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## Article

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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# Chief executive officer characteristics and discretionary accruals in an emerging economy

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**Abstract:** The main aim of the current study is to examine the effect of Chief Executive Officer (CEO) characteristics on earnings management proxied by discretionary accruals. The study used 1,957 firm-year observations listed in Bursa Malaysia for the period from 2012 to 2016. Panel data method is used to examine the established hypotheses. The results show a significant negative association between CEO tenure, network, and gender and discretionary accruals. These results suggest that CEOs with more extended periods serving in the firm, CEOs with several external directorships, and female CEOs are more rigorous in improving their strategic decisions and are less likely to engage in earnings management. Hence, they are associated with high financial reporting quality (FRQ). However, there is no significant relationship between CEO expertise, CEO age and discretionary accruals. The results are robust to an alternative measure of discretionary accruals. Therefore, the current study extends the FRQ and corporate governance

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### PUBLIC INTEREST STATEMENT

Motivated by the lack of studies in the Malaysian market, this paper examines the relationship between CEO attributes and earnings management. The study utilised secondary data that was hand collected from the annual reports of Malaysian listed firms. Findings indicate that firms with female CEOs in management, CEOs with long tenure, and several external networks are less likely to be involved in earnings management practices and, thus, produce high financial reporting quality. This is because CEOs with these characteristics are associated with lower discretionary accruals practices. Researchers, stakeholders, and policymakers may benefit from these findings in recognising the advantages of having a CEO with features that help in reducing earnings management and producing high financial reporting quality.

literature by investigating the impact of CEO characteristics on earnings quality and, consequently, FRQ. The results are important for policymakers, stockholders, and market participants in identifying the importance of CEO characteristics in producing high FRQ.

**Subjects: Financial Accounting; Financial Statement Analysis; Corporate Governance**

**Keywords: CEO characteristics; Earnings management; accruals; Malaysia**

## 1. Introduction

Organisational outcomes have been significantly impacted by the demographic characteristics of the organisation's team of management (Alhmood et al., 2020; Habib & Hossain, 2013; Zhang, 2019). In addition, accounting literature shows that CEO is among the top management team that can affect the financial reporting quality. This is because CEO is likely to influence the corporate statement content, such as press releases, compensation packages, and annual reports (Altarawneh et al., 2020; Chandren et al., 2021; Chatterjee & Hambrick, 2007; Ismail et al., 2020). Notably, the perspective of a theory called upper echelons provides that CEO characteristics affect the development of strategies of the organisation (Hambrick & Mason, 1984). The current presumption is that the demographic characteristics signify the CEO's values, experience, expertise, and dispositions, and all these are viewed as impacting the decisions that can crucially affect the organisation. Huovinen and Pasanen (2010) documented that the perspective of upper echelons has led to works that look into the connexion that is present between the demographic characteristics of top management team and organisational outcomes, specifically growth, strategy, firm performance, strategic change, innovation, and executive turnover.

However, the manner in which the demographic characteristics of CEOs impact the financial reporting strategies of the organisation has not been sufficiently explored. For instance, the effects of the CEO characteristics on earnings management (EM) remain underexplored due to limited studies related to the extent of EM during CEOs service (Qawasmeh & Azzam, 2020). For this reason, discretionary accruals are utilised in the detection of EM and also in the deliberation of the impacts of the characteristics of CEO on EM. The discretionary accruals can tentatively boost the performance of the firm by managing accruals, which does not directly impact the cash flows and discretionary accruals usually provide the opportunity to managers to engage with manipulating the earnings because of the flexibility is available to them (Boonlert-U-Thai et al., 2006; Chi et al., 2016; Dechow et al., 1995). Within the domain of financial reporting, earnings management practice has been claimed to be common. This practice is defined as a decisive action executed to interfere with the processes of financial reporting for the attainment of certain personal advantages (Schipper, 1989). Zweig (2019) and Ghaleb et al. (2020) stated that earnings management is more prevalent in developing markets than in the developed markets. Therefore, we focus on the Malaysian context for several reasons. First, earnings management is prevalent in the Malaysian market (Abdul Rahman et al., 2019; Ghaleb et al., 2020; Nasir et al., 2018). Second, it is required by the Securities Commission Malaysia for listed firms to disclose the executive's information in the annual report. Third, the institutional settings in developing markets are different from those in developed markets. Thus, the Malaysian market is a suitable market to conduct this study.

In a study by Dechow and Skinner (2000), it was reported that EM is both prevalent and challenging. Likewise, the issue of earnings management appears to be a hefty one in studies associated with accounting over the past twenty years. In fact, the impact of earnings management has been generally deemed as negative on earnings quality, thereby decreasing the trustworthiness of the financial statements of a firm.

Fabrication of annual reports, breach of trust, submission of untruthful information to the authorities, and unapproved purposes are among the many forms of fraud scandals (Aghghaleh et al., 2016; Rahman et al., 2016). One such scandal involved Satyam, an Indian global IT-firm. This scandal encompassed fraudulent practice of financial reporting firms at a global level whereby the CEO of Satyam had doctored the accounts book for the purpose of making the enterprise appear larger than it actually was. With the

modifications made by the CEO, the firm was displayed has to have a speedy rate of growth and higher profits (Altarawneh et al., 2020). As reported in Bhasin (2015), Bhasin (2016), and Altarawneh et al. (2020), the Satyam failure has led to the scrutiny of a CEO's character in propelling a firm towards success.

Financial reporting manipulation and false information provision by the CEO for the purpose of misleading the shareholders have occurred in an emerging economy such as Malaysia (Altarawneh et al., 2020; Hashim, 2009; Leuz et al., 2003). Involving a number of firms, including Kosmo Technology, Transmile, Polymate, Megan Media, and Welli Multi. These firms were found to present inaccurate information to the Securities Commission (SC). In the case involving Transmile Group Berhad, its CEO had endorsed the manipulation of a deceptive financial statement that was then presented to Bursa Malaysia. The deceptive statement in question encompassed an unaudited consolidated result of the firm's quarterly report for the end of the financial year of 2006. The misleading financial statement provided by the firm contained unaudited revenue figures given to the stock exchange within the last quarter of 2006 and the 2006 cumulative period (The Sun daily, 2017).

The empirical evidence presented in this study solidifies the idea that CEO characteristics affect discretionary accruals and also affect financial reporting quality. In particular, CEO tenure and level of earnings management are shown in this study as having negative relation. Such a finding implies that the performance of a long-tenured CEO might be superior (associated with earnings management) in comparison to the performance exhibited by a short-tenured CEO. Notably, the long-tenured CEO is less enticed to be involved in earnings management. Furthermore, CEO network, as well as earnings management, appeared to be negatively linked, which means that a CEO with a good connection is less prone to engage in manipulating earnings. Additionally, an adverse connotation between women executives and earnings management has been documented as well, implying a greater level of trustworthiness among women as opposed to men; women appeared to be less motivated to practice earnings management because women are more likely to be ethical in their judgment and they follow more conservative financial reporting standards (Arun et al., 2015; Peni & Vähämaa, 2010; Krishnan & Parsons, 2008). However, CEO expertise and age with earnings management appeared to have no noteworthy outcome.

The current study has several implications. First, the extant literature is enriched by the outcomes of this study. Notably, the extant literature has yet to properly examine the connection of CEO characteristics (i.e. tenure, network, female gender, expertise, and age) with earnings management. Therefore, the present paper decreased the gap by investigating the linkage between CEO characteristics and EM. Second, the role of CEO characteristics and their effect on EM amongst Malaysian listed firms were explored in this study. Third, practitioners, including shareholders and investors, can benefit from this study, as it highlights the factors impacting earnings management. Both shareholders and investors can determine the specific CEO characteristics that generate high-quality financial reports. As for regulators, they can peruse the outcomes of this study to uncover the factors affecting earnings management, especially among listed firms in Malaysia.

The following section presents several pertinent literature on the subject under scrutiny and proposes an empirical hypothesis. This study then proceeds with details on the research design, while the result of the regression analysis and further analyses are presented in the subsequent sections. Finally, the conclusions of the study are offered.

## 2. Literature review and hypothesis development

Earnings management determinants have been examined by previous financial reporting studies, but the available literature on earnings management has been mostly concentrated on firm-specific characteristics (Carcello & Neal, 2000; Dechow & Dichev, 2002; Klein, 2002; Francis et al., 1999). Meanwhile, there has been an increased interest among researchers on how manager-specific characteristics impact EM. In a study by Aier et al. (2005), it was reported that firms led by CEOs with more work experience as CFOs appear to have higher earnings quality. Meanwhile, firms led by respectable CEOs appear to show

lower earnings quality, and this finding was documented in Francis et al. (2008). Furthermore, an adverse association was reported by Hsieh et al. (2018) between discretionary accruals and top management team (TMT) knowledge and the average tenure of firms. This finding implies that the incentive-reduction impact has greater strength compared to the entrenchment-enhancing effect. For this reason, it can be stated that earnings management practice is not common among members of TMT. Meanwhile, for the situation of Malaysia, Baker et al. (2019) highlighted the importance of CEO power as opposed to that of CFO in determining earnings management in terms of its level. In this regard, the effects of CEO characteristics on EM from the viewpoints of CEO expertise, age, tenure, network, and gender were examined in the current study, leading to the formation of the following key hypotheses:

### **2.1. CEO tenure**

Possessing long tenures increases the CEOs' experiences, which results in the decrease of earnings management, and this consequently leads to a better quality of financial reporting (Alhmoode et al., 2020; Cheng & Leung, 2012). Accordingly, Hambrick and Mason (1984) indicated that based on the theory of upper echelons, CEOs' tenure affects the type of decisions they make. In studies by Michel and Hambrick (1992) and Smith et al. (1994), it was reported that CEOs with long tenures appear to be associated with knowledge and team consistency with the internal business of the firm. In general, the person's experience and knowledge will grow after holding a certain position for a longer duration of time.

CEO tenure and earnings management are negatively related as long-tenured CEOs appear to be concerned with their reputation and continuation, leading to less instances of earnings manipulation (Hazarika et al., 2012). Furthermore, to the outside groups, financial reporting quality can be reflected by a CEO's tenure. In fact, according to Zhang and Wiersema (2009), a CEO with a very high reputation appears to be less inclined to endorse or report deceitful financial statements. Vafeas (2009) and Feng et al. (2011) additionally pointed to the finding that financial reporting improvement is linked to the expertise of CEOs with the process associated with financial reporting. Meanwhile, Baatwah et al. (2015) and Altarawneh et al. (2020) indicated that CEOs with long tenures and with accounting expertise might more actively enhance strategic decisions. The past findings have accordingly led to the construction of the following hypothesis:

**H<sub>1</sub>:** CEO tenure negatively significant effect discretionary accruals.

### **2.2. CEO network**

The propositions of the upper echelon theory imply tacit knowledge sharing and advice on the network processes provided by the CEOs as the primary harmonising mechanism (Athanasios & Nigh, 1999). Furthermore, from the viewpoints of social psychology, Cialdini et al. (1991) stated the impact of social norms on human behaviour with the anticipation of how an individual's conduct is adjudicated by others or how others conduct themselves in a specific situation. As reported in Krishnan et al. (2011), networks or social ties can nurture relationships while dissuading formal independence through the increase of expectations within the interactions of a group/board.

The possible association of a CEO's external connections (networks) with other directors and executives with better financial reporting quality was examined in a study carried out by Bhandari et al. (2018). The results show that CEOs with more extensive connections appear to have less discretionary accruals. Likewise, CEOs with good connections appear to demonstrate an innate interest towards preserving their social capital within the corporate realm (Bhandari et al., 2018). The social interactions and relations between employees stimulate them to cooperate at work, and this can also govern the workplace behaviour whereby those who misbehave will feel guilty; for this reason, the self-enforcing nature of social norms can be presumed (Spagnolo, 1999). For this reason, also, CEOs can be said to have connection of high level and can generate financial reporting system of high quality in order to reduce the prospective of undesirable consequences of the labour market that has a link to financial reporting

quality and reputation preservation, as accordingly mentioned in Desai et al. (2006) and Hennes et al. (2008).

As highlighted in Kandori (1992) and Javakhadze et al. (2016), a large social network provides the means for a disciplinary mechanism that facilitates truthful dealings considering that highly connected people have higher reputational capital at stake. Hence, the prediction is that CEOs who have large networks are more inclined to call for accrual of higher level in quality and are less prone to manipulate earnings management, considering that the prospective cost in social capital damage offsets the benefit. The following hypothesis is hence proposed:

**H<sub>2</sub>:** CEO network negatively significant effect discretionary accruals.

### **2.3. Female CEO**

In the context of earnings quality, managerial characteristics have been found to be a vital factor. In this regard, in Na and Hong (2017), CEO gender and earnings management were studied through the application of accrual earnings management, and the authors concluded that the practice of earnings management among firms with male CEOs, whereby the situation did not happen among firms with a female CEO. The authors stated that in order to prevent losses, male CEOs engage in earnings management. Contrariwise, their female counterparts did not resort to the same practice for the same purpose. In another related study, Belot and Serve (2018) reported greater frequency of earnings management among firms with male CEOs as opposed to firms with female CEOs. Furthermore, a positive connection between female employees and earnings quality has also been reported in several past studies.

Gender diversity in senior management has been found to increase the quality of reported earnings, and Krishnan and Parsons (2008) were among those who reported this finding. In a study by Shawver et al. (2006), males were more motivated to practice earnings management than females. Betz et al. (1989) and Bernardi and Arnold (1997) reported a high inclination among women to show ethical behaviour even though acting unethically could benefit them. Additionally, Huang and Kisgen (2013) reported in their study that, as opposed to their male counterparts, less overconfident female CEOs make superior corporate decisions, leading to high quality financial reporting. Leadership skills among women have been found to be more effective (Krishnan & Park, 2005). Also, their unique features positively impact the firm in terms of its strategic direction, and this improves the monitoring process of financial reporting.

In achieving financial rewards, women have been reported to be less prone to exhibit unethical behaviour because women have a higher level of workplace ethics. As justification, Betz et al. (1989), Francis et al. (2015), and Zalata et al. (2019) stated that women were likely to take fewer risks considering that they have less inclined to be erroneous in their decisions and actions. Hence, this study will test the hypothesis below:

**H<sub>3</sub>:** female CEOs negatively significant affect discretionary accruals.

### **2.4. CEO expertise**

As proposed in upper echelon theory, an experienced CEO has the capacity to generate financial reports of higher quality (Altarawneh et al., 2020; Matsunaga & Yeung, 2008). Furthermore, the aforesaid theory proposes that the personalities possessed by managers, for instance, expertise, can impact how they construe the difficulties and circumstances that they are obliged to handle (Hambrick, 2007; Hambrick & Mason, 1984). During accounting-related decision making, Pham (2016) mentioned that professional managers will refer to their prior working experience. It was additionally indicated in Jiang et al. (2013) that the appointment of CEOs with expertise in finance

domain would lead to the issuance of higher quality earnings information while also decreasing the practices associated with earnings management. Relevantly, Demerjian et al. (2012) came to a deduction that the managers' competency is related to higher earnings quality, which is denoted by high earnings steadfastness, a lesser amount of errors in bad debt provision, a lesser amount of succeeding restatements, and superior accrual appraisals.

Furthermore, financially proficient CEOs are endorsed by or associated with professional organisations. Notably, in the execution of their duties, Matsunaga and Yeung (2008), as well as Bamber et al. (2010), found that CEOs possessing accounting and financial expertise are inclined to utilise a conservative strategy and hence generate financial reporting of high quality. The present study, therefore, proposes the following hypothesis:

**H<sub>4</sub>:** CEO expertise negatively significant effect discretionary accruals.

### **2.5. CEO age**

CEO age is a demographic characteristic, and as suggested by Hambrick and Mason (1984), this characteristic can potentially affect organisational outcomes. Huang et al. (2012) reported that upper echelons theory posits that older CEOs appear to embrace ethical beliefs of a higher standard, and they are more inclined to more consistently draw inferences as opposed to their younger counterparts following the trait-diagnostic repercussions of ethical behaviour. Additionally, Huang et al. (2012) reported a significant negative link between the CEO age and both the prospect of financial restatements and the prospect of beating the conjectures of analyst earnings. The authors additionally reported the connection existing between older CEOs and high FRQ.

As relevantly highlighted in several studies, including Mudrack (1989), Peterson et al. (2001) as well as Sundaram and Yermack (2007), the older a person gets, the more conservative and ethical the person becomes. Besides that, older CEOs appear to show less inclination to be involved in aggressive earnings management as they have better comprehension towards the organisation and industry (Huang et al., 2012). Further, Belot and Serve (2018) reported a negative association between the CEO age and the degree of discretionary accruals. It was relevantly reported in Serfling (2014) that as opposed to their older counterparts, younger CEOs appear to be more inclined to invest more owing to the fact that they were more of a risk-taker as opposed to their older counterparts. As experience and age grow in tandem, older CEOs are generally more experienced as opposed to their younger counterparts, which brings to the formation of the following hypothesis:

**H<sub>5</sub>:** CEO age negatively significant effect discretionary accruals.

## **3. Research design**

### **3.1. Sample and data collection**

Listed firms in Bursa Malaysia made up the study population, and the data covered the period from years 2012 to 2016. The period is used because there were many restated financial reports for Malaysian firms during this period, and several studies mentioned that earnings management is pervasive in the Malaysian market (Enomoto et al., 2015; Rahman et al., 2018). In addition, this period allows the present study to test the effect of CEO's discretionary choices after the latest global financial crisis also examine whether the CEOs engage with EM practices. However, financial sector (i.e. banks, insurance and investment funds) was left out, considering that this sector is bound by different regulations and rules. Another reason for not including financial sector was the unique characteristics of the financial sector itself compared to non-financial sectors. Furthermore, yearly reports were the source for obtaining the data concerning CEO's characteristics. The procedure of collecting data related to CEO characteristics was by



screening the annual reports of the non-financial firms in Bursa Malaysia and looking at each CEO profile to obtain the data. Meanwhile, financial data were obtained from yearly reports and DataStream. Samples with incomplete data were excluded from the analysis. Hence, the total observations of this study were 1,957 firms' observations. In addition, following Ge and Kim (2014), the study winsorised the accounting variables such as DA, NETWORK, ROA, SGROWTH and MTB at both the top and bottom 2%. This was for mitigating the impact of extreme observations.

### 3.2. Variables measurement

**Dependent variable-** In discretionary accruals measurement, discretionary accruals (DA) proposed in Jones (1991), besides the modified Jones (Dechow et al., 1995) models, have been the most widely used methods. However, Kothari et al. (2005) indicated that the earnings management model becomes misspecified when the DA is measured without controlling firm performance. Hence, for firm performance, the authors proposed a model with the inclusion of an intercept and control with the application of return on assets (ROA). This is to reduce the issues of misspecification that occur in other aggregate accrual models. As proposed in Kothari et al. (2005), the performance-matched Jones model is applied in the present study in discretionary accruals estimation. The study estimates the model in a cross-sectional manner in each year for each industry with eight observations at minimum (see: Cohen & Zarowin, 2010).

$$\frac{TA}{Assets_{it-1}} = \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{Assets_{it-1}} + \beta_3 \frac{PPE_{it}}{Assets_{it-1}} + \beta_4 \frac{ROA_{it}}{Assets_{it-1}} + \varepsilon_{it} \quad (1)$$

See, Table 1 for variable definitions.

**Independent variables-** CEO characteristics measurements; measurement of CEO tenure follows how long in terms of number of years that the CEO in question has continuously taken the position within the firm (Abdul Latif et al., 2016; Altarawneh et al., 2020; Baatwah et al., 2015). Meanwhile, the CEO network is operationalised by counting how many CEOs are present beyond directorships (Bhandari et al., 2018; Kamardin et al., 2014). Further, in this study, female CEO as a dummy variable is assigned with the code of "1" when the sex of the CEO is female while "0" will be given if otherwise (Badru et al., 2017; Orser et al., 2010; Ramón-Llorens et al., 2017). Meanwhile, CEO expertise as a dummy variable is coded as "1" if the CEO holds a professional qualification or possesses a qualification of an accounting or finance expert, and will be coded "0" if otherwise (Abdul Latif et al., 2016; Baatwah et al., 2015; Jiang et al., 2013). Alqatamin et al. (2017) indicated that the variable of CEO age is determined through the computation of the difference, in years, between the birthdate of the CEO and the year the study was carried out. For this variable in this study, CEO age during the year is a constant variable, as demonstrated in Huang et al. (2012), Abdul Latif et al. (2016), Eduardo and Poole (2016), and Badru et al. (2017).

**Control variables-** There were several control variables employed in this study. Specifically, firm size variable is quantified as the logarithm of total assets as in Ismail et al. (2010). Next, the leverage variable denotes the proportion of total liabilities to total assets (AlQadasi & Abidin, 2018). Further, Big 4 as the top four audit firms in the world is coded with "1", and "0" would be given if otherwise (Abdullah & Wan-Hussin, 2015; Ishak & Yusof, 2013). As for ROA, it is expressed by the net income divided by total assets (Abdullah & Wan-Hussin, 2015). Sales growth is measured as yearly growth of sales (present year sales—previous year's sales)/ sales of earlier year (Abdullah & Wan-Hussin, 2015; Konchitchki & Patatoukas, 2014). Meanwhile, measurement of subsidiaries is based on the log number of the overall subsidiaries that the firm had invested (AlQadasi & Abidin, 2018; Ghafran, 2013). Further, MTB entails the proportion of market value of equity to book value of equity (Roychowdhury, 2006). The study also included dummy variables for industries and years.

**Table 1. Variables Definition**

Variables		Definition
Earnings management variable		
DA	=	Is the absolute value of performance matched discretionary accruals model estimated by using Kothari et al. (2005).
TA <sub>it</sub>	=	It represents the total accruals of (firm <i>i</i> in year <i>t</i> ) as the variation between (income) earnings and cash flows from continuing operations.
Assets <sub>it-1</sub>	=	It is the total assets in <i>t-1</i> .
Δ REV <sub>it</sub>	=	It is the change in revenues from previous year ( <i>t</i> and <i>t-1</i> ).
Δ AR <sub>it</sub>	=	It is the change in accounts receivable from preceding year ( <i>t</i> and <i>t-1</i> ).
PPE <sub>it</sub>	=	It is the value of gross property, plant, and equipment in year <i>t</i> .
ROA	=	It is the return on assets in year <i>t</i> .
Independent variables		
TENURE	=	Measured as the number of years being CEO in the firm.
NETWORK	=	Measured as number of the CEO's external directorships.
FEMALE	=	Measured as If the CEO is female coded 1 and 0 otherwise.
EXPERT	=	Coded 1 when the CEO is an accounting or financial qualified and 0 otherwise.
AGE	=	Measured as the years of CEO age.
Control variables		
FIRMSIZE	=	Measured as the natural log of total assets.
LEV	=	The percentage of total liabilities to total assets.
BIG4	=	Coded 1 if the firm is audited by Big 4 and 0 otherwise.
ROA	=	Measured as the results of net income to total assets.
SGROWTH	=	Is the (sales of present year minus sales of prior year) divided by sales of prior year.
SUB	=	Measured as the natural logarithm of the total subsidiaries of the firm.
MTB	=	Is the proportion of market value of equity to book value of equity.
YEARS	=	The study time period dummies.
INDUSTRIES	=	Industry dummies.

### 3.3. Empirical model

The impact of CEO characteristics on firm’s level of EM was investigated in this study. For the purpose, several diagnostic tests were first carried out on the obtained data. These tests include multicollinearity test, heteroscedasticity, and autocorrelation in panel data. Heteroscedasticity was found in the data and therefore, as proposed in Wooldridge (2010), panel corrected standard errors (PCSE) method was used in this study. Also, the present study examined the relation between CEO characteristics and performance-matched discretionary accruals (DA) by running regression using the PCSE method. In addition, all variables are detailed in Table 1.

$$\begin{aligned}
 DA_{it} = & \beta_0 + \beta_1TENURE_{it} + \beta_2NETWORK_{it} \\
 & + \beta_3FEMALE_{it} + \beta_4EXPERT_{it} + \beta_5AGE_{it} \\
 & + \beta_6FIRMSIZE_{it} + \beta_7LEV_{it} + \beta_8BIG4_{it} \\
 & + \beta_9ROA_{it} + \beta_{10}SGROWTH_{it} + \beta_{11}SUB_{it} \\
 & + \beta_{12}MTB_{it} + \sum\beta_{YEARS}_{it} + \sum\beta_{INDUSTRIES}_{it} + \epsilon_{it}
 \end{aligned}
 \tag{2}$$

## 4. Empirical results

### 4.1. Descriptive statistics

The present paper delved into the link existing between CEO characteristics and discretionary accruals. Accordingly, the descriptive statistics of the employed variables in the analyses are displayed in Table 2. Results in Table 2 show that DA ranged from 7.65e-06 to 0.78628, carrying a mean value of 0.05335. Further, the average tenure for a CEO is 12.3122 years, with a minimum (maximum) value of 1 (45) years. Moreover, the mean percentage for the CEO network is 0.79969, with a minimum value of 0 and a maximum value of 14. Also, the average for female CEO is 0.03679.

Besides, the CEO expertise shows a 0.19468 of mean value. Additionally, the average (mean) for CEO age is 55.5595 years with a minimum of 23 years and 85 years maximum. Meanwhile, firm size (FIRMSIZE) ranges from 4.34525 to 7.96523, with an average value of 5.66038. Further, leverage ratio (LEV) has a mean value of 0.19099, with corresponding minimum and maximum of 0 and 0.7804. Additionally, Big 4 firms audited 0.46039 of the observations, while the remaining 0.53901 were audited by non-Big 4 auditors. The mean percentage of ROA is 0.04870, with a minimum of -1.165 and

**Table 2. Descriptive Statistics**

Variable	Mean	Std. Dev.	Min	Max
DA	0.05335	0.05962	7.65e-06	0.78628
TENURE (years)	12.3122	8.08487	1	45
NETWORK	0.79969	1.73963	0	14
FEMALE	0.03679	0.18829	0	1
EXPERT	0.19468	0.39605	0	1
AGE	55.5595	9.19467	23	85
LOGAGE	1.73838	0.07603	1.36172	1.92941
FIRMSIZE	5.66038	0.61477	4.34525	7.96523
LEV	0.19099	0.15578	0	0.7804
BIG4	0.46039	0.49855	0	1
ROA	0.04870	0.08799	-1.165	0.5735
SGROWTH	0.10435	0.86228	-0.99544	30.7648
SUB	1.09699	0.46925	0	2.67394
MTB	1.18062	1.64599	-1.81	28.47

See, Table 1 for variable definitions.

a maximum of 0.5735. Firm sales growth (SGROWTH) ranges from  $-0.99544$  to  $30.7648$ , with an average of  $0.10435$ . Moreover, subsidiaries (SUB) revealed a mean value of  $1.09699$ , ranging from  $0$  to  $2.67394$ . In terms of (MTB), the mean is  $1.18062$  with a minimum of  $-1.81$  and a maximum of  $28.47$ .

#### 4.2. Correlation analysis

The Pearson correlations between earnings management as measured by DA, CEO characteristics and various control variables can be viewed in Table 3. The Table shows no high correlation among the proxies for the independent variables. The Table also indicates that the proxies are not highly correlated with the control variables. In other words, there is no serious multicollinearity issue. In general, the result in Table 3 displays that all the correlations are less than 80%. This is in line with Gujarati and Porter (2009), who suggested that the correlation matrix should not exceed 80% to ensure any self-association problems. Overall, firm size (FIRMSIZE) and subsidiaries (SUB) are the most correlated, with  $0.653$  as the achieved value. As such, the present study is free from serious multicollinearity problems.

In addition, the results also show that CEO tenure, CEO network, and CEO age are negatively correlated with DA at 1% significance level. These results are considered a pre-indication of the significant association between these CEO characteristics and DA, suggesting that firms with longer-tenured CEO, CEO with several directorship networks, and older CEO are less likely to practices earnings management through DA. However, correlation results show an insignificant positive correlation between female CEO and DA and insignificant negative CEO expertise and DA. Correlation coefficients between control variables and DA are reported in Table 3. In fact, correlation analysis considers only the association between two variables (Cramer & Howitt, 2004) rather than the joint effect of several variables. Therefore, multivariate analysis is a better technique to identify the impact of CEO characteristics on DA. Thus, the multivariate regression analysis is employed, and further discussion is presented in the following sections.

#### 4.3. Regression analysis results and discussions

The obtained findings demonstrate the impact of CEO characteristics and EM using DA, as shown in Table 4 that displays the results from the panel corrected standard errors. The findings show that the model is both fit and significant at 0.01 level. Besides that, the  $R^2$  rate in the model is  $0.1029$ . This implies that the deviation in earnings management is statistically described by the regression equation.

As expected in  $H1$ , the results show that CEO tenure is negatively and significantly linked with DA with a coefficient of  $-0.00064$  ( $z = -4.76$ ,  $p < 0.01$ ), hence accept  $H1$ , which indicates that CEO tenure engages negatively with earnings management. This is because long-tenured CEO cares about reputation and subsistence. Thus, there is fewer earnings manipulation. Relevantly, upper echelons theory anticipates the impact of CEO tenure on the kind of decisions that the CEO makes, considering the fact that having long tenure increases experience. In this regard, when experience increases, earnings management level should decrease, leading to the increase in the FRQ. A CEO which is characterised by a better experience and knowledge gained by the long tenure, decrease the possibility of EM through effective management (Falato et al., 2015; Wang et al., 2016). In addition, Zhang and Wiersema (2009) argue that the tenure of a CEO indicates the FRQ to the external constituents because a CEO that is highly reputed will be less expected to certify or report fraudulent financial statements. The result is in accordance with those presented in Hazarika et al. (2012), who concluded a negative link between the tenure of a CEO and earnings management.

Additionally, CEO network and DA appear to be significantly and negatively associated, as expressed by the attained coefficient of  $-0.00166$  ( $z = -2.50$ ,  $p < 0.01$ ), lending accept  $H2$ , which expected that CEO network is negatively related to earnings management. These findings are consistent with the results of Saleh et al. (2005), Yang and Krishnan (2005), and Banderlipe and Mc Reynald (2009), who argue that directors with multiple networks tend to be more effective in monitoring the management, and thus will limit EM practices. Relevantly, upper echelons theory suggests that CEO network decreases earnings management level and this consequently improves the quality of financial reporting. Besides, the result shows that there is less possibility of manipulating earnings when the firm's CEO is well connected. This is

**Table 3. Correlations Matrix**

	1	2	3	4	5	6	7	8	9	10	11	12	13
1.DA	1												
2. TENURE	-0.109**	1											
3. NETWORK	-0.094**	-0.005	1										
4. FEMALE	0.000	-0.093**	0.002	1									
5. EXPERT	-0.025	-0.109**	0.111**	0.178**	1								
6. AGE	-0.077**	0.453**	0.051*	-0.106**	-0.136**	1							
7. FIRMSIZE	-0.121**	0.063**	0.416**	0.012	0.059**	0.084**	1						
8. LEV	0.000	-0.011	0.144**	0.098**	0.058*	-0.027	0.361**	1					
9. BIG4	-0.099**	0.001	0.198**	0.043	0.025	0.078**	0.383**	0.099**	1				
10. ROA	0.064**	-0.030	-0.048*	-0.043	-0.078**	-0.034	0.076**	-0.203**	0.071**	1			
11. SGROWTH	0.120**	-0.071**	0.001	-0.043	-0.047*	-0.025	0.047*	0.063**	0.012	0.283**	1		
12. SUB	-0.056*	0.114**	0.315**	0.042	0.117**	0.088**	0.653**	0.270**	0.233**	-0.086**	0.007	1	
13. MTB	0.044	-0.083**	0.051*	0.072**	-0.017	-0.012	0.148**	-0.010	0.154**	0.416**	0.106**	-0.018	1

\*, Correlation is significant at the 0.05 level (2-tailed). \*\*, Correlation is significant at the 0.01 level (2-tailed). See, Table 1 for variable definitions.

**Table 4. Regression Results of Discretionary Accruals**

DA	Expected Sig	Coef.	z-value	P> z
TENURE (years)	-	-0.00064	-4.76	0.000***
NETWORK	-	-0.00166	-2.50	0.0065***
FEMALE	-	-0.00716	-1.49	0.0675*
EXPERT	-	-0.00192	-0.70	0.2435
AGE	-	-0.00492	-0.33	0.3695
FIRMSIZE	-	-0.01066	-4.22	0.000***
LEV	+	0.01686	2.08	0.0185**
BIG4	-	-0.00270	-1.18	0.118
ROA	-	0.02191	1.02	0.1545
SGROWTH	+	0.01570	2.98	0.0015***
SUB	-	0.00601	2.10	0.0175**
MTB	-	0.00426	2.93	0.0015***
_cons		0.13339	4.77	0.000***
Year effect			Yes	
Industry effect			Yes	
Number of obs	=	1,957		
R-squared	=	0.1029		
Prob > chi2	=	0.0000		

\*\*\* Significant at level 0.01, \*\* Significant at level 0.05, \* Significant at level 0.1, (1-tailed test). See, [Table 1](#) for variable definitions.

in line with Bhandari et al. (2018), who found that CEOs who have more connections have fewer discretionary accruals.

Furthermore, the obtained result demonstrates that the connexion between female CEO and DA are negatively significant, with the coefficient of  $-0.00716$  ( $z = -1.49$ ,  $p < 0.10$ ). Thus, the result accepts  $H3$ . Our result is in line with Gavious et al. (2012), Lakhali et al. (2015), Gull et al. (2018), and Bouaziz et al. (2020), who found that firms with female CEO have less EM and income decreasing DA and show that female are more likely to detect the manipulation of earnings and more careful when making a decision to avoid risks. Further, female CEOs are more risk-averse and ethical, which leads to decrease EM in the firm. In addition, using upper echelons theory and previous studies, females are less likely to practice EM as they are more trustworthy aside from having higher moral standards when compared with their male counterparts (Heminway, 2007). Similarly, Gavious et al. (2012) documented that females and the practice of earnings management are negatively related. Also, the authors found that firms with female CEO reported less EM.

In addition, [Table 4](#) shows that the association between CEO expertise and DA is negatively insignificant. The coefficient is  $-0.00192$  ( $z = -0.70$ ,  $p > 0.10$ ). The finding does not accept  $H4$ , which is contradictory to upper echelons theory that suggests the ability of CEOs with expertise in decreasing earnings management level, and in turn, develop high-quality financial reports. The reason for the insignificance in this study may be linked to the requirements of CEO appointment, which does not include expertise in finance or accounting as one of the criteria. In fact, the rules require the CEOs to have knowledge that may involve many disciplines but not specifically those of accounting or finance. The results does not confirm with the research of Baatwah et al. (2015) and Gounopoulos and Pham (2018), who found a negatively significant relation between CEOs with financial expertise and EM. Hence, this finding shows that whatever the CEOs have expertise has no effect on EM.

Moreover, the relationship between CEO age and DA was found to be negative but insignificant, whereby the obtained coefficient was  $-0.00492$  ( $z = -0.33$ ,  $p > 0.10$ ). Hence, this result does not accept  $H_5$ . This result is comparable to the reported result by a previous study, which found an insignificant effect of CEO age and earnings management (Alqatamin et al., 2017). This finding is not similar to Huang et al. (2012), Belot and Serve (2018), who found a negative relationship between the CEO age and higher FRQ. Our finding suggests that the CEO age does not impact the EM. In addition, based on upper echelons theory, older CEOs embrace ethical beliefs of a higher standard and are more expected to draw more stable inferences as opposed to their younger counterparts with the trait-diagnostic implications of ethical behaviour (Huang et al., 2012).

The results are very significant to the industry players, especially to the firms, the policymakers, investors and the public as a whole, as it shows that the effect of CEO characteristics on earnings management. Specifically, three characteristics of CEO, namely CEO tenure, CEO networking and female CEO, have negative relationships with earnings management, which suggest the role of these characteristics to reduce the earnings management, hence improving the financial reporting quality. The main issue here is to ensure the firms produce high quality of financial reporting to the regulators, investors and public. An improvement of financial reporting quality will help the firms to issue high quality financial reporting. Thus, the investors will rely on the firms' financial reporting in their decision making. Moreover, it will attract potential investors to invest in the firms. Indirectly, it will improve the firms' performance. In fact, high quality of financial reporting will provide a good signal of perception to the regulators and public. These will benefit the firms to overcome the issue of accounting scandals that occurred a few years back until recently in Malaysia. In a nutshell, the CEO characteristics is one of the significant solutions to address this issue for Malaysian public listed firms and provide great benefits not only to the firms but also to the other stakeholders.

For control variables, as shown in Table 4, firm size is negatively significant with DA, which means that discretionary accrual in managing reported earnings is less likely to occur in a large firm. A similar result was reported in Ahmed and Duellman (2007). As mentioned, large firms appear to be less inclined to manage their reported earnings because these firms generally receive media attention more frequently, aside from being followed by a larger number of analysts, in addition to having to deal with consistent political scrutiny. As also shown in Table 4, leverage is linked to DA positively and significantly. This is in agreement with the view that high leverage firms appear to be more involved in income-increasing earnings management activities in order to continue debt contracts. A comparable result was reported in Buniamin et al. (2012), whereby the authors mentioned that in the context of Malaysia, firm leverage and earnings management have significant positive relation. Moreover, an insignificant negative association was found between audit firms (Big 4) and DA. This result is comparable to a study done in Malaysia by Abdul Rahman et al. (2019). Furthermore, a positive and insignificant association was found between ROA and DA. This signifies that ROA does not affect discretionary accruals.

Table 4 reveals that sales growth and DA are significant and positively related. The results suggest that in Malaysia, high-growth firms appear to be driven to practise earnings management through the use of discretionary accruals. Correspondingly, Chen et al. (2015) in their study indicated that high-growth firms have rather stronger inducements to manipulate earnings in order that they could reach their targeted earnings.

Table 4 shows that the relationship between subsidiaries (SUB) and DA is positive and significant. In other words, a high number of subsidiaries positively affects earnings manipulation. Table 4 equally displays a positive and significant association between MTB and DA, which means that when MTB increases, it will indirectly increase the firm's EM. This finding corresponds with Krishnan and Press (2003), who documented that high growth firms are inclined to manage earnings upwardly in order to retain share price.

## 5. Robustness analysis

### 5.1. Further analysis for discretionary accruals

With regards to *H1, H2, H3, H4 and H5*, this study conducted further analyses to ascertain the sensitivity of main results to different measurements of discretionary accruals. Another model of discretionary accruals was used, specifically, the modified Jones model as proposed in Dechow et al. (1995). Therefore, the findings of the further analyses are shown in Table 5.

Table 5 reveals the analysis outcomes. As shown, the outcomes appear to be consistent with the main results. As revealed from the results, CEO tenure and female CEO have a significant and negative link with discretionary accruals. Furthermore, CEO expertise and CEO age were found to have an insignificant negative relationship to discretionary accruals. However, CEO network in further analysis has a negative and insignificant association with discretionary accruals, which contradicts the negative and significant result in the main analysis.

Overall, the findings of the additional analysis of the model are almost similar to the main findings. This provides support and robustness to the study's results in the main regression model. Furthermore, the obtained results for control variables also show consistency with the main result of the study except for ROA. In the main result, ROA was positively insignificant with DA, as demonstrated by the use of Kothari et al.'s (2005) model. However, further analysis using Dechow et al. (1995) yielded a negative and weak significant relationship. The reason behind that may be due to the use of ROA in the estimation of the first model by Kothari et al. (2005), while ROA was not part of Dechow et al.'s (1995) model.

## 6. Conclusions

The present study examined the relationship between CEO characteristics and discretionary accruals. The sample of this study comprises 1,957 firm-year observations of Malaysian listed firms for the 2012–2016 period. Discretionary accrual, as developed by Kothari et al. (2005), was utilised in the EM practice evaluation.

**Table 5. Regression Results of Robustness Test**

DA	Expected Sig	Coef.	z-value	P> z
TENURE (years)	-	-0.00049	-3.36	0.0005***
NETWORK	-	-0.00083	-1.06	0.1445
FEMALE	-	-0.01404	-2.67	0.004***
EXPERT	-	-0.00183	-0.62	0.2685
AGE	-	-0.01486	-0.91	0.1815
FIRMSIZE	-	-0.01341	-4.78	0.000***
LEV	+	0.02215	2.40	0.008***
BIG4	-	-0.00096	-0.38	0.3525
ROA	-	-0.03517	-1.31	0.0955*
SGROWTH	+	0.01609	2.79	0.0025***
SUB	-	0.00655	2.08	0.019**
MTB	-	0.00518	2.99	0.0015***
_cons		0.16425	5.34	0.000***
Year effect			Yes	
Industry effect			Yes	
Number of obs	=	1,957		
R-squared	=	0.0916		
Prob > chi2	=	0.0000		

\*\*\* Significant at level 0.01, \*\* Significant at level 0.05, \* Significant at level 0.1, (1-tailed test). See, Table 1 for variable definitions.



The obtained results generally show that CEO characteristics constrain earnings management. As specifically shown, CEO tenure, CEO network and female CEO are negatively significant to earnings management. Meanwhile, CEO expertise, age and earnings management do not appear to be associated. The further analysis supports the main regression results.

This result found that long-tenured CEOs appear to be less involved in EM. Likewise, these CEOs may be more rigorous in improving their strategic decisions and are less prone to manage earnings for the purpose of generating high quality financial reporting. Additionally, CEOs with large networks appear to be more inclined to have higher reporting quality. These CEOs are also less prone to practice earnings management owing to the fact that social capital loss may offset the benefit. Gender-wise, this study found that female CEOs have a lower predisposition to be engaging in unethical behaviour in their effort to achieve monetary rewards because they show higher workplace ethics. As females are given less room for error, they are likely to take fewer risks.

The extant literature is enriched by the outcomes of this study. Notably, the extant literature has yet to properly examine the connotation between characteristics of the CEO (i.e. tenure, network, female gender, expertise, and age) and earnings management. Therefore, the present paper decreased the gap by investigating the linkage between CEO characteristics and EM. Additionally, the role of CEO characteristics and their effect on EM amongst Malaysian listed firms were explored in this study. At the same time, practitioners, including shareholders and investors, can benefit from this study, as it highlights the factors impacting earnings management. Both shareholders and investors can determine the specific CEO characteristics that generate high-quality financial reports. As for regulators, they can peruse the outcomes of this study to uncover the factors affecting earnings management, especially in the Malaysian listed firms.

The limitations discovered in the present study should equally be highlighted. Firstly, only five CEO characteristics were included, and thus, future studies should consider examining other characteristics in order to enrich the findings further. Among the suggested characteristics associated with CEOs are ethnicity, ownership, compensation, and religiosity, to name a few. Another limitation is the use of Kothari et al.'s (2005) discretionary accruals in measuring earnings management. As such, to increase the value of the findings further, future studies should employ other proxies, for instance, real earnings management (REM).

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