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AUDIT COMMITTEE EFFECTIVENESS, INTERNAL AUDIT FUNCTION AND FINANCIAL REPORTING LAG: EVIDENCE FROM MALAYSIA

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ABSTRACT

This study examines the association among the effectiveness of audit committee, arrangement of internal audit function (IAF), and financial reporting lag (FRL). It also expands the literature by exploring the effect of IAF sourcing arrangement on financial reporting lag. Financial reporting lag is measured based on the number of days between the dates of the financial year end to the date of announcement of financial reporting. The effectiveness of the audit committee consists of size, independence, meetings, experts, and the chairperson's qualifications. The internal audit arrangement is either performed in-house or outsourced to a third-party internal audit service provider and the cost of incurred for the IAF in the financial year. The agency theory is applied to explain the framework of this study and tested on 2,284 Malaysian listed companies from 2012 to 2015. Results show that IAF sourcing arrangement and cost are significantly associated with financial report lag. These findings offer important implications on audit committee and IAF literature through improving the timeliness of financial information.

Keywords: Audit committee, internal audit function, financial reporting lag, agency theory, Malaysia

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INTRODUCTION

Bursa Malaysia has amended its listing requirements since 2015 by shortening the time allowance for issuance of annual reports from six to four months. This requirement underscores the importance of financial reporting timeliness for business decisions. Timeliness of financial reporting is an essential characteristic that may improve investors' decision and promote confidence into the capital market. A delayed annual financial report may become irrelevant if not useless. The delay will also help reduce information asymmetry and mitigate insider trading (Owusu-Ansah & Leventis, 2006). Global accounting standard organisations, such as the Financial Accounting Standard Board and the International Accounting Standard Board, recognise timeliness as a part of the conceptual framework of financial reporting to protect the relevance and reliability of corporate financial statements.

An increase in financial reporting lag (FRL) may lead to a reduction in the relevance of the information to investors' decisions (Givoly & Palmon, 1982). Many studies investigated factors associated with timely financial reporting in Malaysia (Che-Ahmad & Abidin, 2009; Mohamad-Nor et al., 2010; Abdullah, 2006; Wan-Hussin & Bamahros, 2013), the UK (Abdelsalam & Street, 2007), Indonesia (Rochmah Ika & Mohd Ghazali, 2012), the US (Vyas, 2011), and Arab countries (Al-Ajmi, 2008; Alzeban & Gwilliam, 2014). Recent research focused on corporate governance factors related to the production of financial reports (e.g., Abernathy et al., 2014; Wan-Hussin & Bamahros, 2013).

Previous studies in developed or developing countries investigated company attributes, auditor characteristics and corporate governance as determinants of FRL. Audit committee and internal audit are among the important factors in corporate governance that affect financial reporting quality and oversight of the financial reporting process. An effective audit committee (Abernathy et al., 2014; DeZoort et al., 2002) and IAF (Wan-Hussin & Bamahros, 2013) could ensure the reliability of financial reporting, internal control system and risk management. A good audit committee (in terms of size, independence and experienced members) could reduce client-related risks and the timing and extent of a substantive testing in an audit. Therefore, the good practices of an audit committee could reduce FRL.

The argument on IAF is consistent with the Institute of Internal Auditors' (2004) statement that the IAF should evaluate and contribute to the improvement of risk management, control, and governance. Hence, IAF may lead to speedy audit (Mohamad-Nor et al., 2010) and reduced time required to issue a financial report to the stakeholders, i.e., FRL. The arrangement of IAF in a company can take three forms, namely, in house, outsourced, or a combination of both. IAF's role in corporate governance lies in its relationship with the audit committee and management (Goodwin, 2003). The good relationship of internal auditors with the management and their knowledge of the business may help strengthen internal control mechanisms and reduce financial reporting risks. However, such instances may also indicate decreased independence. A lack of independence may affect financial reporting risks and the time spent to issue financial reports to the public. Moreover, leaving the "noncore business" of internal audit to external professionals may also increase independence and efficiency. As such, the sourcing arrangement that could result in low FRL remains to be identified.

Therefore, this study aims to examine the association between (1) audit committee characteristics (audit committee size, independence, financial expertise, number of audit committee meeting held, and financial expertise of the chair) and (2) the sourcing arrangement of IAF (being performed in house or it is outsourced) and the amount invested for the IAF with FRL.

Malaysia is used as a setting for several reasons. First, we capitalise on the unique data concerning the amount of investment or cost in IAF, which is publicly available for Malaysian listed companies. Second, IAF plays an important role in Malaysia's corporate governance landscape.

The studies on FRL cover numerous audit committee effectiveness criteria using the index of DeZoort et al. (2002) as framework. These studies comprise audit committee size, independence, number of meeting and expertise (Rochmah Ika & Mohd Ghazali, 2012). The current study is different from that of Abernathy et al. (2014). This work expands the knowledge by adding the IAF arrangement factor because the literature reports that the IAF plays an important role in the financial reporting process. Apart from examining the factors in a unique market like Malaysia,[1] which is different from other Malaysian studies such as Wan-Hussin and Bamahros (2013), the current work will also examine the FRL by employing data from 2012 to 2015, a period on and before the new requirement to lodge the annual report was shortened to four months.

The next section discusses the literature review, which is relevant to the context of the study, followed by a discussion of the research method and sample construction. The last section discusses the research findings, conclusions, and implications of the results.

BACKGROUND AND HYPOTHESES

Based on agency theory, Fama and Jensen (1983) stated that a firm's internal governance plays an important role in shaping and effectively enhancing the operations of a firm's internal control system (Nelson & Shukeri, 2011). Agency theory suggests that corporate governance assists the corporate boards of publicly held firms to become structurally and operationally effective. In the current work, the audit committee and internal audit serve as monitoring mechanisms that can reduce agency problems. They also serve as representatives of the shareholders' interests and are seen as an important component of a firm's overall corporate governance structure and to encourage or advise the management to produce financial information on a timely basis (Song & Windram, 2004). Therefore, if the audit committee and internal audit effectively oversee the financial reporting process, then they will affect the quality of financial reporting, which may lead to the timely presentation of financial information (Rochmah Ika & Mohd Ghazali, 2012).

This study is undertaken by referring to the two paradoxical positions, i.e., agency theory that underscores the importance of audit committee characteristics and IAF independence on the one hand, versus the advantage of private information by having an internal IAF, on the other hand. Independence is important to ensure sufficient control and monitoring against any mismanagement. However, familiarity with the organisation could also assist IAF to be effective. In line with the objective of this study, which is to further expand the scope of the literature on the impact of audit committee effectiveness and the IAF on the financial reporting process, the subsequent sections will develop the hypotheses with regard to the relationship between the audit committee effectiveness and the IAF sourcing arrangement (in house versus outsourced), the cost invested for IAF and the FRL.

Audit Committee Effectiveness and Financial Reporting Lag

Audit committee size

The audit committee is tasked to monitor the management of financial affairs. The effectiveness of audit committee increases with the size of the audit committee because such an increase would allow members to use their experience and expertise for the best interest of stakeholders. As stated by Bursa Malaysia, at least three individuals must be appointed to the committee. The number of members should be optimal for the committee to effectively and efficiently produce financial reports on time (Mohamad-Nor et al., 2010). Bédard and Gendron (2010) suggested that the audit committee's size and composition are insignificant. However, Mohd Saleh et al. (2007) reported that the audit committee's size has a significant effect on monitoring and addressing the issues faced by companies. On the one hand, Dalton et al. (1999) found that excessively small or large audit committee may be ineffective. A large audit committee tends to lose focus and become less participative in comparison with small ones. On the other hand, a small number of members may lack the required diversity of skills and knowledge and can become ineffective. More members mean more diversity of opinion that could lead to improved perspective on monitoring the firm. The job is partly tasked to provide an oversight on financial reporting processes to ensure that adequate internal controls are in place. Hence, an effective audit committee could lead to smooth financial reporting processes and hence timely financial reporting. For example, final reports and audit would be fast when fraud risk in a firm is low with the establishment of appropriate antifraud controls and programs, in addition to policies to prevent such practices from occurring. Pucheta-Martínez and De Fuentes (2007) found that the audit committee's size affects the probability of firms to receive qualified audit report. As mentioned above, the theory and findings from previous studies on audit committee size reports a negative association between audit committee size and FRL. Therefore, the first hypothesis is as follows:

> H1: There is a negative relationship between audit committee size and financial reporting lag.

Audit committee independence

A second hypothesis exists, at it concerns the impact of audit committee independence and FRL. Under the Listing Requirements of Bursa Malaysia, the audit committees of listed companies must comprise the majority of independent members. Fama and Jensen (1983) explained that an independent board of directors could increase the firm's value by lending their experience and becoming effective guardians of the shareholders' interest via monitoring and control. Moreover, independent audit committee members are likely to view their service on an audit committee as a means to enhance their reputational capital, which serves as a motivation for high-quality monitoring (Gilson, 1990). The board becomes more effective in monitoring the firm's internal control and the integrity of the firm's financial reporting quality as the proportion of independent directors expands. Independence ensures important control procedures and governance processes are adhered by the management. In addition, outsiders may have a fresh new perspective on the firm and may require the management to improvise control mechanisms based on the experience of each committee member. This situation could reduce the risk of fraud and asset misappropriation. As such, this process could reduce the nature of inherent risk, facilitate the financial reporting processes, and subsequently reduce the financial reporting lag (Abbott et al., 2004; Afify, 2009).

According to Klein (2002), audit committee independence and earning management are negatively related because independent audit committee members are effective in controlling earning management practices. Wan-Hussin and Bamahros (2013) found that the audit report lag decreases when the audit committee independence increases. Previous research suggested that strong corporate governance, which included audit committee independence, is likely to increase audit efficiency and effectiveness by reducing the auditor's perception of client business risk, the auditor's control risk judgments for specific audit assertions, and the amount of planned substantive testing. Thus, the time spent by the auditor to accomplish the work can be reduced (Cohen & Hanno, 2000). An independent audit committee is expected to provide effective monitoring and helps strengthen internal controls, which may lead to low FRL (Abbott et al., 2004; Klein, 2002; McMullen & Raghunandan, 1996). Thus, our next hypothesis is as follows:

> H2: There is a negative relationship between audit committee independence and financial reporting lag.

Audit committee expertise

The Malaysian Code of The Best Practice on Corporate Governance requires the appointment of at least one member with financial literacy on an audit committee (MICG, 2001). Moreover, previous studies argued that the existence of audit committees is not enough to monitor the firm well unless the committee members are independent and/or at least one of the members has financial background (e.g., Kalbers & Fogarty, 1998; Stewart & Munro, 2007). Knowledge in accounting and finance could assist audit committee members to examine and analyse the financial information. Audit committees with financially literate members are expected to adopt a high standard of accountability.

Various studies on the association between the audit committee financial expertise and timeliness of reporting exist. Mohamad-Nor et al. (2010) investigated the association between financial expertise and timeliness of audit reporting for Malaysian listed companies in 2002. However, they found that financial expertise and the timeliness of audit reporting are insignificantly related. Nelson and Shukeri (2011) and Wan-Hussin and Bamahros (2013), who used a Malaysian sample, and Knechel et al. (2012) who used a New Zealand sample, also reported that an association between audit committee accounting or auditing expertise and audit report timeliness is non-existent. These results do not support previous literature that highlights the importance of accounting expertise in improving the effectiveness of the audit committee. Abernathy et al. (2014) found that accounting expertise significantly affects reporting lag. The current study intends to investigate if evidence on accounting expertise, which was obtained earlier in a different context of the market, is applicable to technology companies in Malaysia, which are relatively younger and smaller with a different level of other corporate governance mechanisms' control. Given the findings from prior studies on audit committee expertise, we predict that audit committee expertise and FRL are negatively related. This prediction leads to our next hypothesis.

> H3: There is a negative relationship between audit committee expertise and financial reporting lag.

Audit committee meeting

An audit committee meeting is the right platform for directors to discuss financial reports and ensure that all principles and rules are properly followed by the organization (Mohamad-Nor et al., 2010). Many studies used the frequency of meetings as a measurement of audit committee activity (e.g., DeZoort et al., 2002; Krishnan, 2005; McMullen & Raghunandan, 1996; Menon & Deahl Williams, 1994). The frequency of the meetings may reflect the activity of the audit committee in assessing internal control, which could effectively oversee and monitor financial activities, including the preparation and reporting of the company's financial information (Menon & Deahl Williams, 1994). The Bursa Malaysia's Corporate Governance Guide (2009) dictates that an audit committee is required to convene at least four times per year.

Furthermore, the audit committee must ensure that activities are effectively conducted through its meetings (Bédard et al., 2004). Previous studies found that the frequency of meetings significantly and positively affects audit committee effectiveness (Collier & Gregory, 1999; Song & Windram, 2004). Moreover, McMullen and Raghunandan (1996) stated that companies with financial difficulties do not hold audit committees meetings as frequently as those without financial difficulties, which may result in significant lag to produce financial reports. Abbott et al. (2004) noted that, with frequent meetings, audit committee members will be kept informed and knowledgeable on accounting or auditing issues and can direct internal and external audit resources to address the matter in a timely fashion. Thus, high frequency of meetings ensures that the internal control and procedures of the company is implemented properly, and this process will reduce the auditor's working hours and FRL. As such, audit committee meetings are expected to be negatively related with FRL. Thus, this relationship leads to the following hypothesis:

> H4: There is a negative relationship between audit committee meetings and financial reporting lag.

Audit committee chair expertise

The Audit Committee Chair (ACC) refers to the person who leads and determines the effectiveness of the audit committee (Bromilow, 2010) because he/she is the primary point of contact between the audit committee and management, internal and external auditors (Ghafran & O'Sullivan, 2013). However, the ACC is also the one responsible for breakdowns in the financial reporting process (Engel et al., 2010). He/she is also responsible in setting the meeting agenda, controlling the meeting and discussions, building the appropriate relationships with auditors and management, and influence the timeliness of a company's financial report (Bédard & Gendron, 2010). Carcello et al. (2006) noted that only a few studies have separately examined the role of the ACC in facilitating audit committee effectiveness. Abernathy et al. (2014), found that an ACC with financial expertise is negatively associated with audit report lag and timeliness of financial reporting. It is suggested that ACC accounting financial expertise will facilitate timelier financial reporting. As a result, we expect the ACC to be the AC member that is most responsible for and influential in the financial reporting process. Thus, for the next hypothesis, we expect that audit committee expertise will be most valuable when it is provided by the ACC. H5 is as follows:

> H5: There is a negative relationship between ACCs with financial and accounting expertise and financial reporting lag.

Internal Audit Arrangement and Financial Reporting Lag

IAF is an important element in the financial reporting process. According to the Malaysian Code of Corporate Governance (MCCG), IAF is in charge of supervising internal control activities and helping the management to evaluate the effectiveness and efficiency of the internal control systems. The IAF is expected to review and test the effectiveness of internal controls and communicate the results of on-going internal audit activities to the audit committee. Pizzini et al. (2015) showed that IAF quality may reduce the control risk and shorten the FRL. This result is obtained because the external auditor may rely on the internal auditor's comments with regard to the client's internal control systems and company operations. In the financial reporting process, the International Auditing Standards specify that the external auditor may rely on the internal auditor's work if the external auditor is satisfied that the standards of competence and objectivity have been fulfilled. This fulfilment allows the external auditor to reduce the effort to complete the audit. As such, the reliance on the internal auditor's work may shorten the time spent on the audit tasks, eventually minimizing the FRL (Mihret & Admassu, 2011). However, the IAF may be arranged internally (in-house) or outsourced to outside parties. This process is called IAF arrangement. The Listing Requirements of Bursa Malaysia mandates companies to disclose if IAF is performed in-house or outsourced and to report the costs incurred for the IAF in the financial year.

Internal audit function arrangement

Two competing views exist on the arrangement of IAF. First, an outsourced IAF would benefit from increased flexibility in obtaining the right service provider for the task, reduced administration and administrative costs, and access to highly specialised skills required for internal audit (Rittenberg & Covaleski, 2001). Prawitt et al. (2012) examined if outsourcing internal audit services to the external auditor was associated with high or low accounting risk (i.e., accounting risk is defined as the risk that clients' financial statements contain misleading or fraudulently reported numbers); results show that companies that outsourced at least a portion of their IAF to their firm's external auditor had lower accounting risk than companies that outsourced to other big firm service providers, or outsourced to other small firms, third-party service providers, keeping their IAF entirely in-house. Outsource arrangement is highly objective because auditors have less incentive to please or align with the management (Ahlawat & Lowe, 2004; Desai et al., 2011). Simply put, the outsourced IAF is in line with the agency theory, which promotes the concept of independence. Moreover, Glover et al. (2008) found that external auditors are more likely to rely on the work of outsourced auditors rather than in-house internal auditors when the inherent risk is high and may reduce the reporting lag time.

By contrast, internal workers who were in favour of IAF argue that internal staff members may increase workforce stability and control. IAF also has added advantages of organisational knowledge and understanding, which include philosophies, schemas, and routines that are obtainable through long-term emersion in the organisation. This knowledge may create an advantage in favour of the operation of IAF. Coram et al. (2008) reported that organisations that can maintain the IAF in-house are likely to detect and self-report fraud. Conclusively, in-house IAF is superior to out-sourced IAF. Furthermore, Munro and Stewart (2010) showed that external auditors can well utilise internal auditors as assistants for substantive testing when an internal audit is provided in-house, indicating that high quality in-house IAFs are positively associated with accounting quality. This argument is supported by Wan-Hussin and Bamahros (2013), who claim that in-house IAF has significantly low audit delay. This result could be driven by in-house internal auditors that are familiar with the firm's culture, chain of command, information sources, vendors, customers, and processes (Abbott et al., 2012). In-house internal auditors have frequent day-to-day contacts with the company, which may provide them with opportunities to discover problems and determine critical facts and issues from employees (Glover et al., 2008).

Despite the paradoxical argument, we expect that internal audit outsourcing can improve specialised knowledge needed by firms and independence of opinion, such as a high probability of internal auditors giving in to management pressures (Desai et al., 2011). This advantage is very important in a relationship-based economy, such as Malaysia. We predict that IAF outsourcing negatively affects reporting lag. Thus, our next hypothesis is as follows:

> H6: There is a negative relationship between the IAF outsourcing arrangements with financial reporting lag.

The total cost of the IAF

The total cost of the IAF is the amount of money invested, which comprises manpower, training, travelling cost, and payments to the service provider (outsourcing). Abbott et al. (2012) argued that IAF duties are involved with the financial reporting process, and good quality IAF helps increase the effectiveness of the financial reporting process. Prawitt et al. (2009) found that the amount spent on internal auditing for the industry as one of the six composite measures of the IAF quality may help reduce the level of the earnings management. Thus, the more investments IAF has, the more competent IAF personnel who have great monitoring ability to detect material misstatements, thus helping management establish strong controls over financial reporting process. Wan-Hussin and Bamahros (2013) found that the cost incurred for the IAF and audit delay are negatively related. Hence, similar to previous studies, this study predicts that a great amount of cost incurred in the IAF could reduce FRL. Our next hypothesis is as follows:

> H7: There is a negative relationship between the total costs incurred for IAF with financial reporting lag.

RESEARCH METHOD AND DATA

Data

The sample for this study comprises Bursa Malaysia's publicly listed companies between 2012 and 2015. Our sample period selection was based on the phases provided by Bursa Malaysia to publicly listed companies' time to prepare for and fulfil the new timeframe requirement for the issuance of annual reports.

Phase 1 involving reducing six months to five months, effective for annual reports issued on or after 31 December 2014 and Phase two involving reducing five months to four months, effective for annual reports issued on or after 31 December 2015. We controlled for the effect of the year phases adoption that was included in the sample period in the regression. We expect that the variation of financial reporting lag to be reduced further after 2015 and thus limiting the ability to investigate the conceptual relationships. In other words, the time frame of this study is unique that sufficiently enables researchers to explore the corporate governance relationships with financial reporting lag. The sample period selection considers the period after the second revision of the MCCG 2012, that underscores the importance of risk management function that could affect the financial reporting lag significantly. The risk management function also demands additional functions to be performed by audit committee, however the interaction between these two functions is beyond the scope of this study. In line with most studies in this area, we excluded all financial firms, such as insurance companies and banks, due to their different regulatory environments and reporting conventions in contrast to other companies. After omitting firms from the financial sector and those with missing audit committee and financial data, the final sample for this study consists of 2,284 firm observations. Tables 1 and 2 contained the details of the sampling process. The main sources of information for the study are the companies' published annual reports and accounts from 2012 to 2015, obtained directly from Bursa Malaysia's websites or accessed using the DataStream database by Thomson Reuters. The audit committee variables and other internal audit variables data were collected manually.

Table 1
Sample selection process

Description	2012	2013	2014	2015	Total
Public listed company	923	914	905	901	
Financial firms	35	36	35	34	140
Newly listed in Bursa	14	15	14	16	59
Change financial-year end	75	75	75	75	300
Missing AC and DataStream information	198	198	198	198	792
Outliers	17	17	17	17	68
Final sample size	584	573	566	561	

Table 2
Industry distribution of sample

Industry name	N	%
Industrials	652	28.5
Consumer	344	15.1
Constructions	132	5.8
Trade and services	560	24.5
Real estate	256	11.2
Technology	204	8.9
Plantation	136	6.0
Final sample size	2,284	100

Estimation Method

This study aims to examine the relationship between audit committee effectiveness, IAF sourcing arrangement, and cost of IAF with the FRL period in Malaysian context. We used the fixed effects panel data method to provide empirical results. Previous literature documented that panel data methods effectively control omitted time invariant and specific time variables, in general, and analysing FRL. Based on this method, we ran the following model:

$$\begin{aligned} FRL_{it} = {} & \beta_0 + \beta_1 ACSIZE_{it} + \beta_2 ACIND_{it} + \beta_2 ACEXPT_{it} + \beta_4 ACMEET_{it} + \beta_5 ACCHAIR_{it} \\ & + \beta_6 IAFSOU_{it} + \beta_7 IAF\_COST_{it} + \beta_8 SIZE_{it} + \beta_9 LEV_{it} + \beta_{10} LOSS_{it} \\ & + \beta_{11} AUDFEE_{it} + \beta_{12} BIG4_{it} + \sum_{n=1}^{6} \beta_n IND_n \\ & + \varepsilon_{it} \qquad (1) \end{aligned}$$

Where:

FRL =	The number of days between a company's financial yearend and the date of a company's audited financial statement is received by the Bursa Malaysia.
ACSIZE =	Comprises at least three members. The score is 1 if the members were more than three and 0 if not.
ACINDP =	All members shall be independent directors. The score is 1 if the proportion of independent directors on audit committee members to total members is 100% and 0 if not.
ACEXP =	At least one member of the AC has accounting or financial expertise. The score is 1if there are more than one member that has accounting or financial expertise and 0 if not.

ACMEET =	AC shall has a meeting at least four times in a year. The score is 1 if the number of meeting is more than four times and 0 if not.
ACCHAIR =	AC chairperson has an accounting or financial expertise. The score is 1 if the audit committee chairperson has accounting or financial expertise, and 0 if not.
IAFSOU =	The IAF sourcing arrangement used a dummy variable, which can take the value of 1 if the IAF is established in-house and 0 if not.
IAF_COST =	The natural logarithm of the cost incurred of IAF for year observation.
SIZE =	A natural logarithm of the companies' total asset.
LEV =	The gearing ratio (total liabilities/ market value of equity)
LOSS =	1 if the company reported a loss for the current year, 0 if not.
BIG4 =	1 if the auditor is one of Big-4 auditors namely PricewaterhouseCoopers, Ernst & Young, KPMG or Deloitte ; 0 if not.
AUDFEE =	The natural log of statuary audit fees.
IND =	Industry dummy for six types of companies

Measurement of Variables

For the dependent variables, the FRL is consistent with Owusu-Ansah and Leventis (2006), which stated that the number of days between financial year-end and the date of a company's audited financial statement was received by the Bursa Malaysia (Rochmah Ika & Mohd Ghazali, 2012).

The audit committee effectiveness comprises five elements. All requirements are extracted from MCCG requirements, of which some were examined in previous studies. The first element measures their audit committee size (ACSIZE), which should comprise at least three members (Bliss et al., 2007; Lin et al., 2006; Yang & Krishnan, 2005). The score is 1 if the number of members is more than three and 0 if not. The second element measures the audit committee effectiveness, which is the proportion of independent directors on audit committee members to total members (ACINDP) (Abbott et al., 2004; Bédard et al., 2004). The score is 1 if the proportion of independent directors on audit committee members to total members is 100% and 0 if not. Third, as for audit committee financial expertise (ACEXP), the definition was adopted from previous literature, which considers a director with a qualification and experience in accounting as the only financial expert on the audit committee.

The operationalized this variable as the proportion of accounting or financial management expertise on the audit committee members. At least one member of the audit committee has an accounting or financial expertise. The score is 1 if more than one member has an accounting or financial expertise and 0 if not (Abernathy et al., 2014). The audit committee shall convene at least four times per year. The score is 1 if the number of meetings is more than four times and 0 if not (Abbott et al., 2004). This study includes additional measurements of audit committee effectiveness, which examines the variables representing the audit committee chair that has an accounting and non-accounting expertise (ACCHAIR). The score is 1 if audit committee chair has accounting or financial expertise, and 0 if not (Abernathy et al., 2014; Ghafran & Yasmin, 2018).

We obtained publicly available data with regard to the investment in the sourcing arrangement of IAF. For the measurement of the IAF sourcing arrangement (IAFSOU), we used a dummy variable that takes the value of 1 if the IAF is established in-house and 0 if not. The cost incurred by the IAF (IAF_COST) is its natural logarithm (Wan-Hussin & Bamahros, 2013).

We controlled a set of variables with regard to firm-specific control variables, which are expected to affect the financial and audit report lag. These variables included firm size, financial leverage, firm financial performance, auditor remunerations' fee, and firms audited by the Big-4 auditors (Abernathy et al., 2014; Afify, 2009; Al-Ajmi, 2008; Ghafran & Yasmin, 2018; Jaggi & Tsui, 1999; Lawrence, 1983; Lee et al., 2009; Rochmah Ika & Mohd Ghazali., 2012; Salleh et al., 2017; Sultana et al., 2015). The definition of all the variables included in our analysis is shown in Table 3.

Table 3
Variables definition

Variable	Measurement of variable
FRL	The number of days between a company's financial year-end and the date of a company's audited financial statement is received by the Bursa Malaysia.
ACSIZE	Comprise at least three members. The score is 1 if the members is more than three and 0 if otherwise.
ACINDP	All members shall be independent directors. The score is 1 if the proportion of independent directors on audit committee members to total members is 100% and 0 if otherwise.
ACEXP	At least one member of the AC has accounting or financial expertise. The score is 1 if there are more than one member has accounting or financial expertise and 0 if otherwise.

(*Continue on next page*)

Table 3 (*Continued*)

Variable	Measurement of variable
ACMEET	AC shall has a meeting at least four times in a year. The score is 1 if the number of meetings is more than four times and 0 if otherwise.
ACCHAIR	AC chairperson has accounting or financial expertise. The score is 1 if audit committee chairperson has accounting or financial expertise, and 0 if otherwise.
IAFSOU	The internal audit function (IAF) sourcing arrangement use a dummy variable which takes the value of 1 if the IAF is established in-house and 0 if otherwise.
IAF_COST	The natural logarithm of the cost incurred of IAF for year observation.
SIZE	A natural logarithm of the companies' total asset.
LEV	The gearing ratio (total liabilities/ market value of equity)
LOSS	1 if the company reported a loss for the current year, 0 otherwise.
BIG4	1 if the auditor is one of Big-4 auditors namely PricewaterhouseCoopers, Ernst & Young, KPMG or Deloitte ; 0 otherwise.
AUDFEE	The natural log of statuary audit fees.

EMPIRICAL RESULT

Descriptive Analysis

Table 4 presents the descriptive statistics for the data on the variables investigated in this study. As shown in the table, publicly listed companies in Bursa may take 132 days on average to release audited financial statements to the public. However, the statements were beyond the 120 days (four months) regulatory deadline as stipulated by Bursa new timeframe requirement.

The particular interests of our study are the descriptive statistics, which is related to audit committee effectiveness. The ACSIZE result shows that only 455 (19.92%) of the sample companies' observation have more than three audit committee members. Thus, most companies in Malaysia can only meet the minimum requirement of what has been stipulated in the MCCG. We reported that the ACEXPERT in our sample that only 816 companies that have more than one audit committee member has an accounting or financial expertise. For ACIND, results of descriptive statistic show that a total of 68% of our sample has fulfilled the requirement of MCCG, which is to have all independent directors as audit committee members. ACMEET shows that the audit committees of 1,900 (83%) sample companies have convened more than four times within a financial year. ACCHAIR shows that 67% of our sample firms have an accounting expert serving as chairperson in their audit committee boards.

As for the variables of interest with regard to the IAF, the dummy variable representing IAFSOU shows that 37% of Malaysian companies have in-house IAFs, whereas 63% of them outsourced their IAFs. Our sample has slightly more outsourced IAFs than in-house IAFs. The average (median) cost incurred of the IAF (IAF_COST) is RM401,388 (RM61,500).

Table 5 presents the results, which determine the effect of multicollinearity on our estimations. We observed that none of the variables in our analysis has a variance inflation factor (VIF) exceeding the normal value. Thus, multicollinearity is not an issue in our empirical analysis. Table 6 shows the correlation between independent variables. Tabachnick and Fidell (2001) reported that multicollinearity may become a problem when the correlation between independent variable is 0.90 or above. Based on the tables, our study does not face severe multicollinearity problems (Gujarati, 2004). Overall, several significant correlations exist for a number of our variables of interest, suggesting that a comprehensive multivariate analysis is warranted.

Table 4
Descriptive statistics

Panel A: Continuous variables					
	Mean	Median	S.D.	Min	Max
FRL	132	134	20.64	49	289
IAF_COST (RM000)	401	61.5	0.65	3	22,600
SIZE (RM000)	1,963	362	7,228	4	117,111
LEV	17.80	15.44	15.35	0	76.01
AUDFEE (RM000)	380	158	1,118	17	26,600
Panel B: Dichotomous variables					
	Yes	%	No	%	
ACSIZE	455	19.92	1,829	80.08	
ACEXPERT	816	35.73	1,468	64.27	
ACIND	1,566	68.56	718	31.44	
ACMEET	384	16.81	1,900	83.19	
ACCHAIR	1,536	67.25	748	32.75	
IAFSOU	860	37.65	1,424	62.35	
LOSS	455	19.92	1,829	80.08	
BIG4	1,107	48.47	1,177	51.53	

Note: Definitions of variables are given in Table 3.

Table 5
Variance inflation factor (VIF)

Variables	VIF
Independent variables	
ACSIZE	1.87
ACINDP	1.74
ACEXP	1.15
ACMEET	1.13
ACCHAIR	1.13
IAFSOU	2.01
IAF_COST	3.45
SIZE	4.07
LEV	2.51
LOSS	1.05
AUDFEE	3.91
BIG4	1.26

Regression Results and Discussion

Table 7 presents the multivariate regression results for Equation 1. To ensure the efficiency of our estimations, we used a robust standard error to reduce the effect of heteroscedasticity and autocorrelation problems because the Modified Wald Test and Wooldridge test indicates the presence of these problems. The results for the control variables are consistent with previous studies. Our aim is to examine the relationship between audit committee effectiveness characteristics, IAF sourcing arrangement, and cost of IAF with the FRL.

The result found that ACIND is significantly and positively associated with FRL, which suggests that the high proportion of the audit committee could increase FRL. This result contradicts with our expectation (H2). It implies that companies that have independent directors in their audit committees would, instead of pressure or demand the management to expedite the publication of their financial report, they may conduct a more detailed discussion with the internal auditors, finance department, and chief executive officers. Moreover, they may ask the auditor to delay the issue of an audit report to examine whether the suggestions of the auditors reflect an independent audit and how managers may address these suggestions. This detailed discussion may result in the delay in issuing financial reports. Therefore, the result does not support H2.

Table 6
Correlation matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	FRL	1												
2	ACSIZE	–0.02	1											
3	ACEXPERT	–0.027	0.11***	1										
4	ACIND	0.14***	–0.22***	–0.05***	1									
5	ACMEET	–0.00	0.09***	–0.00	–0.01	1								
6	ACCHAIR	0.00	0.01	0.29***	–0.02	0.02	1							
7	IAFOU	–0.20***	0.13***	0.00	–0.14***	0.18***	–0.09***	1						
8	IAF_COST	–0.26***	0.24***	0.05***	–0.16***	0.28***	–0.04***	0.70***	1					
9	SIZE	–0.02***	–0.00	–0.02	–0.00	–0.07***	0.03**	–0.00	–0.00	1				
10	LEV	0.04*	0.07***	–0.05***	–0.01	0.06***	–0.07***	0.13***	0.20***	–0.00***	1			
11	LOSS	0.12***	–0.02	–0.00	0.03**	0.01	–0.01	–0.08***	–0.14***	–0.00	0.08***	1		
12	AUDFEE	–0.15***	0.19***	0.03*	–0.07***	0.28***	–0.03**	0.47***	0.72***	–0.03**	0.30***	–0.10***	1	
13	BIG4	–0.24***	0.15***	–0.02	–0.10***	0.08***	–0.03	0.30***	0.41***	0.00	0.09***	–0.13***	0.39***	1

Notes: * Significant correlation at $p < 0.10$, ** significant correlation at $p < 0.05$, ***significant correlation at $p < 0.01$

However, other measurements of audit committee effectiveness, such as ACSIZE, ACEXPERT, ACMEET and ACCHAIR were not associated with FRL, which is consistent with previous studies by Salleh et al. (2017) and Wan-Hussin and Bamahros (2013). However, it contradicts with result of the study by Rochmah Ika and Mohd Ghazali (2012). As discussed above, there are conflicting explanations to the effectiveness and FRL relationship. One is from the efficiency perspective that led to shorter FRL, and another is from more effective discussion between the audit committee that may lead to longer FRL. However, the design of this study limits us from examining these competing explanations and delineate the effects. As such, the effects may off set each other and may result in insignificance of the variables.

For the hypothesised variable IAF sourcing arrangement (IAFSOU), the multivariate results further show that is negatively highly significant which companies with an in-house IAF have low FRL. Results show that the hypothesised variables IAF cost variables (IAF_COST) are also negatively significant. Thus, companies with a greater cost in their IAFs have a shorter FRL, consistent with the findings of Wan-Hussin and Bamahros (2013). Well-funded IAFs have greater resources that could enable the firm to hire and retain competent IAFs, which have great monitoring ability to detect any material misstatement (Prawitt et al., 2012), which will help the auditor to expedite the completion of the audit work, thus making FRLs shorter. Therefore, the evidence supports H6 and H7. Moreover, the results support the prediction that the good internal monitoring mechanisms (i.e., higher cost in IAF) could substitute the monitoring cost. For our control variables, results show that a significant negative association exists between the type of auditor and size of companies with FRL, which is consistent with Owusu-Ansah and Leventis (2006).

Sensitivity analyses were also conducted using a comprehensive audit committee measure. The comprehensive measure is arrived as a summation of standardised measures of each audit committee characteristic measure. The result does not change our conclusion. We also performed panel data fixed effect regression, controlling for year. This procedure is to acknowledge that the phase of regulatory change is properly controlled for. The result is qualitatively similar to our main findings reported in Table 7.

Table 7
Regression results

Variable	Exp sign	DV = FRL Coeff
ACSIZE	–	–0.00
ACEXPERT	–	–0.63
ACIND	–	1.58**
ACMEET	–	–0.58
ACCHAIR	–	–1.01
IAFOU	–	–4.10***
IAF_COST	–	–3.39***
SIZE		–2.11***
LEV	+	–0.03
LOSS	+	1.05
AUDFEE	–	3.02
BIG4	–	–3.97***
IAFOU	–	–4.10***
INDUSTRYDUMMY	Included	
_cons	142.28	
n	2,284	
R^2	0.224	
Adj R^2	0.217	
t-stat	0.000	

Notes: * $p < 0.10$;** $p < 0.05$; *** $p < 0.01$. See Table 3 for the definition of variables.

CONCLUSION

Our study provides several important contributions to the literature. First, we contribute to understand the requirement by MCCG (2017), which is to promote the effectiveness of audit committee in a company's governance structure. The code required that audit committee should comprise solely of independent directors. The results of this study find a positive and significant association between the audit committee independence and FRL, which is inconsistent with the prediction. The reasons might be an independent audit committee is better positioned to rigorously challenge and ask probing questions on the company's financial reporting process, internal controls, risk management and governance that could result more time to be allocated to finish the process of reporting.

Second, we examine the association of the sourcing arrangements of IAF (either it is being performed in-house or it is out-sourced to a third party internal audit service provider) and the cost incurred for IAF with FRL.Results reveal that the IAF sourcing arrangement and the cost incurred for IAF are significantly related to FRL. An IAF that helps a company to accomplish its goals by bringing an objective and disciplined approach to evaluate and improve the effectiveness of risk management, internal control, and governance processes may serve as an important mechanism to reduce FRL. The internal audit report provided by the IAF could highlight the areas of weaknesses or deficiencies in internal processes. These weaknesses are useful to facilitate the audit committee to undertake appopriate remidial action. The result also suggests that an IAF with sufficient resources and support from the board will be able to perform its role effectively. Therefore, this study encourages policymakers to consider enhancing the IAF as an effective monitoring mechanism.

This study is subject to several limitations. It focuses on companies that were listed on Bursa Malaysia from 2012 to 2015. It does not use other audit committee effectiveness measurements, such as communications between audit committee members and dynamic of the meetings. Therefore, our findings on the ineffectiveness of most audit committee measurements may not be conclusive. An exploration of other effectiveness measurements may require another theoretical framework and research approach (e.g., using a survey or interview). We also do not focus on the effect of audit committee effectiveness on internal audit arrangements and costs. An effective audit committee could lead to good internal audit arrangement and adequate investment in internal audit by the management. Due to good internal audit arrangement and adequate investment can be situational (contingent on certain factors) and subjective, we suggest the investigation to be subject to further research. This study only focuses on Malaysia and our results may not be applicable to other settings with a different background.

NOTES

1. Malaysia, which is more concentrated than the ownership structure in Western countries (Claessens et al., 2000), consists of high family and government ownerships with differing effect on performance.

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