IMPACT OF ABNORMAL AUDIT FEES ON EARNINGS MANAGEMENT PRACTICES: EVIDENCE FROM NON-FINANCIAL LISTED COMPANIES IN SRI LANKA

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Abstract

Abnormal audit fees could be claimed to be an incentive to compromise the independence of an external auditor, which impairs the quality of an audit. Alternatively, some have argued that abnormal audit fees reflect the additional effort of the auditors to reduce earnings management practices. Hence, this study aimed to examine the relationship between abnormal audit fees and the degree of earnings management of non-financial listed companies in Sri Lanka. Using a quantitative approach in the positivistic paradigm, descriptive statistics, correlation analyses, regression analyses, and panel regression analyses were performed in assessing the level and identifying the relationship between abnormal audit fees and earnings management. Results indicated that the abnormal audit fees in the Sri Lankan context are comparatively higher than in selected developing and developed countries and that degree of earnings management vary over time. Moreover, none of the analyses performed showed a statistically significant relationship between abnormal audit fees and the degree of earnings management in Sri Lanka. The findings of this study are expected to provide insights to regulatory bodies, audit firms, investors, and other stakeholders. Regulators and policymakers could take steps to discourage excessive audit fees, as well as address the usage of unwarranted earnings management practices. Furthermore, external auditors' efforts to curtail excessive earnings management practices should be further examined. This study is a pioneering effort to identify whether there is a relationship between abnormal audit fees and earnings management in Sri Lanka, and thus it is expected to add to the extant literature, especially in a developing country context.

Keywords: Abnormal Audit Fees, Accrual Earnings Management, Real Earnings Management

1. INTRODUCTION

Any extra amount of audit fees, which does not relate to the clients' characteristics such as size, risk profile, and complexity is known as abnormal audit fees, and they are charged because of a specific relationship between the audit firm and its client (Alhadab 2018). Therefore, recent studies follow a new approach to studying the connection between abnormal audit fees and earnings management by splitting the total audit fees into their normal and abnormal levels (Alhadab 2018; Jung et al. 2016; Gupta et al. 2012).

In the case of Enron, Author Anderson, who was the auditor of the company acquired 50 million dollars for the non-audit services and put Enron into one of the most distressing financial crises in United States history by creating misstated financial figures (Richard et al. 2002). As Sri Lanka has also experienced some financial collapses such as Golden Key Credit Company (Sirimanna 2009) and ETI Finance Limited (Wijedasa 2013) recently, examination of the role of external auditors has become a relevant topic in the Sri Lankan context. Because those Sri Lankan companies have also created misleading financial figures similar to Enron and earnings management practices have helped to a certain extent to show misleading results of the company (Sirimanna 2009; Gunasekara 2009).

Prior researchers highlighted that earnings management is commonly practised by firms in several instances. For example, during Initial Public offerings (Alhadab et al. 2015), during Seasoned Equity Offerings (Iqbal et al. 2009), and in avoiding reporting losses (Peasnell et al. 2005). The main reason for such practices is that the compensation of senior management is directly tied to the financial performance of a company (Alhadab et al. 2015). Also, with the adoption of IFRSs, it has become a fairly easy thing to do. According to Jung et al. (2016), IFRS enables companies to exercise more freedom in the choice of discretionary accruals, as it provides a substantial portion of interpretations in accounting provisions and makes it feasible for the management to show a healthy financial position of the company.

Hence, society has granted the power to independent auditors to perform their duties for the benefit of the public as they have been known as the keystone of the public accounting profession (Sweeney 1992). However, Jung et al. (2016) found that some auditors charge a higher audit fee for allowing their clients to exercise more preference in the use of discretionary accruals in return. As professionals have been recognized to do their tasks because of their professional responsibilities, not because of their self-interests, if the abnormal audit fees impair the audit quality, investors would have little confidence regarding the auditors' independence (Olagunju 2011).

However, Francis and Krishnan (1999) found that audit fees above the normal level reflect the additional audit effort of the auditors which require to protect themselves from litigation and maintain the reputation of the audit firm. Therefore, it is important to identify whether an abnormal level of audit fees paid to an audit firm impairs audit quality (Alhadab et al. 2015) or reflects the additional efforts toward the quality of an audit (Francis & Krishnan 1999).

Accordingly, based on the above observations, this study aims to achieve three main objectives, to assess the level of abnormal audit fees, to determine the level of accrual and real earnings management, and to examine the relationship between abnormal audit fees and accrual and real earnings management in terms of non-financial listed companies in Sri Lanka.

As far as the researcher observed, there is a dearth of studies in the Sri Lankan context on the association between abnormal audit fees and audit quality, as most of the empirical studies were based on UK and USA samples (Antle et al. 2006, Hoitash et al. 2007, Holland & Lane 2012). Also, most of the previous studies were silent about the use of real earnings management when identifying the association between abnormal audit fees and audit quality (Choi et al. 2016). Therefore, this can be considered as an opportunity to perform an empirical study between abnormal audit fees and both accrual and real earnings management using a Sri Lankan sample of companies. Accordingly, the outcomes of this study will provide awareness

to regulators and policymakers of the audit market in Sri Lanka such as the Institute of Chartered Accountants of Sri Lanka (ICASL) and Security Exchange Commission of Sri Lanka (SEC) to enhance the quality of the statutory audits in Sri Lanka.

This research is structured as follows, Section 2 discusses the relevant extant literature relating to the topic of the study; Section 3 elaborates on the methodology adopted to address the identified research objectives; Section 4 discusses the results of the data analyses obtained via implementing the suggested methodology; Section 5 includes the discussion, and the final section states the conclusion.

2. LITERATURE REVIEW

This section focuses on the dominant concepts of the study, broad theories, and empirical studies which have explained the association between abnormal audit fees and audit quality.

2.1 Abnormal Audit Fees

As this study investigates the relationship between abnormal audit fees and earnings management, the audit fees are split into their normal and abnormal levels. According to Simunic (1980), audit fees in a competitive audit market are determined based on the audit risks assessed by auditors and the costs associated with the audit efforts. Therefore, if there are any abnormal amount of audit fees, that extra amount has been charged not based on the clients' characteristics but based on a particular relationship between a firm and its client (Simunic 1980). Similarly, Chung and Kallapur (2003) also argue that audit fee comprises two components as normal and abnormal audit fees. Accordingly, based on the above observations, the normal fee component is determined by common client factors like size, complexity, and risk and the abnormal audit fee component includes the fee which is related to a specific auditor-client relationship. Therefore, an abnormal audit fee is the gap between expected audit fees based on client characteristics and paid audit fees.

2.2 Accrual Earnings Management and Real Earnings Management

This study uses the two branches of earnings management: the level of discretionary accruals and real earnings management.

As stated by Healy and Wahlen (1998), accruals are there to reflect the true performance of a company, but they can be used in manipulating the earnings as well. So, the reported income is manipulated when managers use accruals for events that require discretion in financial reporting standards. Therefore, if the estimates used in a firm are biased, there accrual earnings management has been applied (Healy & Wahlen 1998). In the same way, Roychowdhury (2006) states that accrual earnings management practices arise within the boundaries of accounting principles, and they have no effects on the cash flows of a company.

Conversely, real earnings management practices use actual business transactions to mislead the stakeholders of the company by making them believe that earnings targets have been met (Roychowdhury 2006). Similarly, Healy and Wahlen (1998) stated that real earnings management happens when management takes actions that change the structure and the timing of actual business activities of a company such as altering the timing of income recognition, disposal of investments and fixed assets, cutting down prices to increase sales in the current period and increasing inventory levels to decrease the cost of goods sold (Gunny 2009).

Therefore, it can conclude that accrual earnings management is the use of accruals to achieve anticipated levels of earning by using basic accounting principles and real earnings management is the alteration in the timing of the normal business transactions in showing a better financial performance of the company.

2.3 Broad Theories

Economic bonding theory states that the economic dependency of the auditor on its client may impair the quality of an audit while threatening the independence of the auditor as well. Accordingly,

if a client pays a higher fee than normal fees expecting to gain the auditor's support for specific accounting practices, it forms an economic bond between the auditor and the client. As Choi et al. (2010) found, clients pay abnormally higher audit fees to their auditors, to allow managerial discretion in financial reporting in return. Similarly, Libby (2002) also found that, abnormal audit fees as a form of economic rent or a bribe earned by the auditors which result from the economic reliance of audit firms on their clients.

The other standpoint relating to abnormal audit fees and earnings management is the audit effort theory. This theory states that auditors charge an extra amount of audit fees to reflect the additional effort of the auditors in preparing high-quality financial statements. According to Eshleman and Guo (2014), abnormal audit fees are there to compensate the auditors for their additional efforts towards increasing the quality of an audit. Similarly, Blankley et al. (2012) also found that clients who pay a higher audit fee above normal levels, prepare high-quality financial information which includes fewer restatements.

2.4 Empirical Studies

2.4.1 Level of Abnormal Audit Fees

The first objective of this study is to assess the level of abnormal audit fees and therefore, audit fees are split into their normal and abnormal levels. According to Chung and Kallapur (2003), the normal fee component is determined by common client factors like size, complexity, and risk and the abnormal audit fee component includes the fee which is related to a specific auditor-client relationship.

Accordingly, Jung et al. (2016) find a mean value of 0.00 and a median value of -0.02 for abnormal audit fees when studying the association between abnormal audit fees and audit quality after IFRS adoption in Korea, using 17,017 firm-year observations in the period of 2007–2013.

Correspondingly, in the study of the association between abnormal audit fees and accrual and real earnings management,

Alhadab (2018) finds the mean and median values of abnormal audit fees as 0.000 and -0.011 respectively, using a sample of 1,055 UK firm-year observations from 2006 to 2015. Similarly, Krauß et al. (2014) also studied the relationship between abnormal audit fees and audit quality in the German audit market and found a mean and median value for abnormal audit fees of 0.00 and 0.03 respectively. Accordingly, it can be concluded that the previous studies done in the UK, Korea, and Germany show mixed evidence on the level of abnormal audit fees and the study done by Alhadab (2018) using a sample of UK firms has shown the highest level of abnormal audit fees.

2.4.2 Level of Accrual and Real Earnings Management

As the next objective, this study aims to determine the level of accrual and real earnings management using a sample of non-financial listed companies in Sri Lanka. As per the prior literature, Healy and Wahlen (1998) found that, if the estimates used in a firm are biased, there accrual earnings management has been applied. On the other hand, Roychowdhury (2006) identifies management activities that are used to mislead the stakeholders of the company, which depart from normal business practices as real earnings management practices.

In the study of identifying the relationship between abnormal audit fees and accruals and real earnings management using a sample of 1,055 UK firms, Alhadab (2018) found mean (median) values of 0.001 (0.000) and -0.006 (0.021) for the levels of accrual earnings management and real earnings management respectively. When studying whether the auditors tolerate earnings management when audit fees are low, using a sample of 13,126 firm-year observations from the years 2004 through 2008, Gupta et al. (2012) found a mean value of -0.002 and median value of -0.003 for the level of accruals earnings management.

Similarly, Cohen et al. (2008) studied the level of real and accrual-based earnings management in the pre-and post-Sarbanes-Oxley periods using 87,217 firm-year observations and found that the level of earnings management increased steadily over the sample period of 1987 to 2005. Moreover, it has been found that

firms use real, as well as accrual-based earnings management tools around seasonal equity offerings and the tendency for firms to trade-off between real versus accrual-based earnings management depends on the cost of doing so (Cohen & Zarowin 2010). Therefore, based on the above observations it can be established that previous studies have found different levels of earnings management practices leaving this area more relevant for a study in a Sri Lankan context.

2.4.3 Relationship between Abnormal Audit Fees and Accrual and Real Earnings Management

Jung et al. (2016), who examined the relationship between abnormal audit fees and audit quality after the adoption of the IFRS in Korea, found that there is a positive relationship between the positive abnormal audit fees and accrual earnings management in the period after the IFRSs adoption. As to them, there was not any significant relationship that existed between abnormal audit fees and audit quality in the pre-IFRS adoption period. However, in the post-IFRS period, the relationship between abnormal audit fees and accrual practices has increased (Jung et al. 2016).

Similarly, Asthna and Boone (2012) also discovered that, when the actual audit fees is departing from the ''normal'' fee levels, the quality of an audit is also declining due to the rise in earnings management practices. Furthermore, using 2,334 firm-year observations for the period from 2005 to 2010, Krauß et al. (2014) found that there is a positive association between positive abnormal audit fees and the use of earnings management. According to them the audit fee premium given to the auditors is an important aspect when considering the impairment of auditor independence, as abnormal audit fees bond the auditor and the client. Therefore, the findings of these studies confirm the economic bonding theory, which states that the economic dependency of the auditor on its client, may impair the quality of an audit while threatening the independence of the auditor as well.

According to the findings of Alhadab (2018), there was a negative relationship between abnormal audit fees and real earnings

management. As stated by Alhadab (2018), this abnormal audit fees component was the key determinant of improved audit quality. Because it has reduced the management's freedom to manipulate reported earnings using real earnings management practices. Similarly, Eshleman and Guo (2013) also found that there is less probability that clients who are paying a higher audit fee above normal levels use discretionary accruals in manipulating their earnings to meet or beat their earnings targets. By using discretionary accruals as a proxy measure, Mitra et al. (2009) also found a negative relationship between abnormal audit fees and earnings management. Therefore, these studies (Alhadab 2018, Mitra et al. 2009, Eshleman & Guo 2013) studies were consistent with the audit effort theory which states that auditors charge an extra amount of audit fees to reflect the additional effort of the auditors in preparing high-quality financial statements.

However, Choi et al. (2010) found evidence that there is no association between abnormal audit fees and audit quality when there are negative abnormal audit fees, and similar to that, Deangelo (1981) also found that there is no substantial association between the negative abnormal audit fees and the quality of an audit.

Based on the mixed evidence reported, this study aims to add more findings on the above relationship to the existing literature, especially in a developing country like Sri Lanka, and to assess the impacts of such relationship in the Sri Lankan audit market. Therefore, this will be a pioneering effort to identify whether there is a relationship between abnormal audit fees and earnings management using a Sri Lankan sample of companies.

3. METHODOLOGY

The following section will brief the research design and methodology used along with the population and the sample selection of the study.

3.1 Conceptual Diagram

The objective of this thesis is to identify the level of abnormal audit fees, earnings management and then to examine the relationship between abnormal audit fees and audit quality. Therefore, the Positivistic Paradigm and quantitative methodology are used as the research approach.

Other studies which have followed the same approach; Abnormal audit fees and accrual and real earnings management: Evidence from the UK (Alhadab 2018), Abnormal Audit Fees and Audit Quality: The Importance of Considering Managerial Incentives in Tests of Earnings Management (Eshleman & Guo 2013), The Association between Abnormal Audit Fees and Audit Quality After IFRS Adoption: Evidence from Korea (Jung et al. 2016).

Accordingly, Figure 1 denotes the basic research framework based on the literature review discusses under Section 2 including the control variables used in the study.
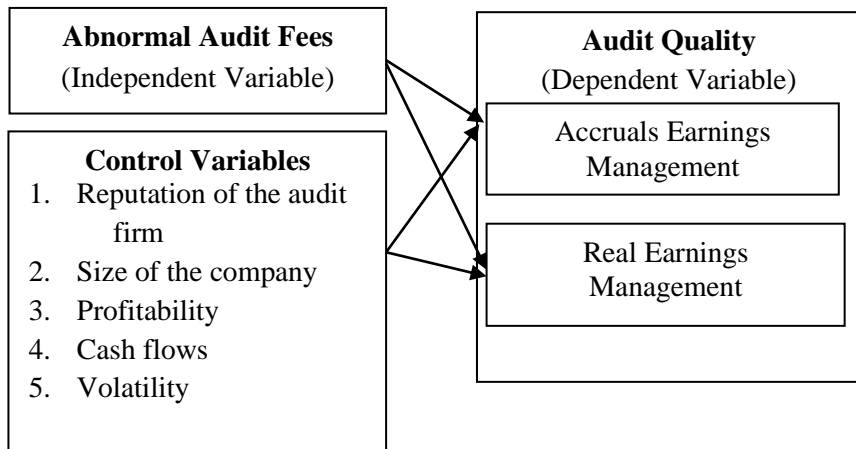
Figure 1: Conceptual Framework
Source: Author Constructed

3.2 Population and Sample

The population of this study is the public listed companies in the Colombo Stock Exchange of Sri Lanka (CSE) excluding banking & finance and insurance companies. Banking & finance and insurance companies are excluded from the population as they

are highly regulated, and the reporting framework used by such companies in preparing financial statements is different from other companies.

The sample size of the study is 100 listed companies in the Colombo Stock Exchange (CSE) whose financial year ends on 31st March excluding the banking & finance and insurance sector. Using the 100 companies, 300 firm-year observations were taken for the periods of 2015/16, 2016/17, and 2017/18.

The selection of the sample was based on the sectors with the highest market capitalization, where Diversified Holdings and Telecommunication sectors were removed as Diversified Holdings include the financial statements of the head offices and the Telecommunication sector includes only 2 companies. Table 1 below illustrates the sector-wise profile of the final sample.

Table 1: Sample Size and Industry Representation

	Sector	No. of Firms	Sample
1.	Manufacturing	39	39
2.	Hotels and Travels	38	38
3.	Beverage Food and Tobacco	23	23
	Total	**100**	**100**

3.3 Hypotheses

Based on the objective of identifying the relationship between abnormal audit fees and accrual and real earnings management, the main hypotheses of this paper are as follows.

Mitra et al. (2009) and Eshleman and Guo (2013) have examined the relationship between abnormal audit fees and accrual earnings management and found a negative relationship between abnormal audit fees and accrual earnings. Accordingly, the below hypothesis was developed to identify the relationship between abnormal audit fees and accrual earnings management.

H$_{1a}$: The abnormal level of audit fees is negatively associated with the level of accrual earnings management activities.

Similarly, Alhadab (2018) has examined the relationship between abnormal audit fees and real earnings management and found a negative relationship between the two variables. Based on that study below hypothesis was developed.

H$_{1b}$: The abnormal level of audit fees is negatively associated with the level of real earnings management activities.

3.4 Operationalization

Table 2 will elaborate on the definitions and measurements of the variables discussed in the conceptual diagram.

Table 2: Operationalization of Variables

Variable	Working Definition	Measurement	Literature
$AbnFees_{it}$	The extra amount of audit fees charged based on a particular relationship between the audit firm and its client and not based on the common clients' characteristics	The cross-sectional version of an OLS regression - **Note 01**	Simunic (1980)
REM_{it}	Management activities that change the structure and the timing of actual business activities of a company	Cross-sectional version of model of Dechow et. al (1998) - **Note 02**	Roychowdhury (2006)
AEM_{it}	Management practices that arise within the boundaries of accounting principles in manipulating the earnings	Cross-sectional version of Jones (1991) Model - **Note 03**	Healy and Wahlen (1998)
Control Variables			
$BIG4_{it}$	The reputation of audit firms in terms	A dummy variable equals 1	Zang (2012)

	of the Big 4 audit firms PWC, EY, KPMG, and Deloitte	if the firm is one of the Big 4 and 0 otherwise.	
$SIZE_{it}$	Size of the company in terms of market capitalization	The natural logarithm of market capitalization	Alhadab (2018)
$Loss_{it}$	Profitability of the company is whether the company is earning a profit a loss	A dummy variable equals 1 if the firm reports a loss and 0 otherwise.	Krauß et al (2015)
$ScaledCFO_{it}$	Cash flows of a company derive from operations scaled to the assets of that company	Cash flows from operations are scaled by total assets at the beginning of the year.	Dichow (2002)
$LnOperCycle_{it}$	Length of the operating cycle of the company	(360 x averages of account receivables / sales) + (360 x average inventory / cost of goods sold)	Gupta et al. (2012)
$VolCFO_{it}$	The volatility of the operating cash flows of the company	The standard deviation of cash flow from operations / average total assets$_{t-2,t}$	Alhadab (2018)
$VolSale_{it}$	Volatility in sales of the company	The standard deviation of sales deflated by average total assets over year$_{t-2}$ to year$_t$	Alhadab (2018)

Note 01 - Measurement of the Abnormal Audit Fees

This study uses the cross-sectional version of an OLS regression in determining the abnormal level of audit fees. The same model was adopted by recent researchers of Gupta et al. (2012) and Choi et al. (2010) in observing the abnormal level of audit fees. Accordingly, abnormal audit fees are calculated as below.

Step 1: The coefficient parameters (industry average values) under each industry were separately calculated by regressing Equation (1) below.

$$AudFees_{it} = \alpha_0 + \beta_1 BIG4_{it} + \beta_2 LnAssets_{it} + \beta_3 MB_{it} + \qquad (1)$$
$$\beta_4 SalesGrowth_{it} + \beta_5 ROA_{it} + \beta_6 NegROA_{it} +$$
$$\beta_7 Lev_{it} + \beta_8 ARInv_{it} + \varepsilon_{it}$$

Step 2: Imputed above calculated industry average values to each of the firm-year variables using Equation (2), to calculate the normal audit fees (*NormalFees_{it}*) for each firm-year separately.

$$NormalFees_{it} = \alpha_0 + \beta_1 BIG4_{it} + \beta_2 LnAssets_{it} + \beta_3 MB_{it} +$$
$$\beta_4 SalesGrowth_{it} + \beta_5 ROA_{it} + \qquad (2)$$
$$\beta_6 NegROA_{it} + \beta_7 Lev_{it} + \beta_8 ARInv_{it} + \varepsilon_{it}$$

Step 3: The Abnormal Audit Fees (*AbnFees_{it}*) are calculated by subtracting normal audit fees (calculated under Equation 2) from total audit fees.

$$AbnFees_{it} = AudFees - NormalFees_{it} \qquad (3)$$

Definitions of these variables are indicated in Annexure 1.

In controlling the risk profile of the auditor, a dummy variable was added to the model (*BIG4*) as a proxy of the audit firm's reputation. Also, in controlling the size effect, the natural logarithm of total assets (*LnAssets*) is included, while growth opportunities are controlled by using the market to book (*MB*) and sales growth (*SalesGrwoth*) ratios.

To control the clients' risk profile, return on assets ratio (*ROA*), negative ROA (*NegROA*), and leverage (*Lev*) were used. To control the effect that firms are charging a higher audit fee from

clients with complex transactions, a ratio of accounting receivable to total inventories (*ARInv*) is added to the model.

Note 02 - Measurement of the Real Earnings Management

According to the model of Dechow et al. (1998), three proxies were used as abnormal level of production costs, abnormal level of cash flows from operations, and abnormal level of discretionary expenses according to in measuring the real earnings management.

Therefore, using the cross-sectional version of the model of Dechow et al. (1998), real earnings management was calculated as below.

Step 1: The coefficient parameters (industry average values) under each industry were separately calculated by regressing Equation (4), (5), and (6) below.

$$\frac{PROD_{it}}{ASSETS_{it-1}} = \alpha_0 + \beta_1 \left(\frac{1}{ASSETS_{it-1}}\right) + \beta_2 \left(\frac{SALES_{it}}{ASSETS_{it-1}}\right) + \beta_3 \left(\frac{\Delta SALES_{it}}{ASSETS_{it-1}}\right) + \tag{4}$$
$$\beta_4 \left(\frac{\Delta SALES_{it-1}}{ASSETS_{it-1}}\right) + \varepsilon_{it}$$

$$\frac{DISX_{it}}{ASSETS_{it-1}} = \alpha_0 + \beta_1 \left(\frac{1}{ASSETS_{it-1}}\right) + \beta_2 \left(\frac{SALES_{it}}{ASSETS_{it-1}}\right) + \varepsilon_{it} \tag{5}$$

$$\frac{CFO_{it}}{ASSETS_{it-1}} = \alpha_0 + \beta_1 \left(\frac{1}{ASSETS_{it-1}}\right) + \beta_2 \left(\frac{SALES_{it}}{ASSETS_{it-1}}\right) + \beta_3 \left(\frac{\Delta SALES_{it}}{ASSETS_{it-1}}\right) + \varepsilon_{it} \tag{6}$$

Step 2: Imputed the above calculated industry average values to each of the firm-year variables using Equations (7), (8), and (9) to calculate the normal level of production cost (*NormalPROD_{it}*), normal discretionary expenses (*NormalDISX_{it}*), and normal cash flow from (*NormalCFO_{it}*) operations for each firm-year separately.

$$\frac{NormalPROD_{it}}{ASSETS_{it-1}} = \alpha_0 + \beta_1 \left(\frac{1}{ASSETS_{it-1}}\right) + \beta_2 \left(\frac{SALES_{it}}{ASSETS_{it-1}}\right) + \beta_3 \left(\frac{\Delta SALES_{it}}{ASSETS_{it-1}}\right) \tag{7}$$
$$+ \beta_4 \left(\frac{\Delta SALES_{it-1}}{ASSETS_{it-1}}\right) + \varepsilon_{it}$$

$$\frac{NormalDISX_{it}}{ASSETS_{it-1}} = \alpha_0 + \beta_1 \left(\frac{1}{ASSETS_{it-1}}\right) + \beta_2 \left(\frac{SALES_{it}}{ASSETS_{it-1}}\right) + \varepsilon_{it} \qquad (8)$$

$$\frac{NormalCFO_{it}}{ASSETS_{it-1}} = \alpha_0 + \beta_1 \left(\frac{1}{ASSETS_{it-1}}\right) + \beta_2 \left(\frac{SALES_{it}}{ASSETS_{it-1}}\right) + \beta_3 \left(\frac{\Delta SALES_{it}}{ASSETS_{it-1}}\right). \qquad (9)$$

Step 3: The abnormal levels of production costs, discretionary expenses, and cash flows from the operation are calculated by subtracting the normal level of expenses (calculated under equation (7), (8), and (9)) from total expenses.

$$\frac{AbnPROD_{it}}{ASSETS_{it-1}} = \frac{PROD_{it}}{ASSETS_{it-1}} - \frac{NormalPROD_{it}}{ASSETS_{it-1}} \qquad (10)$$

$$\frac{AbnDISX_{it}}{ASSETS_{it-1}} = \frac{DISX_{it}}{ASSETS_{it-1}} - \frac{NormalDISX_{it}}{ASSETS_{it-1}} \qquad (11)$$

$$\frac{AbnCFO_{it}}{ASSETS_{it-1}} = \frac{CFO_{it}}{ASSETS_{it-1}} - \frac{NormalCFO_{it}}{ASSETS_{it-1}} \qquad (12)$$

Step 4: Lower values of abnormal discretionary expenses ($AbnDISX_{it}$) and abnormal cash flows from operation ($AbnCFO_{it}$) indicate higher real earnings management (REM_{it}), while higher abnormal production cot indicates higher REM. Hence, the aggregate measure of REM was calculated as per equation (13), after multiplying the abnormal cash flows from the operation and abnormal discretionary expenses by -1.

$$REM_{it} = (-1)\frac{AbnDISX_{it}}{ASSETS_{it-1}} + (-1)\frac{AbnCFO_{it}}{ASSETS_{it-1}} + \frac{AbnPROD_{it}}{ASSETS_{it-1}} \qquad (13)$$

Definitions of these variables are indicated in Annexure 1.

Note 03 - Measurement of the Accrual Earnings Management

The cross-sectional version of the Modified Jones (1991) model is used in measuring the abnormal accruals as Dechow, Sloan, and Sweeney (1995) provide evidence that the Modified Jones model is a preferred model compared to other alternative models to observe earnings management.

Accordingly, the absolute value of discretionary accruals is measured as follows.

Step 1: Total accruals are measured by subtracting cash flows from operating activities from net income.

$$TA_{it} = NI_{it} - CFO_{it}$$ *(14)*

Step 2: The coefficient parameters under each industry were separately calculated by regressing equation (15) (Modified Jones model) below.

$$\frac{TA_{it}}{ASSETS_{it-1}} = \alpha_1\left(\frac{1}{ASSETS_{it-1}}\right) + \alpha_2\left(\frac{\Delta SALES_{it} - \Delta REC_{it}}{ASSETS_{it-1}}\right) + \alpha_3\left(\frac{PPE_{it}}{ASSETS_{it-1}}\right) + \varepsilon_{it}$$ *(15)*

Step 3: Imputed above calculated industry average values to each of the firm-year variables using Equation (16), to calculate the Normal Accruals for each firm-year separately.

$$\frac{NA_{it}}{ASSETS_{it-1}} = \alpha_1\left(\frac{1}{ASSETS_{it-1}}\right) + \alpha_2\left(\frac{\Delta SALES_{it} - \Delta REC_{it}}{ASSETS_{it-1}}\right) + \alpha_3\left(\frac{PPE_{it}}{ASSETS_{it-1}}\right)$$ *(16)*

Step 4: The abnormal accruals are calculated by subtracting Normal Accruals (calculated under Equation 16) from Total Accruals (calculated under Equation 14). Then the value obtained is considered as the measure of accrual earnings management (AEM_{it}) in this research.

$$AEM_{it} = \frac{TA_{it}}{ASSETS_{it-1}} - \frac{NA_{it}}{ASSETS_{it-1}}$$ *(17)*

Definitions of these variables are indicated in Annexure 1.

All accrual variables are deflated by lagged total assets to control for potential scale bias. The changes in revenue are adjusted for changes in accounts receivables to control the normal level of working capital accruals related to sales. Moreover, the normal level of related deferred tax accruals and depreciation expenses are controlled through the property, plant, and equipment

3.5 Data Analysis Strategies

Data gathered from the annual reports of the selected public listed companies will be screened and cleaned and then those will be analyzed using the IBM Statistical Package of Social Sciences (SPSS 23).

In this study, abnormal levels of audit fees and accrual and real earnings management were estimated by using measures of central tendency under descriptive statistics such as Mean, Median, and Standard Deviation. In examining the relationship between abnormal audit fees and accrual and real earnings management, a correlation analysis, a regression analysis, and a panel regression analysis were performed.

4. FINDINGS AND DISCUSSION

The following section includes the results of the descriptive analysis, correlation analysis, OLS, and panel versions of regression analyses with the resulting discussion.

4.1 Descriptive Statistics

Table 3 below provides the results of the descriptive statistics for all the variables used in the analysis of the relationship between abnormal audit fees and accrual and real earnings management.

The results of the descriptive statistics fulfil two main objectives of the study discussed in section 1.3. Accordingly, the first objective of the study is to assess the level of abnormal audit fees and Table 3 shows the mean (median) values of abnormal audit fees ($AbnFees_{it}$) as 0.024 (0.086). The second objective of the study is to determine the level of accrual and real earnings management using a sample of Sri Lankan companies. Accordingly, the results in Table 3 show that mean (median) for accrual earnings management (AEM_{it}) and real earnings management (REM_{it}) as 0.000 (0.006) and -0.001 (-0.002) respectively.

The results of accrual earnings management (AEM_{it}) indicate that there are no significant variations as the standard deviation is recorded as 0.072. However, abnormal audit fees ($AbnFees_{it}$) have a significant variation due to the standard deviation of 0.433. Accordingly, it could be claimed that although abnormal audit fees have a mean value of 0.024, the variability of the abnormal level of audit fees is higher and when compared to that, accrual, and real earnings management (REM_{it}) has a lower level of

volatility. Correspondingly, results of the volatility of cash flows ($VolCFO_{it}$) and sales volatility ($VolSale_{it}$) have also reported a lesser variability as 0.033 and 0.066 respectively. Conversely, the length of the operating cycle ($LnOperCycle_{it}$) which was used to control the attributes of earnings, shows mean (median) values of 138.762 (86.092) while resulting in higher volatility of 162.337 days due to the maximum operating cycle days of 699.663.

Table 3: Descriptive Statistics

Variables [a]	N	Minimum	Maximum	Mean	Median	Std. Deviation
AEM_{it} [b]	24	-0.145	0.157	0.000	0.006	0.072
REM_{it} [b]	24	-0.290	0.275	-0.001	-0.002	0.156
$AbnFees_{it}$ [b]	24	-0.710	0.827	0.024	0.086	0.433
$BIG4_{it}$ [b]	24	0.000	1.000	0.881	1.000	0.325
$SIZE_{it}$ [b]	24	12.55	17.068	14.497	14.43	1.291
$Loss_{it}$ [b]	24	0.000	1.000	0.198	0.000	0.399
$ScaledCFO_{it}$ [b]	24	-0.069	0.223	0.061	0.052	0.076
$LnOperCycle_{it}$	24	0.000	699.66	138.76	86.90	162.33
$VolCFO_{it}$ [b]	24	0.008	0.128	0.047	0.038	0.033
$VolSale_{it}$ [b]	24	0.000	0.237	0.060	0.036	0.066

[a] Definitions of these variables are indicated in Table 2.
[b] These variables were winsorized at 10% due to the presence of outliers.

To control for the auditor's risk profile ($BIG4_{it}$), a dummy variable was used in terms of the Big 4 audit firms (PWC, EY, KPMG, and Deloitte) and the results reflected that 88.1% of the sample firms had been audited by Big 4 firms. Accordingly, to measure the impact of profitability ($Loss_{it}$) another dummy variable was used, and it reflects that 19.8% of the sample has reported losses.

4.4 Correlation Analysis

Pearson's bivariate correlation indicates the strength and the direction of a relationship between two variables and Table 4 illustrate the results of this bivariate analysis, for all variables included in the analysis of the relationship between abnormal audit fees and accrual and real earnings management.

The results show that abnormal accruals (AEM_{it}) are negatively correlated with profitability ($Loss_{it}$) and operating cash flows ($ScaledCFO_{it}$), while positively correlated with real earnings management (REM_{it}) and the market capitalization of the firm ($SIZE_{it}$).

In contrast, real earnings management activities (REM_{it}) are positively correlated with sales volatility ($VolSale_{it}$) and accrual earnings management (AEM_{it}), while operating cash flows ($ScaledCFO_{it}$), and the market capitalization of the firm ($SIZE_{it}$) are negatively correlated with real earnings management.

Moreover, the positive correlation ($p>0.01$) between accrual and real earnings management indicates that firms use both accrual and real earnings management activities as complementary technique to manipulate reported earnings.

Furthermore, the results of the correlation analysis provide preliminary evidence on the objective of identifying the relationship between the abnormal level of audit fees and accrual and real earnings management. Accordingly, both hypotheses, i.e., H$_{1a,}$ abnormal level of audit fees is negatively associated with the level of accrual earnings management activities and H$_{1b,}$ abnormal level of audit fees were not supported by the results of correlation analysis as the correlations between abnormal audit fees and earnings management were not significant ones.

Therefore, as per Pearson's correlation analysis, only four variables, namely, the market capitalization of the firm ($SIZE_{it}$), profitability ($Loss_{it}$), operating cash flows ($ScaledCFO_{it}$) and sales volatility ($VolSale_{it}$) show a systematic relationship with real and accrual earnings management.

Table 4: Correlation Matrix

Variables[a]	$AbnFees_{it}$	AEM_{it}	REM_{it}	$BIG4_{it}$	$SIZE_{it}$	$Loss_{it}$	$ScaledCFO_{it}$	$LnOperCycle_{it}$	$VolCFO_{it}$	$VolSale_{it}$
$AbnFees_{it}$	1									
AEM_{it}	0.050	1								
REM_{it}	-0.012	0.186**	1							
$BIG4_{it}$	0.019	0.055	-0.047	1						
$SIZE_{it}$	0.078	0.195**	-0.184**	0.143*	1					
$Loss_{it}$	-0.024	-0.268**	0.088	0.023	-0.345**	1				
$ScaledCFO_{it}$	0.022	-0.389**	-0.432**	-0.019	0.273**	-0.411**	1			
$LnOperCycle_{it}$	-0.051	-0.052	0.013	-0.026	0.011	0.193**	-0.260**	1		
$VolCFO_{it}$	0.042	-0.037	0.037	-0.141*	0.070	-0.009	-0.021	0.290**	1	
$VolSale_{it}$	0.080	-0.015	0.217**	-0.048	-0.058	0.027	-0.076	-0.007	0.344**	1

$^*p<0.05,$

$^{**}p<0.01$

[a] Definitions of these variables are indicated in Table 2.

Source: Author Constructed

4.5 Linear Regression Analysis

Table 5 shows the OLS regression results in examining the relationship between abnormal audit fees and accrual and real earnings management, where the proxies of accrual and real earnings management were the dependent variables and abnormal level of audit fees was the independent variable.

Table 5: OLS Multivariate Regression Analysis

Variables[a]	Accruals Earnings Management		Real Earnings Management		Collinearity Statistics	
	Coefficient	t	Coefficient	t	Tolerance	VIF
$AbnFees_{it}$	0.006	0.681	-0.006	-0.274	.983	1.017
$BIG4_{it}$	0.003	0.245	-0.017	-0.625	.948	1.055
$SIZE_{it}$	0.012^{**}	4.062	-0.009	-1.249	.812	1.232
$Loss_{it}$	-0.080^{**}	-7.740	-0.047	-1.843	.756	1.324
$ScaledCFO_{it}$	-0.636^{**}	-11.887	-0.955^{**}	-7.216	.765	1.306
$LnOperCycle_{it}$	-0.000^{**}	-2.498	-0.000	-1.287	.814	1.228
$VolCFO_{it}$	-0.038	-0.310	-0.060	-0.197	.768	1.302
$VolSale_{it}$	-0.042	-0.719	0.433^{**}	2.986	.851	1.175
$Intercept$	-0.116^{**}	-2.614	0.208^{*}	1.901		
F value	22.241		9.564			
Sig. of F value	0.000		0.000			
R^2	0.432		0.246			
N	243		243			

* $p<0.05$, ** $p<0.01$
[a] Defin$_{it}$ions of these variables are indicated in Table 2.
Source: Author Constructed

Results of the regression analysis show that the market capitalization of a firm ($SIZE_{it}$), profitability ($Loss_{it}$), operating cash flows ($ScaledCFO_{it}$), and the length of the operating cycle ($LnOperCycle_{it}$), has a systematic relationship ($p<0.01$) with the accrual earnings management. As noted, the systematic ($p<0.01$) negative relationship between the profitability, operating cash flows, the length of the operating cycle, and the accrual earning management indicates that, when the losses of a company, operating cash flows, and the length of operating cycle is reducing, management tends to use a higher level of earnings management through discretionary accruals. Similarly, the systematic ($p<0.01$) positive relationship between the market capitalization of a firm and accruals earnings management indicates that an increase in firm size also leads to a higher level of accrual earnings management.

However, according to the results of the regression analysis, there is no significant association between the abnormal audit fees (independent variable) and the accruals earnings management.

Concerning real earnings management, there is no systematic relationship between real earnings management and the other variables, except for the operating cash flows ($ScaledCFO_{it}$) and sales volatility ($VolSale_{it}$). Accordingly, the negative significant ($p<0.01$) relationship between operating cash flows and real earnings management indicates that the use of real earning management practices by a company increases when the operating cash flows are low. On the other hand, the positive significant ($p<0.01$) relationship between sales volatility and real earnings management indicates that when there is a higher sales volatility also management tends to use real earning management practices in manipulating earnings.

The R^2 value indicates that 43 percent of the variation in the level of accrual earnings management and 25 percent of the variation in the level of real earnings management could be explained using the selected variables. Further, the below 1% significance value of the F-test (0.000), satisfies that the overall model is valid.

From the above analysis, it can be concluded that the abnormal audit fees charged by audit firms don't show any significant relationship with the level of accrual and real earnings management and only five control variables, namely market capitalization of a firm ($SIZE_{it}$), profitability ($Loss_{it}$), operating cash flows ($ScaledCFO_{it}$), length of operating cycle ($LnOperCycle_{it}$) and sales volatility ($VolSale_{it}$) have shown a systematic relationship with the level of accrual and real earnings management.

4.6 Panel Regression Analysis

As discussed under Section 3, in examining the relationship between abnormal audit fees and accrual and real earnings management, this study used 300 firm-year observations of 100 companies listed in CSE for the periods of 2015/16, 2016/17, and

2017/18. Therefore, a panel regression analysis was also performed as an additional analysis to identify the impact of cross-sections (company values for three years) among the observations.

The panel regression was carried out on the two dependent variables with the Hausman test, which is used to choose between fixed effects and random effects model, and as per the results of the Hausman test for accruals and real earnings management, the significance value for both was 0.0893 and it is higher than 5%. Therefore, in examining the relationship between abnormal audit fees and accrual and real earnings management using panel regression analysis, the random effect model was used.

Accordingly, Table 6 shows the panel regression results for accruals and real earnings management, derived from the Random Effect Model.

Table 6: Panel Regression Analysis

Variables[a]	Accrual Earnings		Real Earnings	
	Coefficient	Std. Error	Coefficien	Std.
$AbnFees_{it}$	0.005	0.010	-0.018	0.024
$BIG4_{it}$	0.002	0.015	-0.001	0.041
$SIZE_{it}$	0.016**	0.004	0.000	0.011
$Loss_{it}$	-0.075**	0.011	-0.034	0.019
$ScaledCFO_{it}$	-0.667**	0.054	-1.259**	0.097
$LnOperCycle$	0.000**	0.000	0.000	0.000
$VolCFO_{it}$	-0.035	0.160	0.068	0.478
$VolSale_{it}$	-0.042	0.077	0.401	0.231
Intercept	-0.159**	0.056	0.086	0.155
R^2	0.4294		0.2351	
Wald Chi^2	187.38		178.46	
Prob> Chi^2	0.000		0.000	
N	243		243	

*p<0.05, **p<0.01
[a] Definitions of these variables are indicated in Table 2.
Source: Author Constructed

The results of panel regression also show that abnormal audit fees (independent variable) do not have a significant association with accrual and real earnings management which was previously indicated from correlation and linear regression analysis. Similarly, profitability ($Loss_{it}$) and operating cash flows ($ScaledCFO_{it}$) show a negative relationship with accrual earnings management at a significance of $p<0.01$, as in the correlation and linear regression analysis except for the length of the operating cycle ($LnOperCycle_{it}$).

Further, the negative systematic ($p<0.01$) relationship between operating cash flows ($ScaledCFO_{it}$) and real earnings management also indicates the same results as correlation and regression analysis, while showing a contrast result for sales volatility ($VolSale_{it}$) and market capitalization of a firm ($SIZE_{it}$).

Therefore, it can conclude that there is mixed evidence on the association between the selected control variables and the level of earnings management practices of a company, even though, all analyses provided the same result on the relationship between abnormal audit fees and earnings management as no significant association.

5. DISCUSSION

One of the main objectives of this study was to assess the level of abnormal audit fees in Sri Lanka. Accordingly, using a sample of 300 Sri Lankan firm years, the descriptive statistics showed that the average level of abnormal audit fees in Sri Lanka was 0.024. However, a similar study done by Alhadab (2018), using a sample of 1,055 UK firm-year observations found that the level of abnormal audit fees in the UK was 0.000, and Krauß et al. (2014) studied the relationship between abnormal audit fees and audit quality in the German audit market and found a mean and median value for abnormal audit fees as 0.00 and 0.03 respectively. Similar to that, Jung et al. (2016) also found a mean value of 0.00 for abnormal audit fees when studying the association between abnormal audit fees and audit quality after IFRS adoption in Korea, using 17,017 firm-year observations in the period of 2007–2013.

Therefore, these findings indicate that Sri Lankan audit firms charge an extra amount of audit fees above the normal level of audit fees which may relate to a specific auditor-client relationship.

The second objective of the study was to assess the level of accrual earnings management and real earnings management in Sri Lanka. Accordingly, it was found that the mean value for accrual earnings management and real earnings management as 0.000 and -0.001 which was observed to be lesser than the finding of Alhadab (2018), from a sample of UK companies, which was reported as 0.001 and -0.006 respectively for the accrual and real earnings management. When studying whether the auditors tolerate earnings management when audit fees are low, using a sample of 13,126 firm-year observations from the years 2004 through 2008, Gupta et al. (2012) found a mean value of -0.002 and median value of -0.003 for the level of accruals earnings management. Moreover, in the study examining the relationship between corporate governance mechanisms and the degree of earnings management in Sri Lanka, it was found that the level of accrual earnings management was 0.077 (Silva, Manawaduge & Ajward 2017). Therefore, with the findings of this study, it can be said that the mean level of accrual and real earnings management practices in Sri Lanka was higher than in the UK in 2017 and it has reduced to 0.000 by 2019 which shows a lower than the UK now.

The final and foremost objective of this study was to examine the relationship between abnormal audit fees and accrual and real earnings management in Sri Lanka. In achieving this objective, the results of the correlation analysis provided preliminary evidence on the H_{1a}, i.e., abnormal level of audit fees is negatively associated with the level of accrual earnings management activities and H_{1b}, i.e., abnormal level of audit fees is negatively associated with the level of real earnings management activities. However, both hypotheses were not supported by the results of correlation analysis, as the correlations between abnormal audit fees and accrual and real earnings management were not significant.

Similarly, results of both linear and panel regression analyses didn't find a significant association between abnormal audit fees and accrual earnings management. Correspondingly, Deangelo (1981) and Choi et al. (2010) also found that there is no substantial association between the abnormal audit fees and the quality of an audit in terms of the usage in accrual earnings manipulation. However, as discussed in Section 2 Jung et al. (2016) and Krauß et al. (2014) found that there is a positive association between abnormal audit fees and the use of accrual earnings management using a sample of companies in Korea and German respectively. Similarly, Asthna and Boone (2012) also discover that, when the actual audit fees is departing from the ''normal'' fee levels, the quality of an audit is also declining due to the rise in earnings management practices. In contrast to these, Eshleman and Guo (2013) and Alhadab (2018) found a negative relationship showing that the probability to use discretionary accruals in manipulating their earnings is less when the clients are paying a higher audit fee above the normal level. Similarly, by using discretionary accruals as a proxy measure, Mitra et al. (2009) also found a negative relationship between abnormal audit fees and earnings management.

On the other hand, in examining the relationship between abnormal audit fees and real earnings management also, the proxies of real earnings management didn't have a significant association with the abnormal audit fees and that also didn't support the H_{1b}, i.e., abnormal level of audit fees is negatively associated with the level of real earnings management activities. Accordingly, none of the results from correlation, linear regression, and panel regression showed a systematic significant relationship between abnormal audit fees and real earnings management. Similar to the findings of this study, Choi et al. (2010) found that there is no association between abnormal audit fees and audit quality when there are abnormal audit fees. However, the study done by Alhadab (2018) found a negative systematic ($p<0.01$) relationship among these variables. As stated by Alhadab (2018), this abnormal audit fees component was the key determinant of improved audit quality. Because it has reduced the management's freedom to manipulate reported earnings using real earnings management practices.

6. CONCLUSION

When there is an abnormal level of audit fee, there might be an incentive to compromise the independence of the auditor, which impairs the quality of an audit (Dye 1991, Choi et al. 2016) and can have negative consequences as it reduces the confidence regarding the auditors' independence (Alhadab 2018). As Sri Lanka also experienced some financial collapses such as Golden Key Credit Company (Sirimanna 2009) and ETI Finance Limited (Wijedasa 2013) recently, those make this area more considerable in a Sri Lankan context.

Therefore, this study aimed to achieve three objectives, i.e., assessing the level of abnormal audit fees, determining the level of accrual and real earnings management, and examining the relationship between abnormal audit fees and accrual and real earnings management, using a sample of 100 listed companies in CSE whose financial year ended on 31st March excluding banking & finance and insurance sector. Accordingly, 300 firm-year observations were taken for the periods of 2015/16, 2016/17, and 2017/18.

The first objective of the study was to assess the level of abnormal audit fees and it was found that the mean (median) value of abnormal audit fees in Sri Lanka was 0.024 (0.086), whereas Alhadab (2018) and Jung et al. (2016) found mean (median) values of 0.000 (-0.011) and 0.00 (-0.02) for UK and Korea respectively.

The second objective of the study was to determine the level of accrual and real earnings management and accordingly, based on the sample of Sri Lanka companies, the results showed that the mean (median) for accrual earnings management and real earnings management was 0.000 (0.006) and -0.001 (-0.002) respectively, which was observed to be lesser than the finding of Alhadab (2018), from a sample of UK companies, where the mean value was reported as 0.001 and -0.006 respectively for the accrual and real earnings management. Further, a study that was done by Gupta et al. (2012) using a sample of 13,126 firm-year observations has also found a mean value of -0.002 and median

value of -0.003 for the level of accruals earnings management, which is higher than the results of this study.

Results of the correlation analysis, linear regression analysis, and panel regression analysis provided evidence for the objective of identifying the relationship between the abnormal level of audit fees and accrual and real earnings management and accordingly, the H_{1a}, i.e., abnormal level of audit fees is negatively associated with the level of accrual earnings management activities and H_{1b}, i.e., abnormal level of audit fees is negatively associated with the level of real earnings management activities were not supported by any of the above analyses, similar to the studies were done by Choi et al. (2010) and Deangelo (1981) who also found that, there is no substantial association between the negative abnormal audit fees and the quality of an audit.

Although none of the analyses showed that, abnormal audit fees (independent variable) have a significant association with accrual and real earnings management, control variables such as firm size ($SIZE_{it}$), profitability ($Loss_{it}$), operating cash flows ($ScaledCFO_{it}$), length of operating cycle ($LnOperCycle_{it}$) and sales volatility ($VolSale_{it}$) have significant relationships with accrual and real earnings management. However, the significance and the direction of some of those control variables were different in correlation, linear regression analysis, and panel regression analysis.

Therefore, it is safer to conclude that, even though all analyses provided the same result on the relationship between the independent variable (abnormal audit fees) and the dependent variable (earnings management), there is no significant association, and there is mixed evidence on the significant association between the selected control variables and the level of earnings management in a company.

In identifying whether abnormal audit fees paid to an audit firm impair audit quality (Alhadab et al. 2015), this study provides practical implications to many interested parties in Sri Lanka such as investors, regulators, and audit firms. As regulators in Sri Lanka such as ICASL can modify the regulation in the audit

market to ensure that the audit procedures performed by audit firms are preventing the real and accrual earnings management. Moreover, the capital providers of companies, such as investors, lenders, and creditors, should also consider the abnormal audit fees, as such could be associated with more or less earnings management.

Using a Sri Lankan sample of companies over the period 2015-2018, this study has contributed to the literature that abnormal audit fees have no relationship to the use of accrual and real earnings management activities. Further as empirical implications, by explaining the relationship between abnormal audit fees and real earnings management, the findings of this study provide a valuable contribution to the literature, as prior research only explained the relationship between abnormal audit fees and accrual earnings management.

In terms of limitations, it should be noted that the population of this research was limited to a sample of listed companies in Sri Lanka. Therefore, it is difficult to confirm that the selected sample represents the entire population of the companies in Sri Lanka. Therefore, future researchers can build their study on the findings of this paper and can investigate the theoretical and empirical relationship between abnormal audit fees and real earnings management using different contexts.

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Annexure 1 - Definition of the variables

$AudFees_{it}$	= The natural logarithm of the total audit fees of the firm i at the end of year t,
$BIG4_{it}$	= A dummy variable equals to 1 if the firm is one of the Big 4 and 0 otherwise,
$LnAssets_{it}$	= The natural logarithm of totals assets of the firm i at the end of year t,
MB_{it}	= The market value of equity divided by the book value of equity of the firm i at the end of year t,
$SalesGrowth_{it}$	= The sales growth of the firm i at the end of year t,
ROA_{it}	= Profit before interest and taxes divided by total assets of the firm i at the end of year t,
$NegROA_{it}$	= A dummy variable which equals to 1 if the firm is reporting negative return on assets and 0 otherwise,
Lev_{it}	= Debt divided by total assets of the firm i at the end of year t,
$ARInv_{it}$	= a ratio of accounting receivable to total inventories of the firm i at the end of year t.
$PROD_{it}$	= The sum of change in inventories and cost of goods sold of firm i for year t,
$DISX_{it}$	= Sum of administrative and distribution expenses of firm i at period t,
CFO_{it}	= Cash flows from operations of firm i at period t,
$ASSETS_{it-1}$	= Total assets of the firm i at the end of year i-1,
$SALES_{it}$	= Sales of the firm i at year t,
$\Delta SALES_{it}$	= Change in sales of the firm i at year t,
$\Delta SALES_{it-1}$	= Changes in sales of the firm i at year t-1,
$NormalPROD_{it}$	= Normal production cost of the firm i at year t
$NormalDISX_{it}$	= Normal discretionary expenses of the firm i at year t,
$NormalCFO_{it}$	= Normal cash flows from operations of the firm i at year t,
$AbnProd_{it}$	= Abnormal production cost of the firm i at year t,
$AbnDexp_{it}$	= Abnormal discretionary expenses of the firm i at year t,

$AbnCFO_{it}$	= Abnormal cash flows from operations of the firm i at year t,
REM_{it}	= The aggregated measure of real earnings management of the firm i at year t,
ε_{it}	= Residual for company i in year t.
TA_{it}	= Total accruals of the firm i at the end of year t,
NI_{it}	= Net income before discontinued segments of the firm i for the year t,
CFO_{it}	= Cash flows from operations of the firm i for the year t,
ΔREC_{it}	= Changes in receivables for the firm i from year t-1 to t,
PPE_{it}	= The net value of property, plant and equipment of the firm i for the year t,
NA_{it}	= The normal accruals of the firm i at the end of year t,
AEM_{it}	= The measurement of accrual earnings management for company i in year