shari'ah compliant, being a the primary reason for the existence of Islamic institutions. From legitimacy perspectives, IFIs must operate in Shari'ah compliance environment to ensure their business sustainability. The presence of effective SSB, enhances IFIs legitimacy, reduces agency problem, and improves transparency of information disclosure (Al-Maghzom, et al., (2016; Farook et al., 2011; El-Halaby & Hussainey, 2016). Although corporate gover nance and voluntary risk disclosure (VRD) in IFIs has long been a debatable topic among researchers, only a few researchers have applied this on the IFIs (Barakat & Hussainey, 2013). Furthermore, past researchers have not focused on the impact of SSB's effectiveness on VRD. Thus, the present study, examines the effect of SSB on the level of VRD in Saudi Arabia IFIs.

Additionally, firms in different life-cycle stages appear to reveal different risk information (Al-Hadi et al., 2015). Resource-based theory argues that mature firms are more resourceful and, therefore, generally able to make a higher level of risk disclosure (Campbell, 2007). This is because mature firms enjoy fairly smooth earnings and reduced susceptibility to different risk exposures (Bulan & Subramanian, 2009). Therefore, this study also evaluates the moderating role of the corporate life cycle on the relationship between SSB and VRD. This study suggests that mature firms with more effective SSB are likely to provide a higher level of risk disclosure. This study advances from the prior literature of risk disclosure (that viewed each corporate governance mechanism characteristic individually) by examining the effect of SSB characteristics as a combination of mechanisms aimed at protecting the shareholders' interests.

Saudi Arabian IFIs are selected for the study because this country has been the largest economy in the Gulf Cooperation Council (GCC). The Tadawul All-Share Index (TASI) of the Saudi stock market is one of the most highly capitalized stock exchanges in the Arab world. The total value of shares traded annually is some SR 60 billion [US $16 billion]. The country has most considerable number of Islamic banks and windows.

The results of the regression analysis show that the SSB effectiveness has a positive impact on the level of voluntary risk management disclosure. Additionally, the results also show that SSB effectiveness is associated with a higher level of risk disclosure among mature-stage firms. The study enhances the current understanding of the importance of Shari'ah corporate governance mechanism to reduce the information asymmetries between firms and investors. Further, the results provide evidence that SSB may be used as channels to improve the level of voluntary risk disclosure.

The remaining part of the paper is organized as follows: the second section presents the relevant and review of the literature, followed by the development of the research hypothesis. The third section outlines the research methodology. The fourth section discusses the findings and results, and the last section reports the conclusions.

2.0 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This study hypothesized two hypotheses. The discussion of past studies that support the development of each hypothesis is as follows.

2.1 Shari'ah Supervisory Board and Level of Voluntary Risk Disclosure

Shari'ah Supervisory Board (SSB) plays a vital role in strengthening the credibility of the IFIs and has significant importance to the Muslim community, being the end-user of Islamic financial products (Grassa, 2015). SSB is an independent internal governance committee that was established to monitor the compliance of IFIs with Shari'ah law and other related Islamic practices regulation. One of such practices would be the disclosure of risk management by IFIs. The disclosures reduce information asymmetry between IFIs and investors (Farook, Hassan, & Lanis, 2011), thus mitigating risk associated with IFI's operation. Previous studies have demonstrated that SSB is directly responsible for disclosure levels in IFIs (Farook et al., 2011; El-Halaby & Hussainey, 2016).

IFIs with high SSB effectiveness are more likely to have higher voluntary risk disclosures (Elamer et al., 2019). The positive connection between SSB and voluntary risk disclosures (VRD) is in line with theoretical suggestions that SSB mitigates agency conflicts; being an additional corporate governance layer to monitor managers, thus resulting in increased transparency in reporting (Elamer et al., 2019). According to Chobpichien, Haron and Ibrahim (2008) and Ward, Brown and Rodriguez (2009), it is important to look at corporate governance mechanisms as a bundle of mechanisms, to protect shareholder interests, and not in isolation from each other because these corporate governance mechanisms act in a complementary manner (Chobpichien et al., 2008).

Effectiveness of SSB is measured using an index which comprises of four shari'ah board characteristics; size, meeting, cross-members, and reputation. SSB size is an important factor in determining the level of disclosure (Farook et al., 2011; Almutairi & Quttainah, 2017). Shari'ah boards with large board size contain scholars with various experiences and skills which could lead to a better interpretation of the products and operations (Hamza, 2013). Higher number of SSB members may lead to higher levels of risk disclosure as the capacity for monitoring increases. Theoretically, the agency theory depicts that a larger board with diverse knowledge lends to better monitoring role of the boards (Singh, Mathur & Gleason, 2004). Therefore, with an increase number of Shari'ah board members, the level of risk disclosure increase and this reduce information asymmetry.

Few empirical studies have examined the impact of SSB size on disclosure (El-Halaby & Hussainey, 2016). They found that SSB size has a significant impact on the level of disclosure. Additionally, a study by Abdul Rahman and Bukair (2013) indicate that SSB size is important factors in determining the level of CSR disclosure.

Frequency of meetings also plays an important role in ensuring the effectiveness of SSB, as more meetings and activities indicate active SSB (Al-Maghzom, et al., 2016). Therefore, active SSB influence more transparent reporting and more information will be disclosed (Allini, Rossi, and

Hussainey, 2016).

Another significant aspect of SSB members, which is predicted to influence the level of disclosure in Islamic banks, is SSB cross-membership (El-Halaby & Hussainey, 2016). Cross-directorships increase transparency because the know-how gathered from networking in various companies and decisions made in various boards meeting assist SSB members make better decision (Hannifa & Cooke, 2002; Haat et al., 2008; Farook et al, 2011). Information derived from the cross-membership acts as a network of information about business disciplines. This enables SSB members with cross-memberships to attain more information about Islamic Law in the Islamic financial sector (Ibrahim et al., 2015). Furthermore, the members of SSB with cross-membership will be able to apply their implicit and explicit knowledge into their application of Shari'ah rulings in Islamic banking. As a result, there will be an improvement of knowledge about the implementation of the Shari'ah principles and corporate reporting as well reduce agency costs and information asymmetries (Haniffa and Cooke, 2002; Haat et al., 2008).

Similarly, SSB members comprises of Shari'ah scholars or better known as *ulamas* have an excellent reputation in the community because of their knowledge of Islam and in-depth knowledge of Fiqh al-Muamalat. Having more reputable *ulamas* as SSB members increase IFIs reputation since this sector is based on trust; product and services offered must be Shari'ah compliant. Reputable scholars assist IFIs to grasp current operation of financial sector including in the area of disclosure. El-Halaby and Hussainey (2016) indicate that reputation is instrumental in measuring the level of disclosure in Islamic banks.

In conclusion, agency theory argues that effective SSB plays an important role in mitigating agency problem between IFIs and investors (Farook et al., 2011). Elamer et al., (2019), found that SSB and voluntary risk disclosure are positive related and quality of SSB has the potential to influence the level of voluntary risk disclosure. Based on agency theory, signalling theory and the above discussion, the following hypothesis is formulated:

H_1: There is a positive association between the Shari'ah Supervisory Board effectiveness and level of voluntary risk disclosure.

2.2 Corporate Life Cycle, Shari'ah Supervisory Board and Level of Voluntary Risk Disclosure

Corporate life cycle expose firms to systematic changes in operating, investing and financing activities. Additionally, firms in different corporate life cycle, would have different organizational capabilities, risk appetite and risk tolerance. Motivated by resource-based theory, Hasan and Habib (2017) conclude that more mature firms invest more in CSR activities. Other previous studies (such as Dickinson, 2011; Habib and Hassan, 2015) argue that firms at introduction and declining stage are less profitable and riskier whereas growth and mature firms are more profitable. Profitable firms have higher resources and less risky tends to make higher level of voluntary risk disclosure and vice versa is true for less profitable and riskier firms. Therefore, economic rationale of corporate life cycle in determining level of risk disclosure is justified. This study predicts that although relationship between SSB and level of voluntary risk disclosure does make some economic sense, life cycle stage is also crucial in effecting relationship between SSB and VRD.

Signalling theory contends that companies make risk disclosures to give signal to relevant stakeholders. Mature firms, with more resources and effective SSB are likely to make higher level of risk disclosure. This is because mature firms are able to generate a relatively smooth earnings and less vulnerability to various risk exposures (Bulan & Subramanian, 2009). Similarly, agency theory argues that SSB plays an important role in mitigating agency problem between IFIs and an investor seeking shari'ah compliance products by regulating these institutions (Farook et al., 2011). Elamer et al., (2019), found that SSB and voluntary risk disclosure are positive related and quality of SSB has the potential to influence the level of voluntary risk disclosure. According to Al-Hadi et al., (2015), the firms with high retained earnings (i.e. firms in mature and old life cycle stages), tend to disclose more risk information.

The current study hypothesizes that effective SSB in mature life cycle stage firms tend to disclose higher level of voluntary risk disclosure than firms in growth or declining life cycle stage. Thus, this study suggests the following hypothesis:

> *H_2: Sharia Supervisory Board effectiveness in mature life cycle stage is associated with greater level of voluntary risk disclosures.*

3.0 RESEARCH METHODOLOGY

The sample of this study consists of firms in IFIs on Tadawul Stock Market (Saudi Arabia) for a period of 2013 - 2017. The final sample comprises of 34 firms which consist 12 banks and 22 insurance companies. This give rise of 167 firm-year observations.

3.1 Measurement of the Variables

The dependent variable of this study is voluntary risk disclosure (VRD). This study employed content analysis method to determine the level of voluntary risk disclosure in Saudi Arabia firms' annual reports (Al-Maghzom, et al., 2016; Abdallah et al., 2015). The unweighted disclosure index was developed and used since the study does not focus on a specific user group information need (Alsaeed, 2006). Therefore, there is no need to give different weight/importance levels to specifics disclosed risk items (Oliveira et al., 2011). In line with previous studies, a dichotomous model is used; a score of 1 is given if disclosure item is disclosed and 0 otherwise (Alsaeed, 2006; Oliveira et al. 2011; Al-Maghzom et al. 2016; Alzead & Hussainey, 2017). For the purpose of constructing the risk disclosure index, the study has done a comprehensive review of literature to identify which disclosure items were widely used in the past studies (Maghzom et al, 2016; Linsley and Shrives, 2006; Lipunga, 2014). The study also reviewed of AAOIFI (2014) and Islamic Financial Services Board (IFSB, 2013) to identify which risk disclosure items are recommended to be included in firms' annual reports.

The study has identified 60 disclosure items[4] which were categorized into eight areas comprising: A-Operational risk (10 items), B-Empowerment risk (9 items), C-Information processing and technology risk (5 items), D-Integrity risk (3 items), E-Strategic risk (12 items), F-Financial and other risks (6 items), G-Risks specific of Islamic institutions (11 items) and H-Islamic standards (4 items). A pilot test was conducted on 3 banks and 3 insurance companies to confirm which risk disclosure items are relevant IFIs in Saudi Arabia. Those which were not relevant are omitted. The final disclosure items consist of 45 items as presented in Table 1.

Table 1 Risk Disclosure Items

Categories	**Items suggested by past studies**	**Final items after pilot test**	**Percentage**
Operational risk	10	8	17.78%
Empowerment risk	9	8	17.78%
Information processing and technology risk	5	5	11.11%
Integrity risk	3	3	6.67%
Strategic risk	12	11	24.44%
Financial and other risks	6	6	13.33%
Risks specific of Islamic institutions	11	4	8.90%
Islamic standards	4	0	-
Total	60	45	100%

Note: The percentage is calculated based on final items compared to total disclosure items

A disclosure score was calculated as follows:

$$\text{VRD Disclosure Score} = \frac{\text{number of disclosure items actually disclosed}}{\text{possible maximum score (45 items)}}$$

The independent variable of this study is Sharia Supervisory Board effectiveness (SSB). The effectiveness of SSB is measured based on four dichotomous attributes: SSB size, SSB meeting, SSB reputation and SSB cross-memberships.

SSB size is measured based on the number of members on SSB (Elamer et al., 2019). A score of "1" is given if number of members on the board is greater than the sample median and "0" otherwise. SSB meetings is measured based on the total number of board meetings in an accounting year (Elamer et al. (2019). A score of "1" is given if the number of meetings is greater than the sample median meeting, and "0" otherwise.

SSB reputation is based on the number of members who are appointed as Council of Senior Scholars[5]. A score of "1" is given if 50 percent or more SSB members are members of the Council of Senior Scholars and "0" otherwise (Abdul Rehman & Bukair, 2013; El-Halaby & Hussainey, 2016). SSB cross-membership is measured based on involvement of SSBs' member involvement

[4] A complete list of these items is available upon request.

[5] Council of Senior Scholars (Senior Council of Ulama') is the highest religious body in Saudi Arabia, founded in 1971. The council member is appointed by the King of Saudi Arabia by royal order.

in other organization. A score of "1" is given if 50 percent or more members are also members in the other SSBs and 0 otherwise (Abdul Rehman and Bukair (2013); El-Halaby and Hussainey (2016); Farook et al. (2011).

The total score of SSB effectiveness is divided by total possible maximum score, which is 4. Therefore, the range of the score is between 0 – 1.

This study proposes that corporate life cycle (CLC) as a moderating variable. This study uses retained earnings to total equity (RE/TE) as proxies for the CLC (Al-Hadi, Hasan, & Habib, 2016). Corporate life cycles were categorized into three stages; growth stage (group with the lowest one-third of RE/TE), mature stage (group with the middle one-third of RE/TE), and old or decline stage (group with the top one third of the top RE/TE ratios). A score of "1" is given if the firm in the mature life cycle stages and "0" otherwise

Control Variables

There are six control variables in this study: corporate governance, audit quality, firm size, profitability, leverage and beta (Al-Maghzom et al., 2016; El-Halaby and Hussainey, 2016; Al-Hadi et al., 2015; Abdallah et al., 2015; Elshandidy and Neri, 2015; Elshandidy et al., 2013; Ntim et al., 2013; Allini et al., 2016; Hassan et al., 2009).

The corporate governance variable was measured based on the characteristics of the board of directors (BOD) and audit committee. Board characteristics include board size, independence, and frequency of board meetings. The attributes of the audit committee (AC) are AC size; frequency of meetings, and AC qualification. These attributes are developed in to an index (CG Index); (see Appendix A).

Audit quality is measured by type of auditor; big4 or non big4. Firm size is measured based on total assets (Albassam & Ntim, 2017; Linsley & Shrives, 2006); Profitability is measured by return on equity (ROE) (Buckby, Gallery, & Ma, 2015; Elshandidy et al., 2013, 2015) and leverage is measured by long-term debt divided by total assets (Buckby et al., 2015; Elshandidy et al., 2013, 2015). Finally, the beta is calculated by regressing the 12 months share price against the respective market index. The following models are used to test the hypotheses related to the association between variables:

Model 1: To test the association between SSB effectiveness and VRD.

$$VRD = \beta 0 + \beta 1 SSB_{it} + \beta 2\, CGI_{it} + \beta 3\, ABig4_{it} + \beta 4\, SIZE_{it} + \beta 5\, PROF_{it} + \beta 6\, LVG_{it} + \beta 7\, Beta_{it} + E_{it}$$

Model 2: To test the association SSB effectiveness and corporate life cycle with VRD.

$$VRD = \beta 0 + \beta 1 SSB_{it} + \beta 2 CLC_{it} + \beta 3 CGI_{it} + \beta 4 ABig4_{it} + \beta 5 SIZE_{it} + \beta 6 PROF_{it} + \beta 7 LVG_{it} + \beta 8 Beta_{it} + E_{it}$$

Model 3 – To test the moderating effect of corporate life cycle in the relationship between VRD and SSB effectiveness

$$VRD = \beta 0 + \beta 1SSB_{it} + \beta 2CLC_{it} + \beta 3SSB_{it} * CLC_{it} + \beta 4CGI_{it} + \beta 5ABig4_{it} + \beta 6SIZE_{it} + \beta 7PROF_{it} + \beta 8LVG_{it} + \beta 9Beta_{it} + E_{it}$$

Where:

VRD	= voluntary risk disclosure;
SSB	= Score on SSB effectiveness;
CLC	= Corporate Life Cycle;
CGI	= Corporate Governance Index;
ABig4	= Auditor type: 1 if from Big4 and 0 otherwise;
SIZE	=Firm size;
PROF	=Profitability;
LVG	= Leverage;
Beta	= Firm's beta for at least 12 months; and
E_{it}	= error term.

4.0 RESULTS AND DISCUSSIONS

The descriptive statistics of dependent variable, voluntary risk disclosure (VRD), is depicted in Table 2. A summary of the disclosures made by both banks and insurance firms is also presented in the table.

Table 2 Descriptive Statistics for Voluntary Risk Disclosure (n=167)

VRD Categories	**Min**	**Max**	**Mean (Year)**						**Strd. Dev**
Panel A:			**2013**	**2014**	**2015**	**2016**	**2017**	**All**	
Overall VRD	0.16	0.64	0.34	0.36	0.40	0.42	0.42	**0.39**	0.09
Panel B: VRD Based on Sector									
Banks (n=60)	0.24	0.64	0.36	0.39	0.43	0.46	0.49	**0.43**	0.10
Insurance (n=107)	0.16	0.53	0.33	0.34	0.39	0.40	0.39	**0.37**	0.08

Panel A of Table 2 shows the mean value for overall VRD is 0.39. This indicates that 39% of the risk disclosure items (out of 45 items) are disclosed in the annual report of bank and insurance firms listed at Tawadul Stock Market. The minimum value for overall VRD is 0.16, the maximum value is 0.64.

The level of VRD has been increasing over the years. It had been 0.34 in year 2013 and increased to 0.42 in year 2017. The increasing trend is supported by the study of O'Connell (2016) which asserted that voluntary risk disclosures have been recently on a rising trend.

Panel B of the table shows that the mean of disclosure by banks is 43% compared to 37% disclosure by insurance firms. The maximum value for risk disclosure among banks is 0.64 and the minimum value is 0.16. The mean value for risk disclosure in bank sector has been increasing over the years. It was 0.36 in year 2013 and has increased to 0.49 in year 2017. Overall, firms in banking sector disclosure more risk information compared to firms in insurance sector.

Table 3 shows that descriptive information of all variables in this study. The average SSB is only 0.38 (or 38 percent). As SSB is one of the corporate governance mechanisms, this indicate that that listed Saudi Arabian financial firms need to improve on their corporate SSB quality. About 35 percent of sample firm are in the mature stage life cycle, and the majority are audited by big4 audit firm.

Table 3 Descriptive Statistics of Variables

Variable	Mean	S. D	Min	Median	Max
SSB	0.38	0.23	0.00	0.25	1.00
Control variables					
CGI	0.42	0.22	0.17	0.33	1.00
Size	22.51	2.56	18.78	21.32	26.83
ROE	0.05	0.21	-0.92	0.11	0.64
LVG	0.06	0.03	0.01	0.06	0.20
Beta	1.13	0.34	0.60	1.09	3.74

Where: VRD = Voluntary Risk Disclosure, SSB= Sharia Supervisory Board Effectiveness, CGI = corporate governance index, SIZE = Firm size (Natural logarithm of total assets), ROE = Return on equity, LVG = Leverage (Long-term debt/ total assets), Beta= risk which is calculated by regressing 12 months the share price against the respective market index.

In order to assess the association between independent variables, the correlation coefficients between variables are obtained from Pearson tests. Table 4 shows that none of the independent variables have a correlation of more than 0.7 with any other independent variables. The highest level of correlation are between SSD and Size (0.467) and between size and leverage (0.414). Thus, there is no multicollinearity issue among the selected independent variables.

Table 4 Correlation Matrix

	SSD	CLC	CGI	Abig4	SIZE	ROE	LVG	Beta
SSD	1							
CLC	-0.0783	1						
CG(	0.290***	-0.046	1					
Abig4	0.169**	-0.277***	0.045	1				
SIZE	0.467***	-0.313***	0.393***	0.387***	1			
ROE	0.102	-0.220***	0.014	0.156**	0.360***	1		
LVG	0.218***	0.020	0.241***	0.192***	0.414***	-0.159**	1	
Beta	-0.142*	0.050	-0.147*	-0.093	-0.390***	-0.144*	-0.142*	1

Where: ***p<.01 **p<.05 *p<.10, respectively.

SSB= Shari'ah Supervisory Board Effectiveness, CLC= corporate life cycle, CGI = corporate governance index, Abig4= Auditor type, SIZE = Firm size (Natural logarithm of total assets), ROE = Return on equity, LVG = Leverage (Long-term debt/ total assets), Beta= risk which is calculated over 12 months by regressing the share price against the respective market index.

Hypothesis Testing

The results of multiple regressions are shown in Table 5. Model 1 test the direct relationship of SSB effectiveness toward the level of VRD. The results show that SSB is a significant predictor for the VRD. Additionally, the ROE and beta also show significant relationship with VRD. The adjusted R^2 value indicates that 54% of changes in VRD are explained by variables in the regression equation.

The results imply that effective SSB influence IFIs to provide higher risk management disclosure practices. The presence of effective SSB creates a trustworthy business climate in which risk management are disclosed to maintain fair and transparent risk management practices that reduces information asymmetry and attract/retain investors. The results are consistent with the findings by Abdul Rahman and Bukair (2013) and Elamer, Ntim, Abdou, Zalata, and Elmagrhi (2019) which also show positive impact of SSB towards disclosure in Gulf and MENA region, respectively.

The results are consistent with the agency theory, that propose that effective SSB influence managers to make high level of disclosures in order to avoid potential conflict of interests. Result is also supported by the legitimacy theory which states that the disclosures can be used as possible tool in order to decrease regulatory pressures from the government and justify the existence of IFIs (Zadeh & Eskandari, 2012). In Islamic societies, SSB works as per the Islamic rules of business and calls for complete transparency. Therefore, H_1, which posits that there is a positive association between SSB effectiveness and VRD voluntary risk disclosure is accepted.

Table 5 The Regression Result of Direct Relationship between SSB with VRD.

Variable	VRD Model 1	VRD Model 2	VRD Model 3
SSB	0.1033*	0.1395***	0.0733
	(1.920)	(4.110)	(1.610)
CLC		0.0505***	-0.0207
		(2.97)	(-1.14)
SSB*CLC			0.1865***
			(3.310)
CGI	0.0331	-0.0010	-0.0229
	(0.490)	(-0.020)	(-0.490)
A big4	0.0162	0.0152	0.0215
	(0.740)	(0.680)	(0.980)
SIZE	0.0254	0.0063	0.0103
	(1.040)	(0.780)	(1.120)
ROE	0.0360*	0.0219	0.0174
	(1.840)	(1.120)	(0.950)
LVG	0.2645	-0.0549	0.0021
	(0.680)	(-0.160)	(0.010)
Beta	-0.0241*	-0.0204	-0.0169
	(-1.820)	(-1.42)	(-1.340)
Constant	-0.3241	0.1428	0.0706
	(-0.550)	(-0.150)	(0.300)
Adjusted R-squared	0.54	0.53	0.62

*Where: ***p<.01 **p<.05 *p<.10, respectively.*

VRD: Voluntary Risk disclosure score, SSB= Shari'ah Supervisory Board Effectiveness, CGI= corporate governance index, Abig4= Auditor type, SIZE = Firm size (Natural logarithm of total assets), ROE = Return on equity, LVG = Leverage (Long-term debt/ total assets), Beta= risk which is calculated over 12 months by regressing the share price against the respective market index.

Model 2 tests the direct relationship of SSB and CLC toward VRD. The results show that SSB (coefficient = 0.1395, $p < 0.001$) and CLC (coefficient = 0.0505, $p < 0.001$) are significant in explaining the level of VRD. The adjusted R^2 value indicates that 53% of changes in VRD are explained by variables in the regression equation. This implies that IFIs at mature life cycle stage, report higher level of voluntary risk disclosures than that of growth and decline stage firms. The results are consistent to Al-Hadi et al., (2015), that the firms with high retained earnings (i.e. firms in mature life cycle stage), tend to disclose more risk information.

Model 3, test the moderating effect of CLC on the relationship between SBB effectiveness and VRD. The results in Table 5 show the interaction of SBB*CLC are significant (coefficient = 0.1865, $p < 0.01$). It shows that CLC has an impact on the association between SSB effectiveness and voluntary risk disclosure. Effective SSB in mature life cycle stage IFIs disclose higher level of VRD than that of growth and decline life cycle stages IFIs. The adjusted R^2 value indicates of 62% indicates that VRD are explained by variables in the regression equation.

This result is consistent with resource-based theory that propose mature firms are likely to have more resources and can afford to do higher reporting. Additionally, firms that have effective SSB, the level of reporting will be higher. Therefore, it can be concluded that H_2 which posits that SSB effectiveness in mature life cycle stage is associated with greater level of voluntary risk disclosures, is supported.

Additional Tests

Additional tests were carried out to identify which specific SSB characteristics that can influence the VRD. Table 6 shows that three out of 4 SSB characteristics are positively significant in explaining the variation in VRD level. These three SSB characteristics are SSBSize, SSBcross and SSBmeet (significant at 10%). The value of adjusted R^2 is 59.7%.

Larger SSB board members, who are also members of SSB in other organization, which attend more meetings, are more likely to influence IFIs to do risk disclosure. The results are similar to the studies by Al-Bassam & Ntim, 2017; Farook et al., 2011, Haniffa and Cooke, 2002), Haniffa and Cooke (2002), suggest that there are significant implications of SSB characteristics for disclosure practices.

The results are consistent with the agency theory which propose that effective SSB influence managers to make high level of disclosures in order to reduce information asymmetry and agency conflict. The results also consistent with legitimacy theory that the presence of effective SSB characteristics justify the existence of IFIs (Zadeh & Eskandari, 2012).

Table 6 Specific SSB Characteristics and VRD

Variable	VRD
SSBsize	7.5293***
	(3.10)
SSBrepu	-19.4598**
	(-2.38)
SSBcross	12.1413***
	(2.85)
SSBmeet	1.2324*
	(1.92)
CGI	-8.577
	(-1.45)
Abig4	-0.9175
	(-0.27)
ROE	4.3708
	(1.08)
LVG	27.2745
	(0.80)
SIZE	-0.8061
	(-0.86)
Beta	-0.4105
	(-0.21)
Constant	15.9052
	(0.86)
Observations	167
Adjusted R^2	0.597

*Where: ***p<.01 **p<.05 *p<.10, respectively.*
VRD= Voluntary Risk disclosure; SSBSIZE= Shari'ah Supervisory Board size; SSBREPU= Shari'ah Supervisory Board Reputation; SSBCROSS= Shari'ah Supervisory Board Cross-membership; SSBMEET= Shari'ah Supervisory Board meeting; CGI= corporate governance index, Abig4= Auditor type, SIZE = Firm size (Natural logarithm of total assets), ROE = Return on equity, LVG = Leverage (Long-term debt/ total assets), Beta= risk which is calculated over 12 months by regressing the share price against the respective market index.

5.0 CONCLUSION

The reporting of risk management practice by any entities is important because it reduces information asymmetry, thus keep stakeholders well informed to make better investment decisions. Therefore, it is imperative to understand the determinants of the level of disclosures. Current study examines the role of Islamic corporate governance mechanism, specifically, the effectiveness of SSB, on the level of voluntary risk disclosure (VRD) in Saudi IFIs listed companies. Additionally, the study also investigates the role of corporate life cycle in the relationship between SSB's effectiveness and VRD.

This finding of the study suggests that SSB's effectiveness positively influence the level of voluntary risk disclosure. Additionally, the results also show that SSB's effectiveness is associated with higher level of VRD in mature-stage firms. These findings confirm the role of SSB, as Shari'ah internal corporate governance mechanism, to reduce the information asymmetries. Further, a strong relationship between SSB and VRD for mature firms is supported by resource dependency theory that suggest, mature firms have more resources to provide more transparent and higher disclosure. This study improve the methodology from past studies on risk voluntary disclosure as this study use a comprehensive measure of SSB effectiveness; a combination of SSB size, number of meetings, reputation and cross membership.

Results from this study are expected to have important implications to the regulatory bodies, firms, and investors. Regulatory bodies, such as central banks, can have better understanding the importance of effective SSB in improving the transparency of risk disclosures. Based on the results, it indicates that transparency can be enhanced by enhancing SSB effectiveness. Effective SSB complements the existing corporate governance mechanism to provide better monitoring and enhance legitimacy of IFIs. This would lead to higher transparent disclosure.

However, the stage of IFIs in their life cycle also matter in the disclosure practice, as disclosure requires back up of some financial and nonfinancial resources. Therefore, only firms who are strong financially can afford to do more disclosure.

Nevertheless, this study has certain limitations. The first is related to the issue of generalization of the results. The sample of this study are drawn from listed Saudi financial firms and thus, its findings may not be applicable to other sectors. Secondly, this study measures the level or quantity of voluntary risk disclosure and ignore its quality. This opens opportunity for future research as well. Future research can be conducted for the non-financial sector with a larger sample size by including other Islamic country in the world.

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Hubungan antara Urus Niaga Pihak Berkaitan dan Yuran Audit: Bukti Syarikat Tersenarai di Malaysia
(Relationship between Related Party Transactions and Audit Fee: Evidence from Malaysian Listed Firms)

NOR SUHAILA MOHD GHAZALI, HAMEZAH MD NOR, NUR HIDAYAH BINTI WAAD

ABSTRAK

Secara umumnya, urus niaga pihak berkaitan (UPB) dapat meningkatkan kecekapan operasi perniagaan firma. Walau bagaimanapun, peningkatan dalam skandal kewangan yang melibatkan UPB menggambarkan bahawa urus niaga ini berpotensi dijadikan alat oleh pihak berkepentingan untuk merampas sumber kekayaan firma. Disebabkan oleh potensi penyalahgunaan tersebut, maka UPB perlu diberi lebih perhatian oleh juruaudit. Keadaan ini menyebabkan juruaudit terdedah dengan risiko audit dan perlu menumpukan masa serta usaha untuk melaksanakan kerja-kerja audit. Risiko dan kesukaran dalam kerja-kerja audit ini seringkali dikaitkan dengan peningkatan yuran audit. Oleh itu, kajian ini mengkaji hubungan antara UPB dan yuran audit di Malaysia. Secara khususnya, kajian ini mengkelaskan UPB berdasarkan kompleksiti urus niaga dan pihak berkaitan iaitu terdiri daripada UPB rumit atau UPB mudah dan UPB efektif atau UPB konflik. Kajian ini meliputi 583 buah firma awam yang tersenarai di Bursa Malaysia bagi tempoh 2013 hingga 2017. Dapatan kajian mendapati UPB rumit, UPB mudah dan UPB efektif menunjukkan hubungan positif dan signifikan dengan yuran audit. Dapatan kajian ini menyokong kepada teori agensi bahawa kompleksiti UPB meningkatkan risiko salah nyata dan kerja-kerja audit. Kajian ini dapat menyediakan maklumat kepada pengamal perakaunan berhubung dengan potensi risiko salah nyata penyata kewangan yang timbul daripada kompleksiti UPB. Juruaudit juga perlu memahami kepentingan setiap jenis urus niaga dan pihak berkaitan agar juruaudit dapat membuat perancangan audit yang lebih bersesuaian bagi setiap jenis UPB.

Kata Kunci: Urus niaga pihak berkaitan; yuran audit; kompleksiti urus niaga, pihak berkaitan

ABSTRACT

Generally, related party transactions (RPTs) are intended to enhance the efficiency of firm's business operations. However, the presence of corporate scandals involving RPT proves that these transactions could potentially be used as a tool to increase private benefit or personal interests of related parties. Given this potential abuse, RPT require more attention from auditors. This situation could expose auditors to audit risk and they need to devote time and effort to performing audit works. The risks and difficulties in audit works are often associated with increased audit fees. This study examines the relationship between RPTs and audit fees in Malaysia. Specifically, this study classifies RPTs based on their complexity and related parties which are complex RPT or simple RPT and effective RPT or conflict RPT. This study employs a total of 583 firms listed on Bursa Malaysia from 2013 to 2017. The findings suggest that complex RPT, simple RPT and effective RPT are having positive and significant relationships with audit fees. These findings support agency theory in which RPT's complexity increases audit risks and audit efforts. This study provides insights for practices to the potential risks of financial misstatement arising from complexities of the RPTs. Auditors need to understand the importance for each type of RPT so that the auditor can make an appropriate audit judgement and procedures.

Keywords: Related party transactions; audit fee; complexity of transactions, related parties

PENGENALAN

Urus niaga pihak berkaitan (UPB) merupakan urus niaga yang melibatkan pemindahan sumber, perkhidmatan atau tanggungjawab antara entiti pelapor dan pihak berkaitan, tanpa mengira sama ada sejumlah wang dilibatkan ataupun tidak (MFRS 124, 2011). Pihak berkaitan pula merujuk kepada syarikat induk, anak syarikat, syarikat bersekutu, usaha sama, pengarah, pemegang saham utama atau pihak berkaitan dengan pengarah dan pemegang saham utama (MFRS 124, 2011). Secara umumnya, UPB dapat memenuhi keperluan ekonomi asas firma dengan mengurangkan kos urus niaga supaya firma dapat beroperasi dengan lebih cekap (Gordon, Henry & Palia 2004). Bagi negara-negara membangun seperti Malaysia di mana pasaran luaran (kewangan dan bukan kewangan) tidak berfungsi secara cekap, UPB disifatkan sebagai urus niaga *'benign'* dan tidak dapat dielakkan, berguna dan dijalankan secara berulang untuk mengatasi kegagalan pasaran luaran (Gordon et al. 2004, Kohlbeck & Mayhew 2010, Utama et al. 2010).

Walau bagaimanapun, pendedahan skandal perakaunan yang melibatkan syarikat ternama seperti Enron Corporation, Tyco International dan WorldCom (Amerika Syarikat), Satyam Computers Ltd (India), CNOOC Ltd (Hong Kong), Shinsegae Group (Filipina) dan Asia Pulp and Paper (Indonesia), membuktikan bahawa UPB boleh dimanipulasi oleh pihak berkepentingan yang mempunyai kuasa kawalan untuk merampas kekayaan firma yang akhirnya hanya menguntungan pihak-pihak berkaitan iaitu pengurusan atasan dan pemegang saham pengawal (Kohlbeck & Mayhew 2010). Implikasi dari tindakan ini menyebabkan kerugian di pihak firma amnya dan pemegang saham minoriti secara khususnya. Skandal perakaunan yang melibatkan UPB juga turut menular di Malaysia seperti yang berlaku di Tradewinds Berhad dan Ho Hup Construction Bhd. Dalam kes Tradewinds Berhad misalnya, syarikat didapati menyembunyikan sebanyak 65% jumlah terhutang daripada pihak berkaitan dengan tidak mendedahkan maklumat tersebut dalam penyata kewangan (Wan Abdullah et al. 2012). Ho Hup Construction Bhd pula didapati tidak mendedahkan penjualan dua bidang tanah kepada pihak berkaitan sebagai UPB (Chan 2010). Ini menunjukkan bahawa walaupun secara praktisnya UPB perlu dilaksanakan di bawah prinsip *'arm-length assumption'*, tetapi dengan adanya kawalan dan pengaruh yang dimiliki oleh pihak berkaitan, mereka berupaya menstruktur UPB mengikut kepentingan peribadi mereka (Munir et al. 2013; Rahmat et al. 2019).

Sehubungan dengan itu, UPB telah mendapat perhatian serius badan perundangan dan penetapan piawaian di Malaysia dan juga di luar negara kerana sifat urus niaga ini yang berpotensi untuk disalahgunakan dan boleh meningkatkan risiko salah nyata material dalam Laporan Kewangan (Kohlbeck & Mayhew 2010). Contohnya, UPB berkemungkinan dijalankan menerusi rangkaian hubungan dan struktur yang kompleks dan meluas, sistem maklumat syarikat tidak berupaya untuk mengenalpati UPB serta amaun UPB yang terlibat, dan UPB tidak dilaksanakan mengikut terma dan syarat pasaran normal (Kohlbeck & Mayhew 2010). Bagi membantu pengguna penyata kewangan memahami sifat dan kesan urus niaga ini ke atas penyata kewangan syarikat, maka kerangka kerja pelaporan kewangan telah menetapkan keperluan pendedahan dan perakaunan khusus untuk UPB. Syarikat di Malaysia misalnya, perlu mematuhi keperluan piawaian MFRS 124 *Related Party Transactions*, Akta Syarikat 2016 dan Keperluan Penyenaraiana Bursa Malaysia. Bagi memastikan syarikat mematuhi keperluan perundangan tersebut maka juruaudit telah dipertanggungjawabkan untuk melaksanakan prosedur audit yang lebih ketat untuk mengenalpasti, menilai dan memberi maklum balas mengenai sebarang risiko salah nyata akibat kegagalan syarikat untuk membuat pelaporan UPB secukupnya.

Berikutan dengan itu, UPB sering dikaitkan dengan kesukaran dalam kerja-kerja audit berbanding dengan urus niaga biasa (ISA 550). Juruaudit perlu meningkatkan masa, usaha dan skop kerja audit apabila berhadapan dengan UPB ((Al-Dhamari et al. 2017; Habib et al. 2015; Kohlbeck & Mayhew 2017). Oleh itu kewujudan UPB bukan sahaja berisiko menjejaskan kualiti pelaporan kewangan firma tetapi turut meningkatkan risiko audit di mana juruaudit berkemungkinan tidak dapat mengenal-pasti pihak berkaitan yang terlibat apabila urus niaga tersebut melibatkan pelbagai pihak dan jenis UPB serta melibatkan aset yang sukar untuk dinilai (Louwers, Henry, Reed, & Gordon 2008). Ini kerana sumber utama maklumat yang diperolehi oleh juruaudit adalah daripada pihak pengurusan syarikat yang diaudit dan terdapat kemungkinan maklumat-maklumat penting berkaitan UPB yang disembunyikan (Chaghadari & Shukor 2011). Beasley et al. (2001) melaporkan bahawa dalam sampel 45 tindakan penguatkuasaan oleh SEC antara tahun 1987 sehingga 1997, kegagalan untuk mengenali-pasti atau mendedahkan pihak berkaitan utama dalam UPB merupakan salah satu daripada sepuluh kelemahan audit. Natijah daripada kegagalan dalam kerja-kerja audit ini akan menjejaskan reputasi firma audit dan berkemungkinan mereka akan berhadapan dengan tindakan litigasi.

Peningkatan risiko dalam kerja-kerja audit yang melibatkan UPB dikatakan memberi kesan kepada peningkatan yuran audit (Al-Dhamari et al. 2017; Habib et al. 2015; Kohlbeck & Mayhew 2017). Namun, dapatan kajian lepas didapati masih lagi terhad terhadap sejauhmana UPB mempengaruhi penentuan yuran audit. Habib et. al (2015) mendapati UPB mengakibatkan peningkatan dalam perletakan yuran audit di China kerana UPB dilihat sebagai faktor risiko audit yang memerlukan juruaudit melaksanakan prosedur audit yang khusus untuk mengenalpasti, menilai dan bertindakbalas terhadap risiko salah nyata penyata kewangan. Hasil kajian tersebut turut disokong oleh kajian di Malaysia oleh Al-Dhamari et. al (2017) yang mendapati UPB meningkatkan yuran audit terutamanya urus niaga jualan dan belian aset, barang dan perkhidmatan yang sering disalahgunakan untuk memindahkan sumber kekayaan firma. Ini menyebabkan juruaudit terdedah kepada risiko salah nyata penyata kewangan yang lebih tinggi. Namun, berbeza dengan kajian oleh Kohlbeck dan Mayhew (2017), UPB tidak meningkatkan yuran audit di Amerika Syarikat kerana piawaian pengauditan di negara tersebut tidak menekankan tanggungjawab juruaudit terhadap UPB. Walaupun isu UPB dan yuran audit telah dibincangkan namun didapati kajian lepas hanya memberi tumpuan kepada UPB tertentu yang berisiko untuk dimanipulasi. Maka kajian ini berpendapat bahawa terdapat keperluan untuk melanjutkan kajian ini dengan melihat sifat kompleksiti UPB dan hubungan pihak berkaitan terhadap penentuan yuran audit, yang mana bukti empirikal terhadap hubungan ini masih lagi terhad terutamanya di Malaysia.

Terdapat juga keperluan untuk mengkaji hubungan UPB dan yuran audit di Malaysia kerana ekonomi di negara ini adalah bercirikan sistem asas hubungan dan adalah menjadi kelaziman bagi syarikat di Malaysia menjalankan UPB (Md Nor & Ku Ismail 2017). Tambahan lagi, syarikat di Malaysia mempunyai pemilikan tertumpu yang tinggi di mana, peratusan pegangan ekuiti didominasi di kalangan ahli keluarga atau kerajaan. Sebaliknya di Amerika Syarikat, pemilikan ekuiti dalam sesebuah syarikat adalah lebih terserak dan keupayaan ekonominya juga adalah lebih cekap serta urus niaga lebih tertumpu kepada hubungan firma dan individu atau pengarah syarikat berbanding urus niaga antara entiti dengan entiti (Khanna & Palepu 2000). Di samping itu, perundangan pengauditan di Malaysia amat menekankan tanggungjawab juruaudit untuk melaporkan dan memberi jaminan sepenuhnya terhadap UPB. Oleh kerana UPB kerap dijalankan oleh firma di Malaysia sebagai sokongan kepada operasi perniagaan, maka adalah perlu untuk melihat hubungan UPB dan yuran audit dalam struktur ekonomi di Malaysia. Kajian Al-Dhamari et. al (2017) juga hanya melihat urus niaga jualan dan belian pihak berkaitan sahaja terhadap yuran audit. Kesimpulannya, kajian ini berhasrat untuk mengkaji bagaimana sifat kompleksiti UPB dan hubungan pihak berkaitan mempengaruhi usaha, masa dan kerja audit dan akhirnya memberi kesan kepada penentuan yuran audit.

Kajian ini dijangka dapat menghuraikan lebih lanjut isu berkaitan dengan kompleksiti UPB dengan membezakan UPB kepada UPB rumit dan UPB mudah dan kesannya terhadap perletakan yuran audit. Selain itu, pendedahan maklumat pihak berkaitan dalam kajian ini dapat memberi gambaran yang lebih jelas untuk menerangkan sifat perhubungan pihak berkaitan yang terlibat dalam urus niaga yang dijalankan sama ada ianya digunakan untuk tujuan efektif (UPB efektif) ataupun konflik kepentingan (UPB konflik). Dari segi teori, kajian ini menghuraikan dengan lebih lanjut peranan juruaudit sebagai fungsi mekanisma pemantau dalam usaha untuk menyediakan maklumat yang benar dan memantau aktiviti pihak pengurusan. Kajian ini juga menghuraikan bagaimana kos agensi berhubungan dengan usaha dan kerja audit yang dilaksanakan bagi memberi jaminan kepada maklumat kewangan yang dilaporkan. Kajian ini turut menambah kajian yang telah dilakukan oleh Al-Dhamari et.al (2017), Habib et al. (2015) dan Kohlbeck & Mayhew (2017). Oleh itu, dapatan kajian ini dapat memberikan kefahaman yang lebih baik sejauhmana juruaudit meningkatkan usaha dan kerja audit untuk memastikan UPB dilaporkan dengan sewajarnya yang akhirnya memberi kesan kepada yuran audit. Di samping itu, kajian ini juga menambah kepada kajian literatur yuran audit dengan memberi penekanan terhadap kewujudan UPB dalam perletakan yuran audit.

KAJIAN LITERATUR DAN PEMBANGUNAN HIPOTESIS

Teori agensi menerangkan tentang pengasingan pemilikan dan kawalan yang wujud daripada hubungan prinsipal-agen yang menyebabkan berlakunya ketidakseimbangan maklumat antara prinsipal dan agen (Panda & Leepsa 2017). Agen dianggap mempunyai lebih banyak maklumat mengenai operasi firma dan berupaya menyembunyikan maklumat kewangan tersebut daripada dilaporkan untuk kepentingan diri sendiri. Manakala pihak prinsipal pula tidak mempunyai kawalan terhadap laporan kewangan yang dilaporkan oleh pihak pengurusan sama ada dinyatakan dengan benar atau sebaliknya. Kegagalan prinsipal untuk memantau kelakuan pihak pengurusan dan juga pengarah boleh membawa kepada penyelewangan dalam pengurusan sumber perniagaan seperti penipuan dan manipulasi pendapatan. Teori agensi mengandaikan pengasingan pemilikan ini boleh mengakibatkan berlakunya tingkah laku pengurus yang oportunistik disebabkan oleh konflik kepentingan antara pengurus dan pemegang saham (Jensen 1993; Jensen & Meckling 1976).

Dalam kebanyakkan kes yang berlaku, UPB sering dikaitkan dengan penyelewengan yang mengakibatkan konflik agensi sama ada konflik jenis I atau jenis II (Fama et al. 1980; Jensen & Jensen 1986). Konflik agensi jenis I adalah konflik kepentingan antara pengurus (agen) dan pemegang saham (prinsipal). Pengurus menggunakan UPB sebagai alat untuk memaksimumkan kekayaan mereka pada kos perbelanjaan pemegang saham (Henry et al. 2007). Menurut Jensen dan Meckling (1976), disebabkan oleh agen tidak memiliki sumber firma maka mereka lebih cenderung untuk terlibat dengan kelakuan tidak bermoral seperti mengabaikan tanggungjawab dan menyembunyikan sebarang ketidakcekapan firma untuk menggelakkan pemotongan ganjaran atau insentif kewangan. Kenyataan ini disokong oleh kajian lepas yang menunjukkan pengurus menggunakan sumber firma untuk mendapatkan ganjaran kewangan, kenaikan pangkat, pengiktirafan dan sebagainya (Colbert et al. 1988).

Konflik agensi jenis II pula melibatkan konflik antara pemegang saham pengawal dengan pemegang saham minoriti. Konflik kepentingan ini wujud apabila firma dikawal oleh sebilangan besar pihak berkepentingan yang mana terdapat kecenderungan bahawa pemegang saham yang lebih dominan berupaya merampas kekayaan pemegang saham minoriti (Shleifer & Vishny 1986). Kajian lepas memberikan bukti bahawa pemegang saham dominan menggunakan UPB sebagai alat untuk merampas kekayaan pemegang saham minoriti menerusi aktiviti *'tunneling'*, *'propping'* atau pengurusan pendapatan (Jian & Wong 2010; Munir et al. 2013).

Berikutan dengan itu, teori agensi mencadangkan bahawa mekanisma pemantauan seperti juruaudit amat diperlukan dalam sesebuah firma untuk mengawal dan memantau sebarang aktiviti yang dijalankan oleh agen mereka. Juruaudit merupakan mekanisma pemantau yang berkesan untuk mengawal sebarang tingkah laku oportunistik dalam firma kerana mereka mampu melaksanakan tugas dengan bebas tanpa dipengaruhi oleh mana-mana pihak (Gallery et al. 2008), serta berupaya menyelaraskan kepentingan agen dan prinsipal (Mustapha 2014). Isu keperluan fungsi pemantauan terhadap UPB ini timbul apabila terdapat kes skandal penipuan perakaunan yang melibatkan UPB digunakan sebagai saluran untuk mengaut kekayaan atau memanipulasi penyata kewangan firma (Gordon et al. 2007). Justeru, juruaudit bertanggaungjawab untuk mengenalpasti sebarang salah nyata yang ketara dan berupaya untuk melaporkan salah nyata tersebut (DeAngelo 1981). Jensen dan Mekling (1976) menyatakan, juruaudit bertanggungjawab untuk menilai secara kritikal semua aktivti pihak pengurusan termasuk segala keputusan pengarah kerana ianya dapat memberikan kesan bukan sahaja kepada firma tetapi juga kepada pihak berkepentingan seperti pemegang saham, pemiutang dan sebagainya (Colbert et al. 1988).

Hubungan jenis kompleksiti UPB dan yuran audit

UPB adalah urus niaga yang kompleks kerana melibatkan pelbagai jenis urus niaga dan pihak berkaitan (Gordon et al. 2007). UPB juga boleh mewakili urus niaga yang efektif atau berpotensi kepada konflik kepentingan bergantung kepada tujuan sebenar ianya dijalankan oleh pihak berkaitan yang terlibat dalam urus niaga tersebut (Kohlbeck & Mayhew 2010; Nekhili & Cherif 2011). Ryngaert & Thomas (2012) pula menegaskan bahawa tidak semua UPB adalah bahaya atau bersifat '*abusive*'.

Penemuan daripada kajian-kajian lepas membuktikan UPB sering terlibat dalam skandal kewangan korporat dan penipuan yang mengakibatkan kualiti pelaporan kewangan firma terjejas (Ge et al. 2010). Misalnya, Huang dan Liu (2010) mendapati pihak berkaitan menggunakan pengaruh dan kawalan yang dimiliki untuk melaksanakan UPB mengikut kepentingan peribadi mereka. Terdapat juga firma menggunakan UPB seperti urus niaga jualan pihak berkaitan untuk mencapai sasaran keuntungan yang ingin dicapai oleh firma (Jian & Wong 2010; Yeh et al. 2012).

Jelasnya, UPB dilihat sebagai faktor risiko audit yang memerlukan juruaudit agar lebih skeptikal dalam mengaudit UPB.

Kajian oleh Habib dan Muhammad (2018), membuktikan bahawa juruaudit memperuntukkan masa yang lebih lama untuk mengaudit penyata kewangan firma yang terlibat dengan UPB terutamanya firma yang mempunyai jumlah urus niaga jualan dan belian pihak berkaitan dan urus niaga pinjaman pihak berkaitan yang tinggi. Hal ini kerana, UPB yang kompleks ini boleh mengakibatkan juruaudit lebih terdedah kepada risiko salah nyata penyata kewangan (El-helaly 2018). Maka dengan itu, ianya boleh menyumbang kepada peningkatan yuran audit kerana juruaudit perlu meningkatkan usaha, masa dan skop kerja audit dalam usaha mengaudit penyata kewangan firma tersebut (Al-Dhamari et al. 2017; Habib et al. 2015; Kohlbeck & Mayhew 2017).

Penemuan daripada kajian lepas oleh Habib et al. (2015) dengan menggunakan dua komponen UPB yang kerap dijalankan oleh firma di China iaitu urus niaga jualan dan belian pihak berkaitan dan urus niaga pinjaman korporat pihak berkaitan memberikan bukti bahawa urus niaga pinjaman korporat antara pihak berkaitan meningkatkan yuran audit apabila urus niaga tersebut lebih cenderung digunakan oleh firma sebagai alat manipulasi pendapatan. Namun, urus niaga jualan dan belian pihak berkaitan tidak meningkatkan yuran audit kerana urus niaga tersebut dianggap sebagai urus niaga yang efektif bagi tujuan pengurangan kos operasi dan meningkatkan kecekapan operasi perniagaan firma.

Berbeza kajian di Malaysia oleh Al-Dhamari et al. (2017) dapatan kajian mendapati urus niaga jualan dan belian pihak berkaitan meningkatkan yuran audit kerana urus niaga tersebut cenderung digunakan oleh pihak berkaitan sebagai alat untuk manipulasi pendapatan. Manakala, kajian oleh Kohlbeck & Mayhew (2017) di Amerika Syarikat pula mendapati UPB tidak meningkatkan yuran audit kerana peranan juruaudit terhadap UPB di negara tersebut adalah terhad. Namun, analisis tambahan mendapati penyataan semula penyata kewangan akibat daripada UPB meningkatkan yuran audit.

Kajian lepas telah memberikan bukti bahawa UPB dapat meningkatkan yuran audit kerana juruaudit perlu memperuntukkan lebih masa dan usaha melaksanakan kerja audit untuk mengenalpasti dan mengesahkan maklumat UPB yang dilaporkan oleh firma. Akan tetapi, dapatan kajian lepas menunjukkan hasil kajian yang tidak konsisten dan tidak komprehensif terutamanya kajian di Malaysia yang hanya mengkaji urus niaga jualan dan belian pihak berkaitan sahaja.

Menurut Kohlbeck & Mayhew (2010), setiap UPB mempunyai sifat kompleksiti urus niaga yang berbeza dan berhubungan dengan risiko salah nyata penyata kewangan yang berbeza. Maka konsisten dengan kajian oleh Kohlbeck & Mayhew (2010), kajian ini mengkelaskan UPB mengikut kepada sifat dan tahap kompleksiti urus niaga yang terdiri daripada UPB rumit dan UPB mudah. UPB rumit adalah urus niaga yang melibatkan aktiviti utama operasi perniagaan seperti urus niaga jualan dan belian barang atau aset, penerimaan atau pemberian perkhidmatan, pembayaran overhed, perbelanjaan penyelidikan, jualan atau belian saham dan lain-lain urus niaga yang berkaitan dengan aktiviti utama perniagaan. UPB rumit ini disifatkan sebagai urus niaga yang rumit atau kompleks kerana urus niaga ini kebiasaannya melibatkan pelbagai akaun, pihak berkaitan dan pelbagai terma dan syarat urus niaga Kohlbeck & Mayhew (2010). Urus niaga ini juga sering melibatkan penjanjian jangka panjang dan juga merupakan urus niaga yang berulang. Di samping itu, dikhuatiri juga pihak pengurusan yang terlibat dengan kelakuan oportunis menggunakan UPB rumit ini bagi tujuan rampasan kekayaan sumber firma kerana sifatnya yang rumit membolehkan pihak oportunis menstuktur urus niaga tersebut tanpa dapat dikesan oleh juruaudit (Ariff & Hashim 2013; Rahmat et al. 2013). Keadaan ini menunjukkan UPB rumit terdedah kepada potensi risiko salah nyata penyata kewangan.

UPB mudah pula adalah urus niaga langsung. UPB mudah mempunyai sifat urus niaga yang hanya melibatkan beberapa akaun dan pihak berkaitan sahaja serta merupakan urus niaga yang lebih mudah dijalankan kerana tidak memerlukan sebarang peraturan atau prosedur khusus. Misalnya, urus niaga yang melibatkan perkhidmatan perundangan atau perundingan, pajakan, pinjaman dan jaminan dari atau kepada pihak berkaitan, sewa dan lain-lain urus niaga (Kohlbeck & Mayhew 2010). Contohnya, firma boleh memberi pinjaman secara terus kepada sesiapa sahaja yang dikehendaki oleh mereka. Pemeriksaan terhadap UPB mudah adalah lebih mudah dan juruaudit secara terus boleh mengenalpasti tujuan urus niaga tersebut dijalankan. Risiko salah nyata UPB mudah dalam penyata kewangan juga berkemungkinan lebih rendah berbanding UPB rumit. Walau bagaimanapun ianya juga dikhuatiri boleh dilaksanakan pada terma dan syarat yang lebih memihak kepada pihak berkaitan dan berpotensi dijalankan di luar prinsip *arms-length business transaction* (Al-Dhamari et al. 2017). Kohlbeck & Mayhew (2010) membuktikan bahawa pihak dalaman firma menggunakan urus niaga langsung seperti pajakan, sewa, perkhidmatan perundangan atau perundingan, jaminan dan juga pinjaman untuk tujuan manipulasi pendapatan.

Selaras dengan teori agensi, kompleksiti UPB mengakibatkan juruaudit sukar untuk mengenalpasti dan membuat penilaian terhadap kewujudan UPB yang boleh menyebabkan berlakunya salah nyata ke atas penyata kewangan firma (Kohlbeck & Mayhew 2017). Semakin kompleks transaksi UPB semakin banyak kerja audit yang perlu dilaksanakan untuk mengesahkan kewujudan UPB tersebut. Juruaudit perlu melaksanakan prosedur audit yang lebih luas dan intensif untuk mengenalpasti urus niaga yang dijalankan dan pemeriksaan yang lebih banyak diperlukan terhadap sebarang rekod atau dokumen urus niaga yang melibatkan pelbagai jenis UPB. Ini mengakibatkan kompleksiti UPB akan meningkatkan kerja-kerja audit dan juruaudit perlu memperuntukkan masa yang panjang dalam usaha mengenalpasti UPB yang dijalankan.

Malahan itu, sekiranya juruaudit mendapati terdapat risiko salah nyata penyata kewangan yang melibatkan UPB rumit atau mudah, juruaudit perlu merangka dan melaksanakan prosedur audit tambahan untuk mengumpulkan bukti audit terhadap urus niaga tersebut. Maka, juruaudit perlu meningkatkan masa, usaha, memperluaskan skop kerja audit bagi mengenalpasti setiap UPB agar didedahkan dengan sewajarnya. Akhirnya, yuran audit yang tinggi dijangkakan akan dikenakan kepada firma. Selari dengan teori agensi, kajian ini menjangkakan terdapat hubungan positif kompleksiti UPB iaitu UPB rumit dan UPB mudah dengan yuran audit.

H1: Terdapat hubungan positif antara UPB dan yuran audit bergantung kepada jenis kompleksiti UPB.

Hubungan klasifikasi pihak berkaitan yang terlibat dan yuran audit

Seterusnya, kajian ini mengkaji potensi risiko mengaudit UPB dengan melihat kepada hubungan pihak berkaitan yang terlibat dalam UPB. Berdasarkan keperluan MFRS 124, selain daripada juruaudit perlu mengenalpasti kewujudan UPB, juruaudit juga perlu mendedahkan siapakah pihak berkaitan yang terlibat dalam urus niaga tersebut. Konsisten dengan MFRS 124 dan selaras dengan kajian oleh Nekhili & Cherif (2011), kajian ini mengkelaskan pihak berkaitan kepada dua kategori utama iaitu UPB antara entiti-entiti sebagai UPB efektif yang melibatkan urus niaga di kalangan kumpulan firma seperti subsidiari, usaha sama dan syarikat bersekutu, tanpa adanya kepentingan individu pihak berkaitan. Manakala UPB konflik adalah urus niaga yang melibatkan pengurus, pengarah, pemegang saham pengawal atau individu yang berkaitan dengan pengarah atau pemegang saham pengawal atau pengarah firma berkaitan.

Berdasarkan kajian lepas, urus niaga yang dijalankan antara kumpulan firma tidak menjejaskan nilai pemegang saham minoriti (Kohlbeck & Mayhew 2017; Nekhili & Cherif 2011). Urus niaga ini dijalankan bertujuan untuk meningkatkan kecekapan operasi perniagaan dengan meminimumkan kos operasi melalui hubungan perniagaan (Cheung et al. 2006). Kebiasaannya, risiko salah nyata dalam penyata kewangan adalah rendah bagi urus niaga antara kumpulan firma kerana firma tidak mempunyai motif untuk menyembunyikan urus niaga tersebut bagi tujuan penyelewengan UPB. Maka dengan itu, juruaudit mungkin tidak menghadapi kesulitan dalam mengaudit UPB efektif.

Walau bagaimanapun, UPB yang mempunyai kepentingan individu pihak berkaitan adalah berpotensi berlakunya konflik kepentingan antara pihak berkaitan dan urus niaga ini tidak didedahkan mengikut keperluan perakaunan yang betul (OECD 2009). Misalnya, pengurus berupaya memanipulasi UPB dengan menyembunyikan kewujudan urus niaga tersebut daripada dilaporkan dengan cara yang benar (Gordon et al. 2007). Malah, urus niaga dengan pengurus, pengarah dan pemegang saham atau individu yang berkaitan dengan pengarah atau pemegang saham boleh mengakibatkan rampasan kekayaan pemegang saham minoriti (Nekhili & Cherif 2011). Pemegang saham yang mempunyai kawalan yang dominan ke atas syarikat berpeluang untuk memindahkan sumber kekayaan melalui UPB dengan menyembunyikan kepentingan mereka dalam entiti yang dimilikinya (Wong et al. 2015). Firma juga cenderung untuk melaporkan urus niaga tersebut sebagai urus niaga yang efektif bagi tujuan penyelewengan UPB (Jiang et al. 2010).

Kajian oleh Chaghadari & Shukor (2011), melalui satu sesi temuramah yang dijalankan ke atas pengurus membuktikan bahawa pengurus lebih memilih untuk menyembunyi UPB daripada dilaporkan dalam pelaporan kewangan kerana ianya dapat mempengaruhi keputusan pelaburan oleh pihak pelabur. Kajian oleh Habib, Bhuiyan dan Rahman (2019) mendapati juruaudit akan menilai kehadiran pengarah yang pernah terlibat dalam skandal perakaunan sebagai faktor risiko audit yang boleh meningkatkan prosedur audit dan seterusnya yuran audit. UPB konflik juga dianggap sebagai petunjuk kepada *'red flag'* yang boleh mengakibatkan penyataan semula penyata kewangan dan meningkatkan risiko audit (Kohlbeck & Mayhew 2017). Jelasnya, firma cenderung untuk tidak melaporkan UPB konflik dengan sewajarnya kerana ianya akan mendedahkan kepentingan individu dalam urus niaga tersebut.

Konsisten dengan teori agensi, juruaudit bertanggungjawab untuk menilai UPB bukan sekadar melihat kepada nilai magnitud UPB sahaja tetapi juga pihak berkaitan yang terlibat. Oleh yang demikian, juruaudit perlu membuat pemeriksaan secara terperinci untuk mengenal-pasti siapakah pihak berkaitan yang terlibat dan seterusnya menentukan sebarang risiko penipuan dalam

UPB. Kajian ini menjangkakan juruaudit mempunyai perancangan kerja audit yang berbeza dalam menilai UPB mengikut jenis pihak berkaitan yang terlibat yang boleh mempengaruhi kepada peningkatan masa, usaha dan skop kerja audit dan akhirnya dapat memberi kesan kepada peningkatan yuran audit.

Hipotesis 2: Terdapat hubungan positif antara UPB dan yuran audit bergantung kepada pihak berkaitan yang terlibat.

METODOLOGI KAJIAN

Kajian ini menggunakan dua sumber utama dalam pengumpulan data iaitu dari laporan tahunan firma yang diperolehi di papan utama Bursa Malaysia dan DataStream. Data kajian ini dikumpulkan bermula dari tahun 2013 hingga 2017. Tahun 2013 dipilih untuk melihat implikasi dan perubahan terhadap UPB di kalangan firma tersenarai di Malaysia selepas *MFRS 124 Related Party Disclosure* disemak semula dan dikuatkuasa bermula 1 Januari 2012. Pemilihan sampel selepas *MFRS 124* telah dikuatkuasa semula ini dijangka memberi impak kepada pendedahan maklumat UPB yang dilaporkan oleh firma.

Populasi kajian ini terdiri daripada firma yang tersenarai di pasaran utama *(Main Market)* Bursa Malaysia. Firma di pasaran *Ace (Ace Market)* dikecualikan daripada persampelan kerana nilai magnitud UPBnya yang lebih kecil berbanding dengan pasaran utama. Di samping itu, firma yang beroperasi dalam industri kewangan juga dikeluarkan daripada pemilihan sampel kerana perbezaan ciri-ciri tadbir urus, perundangan serta piawaian yang diguna pakai (Rahmat & Iskandar 2004). Terdapat juga firma yang tidak memiliki laporan kewangan yang lengkap atau tidak dapat diakses turut dikeluarkan daripada sampel kajian ini. Merujuk kepada Jadual 1 dan 2, saiz sampel akhir bagi kajian ini adalah sebanyak 583 buah firma daripada jumlah keseluruhan firma di pasaran utama sebanyak 769 buah firma dan jumlah keseluruhan sampel dalam kajian ini untuk tempoh lima tahun (2013-2017) adalah sebanyak 2,915 buah firma.

Jadual1 Sampel kajian

FIRMA	
Jumlah keseluruhan firma	769
Industri kewangan dikeluarkan	(29)
Data firma tidak lengkap dikeluarkan	(157)
Jumlah sampel kajian	**583**

Nota: Jumlah pemerhatian meliputi tahun 2013-2017

Jadual 2 Jumlah sampel kajian mengikut industri

Industri	Firma	Jumlah pemerhatian
Pengguna/Barangan/Perkhidmatan	408	2040
Teknologi	29	145
Pembinaan	35	175
Hartanah	70	350
Perlombongan/Perladangan	38	190
Hotel	3	15
Jumlah	**583**	**2915**

Berdasarkan Kohlbeck & Mayhew (2010), UPB dibezakan mengikut kompleksiti urus niaga iaitu UPB rumit dan UPB mudah. UPB rumit ini disifatkan sebagai urus niaga yang rumit atau kompleks kerana urus niaga ini kebiasaannya melibatkan banyak akaun penyata kewangan, pelbagai pihak berkaitan dan melibatkan terma dan syarat urus niaga yang kompleks. Urus niaga ini juga sering melibatkan penjanjian jangka panjang dan juga merupakan urus niaga yang berulang. Manakala UPB mudah pula adalah urus niaga secara langsung. UPB mudah mempunyai sifat urus niaga yang hanya melibatkan beberapa akaun penyata kewangan dan pihak berkaitan sahaja dan merupakan urus niaga yang lebih mudah dijalankan kerana tidak memerlukan sebarang peraturan atau prosedur urus niaga yang khusus.

Seterusnya, data UPB dikumpulkan mengikut klasifikasi pihak berkaitan selaras dengan keperluan *MFRS 124 Related Party Transaction* dan kajian oleh Nekhili & Cherif (2011). UPB dikelaskan kepada 2 kategori utama iaitu UPB dengan entiti-entiti (UPB efektif) dan UPB dengan pihak berkaitan seperti pengurus, pengarah, pemegang saham mengawal atau individu yang berkaitan dengan pengarah atau pemegang saham mengawal atau pengarah firma berkaitan (UPB konflik). Kajian ini menyifatkan urus niaga yang dijalankan antara entiti-entiti sebagai urus niaga yang efektif kerana urus niaga ini dijalankan untuk tujuan meningkatkan kecekapan operasi perniagaan dengan meminimumkan kos operasi melalui hubungan perniagaan dan tidak menjejaskan nilai pemegang saham minoriti (Khanna & Palepu 2000; Nekhili & Cherif 2011). Manakala, urus niaga dengan pihak berkaitan adalah urus niaga konflik kerana urus niaga ini sering terlibat dalam penyalahgunaan UPB (Bona-Sanchez et al. 2016; Nekhili & Cherif 2011). Maklumat UPB yang dikumpulkan didapati dari laporan tahunan firma yang didedahkan di nota pendedahan urus niaga pihak berkaitan *(Related Party Disclosures),* imbuhan pengarah (*Directors' Remuneration)* atau laporan pengarah *(Directors' Report)*. Jadual 3 menunjukkan klasifikasi UPB yang digunakan dalam kajian ini.

Jadual 3 Klasifikasi UPB

Jenis UPB		**Klasifikasi pihak berkaitan**	
UPB rumit	**UPB mudah**	**UPB efektif**	**UPB konflik**
▪ Jualan & belian brg/aset/saham	▪ Perkhidmatan perundangan/rundingan	▪ Syarikat subsidiari	▪ Pengurus
▪ Terima/beri perkhidmatan	▪ Pajakan/Sewa	▪ Syarikat bersekutu	▪ Pengarah
▪ Belanja overhed/R&D	▪ Pinjaman/jaminan	▪ Syarikat usahasama	▪ Pemegang saham mengawal
▪ Lain-lain urus niaga yang berkaitan dengan aktiviti utama perniagaan	▪ Lain-lain urus niaga yang tidak berkaitan dgn aktiviti utama perniagaan		▪ Individu yang berkaitan dengan pengarah /pemegang saham mengawal /pengarah firma berkaitan.

Model Kajian

Kajian ini menggunakan model regresi kesan tetap untuk pengujian hipotesis. Model regresi adalah seperti berikut:

$$(1) \qquad YA = \beta 0 + \beta 1 UPB(UPBr, UPBm) + +\beta 4 BIG4 + \beta 5 CAIR + \beta 6 INVABT + \beta 7 LEV + \beta 8 PAA + \beta 9 SAIZ + \varepsilon$$

(2) $$YA = \beta 0 + \beta 1 UPB(UPBefek, UPBkonf) + \beta 4 BIG4 + \beta 5 CAIR + \beta 6 INVABT + \beta 7 LEV + \beta 8 PAA + \beta 9 SAIZ + \varepsilon$$

Dimana:

YA	Yuran audit
UPBr	UPB rumit
UPBm	UPB mudah
UPBefek	UPB efektif
UPBkonf	UPB konflik
BIG4	Firma audit BIG4
CAIR	Kecairan firma
INVABT	Jumlah inventori dan akaun penerimaan
LEV	Leveraj
PAA	Pulangan atas aset
SAIZ	Saiz firma

Dalam model kajian ini, yuran audit (YA) digunakan sebagai proksi kepada audit kualiti dengan mengandaikan peningkatan yuran audit sebagai peningkatan kepada masa dan usaha juruaudit untuk mengenalpasti kewujudan UPB dan kecukupan pendedahan UPB. Selari dengan Al-Dhamari et al. (2017), kajian ini menggunakan logaritma asli sebagai pengukur yuran audit. Kompleksiti UPB diukur berdasarkan sifat urus niaga itu sendiri seperti yang telah diklasifikasi oleh Kohlbeck dan Mayhew (2010). Justeru itu, kajian ini mengkelaskan UPB kepada urus niaga rumit atau mudah. UPB rumit *(UPBr)* merujuk kepada urus niaga yang melibatkan banyak akaun penyata kewangan, pelbagai pihak berkaitan dan melibatkan beberapa terma dan syarat urus niaga termasuklah jualan dan belian aset atau inventori, penerimaan atau pemberiaan perkhidmatan, perbelanjaan overhed dan pelaburan. UPB mudah *(UPBm)* pula adalah urus niaga langsung dan melibatkan hanya beberapa pihak berkaitan sahaja seperti pinjaman, jaminan, pajakan, sewa, perkhidmatan rundingan dan perundangan. Kajian ini mengkelaskan UPB mengikut UPB rumit dan mudah untuk menerangkan sejauhmana kompleksiti UPB dapat memberi kesan kepada usaha dan kerja audit mengikut tahap kompleksiti urus niaga yang akhirnya dapat mempengaruhi perletakan yuran audit.

Model kajian yang ke-2 menekankan aspek pendedahan maklumat UPB mengikut pihak berkaitan. Kajian ini mengasingkan pihak berkaitan kepada dua kategori yang berbeza berdasarkan keperluan pelaporan MFRS 124. Antaranya:

1. Urus niaga antara kumpulan entiti (subsidiari, usahasama, syarikat bersekutu) sebagai UPB efektif (UPBefektif).
2. Urus niaga dengan pihak berkaitan seperti pengurus, pengarah dan pemegang saham dan uruniaga langsung dengan pihak berkaitan sebagai UPB konflik (UPBkonflik).

Selain itu, kajian ini juga mengambil kira faktor lain seperti saiz firma (SAIZ), kompleksiti perniagaan firma (ABTINV), keberuntungan firma (PAA), risiko firma (CAIR), leveraj firma (LEV) dan firma audit (BIG4) yang dapat mempengaruhi perletakan yuran audit (Hay et al. 2006; Nelson & Rusdi 2016). Kesemua pembolehubah dalam kajian ini dijangkakan berhubungan secara positif dengan yuran audit (Hassan & Naser 2016; Hay et al. 2006; Nelson & Rusdi 2016; Wahab et al. 2011).

HASIL KAJIAN

Analisis Deskriptif

Jadual 3 pula menunjukkan hasil analisis deskriptif untuk setiap pembolehubah yang digunakan dalam kajian ini. Panel A menunjukkan nilai min yuran audit (YA) secara purata adalah sebanyak RM80,381 dengan nilai minimum RM2,000 dan maksimum RM2,200,000. Bagi pembolehubah tidak bersandar, jelas menunjukkan firma menjalankan lebih banyak UPB rumit seperti urus niaga jualan dan belian atau pemberian dan penerimaan perkhidmatan atau jualan dan belian saham dan lain-lain urus niaga yang berkaitan dengan aktiviti utama perniagaan. Firma juga didapati lebih cenderung dan kerap menjalankan urus niaga antara kumpulan seperti subsidiari, syarikat bersekutu dan usahasama iaitu UPB efektif berbanding urus niaga dengan pihak berkepentingan iaitu UPB konflik apabila nilai purata UPB konflik menunjukkan nilai yang sangat rendah berbanding UPB efektif.

Seterusnya, bagi pembolehubah kawalan iaitu faktor lain yang boleh mempengaruhi pertimbangan perletakan yuran audit n seperti firma audit (BIG4), faktor kecairan firma (CAIR), inventori dan akaun penerimaan (INVABT), leveraj (LEV), pulangan atas aset (PAA) dan saiz firma (SAIZ). Kecairan firma (CAIR) mempunyai nilai min kecairan 2.85 dengan nilai minimum 0 dan maksimum 27.09. Manakala, nilai min inventori dan akaun penerimaan (INVABT) dalam sampel kajian adalah 0.32. Dapatan ini, mendapati 32% daripada pendapatan firma adalah daripada jualan barang dan perkhidmatan atau aset. Pembolehubah kawalan leveraj (LEV), menunjukkan nilai min pada 0.18. Oleh itu, dapat disimpulkan 18% daripada sumber pembiayaan firma adalah melalui hutang. Seterusnya, pulangan atas aset (PAA) menujukkan nilai min 0.67. Pulangan atas aset ini digunakan untuk menilai prestasi firma. Akhir sekali, saiz firma (SAIZ) merupakan faktor dominan dalam penentuan yuran audit dan dalam kajian ini, nilai min saiz firma adalah 20.04 dengan nilai minimum dan maksimum masing-masing pada 0 dan 25.69. Panel B menunjukkan kekerapan firma melantik firma audit BIG4. Nilai min BIG4 didapati sebanyak 0.55 dengan nilai minimum 0 dan 1 maksimum yang menunjukkan sebanyak 55% iaitu sebanyak 1,589 buah firma tersenarai dalam sampel kajian menggunakan perkhidmatan audit daripada firma audit BIG4.

Jadual 3 Statistik deskriptif

Pembolehubah	Minimum	Maksimum	Min	Sisihan piawai
Panel A				
YA (RM)	2,000	2,200,000	80,381	141,328
UPBr (RM'000)	0.00	37,900,000	83,910,973	1,330,000
▪ UPBr *(Log.asli)*	0.00	24.35	3.43	6.73
UPBm (RM'000)	0.00	9,240,000	50,939,939	266,000
▪ UPBm *(Log.asli)*	0.00	22.94	13.40	6.09
UPBefek (RM'000)	0.00	37,900,000	132,000,000	1,360,000
▪ UPBefek *(Log.asli)*	0.00	24.35	13.34	6.54
UPBkonf (RM'000)	0.00	489,000	2,372,538	20,021
▪ UPBkonf *(Log.asli)*	0.00	20.00	3.10	5.70
CAIR	0.00	27.98	2.85	3.12
INVABT	0.00	0.966	0.33	0.20
LEV	0.00	0.760	0.18	0.15
PAA	-0.07	3.133	0.67	0.48
SAIZ (RM'000)	0.00	144,000,00 0	2,320,000	8,670,000

Panel B : Pepatung		
	BUKAN BIG4	**BIG4**
BIG4	1,326 (45.5%)	1,589 (54.5%)

Nota: Yuran audit **(YA)**, diukur menggunakan logaritma asli kepada jumlah amaun yuran audit. Urus niaga pihak berkaitan diukur menggunakan logaritma asli kepada jumlah amaun urus niaga pihak berkaitan rumit **(UPBr)**, urus niaga pihak berkaitan mudah **(UPBm)**, urus niaga pihak berkaitan efektif **(UPBefek)** dan urus niaga pihak berkaitan konflik **(UPBkonf)**. Firma audit yang berstatus **(BIG4)** dikodkan dengan 1 *(petunjuk pepatung)* jika BIG4, dan 0 jika sebaliknya. Kecairan firma **(CAIR)**, diukur dengan nisbah aset semasa dibahagikan kepada liabiliti semasa. Jumlah inventori dan akaun penerimaan **(INVABT)** dibahagi dengan jumlah aset. Leveraj firma **(LEV)** iaitu nisbah jumlah hutang kepada jumlah aset. Pulangan atas aset **(PAA)** diukur dengan nisbah pendapatan bersih kepada jumlah aset. Saiz firma **(SAIZ)** diukur berdasarkan logaritma asli kepada jumlah aset.

Ujian Multikolineariti

Analisis korelasi merupakan kaedah untuk menilai perkaitan antara pembolehubah. Analisis ini bertujuan untuk mengukur kekuatan hubungan antara dua atau lebih pembolehubah dalam model kajian. Analisis korelasi ini penting untuk mengesan sama ada wujud ataupun tidak masalah multikolineariti dalam model kajian yang dijalankan.

Multikolineariti wujud apabila korelasi yang tinggi pada dua atau lebih pembolehubah tidak bersandar dalam satu model regresi (Gujarati 2004). Osman dan Chua (1987) menyatakan tidak seharusnya wujud masalah multikolineariti dalam model regresi kajian. Ini kerana, masalah multikolineariti yang wujud akan mengakibatkan model regresi yang diuji mengalami kesukaran dalam menentukan pengaruh pembolehubah bebas terhadap pembolehubah bersandar (Maddala 1992). Multikolineariti akan wujud dalam model regresi yang berbentuk linear di antara pembolehubah bebas dan ianya akan mengakibatkan nilai R^2 tinggi (lebih dari 0.80), nilai t-statistik pembolehubah bebas tidak signifikan, dan nilai F tinggi (Gujarati 2004). Oleh itu, ujian multikolineariti sangat penting sebelum memulakan analisis regresi bagi memastikan tiada isu multikolineariti antara pembolehubah tidak bersandar dalam model kajian.

Nilai korelasi yang melebihi 0.80, menunjukkan terdapat hubungan korelasi yang tinggi antara pembolehubah bebas (Gujarati 2004). Sehubungan dengan itu, berdasarkan kepada Jadual 4 dan 5, ujian Pekali Korelasi Pearson menunjukkan tidak wujud masalah multikolineariti terhadap hubungan pembolehubah dalam model kajian. Walau bagaimanapun, kedua-dua model mendapati pembolehubah SAIZ dan YA menunjukkan nilai pekali yang tertinggi ($r = 0.449, p<0.01$). Justeru itu, kesemua pembolehubah dalam kajian ini dikekalkan.

Disamping itu, multikolineariti dapat disahkan melalui ujian faktor inflasi varian (VIF) dengan menilai sejauhmana varian pekali regresi dianggarkan meningkat jika pembolehubah berkorelasi. Sekiranya tiada faktor yang berkorelasi, VIF akan menjadi 1. Hair et. al (1995) menyatakan nilai maksimum (VIF) adalah pada nilai 10. Secara keseluruhannya, Jadual 6 menunjukkan nilai VIF bagi kedua-dua model regresi kurang daripada 10. Oleh itu dapat disimpulkan bahawa kesemua pembolehubah dalam kajian ini tidak mempunyai masalah yang besar dengan multikolineariti kerana tiada nilai VIF pembolehubah yang melebihi 10.

Jadual 6 Faktor inflasi varian (VIF)

PEMBOLEHUBAH	MODEL 1	MODEL 2
	VIF	VIF
UPBr	5.66	-
UPBm	4.65	-
UPBefek	-	4.72
UPBkonf	-	5.62
BIG4	1.25	1.24
CAIR	1.22	1.22
INVABT	1.33	1.34
LEV	1.39	1.39
PAA	1.31	1.29
SAIZ	1.60	1.57

Nota: Yuran audit (YA), diukur menggunakan logaritma asli kepada jumlah amaun yuran audit. Urus niaga pihak berkaitan diukur menggunakan logaritma asli kepada jumlah amaun urus niaga pihak berkaitan rumit (UPBr), urus niaga pihak berkaitan mudah (UPBm), urus niaga pihak berkaitan efektif (UPBefek) dan urus niaga pihak berkaitan konflik (UPBkonf). Firma audit yang berstatus (BIG4) dikodkan dengan 1 (petunjuk pepatung) jika BIG4, dan 0 jika sebaliknya. Kecairan firma (CAIR), diukur dengan nisbah aset semasa dibahagikan kepada liabiliti semasa. Jumlah inventori dan akaun penerimaan (INVABT) dibahagi dengan jumlah aset. Leveraj firma (LEV) iaitu nisbah jumlah hutang kepada jumlah aset. Pulangan atas aset (PAA) diukur dengan nisbah pendapatan bersih kepada jumlah aset. Saiz firma (SAIZ) diukur berdasarkan logaritma asli kepada jumlah aset.

Ujian Mutlivariat/Pengujian Hipotesis

Hubungan UPB rumit, UPB mudah dan yuran audit

Berdasarkan Jadual 7 Panel A, kajian ini mendapati terdapat hubungan positif yang signifikan antara pembolehubah UPB rumit (UPBr), UPB mudah (UPBm) dan yuran audit dengan nilai koefisien UPBr 0.005 (t-statistik = 2.085), p<0.05 dan UPBm nilai koefisien 0.023 (t-statistik = 1.809), p<0.10. Secara keseluruhannya, penemuan ini menunjukkan kompleksiti UPB boleh meningkatkan yuran audit dan membuktikan bahawa UPB adalah urus niaga yang sukar untuk diaudit yang memerlukan juruaudit meningkatkan usaha, masa dan skop kerja audit yang luas dalam usaha mengaudit firma yang terlibat dengan UPB.

Walau bagaimanapun, dapatan kajian menunjukkan UPBr mempunyai hubungan yang lebih kuat dengan yuran audit iaitu siginifikan pada p<0.05 berbanding UPBm. Ini konsisten dengan Kohlbeck dan Mayhew (2010) yang menyatakan UPB rumit merupakan urus niaga komplek yang melibatkan banyak akaun penyata kewangan dan pelbagai pihak berkaitan. Tambahan pula, UPBr kerap digunakan oleh firma sebagai aktiviti urus niaga yang berulang seperti urus niaga jualan dan belian mengakibatkan ianya sukar untuk dikesan (Jian & Wong

2010). Justeru, bagi UPBr juruaudit perlu membentuk prosedur audit yang lebih luas untuk menilai urus niaga dan pihak berkaitan yang terlibat. Juruaudit juga perlu membuat pemeriksaan yang lebih banyak terhadap dokumentasi urus niaga yang dijalankan dan membuat penilaian yang mencukupi terhadap pendedahan urus niaga oleh firma.

Di samping itu, UPBr juga sering digunakan sebagai alat manipulasi pendapatan yang mana ianya sukar untuk dikesan oleh firma dan juruaudit (Rahmat 2013; Ariff dan Hashim 2014). Ini kerana sifat UPB yang rumit ini dapat memberi ruang kepada oleh pihak oportunis untuk memanipulasi transaksi UPB sama ada untuk mendedahkan atau menyembunyikan urus niaga tersebut dalam laporan kewangan firma. Maka dengan itu UPBr lebih terdedah kepada risiko salah nyata dalam penyata kewangan yang memerlukan juruaudit untuk memberi lebih tumpuan dan meningkatkan usaha dengan membentuk prosedur audit tambahan dalam mengaudit UPBr. Oleh itu, hipotesis pertama (H1) bagi kajian ini disokong. Malah, dapatan kajian ini juga menyokong kepada hasil kajian di Malaysia oleh Al-Dhamari et al. (2017) yang mendapati urus niaga jualan dan belian pihak berkaitan meningkatkan yuran audit kerana urus niaga tersebut boleh meningkatkan risiko salah nyata dalam penyata kewangan. Jelasnya, dapat disimpulkan bahawa UPB meningkatkan yuran audit dan kewujudan kompleksiti UPBr lebih memberi kesan kepada peningkatan yuran audit berbanding UPBm.

Jadual 7 Analisis regresi

Panel A			**Panel B**		
Pembolehubah	**Koefisien (t-stat)**	**Nilai-P**	**Pembolehubah**	**Koefisien (t-stat)**	**Nilai-P**
C	2.147 (2.036)	0.042	C	2.125 (2.015)	0.044
UPBr	0.005 (2.085)	0.037**	UPBefek	0.022 (1.975)	0.048**
UPBm	0.023 (1.809)	0.070*	UPBkonf	0.003 (0.597)	0.551
BIG4	0.151 (1.461)	0.144*	BIG4	0.155 (1.452)	0.147*
CAIR	0.033 (1.742)	0.081*	CAIR	0.034 (1.736)	0.083*
INVABT	0.791 (1.574)	0.115*	INVABT	0.798 (1.584)	0.113*
LEV	0.083 (0.232)	0.816	LEV	0.052 (0.146)	0.884
PAA	0.071 (1.034)	0.301	PAA	0.073 (1.047)	0.295
SAIZ	0.382 (5.599)	0.000***	SAIZ	0.385 (5.761)	0.000***
R-Squared Terlaras	0.77		R-Squared Terlaras	0.77	
F-Statistik (nilai p)	18.23		F-Statistik (nilai p)	18.20	
Durbin-Watson	2.37		Durbin-Watson	2.37	

Nota: Yuran audit (YA), diukur berdasarkan logaritma asli. Urus niaga pihak berkaitan rumit (UPBr), urus niaga pihak berkaitan mudah (UPBm), urus niaga pihak berkaitan efektif (UPBefek) dan urus niaga pihak berkaitan konflik (UPBkonf) diukur berdasarkan logaritma asli. Firma audit yang berstatus BIG4, diukur sebagai petunjuk pepatung 1 jika BIG4, dan 0 jika sebaliknya. Kecairan firma (CAIR), diukur nisbah aset semasa dibahagikan kepada liabiliti semasa. Jumlah inventori dan akaun penerimaan (INVABT) dibahagi dengan jumlah aset. Leveraj firma (LEV) iaitu nisbah jumlah hutang kepada jumlah aset. Pulangan atas aset (PAA) iaitu nisbah pendapatan bersih kepada jumlah aset. Saiz firma (SAIZ) diukur berdasarkan logaritma asli jumlah aset

Hubungan UPB efektif, UPB konflik dan yuran audit.

Seterusnya, kajian ini mengkaji hubungan pendedahan maklumat pihak berkaitan yang terlibat dalam UPB dan yuran audit iaitu terdiri daripada UPB efektif (UPBefek) dan UPB konflik (UPBkonf). Jadual 7 Panel B menunjukkan hubungan positif yang signifikan antara UPBefek dan yuran pada nilai koefisien 0.022 (t-statistik = 1.975) dan signifikan pada $p<0.05$. Ini menunjukkan, urus niaga yang dijalankan oleh syarikat dengan entiti seperti subsidiari, syarikat bersekutu, dan syarikat usahasama meningkatkan yuran audit. Walaupun UPBefek mempunyai potensi risiko konflik kepentingan yang rendah namun peningkatan kepada struktur bilangan kumpulan firma mengakibatkan juruaudit sukar untuk mengenalpasti setiap UPB yang dimasuki oleh firma dalam struktur organisasi yang komplek (Chan & Hsu 2013). Maka dengan itu, juruaudit perlu memperuntukkan lebih masa dan prosedur audit yang panjang yang akhirnya dapat meningkatkan yuran audit. Hal ini turut disokong oleh Gul et al. (2017), yang mendapati firma yang mempunyai struktur syarikat induk-subsidiari yang tinggi meningkatkan yuran audit terutamanya bagi firma yang terlibat dengan UPB.

Seterusnya, kajian ini menjangkakan UPB yang melibatkan pihak berkepentingan seperti pemegang saham mengawal, pengarah, pengurus atau lain-lain pihak berkaitan yang mempunyai kepentingan dengan pemegang saham, pengarah atau pengurus lebih cenderung untuk terlibat dengan konflik kepentingan yang berhubungan secara positif dengan yuran audit. Walau bagaimanapun, Jadual 7 Panel B menunjukkan UPBkonf tidak memberi kesan kepada yuran audit. Hal ini mungkin disebabkan oleh sampel kajian ini mendapati hanya 628 buah firma iaitu 21.5% sahaja firma yang menjalankan urus niaga dengan pihak berkepentingan yang melibatkan pemegang saham, pengarah, pengurus dan lain-lain pihak berkaitan sepanjang tahun 2013-2017. Maka untuk pengujian hipotesis dalam kajian ini ianya mungkin tidak dapat memberikan hubungan yang kuat antara UPBkonf dan yuran audit. Justeru itu, hipotesis kedua (H2) dalam kajian ini hanya disokong oleh UPBefek sahaja iaitu terdapat hubungan positif UPBefek dan yuran audit.

Analisis Tambahan

Untuk memastikan dapatan kajian yang diperolehi adalah stabil dan konsisten, pemusatan min dilakukan keatas pembolehubah bersandar dan tidak bersandar untuk mengawal data UPB yang tidak berpusat. Ini kerana, pembolehubah yang tidak berpusat akan menghasilkan inter-korelasi yang tinggi (Robinson & Schumacker 2009). Seterusnya, kajian ini menggunakan petunjuk pepatung untuk mengukur kewujudan UPB terhadap perletakan yuran audit. Konsisten dengan kajian Kohlbeck & Mayhew (2010), firma yang mempunyai UPBr, UPBm, UPBefek dan UPBkonf dikodkan sebagai 1 dan 0 jika firma tidak mempunyai urus niaga. Di samping itu, kajian ini juga menjalankan analisis regresi tambahan dengan mengecualikan firma yang tidak melaporkan UPB daripada sampel kajian. Sebanyak 57 buah firma telah dikeluarkan daripada sampel. Baki sebanyak 526 buah firma sahaja yang mendedahkan nilai magnitud UPB dengan jumlah pemerhatian sebanyak 2479 buah bagi tahun 2013 hingga 2017. Secara keseluruhannya, dapatan kajian yang diperolehi adalah konsisten dengan hasil kajian seperti yang diperolehi di Jadual 7.

KESIMPULAN

Struktur UPB yang kompleks seringkali menimbulkan kesukaran dari aspek pengukuran dan pengiktirafan dan boleh menjurus kepada kesilapan dalam pelaporan kewangan (Kohlbeck & Mayhew 2017). Malah, Beasley et al. (2000), mendapati juruaudit gagal mengenalpasti dan mendedahkan UPB adalah punca berlakunya penipuan penyata kewangan. Maka, kompleksiti terhadap maklumat UPB ini telah menimbulkan persoalan sama ada juruaudit mengambil kira risiko dan usaha audit dalam perletakan yuran audit bagi firma yang terlibat dengan UPB (Al-Dhamari et al. 2017). Di samping itu, proses untuk mengenalpasti kehadiran atau kewujudan pihak berkaitan juga adalah sukar, khususnya kepada pihak berkaitan yang memiliki kepentingan secara tidak langsung dengan entiti yang diaudit.

Justeru itu, kajian ini mengkaji hubungan antara kompleksiti UPB dan yuran audit, di mana penemuan kajian lepas menunjukkan dapatan kajian yang tidak konsisten dan terhad kepada negara United Stated serta China sahaja. Kajian ini mengenalpasti UPB berdasarkan sifat dan kompleksiti urus niaga dengan mengkelaskan kepada UPB rumit dan UPB mudah sejajar dengan pengukuran yang dijalankan oleh Kohlbeck dan Mayhew (2010). Pihak berkaitan pula dikelaskan kepada UPB efektif dan UPB konflik bagi mengukur kesan pendedahan maklumat pihak berkaitan dalam urus niaga yang dijalankan yang secara langsung menunjukkan potensi konflik kepentingan yang ada dalam UPB berkenaan.

Dapatan kajian mendapati UPB rumit dan UPB mudah berhubungan secara positif dengan yuran audit. Namun, UPB rumit memberikan hubungan positif yang lebih kuat berbanding UPB mudah. Penemuan ini menyokong kepada H1a iaitu kompleksiti UPB rumit berhubungan secara positif dengan yuran audit. Juga, didapati pendedahan UPB efektif meningkatkan yuran audit tetapi hubungan UPB konflik tidak dapat membuktikan bahawa ianya dapat meningkatkan yuran audit. Hasil dapatan kajian ini, mencadangkan kompleksiti UPB memberikan risiko audit yang berbeza. Jelasnya, firma yang melaporkan UPB rumit dan UPB efektif yang tinggi mengakibatkan peningkatkan kepada kerja audit dan seterusnya meningkatkan yuran audit.

Walaubagaimanapun, terdapat limitasi dalam sampel kajian ini iaitu nilai magnitud UPB rumit atau mudah ditentukan adalah hanya berdasarkan maklumat yang didedahkan laporan kewangan syarikat sahaja dan kajian ini tidak mempunyai kawalan terhadap UPB yang tidak dilaporkan yang mungkin terdapat kecenderungan bahawa pihak berkaitan yang terlibat dengan konflik kepentingan cenderung untuk tidak melaporkan UPB. Kajian ini juga tidak dapat menentukan jumlah jam sebenar yang diperuntukkan oleh juruaudit untuk mengaudit UPB dan kajian ini juga tidak dapat mengakses kertas kerja audit yang dilakukan oleh juruaudit dalam usaha mengaudit UPB kerana maklumat tersebut adalah sulit dan merupakan hak persendirian firma audit. Menurut Kohlbeck & Mayhew (2017), jumlah masa dan prosedur audit yang dilakukan oleh juruaudit boleh menggambarkan dengan jelas usaha juruaudit yang diperuntukkan dalam melaksanakan kerja audit serta tindakbalas juruaudit dalam mengaudit UPB (Kohlbeck & Mayhew 2017). Oleh yang demikian, kajian ini hanya menggunakan jumlah bayaran yuran audit sebagai proksi untuk usaha dan kerja-kerja audit. Namunpun begitu, kajian ini dapat memberikan implikasi penting kepada pelabur untuk memahami bagaimana yuran audit boleh dipengaruhi oleh nilai magnitud UPB dalam sesebuah perniagaan. Disamping itu, dapatan kajian ini berguna kepada penggubal dasar untuk memberi penekanan terhadap akan peranan juruaudit dalam usaha mengenalpasti kewujudan UPB.

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Intellectual Capital Disclosure in Integrated Reporting and Cost of Equity: The Role of Size, Business Strategy and Industry

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Abstract

Research Aims: Prior studies provide inconclusive findings on the relationship between levels of information disclosure in company annual reports and cost of equity (COE). However, past results may be the outcome of the nature of disclosure and its measurement. Hence, numerous studies have explored the issue of disclosure beyond annual reports.This study examines the moderating role of company size, industry type and product differentiation strategy on the relationship between intellectual capital disclosure (ICD) in integrated reporting (IR) and COE.

Design/methodology/approach: Data were derived from companies' annual reports in IIRC database for the accounting period between 2011 and 2017. The content analysis technique has been used to assess ICD of 109 international companies. A regression analysis was performed over 183 observation to test the above relationship.

Research Findings: This study fails to provide empirical evidence on the negative relationship between ICD and COE. However, based on proprietary cost theory this study provides evidences that large companies and companies in the services industry that disclose IC information in IR experience low COE.

Theoretical Contribution/Originality: This study is one of the early studies that examine ICD in IR and the first to provide evidence on the moderating role of company size and industry type on the relationship between ICD and COE.

Managerial Implication in the South East Asian context: Regulators and policy makers should strengthening requirements to ensure effective disclosure of IC information by all companies, especially large companies. Companies with low disclosure should consider to increase their respective levels of ICD to lower their COE.

Research limitation & implications: The sample size is small since 106 companies provide IC information in their IRs. Additionally, the analyses were based on a pool of data in which several companies did not consistently disclose IC information, whereas others started their disclosures only in recent years.

Keywords: cost of equity, industry, intellectual capital disclosure, integrated reporting, size, strategy

INTRODUCTION

Intellectual capital (IC) is an important source of value creation and wealth not only at the company level (Hashim, Osman & Alhabshi, 2015; Asiaei & Jusoh, 2015; Kalkan, Çetinkaya & Arman, 2014) but also at the country level (Labra & Sánchez, 2013). Intellectual capital reporting (ICR) is voluntary (Zéghal & Maaloul, 2011), but it has been acknowledged as an important source to improve company performance (Shih, Chang & Lin, 2010; Bontis, 1999); increase company value (Berzkalne &

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Zelgalve, 2014); and affect the level of organisational transparency (Edvinsson, 1997), corporate image and credibility and customer satisfaction (Corcoles & Ponce, 2013).

Despite its proven robustness, intellectual capital disclosure (ICD) has limitations. One limitation is that ICD has become less relevant and has no impact on financial markets (Dumay, 2016; Dumay & Rooney, 2011) due to the lack of internal systems to identify and measure intangible elements (Corcoles & Ponce, 2013; Guthrie, Ricceri & Dumay, 2012) and the lack of IC-related frameworks that lead to less information disclosure of IC. Therefore, Schaper, Nielsen and Roslender (2017) suggested that ICR can be reported in an integrated form to ensure focus and clarity. Integrated reporting (IR) is gaining popularity (Abhayawansa, Guthrie & Bernardi, 2019) and provides a new hope for ICR by combining six components of capital. Three of these components are IC components, namely, human capital, social and relations capital and structure capital (Abhayawansa et al., 2019; Abhayawansa, 2014; Beattie & Smith, 2013). Terblanche and De Villiers (2019) recently provided evidence that substantial IC information is disclosed by companies that prepare IR compared with non-IR companies.

Although numerous studies focus on ICD in annual reports, limited research examines the consequence of ICD in IR on the cost of equity (COE) of the company. Therefore, the current study aims to address this gap. Given that the use of IR is voluntary, except in South Africa, examining the characteristics of companies that include ICD in their IR is important. Voluntary reporting is generally driven by external and internal factors, such as legislation, political pressure, board of directors, business strategy and direction, company size and industry type. Numerous studies have examined the association between IC and firm characteristics (Eddine, Abdullah, Abdul Hamid & Hossain, 2015; Ahmed & Mohd Ghazali, 2013; Whiting & Woodcosk, 2011; Sonnier, 2008), consequences of ICD on performance (Kamath, 2015; Clarke, Seng & Whiting, 2011; Abeysekera, 2011) and the moderating role of company characteristics on the relationship between ICD or IC performance and other dependent variables (Al Musali & Ku Ismail, 2015; Lin, Huang, Du & Lin, 2012). However, the moderating effect of firm characteristics on the relationship between ICD and COE has been largely ignored. Examining the consequences of ICD on COE is important as it provides evidence on the benefit of increased disclosure to lower the COE (Boujelbene & Affes, 2013). Prior studies on the relationship between information disclosure and COE are inconclusive (Boujelbene & Affes, 2013). However, consistent findings on the negative relationship between ICD and COE are provided by Barus and Siregar (2014), Boujelbene and Affes (2013), Mangena, Pike and Li, (2010), and Orens, Aerts and Lybaert (2009).

The above negative relationship may be strengthened when the moderating roles of business strategy, industry type and company size are considered. Compared with small companies, large-scale companies have been known to derive numerous benefits (Diamond & Verrecchia, 1991) from disclosing substantial amounts of information due to low disclosure costs from economies of scale (Lang & Lundholm, 1993). Brüggen, Vegauwen and Dao (2009); White, Lee and Tower (2007); and Alsaeed (2006) indicate that company size is an important factor that influences the inclusion of ICD in annual reports. Large companies have been reported tend to disclose more voluntary information to reduce information asymmetry, and COE by Embong, Mohd-Saleh and Hassan (2012). Therefore, the current study believes that large companies may voluntarily disclose IC information in their IR due to their capability to invest in such reports.

Furthermore, according to Roos (2005), strategy formation is a result of human capital thinking that brings the right strategy and contributes to a company's performance. Thus, a company's success depends on its management of knowledge-based assets or IC. According to Porter (1985), companies can formulate strategies to create competitive advantages as a result of the analysis of five competitive factors. Finney, Campbell and Powel (2005) and Pitts and Lei (2003) state that strategy is one of the internal sources of knowledge, skills and activities that can influence a company's future direction and performance. Hence, company performance may be differentiated by the adopted strategy (Porter, 1985).

ICD is likewise associated with industry type. Companies in the technology industry that heavily rely on IC and are capital intensive tend to disclose substantial IC information. On the basis of the above discussion, we believe that size, industry type and the strategy adopted by a company may moderate the relationship between ICD in IR and COE. In this regard, this study seeks to examine the moderating effects of company size, industry type and business strategies in relation to the disclosure of IC information in IR on COE.

Our results indicate that large companies that disclose high levels of ICD experience low COE. This finding likewise occurs in companies that provide high IC information in the services industry, which is consistent with prior studies. Evidence is also found that large companies, the services industry, and high market-to-book value ratio tend to incur high COE. However, no evidence is found on the moderating role of business strategy.

The remainder of this paper is organised as follows. Section two reviews prior studies and presents the hypotheses development. Section three discusses the research methodology, followed by research findings in Section four. Section five presents the conclusions and implications of the study.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Intellectual Capital Disclosure, Integrated Reporting and Cost of Equity

An intangible resource, IC reflects a company's ability to generate future value (Zigan, Macfarlane & Desombre, 2008) especially when all its components interact and create important innovation. IC creates value and wealth (Dumay, 2016; Hashim et al., 2015; Asiaei & Jusoh, 2015; Kalkan et al., 2014; Berzkalne & Zelgalve, 2014; Labra & Sánchez, 2013; Corcoles & Ponce, 2013) and improves performance (Shih et al., 2010; Bontis, 1999), thereby enhancing the image and reputation of the organisation and reducing information asymmetry.

Although the positive value of ICD was reported, studies on annual reports found that other aspects of ICD remain unsatisfactory and increasingly neglected (Dumay, 2016; Dumay & Rooney, 2011). According to Deegan (2002), companies disclose IC information to comply with legislation or to be relevant in the business environment (legitimacy). However, companies refuse to disclose excessive confidential information related to IC to maintain competitive advantage and due to difficulties in identifying and measuring such capital (Castilla-Polo & Gallardo-Vázquez, 2016; Corcoles & Ponce, 2013). To address the problem, Schaper et al. (2017) recommend IC to be reported in an integrated format. Thus, IR is a new approach to disclose financial and non-financial information (Jensen & Berg, 2012) and can become the alternative for IC statements, which are now difficult to find (Dumay, 2016) because three IC components are already included in IR (Abhayawansa et al., 2019).

IR was introduced by the International Integrated Reporting Council (IIRC) to incorporate a set of sustainable accounting frameworks, financial information, environmental and social information and governance in the form of 'integration'. IR is comprehensive and complete because it demonstrates how capital is used to create financial value. This format can help financial analysts and investors use information beyond financial data for investment decision making that involves a company's future performance (Abhayawansa & Guthrie, 2014; Ghosh & Wu, 2012). Based on the IR framework published in December 2013, capital is divided into six aspects and their relationships, namely financial, manufacturing, human, intellectual, natural and social (IIRC, 2012). Accordingly, IR is expected to be a medium of information reporting with added value and relevance to users because it is expected to extend ICD, which has less impact on financial markets (Dumay & Guthrie, 2017).

An early study of South African organisations considers the IR framework an improvement to conventional annual reports (Atkins & Maroun, 2015). This finding is consistent with that of Setia, Abhayawansa, Johsi and Huynh (2015), in which they state that the introduction of IR in South Africa has increased company disclosure of human capital, social and relationships capital, natural capital and IC. Substantial increases were found in social capital and other capital-related relationships. This finding may be due to the legitimacy strategy practiced by companies in providing reports. In addition, the IR agenda provide a shift from the financial to a comprehensive capital market system through the introduction of various capital within the IR framework (Coulson, Adams, Nugent & Haynes, 2015). In the end, companies that practice high levels of IR perform better in the stock market and in accounting (Lee & Yeo, 2016). However, these findings may be relevant only to countries where IR is mandatory. Findings on voluntary IR environment are considerably important to promote ICD in IR practice.

Previous studies indicate the considerable relationship between IC and company performance in terms of competition and financial and non-financial performance. Kalkan et al. (2014) and Shih et al. (2010) present evidence that ICD increased a company's shares and provided good competitive advantage. Other studies such as that of Bontis (1998) and Bontis, Chua and Richardson (2000) indicate the substantial relationships between all IC components and company performance. In general, ICD can improve a company's performance, and hence the COE, as disclosure can reduce information asymmetry. This finding is consistent with economic theory (Diamond & Verrecchia, 1991; Diamond, 1985) because disclosure increases stock liquidity, leading investors to reduce transaction costs (Easley & O'Hara, 2004; Diamond & Verecchia, 1991). Increased information disclosure similarly enables investors to accurately forecast future returns on stocks as well as reduce uncertainty estimation on future cash inflows and profits (Clarkson, Guedes & Thompson, 1996). Previous studies highlight that ICD has a negative relationship with a company's COE (Mangena, Li & Tauringana, 2016; Bani, Bani, Pourbagher, Taghavi & Mansourian, 2014; Boujelbene & Affes, 2013). However, the impact of ICD in IR on COE cannot be confirmed.

Based on the above discussion, a company conducts voluntary disclosure when its impact on performance or future benefits are known. Such disclosure can overcome information asymmetry, thereby reducing company COE. Given that IR practice is still at the infancy stage, numerous factors can be explored in explaining ICD in IR (Villiers, Rinaldi & Unerman, 2014). Based on signalling theory and findings from previous studies, the first hypothesis is:

H_1 : The level of ICD in IR is negatively related with COE.

Role of Size in the Relationship between ICD and COE

Company size is one of the factors that can affect corporate reporting, and size has a positive relationship with disclosure level. Due to economies of scale, large companies disclose more information than small-sized companies (Lang & Lundholm 1993). In terms of capital markets, investment in large companies is considered less risky and unlikely to fail than small-sized companies.

Previous studies often use company size as a control variable because it affects the COE capital. Botosan (1997) and Botosan and Plumlee (2002) show a negative relationship between the levels of information disclosure and COE. However, Diamond and Verrechia (1991) state that large companies benefit from disclosure more than small companies. According to economies of scale, large companies incur less costs than small companies, which involve more proprietorship and disclosure risks. This finding is consistent with that of Boujelbene and Affes (2013) who use institutional theory perspective to argue that the process of collecting and reporting information involves costs, which is usually borne by large companies rather than small companies. Small companies are difficult to monitor and cause higher levels of information asymmetry, thereby increasing the COE.

Embong et al. (2012) examined the impact of company size on the relationship between voluntary disclosure and COE. They argue that the role of size is beyond the control variable as it affects the disclosure level and the COE. Substantial disclosure reduces the costs of capital for large companies compared with small companies. However, the cost of proprietorship for small companies increases with disclosure, which leads to higher disclosure costs than those of large companies. The results from 460 listed companies on Bursa Malaysia (Malaysian Stock Exchange) show a substantial negative relationship between disclosure and COE for large-sized companies but no significant relationship for small-sized companies.

Lin et al. (2012) examined the moderating effect of knowledge intensity and organisational size on the relationship between human capital disclosure and organisational performance. However, the view of Lin et al. (2012) is inconsistent with that of Embong et al. (2012). Lin et al. (2012) believe that as organisations become large, organisational complexity increases. Therefore, costs associated with information gathering, reporting and dissemination in large companies increase compared with those of a small company. As such, company size is expected to weaken the relationship between human capital disclosure and firm performance.

These discussions indicate inconsistent findings. However, consistent with Boujelbene and Affes (2013), Embong et al. (2012) and Diamond and Verrechia (1991), this study believes that company size moderates the relationship between ICD and COE.

H_2 : Company size moderates the relationship between the level of ICD in IR and COE.

The Role of Business Strategy in the Relationship between ICD and COE

Strategies employed by a company may likewise affect the COE. This effect occurs because strategies used by each company vary according to their vision and objectives, thereby possibly affecting the level of disclosure and consequently the COE. Business strategies involve setting goals and direction that are denoted as a company's goals, objectives, plans and achievement. Operational and strategy efficiency are a key combination in determining considerable achievement as better strategies lead to better performance (Pitts & Lei, 2003) and because unique sources lead to a company's competitive advantage (Barney, 1991). Therefore, companies need different strategies to manage these internal resources.

IC is an important input for strategy development and needs effective management. Porter (1985) suggests that IC helps companies identify competitive factors, opportunities and industry threats. The Porter model distinguishes three business strategies, namely, product differentiation, costs leader and concentration strategy, which aim to overcome the five factors in industries, such as suppliers' and buyers' power, substitute threats, industry competition and entry barriers (Porter, 1985). Previous studies examined the relationship between companies that use Porter's generic strategy with company performance. Companies that adopted one of the Porter strategies gained better performance than companies that did not use any of the proposed strategies (Dess & Davis, 1984). The use of strategic management accounting strategies has a positive effect on performance (Aykan & Aksoylu, 2013). Competitive strategy and product and service differentiation strategies have a positive and major relationship and significant relationships with company performance, respectively (Teeratansirikool, Siengthai, Badir & Charoenngam, 2013).

Previous research likewise suggests companies to focus on resources to develop effective corporate strategies (Edvinsson & Kivikas, 2007). According to Lerro, Linzalone and Schiuma (2014), IC is an intrinsic asset that helps shape a company's direction and corporate strategy. Therefore, IC resources need to be well managed to ensure excellent performance. The importance of strategic relationship and IC remains relevant due to its inclusion in the IR framework and the need for its disclosure in the business model. Business strategy information needs to be reported because prospective and current investors may find it useful to evaluate the future performance and direction of a company. Kalkan et al. (2014) provide evidence that a company's strategy has a positive relationship with its financial performance. A company needs a specific strategy in managing internal resources to gain competitive edge and improve performance (Al-Musali & Ku Ismail, 2014).

Despite the lack of evidence of the relationship between strategic factors with COE, Cao, Myers, Myers and Omer (2015) indicate that reputable companies can reduce further the COE than less reputable companies. Companies that utilise product differentiation strategies are more concerned with their reputation compared with those that use cost leadership strategies. Thus, the former invests more on innovation to create new and unique products, and in return, stakeholders expect more disclosure about such companies' innovation activities. Such disclosure may reduce information asymmetry and COE. Companies that follow cost leadership strategies are concerned with efficiency and cost savings, and therefore invest less in innovation activities. Little information is expected from these companies, which lead to high information asymmetry and COE. Therefore, the third hypothesis is:

H3 : Product differentiation strategy moderates the relationship between the level of ICD in IR and COE.

The Role of Industry in the Relationship between ICD and COE

Eddine et al. (2015), Ousama, Abdul Hamid and Abdul Rashid (2012), Brüggen et al., (2009) and Bozzolan et al., (2003) indicate the relationship between industry type and ICD. A similar finding was reported by Mangena et al. (2010) and Whiting and Woodcock (2011) within companies in the technology industry. These findings lead to a huge investment allocated on human capital, brand knowledge and customer loyalty programmes. Such practice is consistent with signalling theory, which states that companies tend to prove their compliance with the industry's best practices.

Previous studies likewise found the relationship between the industry and company performance, such as on profitability. Mangena et al. (2010) prove that companies that disclose greater IC information incur lower COE than those with lower disclosure, especially those within capital-intensive sectors, such as banks, insurance, telecommunications, biotechnology and pharmaceutics. However, a study by Boujelbene and Affes (2013) on firms in high technology-based industry did not support these findings.

On the basis of signalling theory and the previous findings, this study predicts that companies in the services industry tend to disclose substantial IC information as a signal of their major investments in IC (Brüggen et al., 2009; Bozzolan et al., 2003; Brennan, 2001). Companies in this industry usually rely on IC, and therefore tend to disclose high IC information, which reduces their COE. Therefore, the fourth hypothesis is:

H4 : Companies in the services industry moderate in the relationship between their level of ICD in the IR and COE.

RESEARCH METHODOLOGY

Data were derived from company annual reports for the accounting period between 2011 and 2017. These reports are available from the IIRC database. This sample is consistent with those of Velte and Stawinoga (2016), Melloni (2015), Wild and van Staden (2013), Beretta et al. (2019), Mangena et al. (2016), and Boujelbene and Affes (2013).

Due to its high reliability, the content analysis technique has been used to assess ICD in IR (Day & Woodward, 2009) and in other applications (Melloni, 2015; Orens et al., 2009; Boesso & Kumar, 2007). Content analysis was conducted by reading and reviewing the entire contents of the annual reports. The analysis focused on information related to IC. Unlike majority of previous research, the current study assesses the level of ICD in the IR contained in the IIRC database. The database reports information on companies within the consumer goods, health, technology, telecommunications, finance, oil and gas, real estate and utilities industries. Overall, 109 international companies prepare IRs. Table 1 presents the number of companies according to the country, showing 24 countries from Europe (12), Africa (1), Oceania (2), North America (2), South America (1) and Asia (6). Table 1 indicates that the highest number of companies that provide IRs is 32, which are from the UK, and followed by 11 in South Africa.

----Table 1: Research population ----

Dependent Variable

In this study, the dependent variable is the COE of the company. COE can be measured in various ways, such as capital asset pricing model, internal rate of return, residual income valuation capital (RIV), abnormal earnings growth model (AEG) and income growth model or modified price earnings to growth (PEG). This study uses PEG, because it requires simple data, that is, the stock price and analysts earnings forecast, which is readily available (Gietzmann & Ireland 2005). In addition, the estimated COEs obtained from RIV, AEG and PEG are similar and correlated (Mangena et al., 2016).

$$COE_{PEG} = \sqrt{\frac{EPS_2 - EPS_1}{P_0}}$$

where EPS_2 is the second year's analyst earnings forecast for the company, EPS_1 is the first year's analyst earnings forecast for the company and P_0 is the current stock price. EPS_2 must be greater than EPS_1 and both values should be positive (Easton, 2004). Stock prices and analyst earnings forecasts were obtained from the International Budget System of Brokers. These forecasts were calculated after annual reports were issued to ensure the inclusion of the annual information (Espinosa & Trombetta, 2007).

Independent Variables

An annual report is a key source of data in measuring the level of ICD. In this study, the level of ICD was measured on the basis of the unweighted ICD index (ICDI). According to Marston and Shrives (1991) the disclosure index is one of the tools used in prior disclosure studies in financial and IC reporting. The approach used in this study is essentially dichotomous, where a score of '1' was given if the information was disclosed and '0' otherwise. The level of ICDI for each company was measured as follows:

$$\text{ICDI} = \frac{\text{Total score acquired by company}}{\text{Maximum total possible score}}$$

This study used a checklist or disclosure index developed by Li, Liu, Tang and Xiong (2017).

The checklist contains the most comprehensive index of intellectual capital information, including 61 items (see Appendix 1) which are considered the best practices identified from Mangena et al., (2016), Boujelbene and Affes (2013), Bozzolan et al. (2003), and Guthrie and Petty (2000).

Moderating Variables

Three moderating variables, namely, company size, business strategy, and industry type were employed in this study. Consistent with Orens et al. (2013) and Boujelbene and Affes (2013), this study measures company size on the basis of log total asset. In terms of business strategy, the current study follows the criteria and definition from Pitts and Lei (2003) to determine the product differentiation strategy or cost leader. Companies that practice product differentiation strategies prefer to produce unique products and services with high emphasis on innovation and quality that differentiate them from competitors. Companies that practice cost leadership strategy is more concerned with cost savings than competitors (Pitts & Lei, 2003). To identify these strategies, the current study examines company vision, slogan and objectives disclosed in the IRs. A score of '1' was assigned for product differentiation strategy and '0' otherwise. Industry is one of the important characteristics that can affect voluntary disclosure (Haniffa & Cooke, 2005). This is because companies tend to imitate their competitors' level of disclosure to reduce competition. A score of '1' was assigned for companies in the services industry and '0' otherwise.

Control Variables

This study includes leverage (LEV), market-to-book (MTB) and beta (BETA) as control variables. Previous studies on voluntary disclosure indicate that these variables influenced the COE. Leverage, which reflects financial risk of a company (Klein, Shapiro & Young, 2005), was measured by the ratio of total debt over total assets (Clarkson, Guedes & Thompson, 1996). Information on the amount of debt and total assets is derived from a company's financial statements. COE is expected to be positively related with leverage to reflect high risk (Boujebene & Affes, 2013; Orens et al., 2009).

MTB was measured as the ratio of market capitalisation and the book value of equity. Given that low MTB ratios reflect high uncertainty over future company growth opportunities, the negative relationship between this variable and COE is predicted (Boujelbene & Affes, 2013; Orens et al., 2009). BETA represents the market or systematic risk, which is expected to have positive effects on COE (Mangena et al., 2010). This relationship means investors expect high returns from high risks.

Regression Model

Equation (1) was developed to examine all four hypotheses.

$$COE_{it} = \alpha_1 + \alpha_2 ICD_{it} + \alpha_3 SIZE_{it} + \alpha_4 LEV_{it} + \alpha_5 BETA_{it} + \alpha_6 SIZE_{it} * ICD_{it} + \alpha_7 STRAT_{it} + \alpha_8 IND_{it} + \alpha_9 STRAT_{it} * ICD_{it} + \alpha_{10} IND_{it} * ICD_{it} + \alpha_{11} MTB_{it} + \varepsilon_{it} \quad (1)$$

where,

COE	= Cost of equity
ICD	= Level of ICD
SIZE	= log total assets
LEV	= total liabilities / total assets
STRAT	= 1 for product differentiation strategy, 0 otherwise.
BETA	= Market risk
MTB	= Market capitalization/Book Value of equity
IND	= 1 for service industry, 0 otherwise.
A	= Coefficient
I	= Company
t	= Year
ε	= Error

RESEARCH FINDINGS

Sample

Table 2 presents the sample for this study. The IIRC database for 2011 to 2017 includes 183 IRs (observation). Table 2 indicates a fluctuation in the number of companies that provide IC information in IR, among which the highest number is 38 companies in 2015 and the lowest is 10 companies in 2017. The fluctuation may be due to the voluntary nature of such disclosure. Overall, the highest number of companies that provide information in IR is 50 in the financial services reported in 2016 (13), which is also the highest in the study period. The lowest number of IR for this industry is 2 in 2017. The lowest number of IR reported in the IIRC database is 4, which was provided by companies in the professional services and property industries. In addition, Table 2 provides evidence that in several observation years, no IRs were prepared by the sample companies.

-----Table 2. Sample of the study -----

Results of Descriptive Analyses

Table 3 presents the descriptive statistics for all variables. On average, COE is 4.3893% with the minimum and the maximum values of 0.2554% and 62.7097%, respectively. Average COE is lower than the 9.95% reported by Mangena et al. (2016) and the 9.364% reported by Boujelbene and Affes (2013). The levels of ICD average at 74.65%, with the minimum level at 29.51% and the maximum level at 90.16%. This result indicates that the majority of the companies tend to provide an average amount of IC information. However the level of ICD is higher than that of UK (70.1%) (Mangena et al., 2016) and lower than that of France (77%), as reported by Boujelbene and Affes (2013). Nevertheless the maximum ICD reported in the current study is higher than both European studies. On average, company size is 17.9954, with a minimum value of 13.5216 and a maximum value of 23.7512. The majority of companies disclosed product differentiation strategies, with an average of 90.71%.

----- Table 3. Descriptive statistics -----

For the sample, the mean of LEV is 27.06%, which indicates that the majority of the companies did not rely heavily on debt financing. The score is within range of the score of French companies (28%) reported by Boujelbene and Affes (2013). The maximum score for LEV is 98.56% and the minimum score is 0.86%. The high leverage levels indicate that the sample companies are risky because they have less assets to bear their liabilities, whereas low leverage shows less risky companies that have large amounts of assets to cover liabilities. The median (24.08%) lower than the mean indicates that the sample includes low and medium-risk companies (Mangena et al., 2010).

The average MTB ratio is 1.2748, which is lower than the 1.94 of Boujelbene and Affes (2013) and 1.874 of Mangena et al. (2010). However, the average value of MTB is higher than that of the UK study by Mangena et al. (2016), which is 0.474. Nevertheless, the median (0.8222) and maximum (6.4248) values were higher than those of Boujelbene and Affes (2013), which were 0.65 and 2.625, respectively. The maximum value is likewise higher than the 3.660 of Mangena *et al.* (2010). Table 3 reveals that the mean, minimum and maximum values for BETA are 0.9066, -0.0600 and 1.8300, respectively. The average value is lower than the 0.998 for the US market in the study by Mangena et al. (2016) and the 0.997 for the UK market by Mangena et al. (2010).

Table 4 presents the results of the Pearson correlation matrix for all variables. Column 2 of Table 4 indicates the relationship between COE and other variables. The highest relationship recorded is 0.9775 between IND and ICD*IND. This figure is followed by 0.9394 between STRAT and ICD*STRAT. A high relationship above 0.8000 indicates a multicollinearity problem between the variables (Kennedy, 2003). However, this issue should not be a concern as the interaction variables and the product of interaction between the original variables (IND and STRAT) and the product of interaction of original variables with another variables (ICD*IND and ICD*STRAT) are expected.

Multiple Regression Analyses

Table 5 presents the results of multiple regression for the four hypotheses. Results for the objectives of the study can be observed in Model 4 (main model) and subject to White's heteroscedasticity-correction. However, other models are likewise relevant as the models were introduced to control a few variables that may influence our findings. In Model 1, this study examines the direct relationship between ICD, SIZE, STRAT, type of industry, BETA, LEV and MTB. Column 2 of Table 5 indicates that the MTB, SIZE and STRAT are positive and substantially related with COE. However, only MTB and SIZE are significantly related with COE at $p < 0.01$ for all models. Unlike the study of Mangena et al. (2016), the current study indicates a positive relationship between SIZE and COE. This finding may be due to the measurement of SIZE by Mangena et al. (2016) based on market capitalisation. In the case of MTB ratio, Mangena et al. (2016) did not find any relationship between the MTB and COE.

Results for the moderating role of SIZE, STRAT and IND are reported in Models 2–6. The interaction variables were introduced in Models 2, 3 and 4 but excluded from Models 5 and 6 to ensure their robustness. In Model 2 (column 3), the interaction of ICD and DSIZE (ICD*DSIZE) was introduced. A dummy variable DSIZE 1 represents a large company with a total asset above the median and 0 otherwise. Introducing ICD*DSIZE leads to LEV and

ICD*DSIZE being negatively and significantly related with the COE. The significance of MTB, LEV and SIZE are consistent in Models 4, 5 and 6, whereas ICD*DSIZE is significant in Models 3, 4 and 6.

Introducing ICD*STRAT in Models 3, 4 and 5 did not considerably affect other variables in Model 3. However, introducing ICD*IND in the main model results in the significance of IND and ICD*IND. Column 5 in Table 5 presents the regression results for Model 4. Column 5 indicates that IND, LEV, MTB, SIZE, ICD*IND and ICD*DSIZE are significantly related to COE. Both ICD*IND and ICD*DSIZE are negatively and significantly related to COE at $p < 0.10$ and $p < 0.025$ respectively. Hence, H2 and H4 are supported. The significance of both interaction variables indicate that large companies and companies in the services industry tend to disclose high levels of IC information, thereby lowering the COE. This finding is consistent with the results of Diamond and Verrechia (1991), Embong et al. (2012) and Boujelbene and Affes (2013), which indicate that large companies benefit more from disclosure than small companies. Large companies are willing to incur high costs of collecting and reporting information (Boujelbene & Affes, 2013). The negative relationship between ICD*IND and COE is consistent with prior studies of Mangena et al. (2010), which indicate that IC-intensive companies with high ICD enjoy low COE. The negative relationship between LEV and COE and the positive relationship between SIZE and COE are not consistent with Mangena et al. (2016). The inconsistency of findings may be attributed to multiple countries used in the study sample, unlike that of Mangena et al. (2016), which was based only on UK companies.

----- Table 4. Pearson correlation matrix -----

Table 5 similarly provides evidence on the non-significance of ICD in reducing the COE. The results are consistent in all regression models. Hence, H1 is rejected. This finding is inconsistent with the findings of Mangena et al. (2016) and Boujelbene and Affes (2013) which examined ICD in annual reports. However, the non-significance found in the current study may be due to the fact that ICD in IR is used for impression management (Melloni, 2015; Dumay & Guthrie, 2017). Hence, IR may not be a solution for ICD (Dumay & Guthrie, 2017). H3 predicts that the product differentiation strategy moderates the relationship between ICD and COE. However, the results (Models 3, 4 and 5) are not significant; therefore, H3 is rejected.

Discussion and Conclusions

The objective of this study is to examine the moderating role of company size, industry type and product differentiation strategy on the relationship between ICD and COE. Multiple regression analyses over 183 IR fail to provide empirical evidence on the negative relationship between ICD and COE. This result may be due to the small number of companies that disclose IC information in IR. Thus, IR may not be a solution for ICD in annual reports. This study likewise finds that companies are inconsistent in disclosing ICD, and IC is not disclosed in IRs in certain years. However, this study provides evidence to support H2 and H4. Based on proprietary cost theory, large companies that disclose IC information in IR experience low COE. In addition, companies in the services industry that disclose high levels of IC likewise incur low COE.

This study contributes to literature in several ways. Firstly, this study is one of the early studies that examine ICD in IR. Secondly, this is the first study to provide evidence on the moderating role of company size and industry type on the relationship between ICD and COE. This study provides evidence to regulators and policy makers to serve as basis for strengthening requirements to ensure effective disclosure of IC information by all companies, which benefited large companies. Companies with low disclosure should consider to increase their respective levels of ICD to lower their COE.

---- Table 5. Regression results ----

However, the results from this study should be regarded with caution due to several limitations. Firstly, the sample size is small because only 106 companies provide IC information in their IRs. Secondly, the analyses were based on a pool of data in which several companies did not consistently disclose IC information in their IR, whereas others started their disclosures only in recent years. Future research may further examine the role of ICD in IR by using panel data analysis, which is powerful in explaining the phenomenon. Future research may likewise extend the current study from the qualitative research strategy to understand inconsistent ICD among these companies better. The role of corporate governance as the moderating variable between ICD and COE relationship may also be relevant to investigate in future studies.

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APPENDIX 1

Componentns of intellectual capital disclosure index (ICDI

Human Capital	
1	Number of employees
2	Employee age
3	Employee diversity
4	Employee equality
5	Employee relationship
6	Employee education
7	Skills/know-how
8	Employee work- related competences
9	Employee work- related knowledge
10	Employee attitudes/ behaviour
11	Employee commitments
12	Employee motivation
13	Employee productivity[21]
14	Employee training
15	Vocational qualifications
16	Employee development
17	Employee flexibility[22]
18	Entrepreneurial spirit

[20] Information about directors' retirement is not included as employee turnover.
[21] Directors' achievements based on incentive schemes are classified as employee motivation information rather than employee productivity. It is considered more appropriate to reflect on the motivational effectiveness of incentive schemes.
[22] Not formal qualifications as degrees.

19	Employee capabilities
20	Employee teamwork
21	Employee involvement with community
22	Other employee features
Structural Capital	
1	Intellectual property
2	Process
3	Management philosophy
4	Corporate culture
5	Organization flexibility
6	Organization structure
7	Organization learning
8	Research & development (R&D)
9	Innovation
10	Technology
11	Financial dealings
12	Customer support function
13	Knowledge-based infrastructure
14	Quality management & improvement
15	Accreditations (certificate)
16	Overall infrastructure/ capability
17	Networking
18	Distribution network
Relational Capital	
1	Customers
2	Market presence
3	Customer relationships
4	Customer acquisition
5	Customer retention
6	CTE

7	Customer involvement
8	Company Image/ reputation
9	Company awards
10	Public relation
11	Diffusion & networking
12	Brands[23]
13	Distribution channels
14	Relationship with suppliers
15	Business collaboration
16	Business agreements
17	Favourite contract
18	Research collaboration
19	Marketing
20	Relationship with stakeholders
21	Market leadership

[23] Brands have been classified under relational capital in various studies (e.g. Bozzolan et al., 2003; Brennan, 2001; Guthrie and Petty, 2000). Although authors such as consider brands as a structural capital item, it is considered in this study that brands themselves are not able to create value for firms and it is the attachment of the market and customers, and the positive perception consumers have relating to the brand that lead to purchase decisions and add value to the firm.