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Narcissistic CEOs and their earnings management

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Abstract
This study investigates the role narcissism in corporate leadership has on the earnings management for a sample of 514 listed companies in Bursa Malaysia between year 2009 and 2015. Using the unobtrusive method and robust panel regression, we find that the narcissistic CEO has positive association with the earnings management. It means that a narcissistic CEO has a tendency to manage corporate earnings to fulfil their ego, which brings a new perspective to agency theory. For shareholders, the number of CEO photographs in the annual report may be an early warning sign of self-centric earnings management.

Keywords Narcissistic CEO · Narcissism · Earnings management · Malaysia

1 Introduction

Literature has extensively documented the determinants of managers' abilities in "cooking" corporate earnings. The findings are dominated by surmising that certain firm characteristics play significant role in earnings management (e.g., Meek et al. 2007; Coad and Holzl 2010; Coad et al. 2014). Meanwhile, upper echelons theory proposes top management behaviour as the determinant on organization behaviour like earnings management (Hambrick 2007). For instance, CEO background has been found to play significant role on financial fraud (Demerjian et al. 2012), financial disclosure (Reeb and Zhao 2013), or tax avoidance (Ding et al. 2014). Thus far, little is known about the narcissism effect on firms. This is quite intriguing considering the case of narcissistic CEOs is popular in emerging countries such Malaysia, which could offer a different snapshot of how psychological factors influence earnings management. Building on these theoretical assumptions, we aim to empirically

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examine the role of narcissism within firms in the relatively small emerging market of Malaysia. Furthermore, we aim to extend the basic tenet in finance by arguing that agency issue might occur due to the psychology of the CEO.

Because of the agency issue on compensation and alignment, the CEO is charged with managing the company's earnings to achieve the target set by shareholders. CEOs utilize the loophole in accrual accounting to cook firm's earning for the sake of achieving the expectation from shareholders and for their bonus and compensation (Dechow and Skinner 2000). As proposed by Healy and Wahlem (1999), the top management adjust the financial reporting in order to achieve the target or to affect the predetermined outcomes which depend on the accounting amounts in the report. Many CEOs around the world seem to not concur with the shareholder maximization paradigm that they manage the company for the best wealth of shareholders. With no exception, Malaysia has also ventured this agency issue.

In the case of Malaysia, earnings management has frequently sprung up due to the economic downturn. Companies such as Transmile Group Bhd, Welli Multi Corp Bhd, and SCAN Associates Bhd have undertaken earning management by manipulating the accounting figures. This has misled their stakeholders about the companies' underlying earnings performances. For instance, the Transmile Group Bhd has used earnings management to alter the accounting figures in the financial report to gain better compensation for its directors.

According to Dechow and Skinner (2000), there are particular forms of earnings management, including accrual accounting and discretionary accruals. The companies use earnings management to adjust financial reports in order to deceive investors about the performance of the companies or to affect the contractual outcomes (Healy and Wahlen 1999). These techniques are employed to obscure any changes in the stability and growth of the companies, as they may alarm their investors. Hence, earnings performance of the companies is adjusted to meet the expectations of the investors.

Yet, this strand of research is beyond the strategy of undertaking earnings management. This research proposes human psychology as the motive of earnings management, and we address CEO narcissism as the driver for it. This is consistent with the growing stream of behavioral research that suggests personal characteristics of company executives have a significant role on company policies. For example, studies have found a significant association between director and accounting practices (Ge et al. 2011), CEO reputation and earnings quality (Demerjian et al. 2012), CEO overconfidence and accounting conservatism (Ahmed and Duellman 2013), CEO optimism and corporate investment (Malmendier and Tate 2005), and CEO overconfidence and misreporting of financial statements (Schrand and Zechman 2012). However, these spates of studies have not chiefly investigated the relationship between CEO narcissism and earnings management.

Psychology literatures have documented unique characteristics of a narcissistic leader, such as overconfident (Littrel et al. 2019), desire for attention and confirmation of their superiority (Bogart et al. 2004), grandiosity (Morf and Rhodewalt 2001), and desire for accomplishment by exploiting their creativity in using others and organization (Rauthmann 2012). With those general agreement about the nature of narcissistic leader, management studies have adopted it to reveal the impact of narcissistic leader in organization. For instance, a number of studies have demonstrated that narcissistic CEO can increase their compensation beyond what is justified by organization performance because their grandiosity personality (Chatterjee and Hambrick 2007; Olsen et al. 2013; O'Reilly et al. 2014). Narcissistic CEOs have also potential cause of fraud (Risjenbilt and Commandeur 2013), tax sheltering (Olsen and Stekelberg 2016), and accounting data manipulation (Hsieh et al. 2014) due to their part of proving their superiority even though they have to manipulate others and organization document. Hence, this current research proposes that narcissistic CEOs may use their ability and competency to induce their firm performance by manipulate the earnings because their desire for superiority, and grandiosity.

Malaysia offers an interesting context for the association between CEO narcissism and earnings management. Firstly, there is a higher degree of white collar crime in Malaysia (Tay et al. 2016) and also reported earnings management cases in Malaysia. There are several cases of earnings manipulation in Malaysia such as Transmile Group Bhd, Welli Multi Corp Bhd, and SCAN Associates Bhd. These case studies would serve as a good platform for further exploration in this topic. Secondly, there is a poor level of accounting reporting in Malaysia. Based on Cai et al. (2008), the countries with weaker enforcement usually have more earnings management, and Malaysia is no exception. For instance, the Malaysian Accounting Standards Board develops the accounting standards which are based on the International Accounting Standards. However, there is no any regulatory mechanism to enforce the agreement to these standards as compulsory (Saleh et al. 2005). Moreover, Malaysia is a developing country with relatively weak legal enforcement compared to other, advanced markets. Burgstahler et al. (2006) state that countries with weak legal systems enable companies to more often conduct earnings management.

This paper's main objective is to investigate the narcissistic CEO effect on earnings management under the panel regression model. We expect to draw a contention about stewardship theory and agency theory under the scope of upper echelon paradigm. We applied the unobtrusive method to retrieve the narcissistic data through annual reports. Ideally, CEO narcissism is measured using Narcissistic Personality Inventory of Raskin and Terry (1988). However, this inventory is a self-reported test and it is difficult to fill out such an obtrusive test.

In sum, we examine the role of narcissism on earnings management, in which we use the discretionary accrual approach by Dechow et al. (2011) to retrieve the earnings management information. We also follow previously established research in controlling the earnings management. While our focus is still on the narcissism effect, these control variables also play an important role in avoiding estimation bias. The data is a pooled set of information from 2010 to 2015 which we will explain in detail in Sect. 3.

This study's contribution is threefold. First, we add to the literature by extending the understanding of this research area, especially by gauging the motives of earnings management in the perspective of psychology. Second, we document the empirical findings of narcissism effect on company's earnings management in the small emerging market of Malaysia. Lastly, we further establish the fact that psychological identity may play a significant role in determining the earnings management of a company—in particular, relating to the managerial alignment or even compensation.

The rest of this paper is organized in the following manner: Sect. 2 reviews the literature and theoretical concepts on the narcissism behavior on earnings management. Section 3 describes the estimation model including the data and sampling. Section 4 reports the empirical testing results and its discussion. Section 5 concludes the paper.

2 Literature review

The association between narcissism and earnings management can be explained using the behavioral perspective and the organizational perspective. Brahmana et al. (2015) highlight the influence of psychological factors on investment decision making. They show that our cognition process plays an important role in decision making. Hence, introducing the agency issue, a narcissistic CEO has developed a strong ego to prove his/her capabilities in running organization. Narcissistic CEOs perform earnings management without considering its impact on the shareholders' wealth, and use it as personal branding to increase the public awareness of their own personal reputation. According to Hamilton and Zeckhauser (2004), when the company is led by a celebrity CEO, the average shareholder return is low in the short term, or even the long term. In addition, Davidson et al. (2004) have said that impression management through the earnings management reflects the agency cost if it is guided to non-optimal decision making by the shareholder.

From the organizational perspective, the association between narcissism and earnings management is well explained by upper echelons theory. The performance and strategic decisions of the organization can be influenced by top management team characteristics, background and value (Hambrick and Mason 1984). Carpenter et al. (2004) summarize that under the upper echelon perspective, strategic decision—such as earnings management—is a reflection of the value and cognitive base of top management. The value and cognition are influenced by the characteristics of the agent (in our case, the CEO). Those with narcissistic traits tend to preserve their pride and ego, and as a result, those individuals may use these particular characteristics to alter major organizational performances. As contended by this study, the earnings management choices made by a narcissistic CEO would at least partially reflect the behavioral tendencies of that individual.

Prior literature has documented the role of CEO characteristics on earnings management. Ding et al. (2014) argued that the benefits of the companies can be generated by their CEOs' reputations. It is also important for the CEOs of the companies to continue participating in the market as a means to increase their status. Overconfident CEOs also have significant effects on the earnings performance of their companies (Wade et al. 2006). The behavioral traits of overconfidence and risk-taking can lead to a high probability of investing in endeavors that fail and cause the company to take a loss. Thus, earnings management can occur and manipulate the earnings of the companies in order to avoid the loss.

Even though psychology literature has consistently found support for the proposition that narcissists are prone to heightened risk taking behavior (Foster et al. 2009, 2011), there is scant research gauging the role of narcissism on strategic decisions made by CEOs. This is interesting considering the narcissistictrait that demonstrates strong motivations to pursue desirable outcomes, as well as weak motivations to avoid negative outcomes (Foster and Trimm 2008). Even if narcissistic CEOs experience failure, they will have high self-esteem and high self-motivation for doing well of the future and will take more risk (Campbell et al. 2004). They will reject any failure probabilities for recognition and attention, corresponding with the agency issue in finance (Elliot and Thrash 2001). For instance, a narcissistic CEO is more likely to engage in bold action in strategic business action because she/he has confidence the choice is near to perfect (Chatterjee and Hambrick 2007). These actions attract the attention that narcissists crave, but also come with potentially wide swings in performance, from big wins to big losses.

Psychology literature labels narcissism as the dark side of personality, and one of the dark triad of personality traits, because narcissists are often characterized by flamboyance boastfulness, self-importance, and arrogance (Resick et al. 2009). The trait of narcissism is a multifaceted personality consisting of grandiosity, self-importance, and inflated self-views (Campbell et al. 2005, 2011). A narcissistic person has "dark-force" characteristics including authority, exhibitionism, superiority, vanity, exploitativeness, entitlement, and self-sufficiency (Raskin and Terry 1988). This narcissist has a strong desire for power (Emmons 1987). They are exploitative because they lack empathy (Brunell et al. 2008), and they seek recognition and praise as self-enhancement opportunities to support their grandiose senses of superiority (Campbell et al. 2004). However, the narcissistic often succeeds at ascending corporate ladders because their characteristics of achievement-driven, charismatic, and confident (Campbell and Campbell 2009) help them to excel in the competitive workforce. Due to possessing such traits, a narcissistic person in the executive position of CEO tends to participate in earnings management.

Understanding the behavior of narcissistic person might trap scholars in arguably paradoxical question: will narcissistic person who have high self-esteem do an action that may harm their self-image? Or in business and economics perspective, if narcissistic CEOs are vain and have high self-esteem and weak motivation to avoid negative outcomes, would they be less likely to be concerned with earnings and more likely to view earning management as something that damages their self-image? To answer this question, it is important to distinguish between narcissism and self-esteem first, and then review the personality of a narcissistic person.

As earlier mentioned, narcissism has a personality dimension of high self-esteem (Campbell et al. 2011; O'Reilly III et al. 2014). But this does not mean narcissism is equal with high self-esteem. Brummelman et al. (2016), for instance, distinguish narcissism from self-esteem, whereas, narcissism is a bigger personality dimension; a mixture of self-esteem with other characteristics such as egoistic, grandiose, competitive, and dishonest (Campbell et al. 2011; O'Reilly III et al. 2014). Prior research such as Rijsenbilt and Commandeur (2013) and Brummelman et al. (2016) explain narcissistic person as a person with the feel of superior to others, and crave respect and admiration from others. Conversely, a pure high self-esteem person feels satisfied with themselves but do not feel superior to others. Tracy et al. (2009) report that when a narcissistic person fails to have achievement and do not receive admiration, the narcissistic fell like worthless. This is contradicting with a pure high self-esteem who will keep striving to achieve their goal and treat all failures as a process. While working in a team, narcissistic person will put all the blame and often aggressively lashes out the team member if there is a failure (Thomaes et al. 2008), meanwhile, high self-esteem person desires to establish deep, intimate bonds with others (Campbell et al. 2002). They aspire to get along rather than to get ahead (Brummelman et al. (2016).

Relate back to question about will narcissistic person who have high self-esteem do an action that may harm their self-image? Referring to above explanation, a high self-esteem CEO might not do an action that may harm their self-image because she/he takes failure as process and does not crave for admiration. Meanwhile, a narcissistic CEO might do it because if she/he craves for attention and achievement neglecting their self-image. This is aligned with prior research findings whereas narcissistic CEOs tend to neglect their self-image for admiration, and behave unethically such as tax avoidance (Olsen and Stekelberg 2016), fraud (Rijsenbilt and COmmandeur 2013), or ethical misconduct (Van Scotter and Rogglio 2018).

3 Methodology

3.1 Earnings management

The dependent variable of this study is the earnings management. Earnings management is used to smooth out fluctuations in revenue in order to meet the stock analysts' earnings projections (Dechow and Skinner 2000). The company's operation has a large fluctuation in incomes and expenses, however the stability and growth of the company are more preferable for the investors. Hence, stock price of company is always rising or falling after an earnings announcement.

Generally, earnings management is measured using discretionary accruals (see Dechow et al. 1995, 2010). Therefore, we use Modified Jones absolute accruals model to measure earnings management (Dechow et al. 1995; Hashmi et al. 2018). Higher accruals from this model indicates high earnings management. The accrual values taken from the following models:

$$\frac{TAC_{it}}{TA_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{TA_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}} + \alpha_3 \frac{PPE_{it}}{TA_{it-1}} + e_{it}$$

where: TAC is total accruals, TA is total assets, REC is recievables, REV is revenue, and PPE is Plant, Property, and Equipment.

For robustness reason, we use another measures of earnings management which is: Performance-matched discretionary accrual model. This model is popularized by Kothari et al. (2005), where it introduces performance as one factor for accrual values. We follow Kothari et al. (2005), and Hashmi et al. (2018) by using the following formula:

$$\frac{TAC_{it}}{TA_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{TA_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}} + \alpha_3 \frac{PPE_{it}}{TA_{it-1}} + \alpha_4 ROA_{it} + e_{it}$$

Note that there are many other measures for earnings management. However, there is no consensus about the best earnings management measure. Our research chooses modified Jones because it is the baseline model for any earnings management measure. We choose Performance-matched model because it is closely related to Malaysia context (Saleh et al. 2005; Lim et al. 2014). We leave the debate and argument about best earnings management for further extension of the research.

3.2 CEO narcissism

In psychology literature, CEO narcissism can be measured by using the Narcissistic Personality Inventory (NPI) (Raskin and Terry 1988). It is self-reported psychometric inventory which may capture the psychological traits more precise rather than unobtrusive procedure.Since it is difficult to obtain from executives in practical (Cycyota and Harrison 2006; Chartterjee and Hambrick 2007), alternative has often been used in empirical research. This is in-line with Webb et al. (1966) who addresses that social science should use unobtrusive method such as physical trace, behaviour and personalities. Such unobtrusive method eliminates the problem of reactivity, social desirability, and other respondent errors that can harm the entire scientific procedure of a research. In fact, most of CEO's narcissism studies employ unobtrusive method as the way to collect the personality information.

There are also empirical research findings using unobtrusive method for personality measures. Unobtrusive indicators of overconfidence in management literature (Malmendier and Tate 2005; Finkelstein 1992). This means that CEO's personality has to be in individual unit and not representing the institution or other external entities. Second, the indicator has to reflect at least two aspect of narcissism personality. Following the seminal paper of narcissism traits by Emmons (1987), narcissism trait consists of arrogance, entitlement, self-absorption, and authority. Due to the scope of study, this research does not see the best fit of an indicator to cope all narcissism dimensions. Instead, the indicators can be aligned partially of the traits (Edwards 2001).

This research uses four indicators of narcissism, which are:

i. The prominence of CEO photographs;
ii. CEO's prominence in the company's press release, and
iii. CEO's publicity;
iv. CEO's cash compensation divided by that of the second-highest paid executive

Note that those measures are adapted from previous study for example O'Reilley et al. (2014), and Olsen et al. (2013).[1] However, this research modifies it due to three reasons. First, this research does not use the "first-person singular pronouns in interview" due to the variance issue. Most of CEO does not have this item in interview

[1] Multiple previous studies used and validated the unobtrusive measure in measuring the CEO narcissism. This research directs the interested reader to Chatterjee and Hambrick (2007, 2011).

or shareholder's letter. Second, this research combine press release (item no.2) and news (item no.3). However, there is lack of data for item no.2, and this research initiated to find other methods in capturing press release. There are several empirical papers use publicity as the measure of narcissism and or overconfidence such as Chatterjee and Hambrick (2007). Therefore, this research includes item no.3, and combine it with item no.2 as a second-order dimension. Note that the preliminary result of this research found high correlation between item no.2 and no.3, which is consistent with Sohn et al. (2009). Lastly, this research does not take "non-cash compensation" as narcissism measure as what O'Reilley et al. (2014) did due to data availability.

We follow previous research by taking CEO photographs in catering the authority, self-admiration, and entitlement characteristics of narcissism (O'Reilly et al. 2014). The photographs is measured by using the size and prominence of the CEO's photograph in the firm's annual report. In particular, we rate each CEO's photograph on a scale from one (1) to five (5) as follows:

1. The annual report does not contain a photograph of the CEO;
2. The CEO was photographed with other executives;
3. The CEO was photographed alone and the photograph occupies less than half of a page;
4. The CEO was photographed alone and the photograph occupies at least half of a page, and the photograph shares the page with text;
5. The CEO was photographed alone and the photograph occupies the entire page.

Meanwhile, CEO's Press Release, News, and Publicity items are taken from bursa Malaysia following the procedure of Brahmana et al. (2015). This item takes robust procedure to construct it. Firstly, we collect all the news and press release related to companies. Following O'Reilly et al. (2014), narcissistic CEO would be insisted to be mentioned in the news and press releases. Therefore, the press release ratio is calculated as number of CEO name in press releases in year t divided by number of press releases in year t. Meanwhile, the publicity ratio is done by google news search (google trends). Similar with press release, number of CEO mentioned in news in year t divided by total company news in year t is the publicity ratio. Lastly, this research takes the total value from these two ratios as the measure for this item.[2]

Lastly, CEO's cash compensation divided by that of the second-highest paid executive is actually most common unobtrusive method for narcissism. Theoretically, CEO has control over the compensation of executive board. Narcissistic CEO believes company should compensate them much higher than anyone else in the company because he/she is more valuable. This postulation captures three

[2] Press release refers to any information that disclose to stock exchange authority. It is not included the media publicity. Meanwhile, publicity is more on media yet, it is limited on on-line media that capture by google trends. The limitation of this approach is that we cannot capture off-line (hardcopy/printed) media that may also publish information about the firms. However, we believe that in this digital era, stakeholders are more on on-line media publicity because it is fast and worldwide.

narcissistic characteristics, which are authority, arrogance, and entitlement. Hence, this research calculates this item by following O'Reilly et al. (2014) whereby the ratio is equal to cash compensation of CEO in year t divided by the second-highest paid executive in the companies in year t.

In short, there are three dimensions for CEO narcissism, namely, photograph score, publicity score, and compensation score. We rank each dimension for each firm in each year and each industry. We give score 1 to 5 by dividing the rank following 20th percentile, whereas 1 is for the lowest rank and 5 for the highest rank. We did second-order averaging from the three dimensions for each firm in each year and each industry. Following Olsen and Stekelberg (2016), this study uses the factor weightings along with standardized values for each dimension score.

3.3 Validity test for CEO's photograph, press release and relative cash pay

We test the validity of the narcissism measure in two ways. First, we conduct factor analysis following O'Reilly et al. (2014). Consistent with the notion that the three components are all capturing some aspect of the same construct (narcissism), all of the components load on a single factor (Eigen value > 1.00). The loading factor is also higher than 0.7 which is higher than suggested threshold by Hair and Lukas (2014). In short, the measurement model demonstrated adequate validity of how well an instrument that is developed measures the particular concept it is intended to measure.

Unlike previous studies such as Sohn et al. (2009), Olsen et al. (2013), and O'Reilly et al. (2014), this study adds robustness check to ensure that all of our items is in line with psychometric test such Narcissistic Personality Inventory (NPI). This is an additional test to back up our reliability and validity test above. We manage to collect NPI result from 15 CEOs from our sample. In the beginning, we sent letter and made appointment to all CEOs who are part of our sample. Yet, only these 15 CEOs replies and willing to join the NPI test.[3]

The correlation coefficient shows high coefficients between NPI and our unobtrusive dimension, where coefficient correlation higher than 0.70. Specifically, the results show the coefficient of 0.73; 0.71; and 0.82 for correlation between NPI and photo prominence, press release, and relative cash pay, consecutively. These results evidently prove that they are highly correlated. Therefore, it is reliable to use these unobtrusive indicators in the annual report as a measure of CEO narcissism.[4]

3.4 The baseline model

The dependent variable for this research study is earnings management. According to accounting literature (Dechow et al. 1995; Meek et al. 2007; Dechow et al. 2010),

[3] Note that the justification of using unobtrusive method is because CEOs in listed companies are unlikely to join personality test. This correlation is only to show that unobtrusive method does not have difference from NPI.

[4] Result is given upon request due to confidentiality and personal Image law.

these seven control variables have impact on earnings management, namely, including firm size (SIZE), firm leverage (LEVERAGE), firm growth (GROWTH), Big-4 auditor (BIG4), firm audit committee board (AUDIT), firm profitability (PROFITABILITY), and standardize cash flow (CFO). This study utilized the multiple regression models to formulate the regression model of the variables.

$$\begin{aligned} \textit{Earnings Management} = f(&\textit{SIZE}, \textit{LEVERAGE}, \textit{GROWTH}, \textit{BIG}4, \textit{AUDIT} \\ &\textit{COMMITTEE SIZE PROFITABILITY}, \textit{CASHFLOW}) \end{aligned}$$

To estimate the above model empirically, this research pooled all the sample firms and estimate the following model:

$$\begin{aligned} \textit{Earnings Management}_{i,t} = {}& \beta_0 + \beta_1 \textit{SIZE}_{i,t} + \beta_2 \textit{LEVERAGE}_{i,t} + \beta_3 \textit{GROWTH}_{i,t} \\ & + \beta_4 \textit{BIG}4_{i,t} + \beta_5 \textit{AUDIT}_{i,t} + \beta_6 \textit{PROFITABILITY}_{i,t} \\ & + \beta_7 \textit{CFO}_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{1}$$

3.5 Earnings management and CEO narcissism

The main purpose of this research study is to investigate the relationship between the CEO narcissism and earnings management in Malaysian listed companies. Moreover, the relationship between CEO narcissism towards earnings management of the companies is studied via panel regression method. The main independent variable, CEO narcissism, is added to the baseline model. Hence, our full estimation model is as follows:

$$\begin{aligned} \textit{Earnings Management}_{i,t} = {}& \beta_0 + \beta_1 \textit{Narcissism}_{i,t} + \beta_2 \textit{SIZE}_{i,t} \\ & + \beta_3 \textit{LEVERAGE}_{i,t} + \beta_4 \textit{GROWTH}_{i,t} + \beta_5 \textit{BIG}4_{i,t} + \beta_6 \textit{AUDIT}_{i,t} \\ & + \beta_7 \textit{PROFITABILITY}_{i,t} + \beta_7 \textit{CFO}_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{2}$$

where Narcissism denotes the CEO Narcissism.Noted that the signs of "i" and "t" in the panel regression model above. The symbol of "α" in this regression model shows the expected y-intercept when all independent variables are constantly equal to zero. Moreover, the symbols of "β" are the parameters or coefficients of the variables. The symbol of "ε" present the error term.

It is important to tackle the endogeneity issue in management studies because the instrumentation improves the statistical power of its estimation model (Semadeni et al. 2014). Therefore, this current research uses Wintoki et al. (2012) approach by utilizing GMM approach to fix this issue where the system GMM adds the one-lagged of performance. We report this GMM model along with the static panel regression model of model (2). The GMM full estimation model (Model 3) is as follow:

$$\begin{aligned} Earnings\ Management_{i,t} = \beta_0 &+ \beta_1 EarningsManagement_{i,t-1} + \beta_2 Narcissism_{i,t} \\ &+ \beta_3 SIZE_{i,t} + \beta_4 LEVERAGE_{i,t} + \beta_5 GROWTH_{i,t} + \beta_6 NB4_{i,t} \\ &+ \beta_7 AUDIT_{i,t} + \beta_8 PROFITABILITY_{i,t} + \beta_9 CFO_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{3}$$

3.6 Data and sample

The regression is performed using panel regression controlling for year fixed effect. It is based on White robust standard errors that control for heteroscedasticity errors, as well as firm clustering, year clustering, and industry effect, which induce a within firm serial correlation error structure. The collected pool data is used to run the tests. The data is retrieved from the annual report of each company from 2010 to 2015,from a total of 514 companies across all industries listed in Bursa Malaysia (excluding finance industries, hotel industries, IPC industries, mining industries, REITS industries, and SPAC industries). There are seven independent variables to take into consideration in this study: CEO Narcissism, firm audit committee board, firm size, firm age, firm profitability, firm growth, and firm leverage. Table 1 reports the variables definition. In addition, the Worldscope Database provides the fundamental data on the world's leading public and private companies which include the annual and interim data, detailed historical financial statement content, per share data, calculated ratios, pricing, and textual information.

4 Results

4.1 Summary of descriptive results

Tables 2 and 3 present the summary of descriptive information for our samples. Table 2 provides means, standard deviation, minimum value, and maximum value. Table 3 provides a simple correlation matrix for the variables in the sample.

It shows the descriptive of all the variables, namely, Earning Management, CEO narcissism, Firm Size, Firm Leverage, Firm Growth, Audited by Big-4, size of Audit committee board, firm profitability, and standardize cash flow, containing 514 listed companies in Bursa Malaysia within a 5-year timeframe (2570 observations).

Table 2 shows the earnings management's mean values are 0.2669 and 0.08852 for modified jones model and performance matched accrual model respectively. The distribution is good as the median values of those variables are close to its mean values. Meanwhile, CEO narcissism has mean value of 2.5052 with median value and standard deviation value of 2.5000 and 1.2276 respectively, implying good distribution and variance. Narcissism variable has range from 1 to5. The narcissism scores of 1 and 3 for 25th percentile and 75th percentile, respectively, indicating that there is a variance in terms of narcissism among CEO in Malaysia. There are many CEO with low narcissism, yet, there are also many CEO with high narcissism.

Table 1 Variable definition

Variable	Variable definition	Formula
Earnings quality	Discretionary accruals from: (a) modified Jones model of Dechow et al. (1995), and (b) the performance matched discretionary accruals model of Kothari et al. (2005)	a. Modified Jones $\frac{TAC_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{TA_{i,t-1}} + \beta_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t}$ b. Performance matched $\frac{TAC_{i,t}}{TA_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{TA_{i,t-1}} + \beta_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \beta_3 \frac{PPE_{i,t}}{TA_{i,t-1}} + \beta_4 ROA_{i,t} + \varepsilon_{i,t}$
CEO narcissism	Average value of the ranking of CEO photograph, CEO news, and CEO remuneration	$Narcissism = \frac{(Rank\ for\ Photo_{i,t} + Rank\ for\ News_{i,t} + Rank\ for\ remuneration_{i,t})}{3}$
Size	Natural logarithm of total assets	$Size = Ln(Total\ Assets)$
Leverage	Ratio of debt to assets	$Leverage = \frac{Total\ Debt}{Total\ Assets}$
Growth	Annual growth of earnings before interests and taxes	$Growth = \frac{(EBIT_t - EBIT_{t-1})}{EBIT_{t-1}}$
Audited by Big-4	Categorical variable if the firm is audited by Non Big-4 (PwC, KPMG, E&Y, and Deloitte)	0 if the firm is audited by Non-Big 4 1 if the firm is audited by Big-4
Audit Committee Board	Size of audit committee member. It is the logarithm value from total members	$Audit = Log(Total\ Members)$
Profitability	Ratio net income to total assets	$Profitability = \frac{Net\ Income}{Total\ Assets}$
Cash flow	Standardize of Operating Cash Flow	$CFO = Standardize(Log(Operating\ Cash\ Flow)$

Table 2 Descriptive statistics

	Mean	Standard deviation	25th percentile	Median	75th percentile
Dependent variables					
Earnings management (modified Jones)	0.2669	0.0620	0.2227	0.2517	0.3008
Earnings management (performance matched accrual)	0.0852	0.0220	0.0697	0.0802	0.0965
Main effect (main independent variable)					
CEO narcissism	2.5052	1.2276	1.0000	2.5000	3.0000
Control variables					
Firm size	1.7132	0.1146	1.6370	1.7083	1.7826
Firm leverage (Ln)	2.8476	1.4428	2.3614	3.0807	3.8107
Firm growth	0.0525	0.3844	− 0.1205	0.0023	0.1398
Audited by Big4 (yes–no)	0.5070	0.4001	0.0000	1.0000	1.0000
Audit Committee Board (Log)	0.3392	0.2164	0.2274	0.3696	0.4844
Firm profitability	0.0151	0.1054	0.0056	0.0360	0.0788
Firm cash flow (standardize)	0.0674	0.4269	− 0.2928	0.0327	0.3282
N (total observation)	2570				
n (number of firms)	514				
T (total years)	5				

For the control variables, the data distribution is not much different with other earnings management or corporate governance study with Malaysia context (Lim et al. 2014). The mean values are 1.7132, 2.8476, 0.0525, 0.5070, 0.3392, 0.0151, and 0.0674 for size, leverage, growth, audited by big-4, size of audit committee board, profitability, and standardize cash flow, respectively. Their median and standard deviation values confirm that there is no variance or distribution issue for the control variables.

4.1.1 Correlation matrix

Table 3 provides correlation analysis for the variables used in estimation models. It is run under Pearson Correlation analysis with a threshold of 5% significance level. The analysis has four important notes. First, both earnings management measures (modified jones and performance-matched accrual) has significant association with strong correlation coefficient (0.8443). It implies that both measure share the same information about earnings management. Second, the association between earnings management and CEO narcissism is also statistically significant at 5% level. Modified Jones and performance-matched accrual have coefficient values of 0.5620 and 0.4726, respectively. Third, those earnings management measures have significant association with all control variables. The significant association is only disappeared for the correlation between modified Jones and firm growth, and for the correlation between performance-matched accrual and

Table 3 Correlation matrix

	1	2	3	4	5	6	7	8	9	10
1. ACJONES (MAJ)	1									
2. PMAC	0.8433*	1								
3. NARCISSISM	0.5620*	0.4726*	1							
4. Firm SIZE	0.3681*	0.3098*	0.4598*	1						
5. Firm LEVERAGE	0.6644*	0.5613*	0.2859*	0.1177*	1					
6. Firm GROWTH	− 0.028	− 0.0580*	− 0.016	0.0036	− 0.0307	1				
7. AUDIT COMMITTEE	0.0613*	0.0586*	0.0444*	0.1381*	0.0099	− 0.0072	1			
8. BIG-4	0.2069*	0.1807*	0.5201*	0.2755*	0.0578*	− 0.0454*	− 0.0307	1		
9. PROFITABILITY	0.0642*	0.034	0.0635*	0.4290*	− 0.0195	− 0.0089	− 0.0351	0.0434*	1	
10. CASH FLOW	0.3339*	0.2890*	0.4756*	0.2975*	0.0121	− 0.0169	0.0848*	0.1996*	0.0286	1

profitability. Lastly, the correlation between CEO narcissism and all control variables are also statistically significant at 5% level except for growth. In fact, the magnitude of correlation is medium for three control variables, namely, firm size, Big-4, and cash flow. In addition, the correlation among control variable is found to be statistically significant for certain variables.

Theoretically, if there is significant correlation among independent variables, it conveys a message about multicollinearity issue. Therefore, we run variance inflation factor (ViF) for each estimation model and found the mean ViF values are lower than 5. It tells us there is no multicollinearity issue found for each of our estimation model.

4.2 Findings

The full model is built from baseline estimation from earnings management literature such Dechow et al. (2010), and Hashmi et al. (2018). The latter, we introduce CEO narcissism in that baseline model, and it is our full model. Prior estimating the regression model, we run first numbers of diagnostic analyses such as heteroscedasticity test, autocorrelation test, Breusch and Pagan LM test and Hausman test.

Table 4 shows the results for all estimation models. It is noteworthy that the baseline model is only run under Fixed Effect panel regression. Meanwhile, for the full model, we run robust fixed effect panel regression and two-step GMM panel regression. The reason in using two-step GMM is to omit endogeneity effect occurred from the estimation as suggested by Blundell et al. (2001) and Wintoki et al. (2012). GMM model is robust because the dynamic nature of narcissism can be catered from its instrument, and control the unobserved heterogeneity and simultaneity.

M1 refers to first-order serial correlation in first differenced. M2 refers to second-order serial correlation in first differenced residuals. Meanwhile, Sargan test is a post-estimation test of overidentifying restriction. It is needed as validation test of our panel GMM test. The rule is that p-values of m2 and Sargan test have to be higher than 0.05. We rule out the effect of each industry to avoid estimation bias by clustering method. Indeed, further study may test the effect of narcissism on earnings management in industrial basis (for example narcissism on earnings management from Manufacturing industry). We further examine whether there is significant difference of narcissism across industries. Yet, our mean difference shows there is no significant difference.

For the baseline model, Table 4 reported consistent findings for all control variables. In other words, the conclusion for the relationship between both earnings management measures and control variables is the same. All control variables have statistically significant effects on earnings management except for firm growth and audit committee. It implies that growth and size of audit committee members do not have any impact on earnings management. Meanwhile, Firm size, leverage, and cash flow have positive relationship on both earnings management measures. Higher size, or higher leverage, and higher cash flow might lead to higher earnings management.

Table 4 Full model results

	MAJ	PMAC	MAJ		PMAC	
	Baseline		F/E	AB GMM	F/E	AB GMM
NARCISS			0.2024***	0.4576***	0.5667***	0.8052***
			(0.0234)	(0.0564)	(0.0670)	(0.2107)
SIZE	1.1420***	3.5460***	0.7322***	1.2285**	2.3987***	1.7458
	(0.0528)	(0.2818)	(0.0567)	(0.4805)	(0.2029)	(2.2882)
LEVERAGE	0.2788***	0.8307***	0.2503***	0.2033***	0.7509***	0.2204**
	(0.0050)	(0.0537)	(0.0069)	(0.0390)	(0.0534)	(0.1001)
GROWTH	− 0.004	− 0.2087	− 0.0093	0.0429	− 0.2236	0.1264
	(0.0316)	(0.1796)	(0.0313)	(0.0337)	(0.1803)	(0.1273)
COMMITTEE	0.0162	0.0958	0.0269	− 0.1172	0.1257	− 0.139
	(0.0211)	(0.1114)	(0.0183)	(0.1703)	(0.1091)	(0.8112)
BIG4	− 0.0784***	− 0.2479***	− 0.0524***	− 0.2539***	− 0.1183*	− 0.8105**
	(0.0085)	(0.0469)	(0.0166)	(0.0737)	(0.0707)	(0.3159)
PROFIT	− 0.0140***	− 0.0910***	− 0.0119***	− 0.0378*	− 0.0571**	− 0.1117*
	(0.0031)	(0.0353)	(0.0041)	(0.0224)	(0.0273)	(0.0615)
CASHFLOW	0.3648***	1.1129***	0.2321***	0.2346***	0.7413***	0.7044*
	(0.0099)	(0.0851)	(0.0182)	(0.0466)	(0.0784)	(0.4095)
LAG (EM)				0.0803		− 0.2498***
				(0.0868)		(0.0317)
CONSTANT	− 0.1507*	− 0.1415	0.2002**	− 1.2179	0.8408***	6.8707*
	(0.0898)	(0.3671)	(0.0863)	(0.8692)	(0.3127)	(3.8333)
Period effect	Yes	Yes	Yes	NA	Yes	NA
Industry effect	Yes	Yes	Yes	NA	Yes	NA
Control standard error	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.5935	0.4295	0.6312	NA	0.4531	NA
m1 (p-value)	NA	NA	NA	0.0000	NA	0.0000
m2 (p-value)	NA	NA	NA	0.4440	NA	0.1438
Sargan (p-value)	NA	NA	NA	0.6179	NA	0.3358

The regression analysis is run for both earnings managements measures: Modified Jones (MAJ) and Performance Matched Accrual (PMAC). Narciss refer to Narcissism score. The reported values are coefficient values, and values inside parentheses are standard errors

*, **, and *** refer to significance level at 10%, 5%, and 1% respectively

Conversely, profitability and Big-4 have inverse relationship with earnings management indicating higher profitability leads to lower earnings management.

For the full model, all control variables still have consistent results for all the estimation models. Firm size, leverage, and cash flow have statistical contribution on earnings management positively, and Profitability and Big-4 effects are still negative. Effects from firm growth and size of audit committee are still not statistically significant. Overall, it can be surmised that earnings management is influenced by certain firm characteristics such as size, leverage, Big-4 as auditor, profitability and cash flow. Those findings are aligned with accounting and finance literature such as Meek et al. (2007), Jiraporn et al. (2008), Dechow et al. (2010), and Hashmi et al. (2018).

For the main effect, CEO narcissism, it has intriguing results. Table 4 reports narcissistic CEO has positive effect on both earnings management measures even though we tackled the endogeneity, the effect is still there. This means that the higher the CEO narcissism, the higher the earnings management of the companies. The prevalence of narcissistic CEOs and its impact on earnings management is consistent with previous research by Maccoby (2004), and Rijsenbilt and Commendeur (2013). They have acknowledged that narcissism closely relates to organizational outcomes. An increase in CEO narcissism means that the CEO is more focused on his/her self-esteem and pride, rather than the wealth of shareholders. The earnings performance of the company is negatively affected due to this reason.

Relate it to corporate governance and human capital literatures, Paulhus and Williams (2002) mention narcissism as one of three "dark" behaviors. Individuals that possess traits of narcissism are likely to be pre-occupied with dominance and will use "dark" strategies such as manipulation and cheating. This behavior has been found to significantly correlate with financial fraud.

Our findings confirm these theories by showing a significant relationship between CEO narcissism and earnings management. The positive effect indicates the high level of narcissism may result in higher probability of earnings management. Narcissistic CEOs are strongly motivated by self-affirmation from outsiders or their status in the working environment. This self-esteem requirement forces them to "cook" the earnings for their personal need of praise and admiration (Buss and Chiodo 1991; Ashforth and Anand 2003). To obtain frequent praise and admiration, CEOs feel they must undertake bold actions in the form of using their company as a tool to satisfy their need for attention.

These actions create new agency costs for company, which is the contribution of this study to the body of knowledge. Ashforth and Anand (2003) state that narcissistic CEOs—in particular, those with charismatic demeanors—do not pay at any cost for the better wealth of shareholder. This type of CEO just wants the employee and shareholder to obey him/her, and as a result, report a low quality of earnings to feed their pride. This is a detrimental consequence for shareholders.

Hence, our empirical results confirm the perspective that highly narcissistic CEOs are prone to playing loose with company's earnings quality. Specifically, these CEOs conduct earnings management as a means to feed their pride and to live the delusion of their company's strong financial performance.

4.3 Robustness check: effect of remuneration–compensation

One argument can appear in the relationship between narcissism and earnings management is agency issue. Earnings management is an outcome of rent seeking behavior of managers (Jiraporn et al. 2008; Davidson et al. 2004). For example, managers tend to manipulate earnings when managers are faced with a possibility of losing their respective jobs (Jiraporn et al. 2008). For a narcissistic individual, it is not accepted to loose job because it will show their incompetency and make them losing their pride (Olsen et al. 2013). Therefore, a certain level of compensation is theoretically may reduce that agency issue. This is tally with Core et al. (2003) who argued that principals (shareholders) can decrease agency cost by providing CEO with efficient compensation, which is famous as optimal contracting hypothesis. Therefore, we do a robustness check by testing the moderation role of compensation on the relationship that compensation should weaken the effect of narcissism on earnings management.

We construct a new variable, namely, remuneration (REMUN), and introduce it to the full model. The variable is total value of remuneration taken by CEO. We transform the value into logarithm value. Meanwhile, the moderation effect is the interaction between remuneration and narcissism. We follow the procedure of Brambor et al. (2006) and Balli and Sørensen (2013). The estimation models are run under Fixed Effect Panel regression and two-step GMM Panel regression for both earnings management measures. The results are reported in Table 5.[5]

The findings show the negative effect of remuneration on earnings management implying higher compensation leads to lower earnings management. It confirms the agency theory where higher compensation leads to lower agency cost (Bebchuk and Fried 2003; Bergstresser and Philippon 2006; Brick et al. 2012). This is tally with the agency theory of alignment whereas better compensation reduces agency cost. In our research context, higher compensation will make CEO to disclose better earnings quality report. It is in line with previous research such as Jensen and Meckling (1979), Balsam (1998), and Sun (2014). Meanwhile, the narcissism effect remains positive. Narcissistic CEOs still manage the earnings confirming our prior findings above (Table 4).

Interestingly, the interaction variable in Table 5 indicates no significant effect. This means there is no moderating role of remuneration on the relationship between narcissistic CEOs and earnings management. Higher compensation will not make narcissistic CEO to reduce or to increase their earnings management behaviour. The characteristics of arrogance, grandiosity, and desire of superiority are embodied on narcissistic CEOs (Emmons 1987; Rauthmann 2012) leading to their self-fulfiling in showing better performance of their firms. However, that performance is actually a manipulated performance via earnings management. Narcissistic CEOs did earnings management because they did not want to look inferior and incapable, not because the agency cost from disalignment of compensation.

[5] We did test the remuneration effect using sub-sampling of low and high remuneration, and find both are significant effects on earnings management. We re-estimate by introducing quadratic remuneration and the results are not significant. It implies earnings management is not about low or high remuneration, it is more on agency issue.

Table 5 Remuneration effect results

	MAJ		PMAC	
	F/E	GMM	F/E	GMM
NARCISS	0.5181***	0.4728**	1.8415***	1.6910**
	(0.1433)	(0.2014)	(0.6523)	(0.8477)
REMUN	− 0.1297***	− 0.0736***	− 0.3319***	− 0.2137**
	(0.0225)	(0.0253)	(0.0775)	(0.1016)
NARCISS*REMUN	− 0.0112	− 0.0153	− 0.0578	− 0.0633
	(0.0097)	(0.0118)	(0.0426)	(0.0546)
SIZE	0.8957***	0.4643***	2.9017***	2.1710***
	(0.0594)	(0.1259)	(0.2299)	(0.7850)
LEVERAGE	0.2325***	0.1490***	0.6974***	0.5458***
	(0.0068)	(0.0278)	(0.0485)	(0.1600)
GROWTH	0.0026	0.0935***	− 0.1887	− 0.0469
	(0.0293)	(0.0300)	(0.1730)	(0.1968)
COMMITTEE	0.0798***	0.0595**	0.2845***	0.2123
	(0.0163)	(0.0293)	(0.1099)	(0.1388)
BIG4	− 0.1247***	− 0.1041***	− 0.3383***	− 0.2615*
	(0.0180)	(0.0361)	(0.0852)	(0.1343)
PROFIT	− 0.0140***	− 0.0038	− 0.0942**	− 0.0796*
	(0.0042)	(0.0076)	(0.0374)	(0.0466)
CASHFLOW	0.3588***	0.2348***	1.1427***	0.8820***
	(0.0201)	(0.0626)	(0.1155)	(0.2532)
LAG (EM)		0.4176***		0.2344
		(0.1308)		(0.2640)
CONSTANT	1.3318***	0.6935*	3.4576***	2.124
	(0.3504)	(0.3965)	(1.1293)	(1.8389)
Period effect	Yes	NA	Yes	NA
Industry effect	Yes	NA	Yes	NA
Control standard error	Yes	Yes	Yes	Yes
r2	0.6648	NA	0.4767	NA
m1 (p-value)	NA	0.0000	NA	0.0000
m2 (p-value)	NA	0.4301	NA	0.0779
Sargan (p-value)	NA	0.3636	NA	0.7169

The regression analysis is run for both earnings managements measures: Modified Jones (MAJ) and Performance Matched Accrual (PMAC). NARCISS refer to Narcissism score. REMUN refers to Remuneration. The moderation is the interaction between remuneration and Narcissism. The reported values are coefficient values, and values inside parentheses are standard errors

*, **, and *** refer to significance level at 10%, 5%, and 1% respectively

4.4 Robustness check: high narcissism

We further investigate and test our hypotheses on whether high narcissism is the culprit for earnings management. The agency cost effect can be incurred only due to

Table 6 High narcissism results

	MAJ	PMAC			MAJ		PMAC	
	F/E	GMM	F/E	GMM	F/E	GMM	F/E	GMM
HIGHNARC	0.1492***	0.1120***	0.4714***	0.4093***	− 0.1206***	− 0.0752**	− 0.1962**	− 0.0611*
	(0.0183)	(0.0345)	(0.0620)	(0.1288)	(0.0202)	(0.0344)	(0.0776)	(0.0366)
REMUN					− 0.2059***	− 0.1408***	− 0.5951***	− 0.4469***
					(0.0126)	(0.0358)	(0.0599)	(0.1341)
HIGHNARC*REMUN					− 0.0296***	− 0.0205***	− 0.0792***	− 0.0578***
					(0.0016)	(0.0049)	(0.0067)	(0.0179)
SIZE	0.9987***	0.4822***	3.0932***	2.1890**	0.8566***	0.4327***	2.7952***	2.0815***
	(0.0492)	(0.1427)	(0.2384)	(0.8802)	(0.0582)	(0.1202)	(0.2235)	(0.7814)
LEVERAGE	0.2706***	0.1639***	0.8048***	0.6030***	0.2336***	0.1508***	0.7040***	0.5526***
	(0.0053)	(0.0353)	(0.0523)	(0.1824)	(0.0064)	(0.0284)	(0.0489)	(0.1608)
GROWTH	− 0.0085	0.0965***	− 0.2232	− 0.0545	0.0044	0.0939***	− 0.1856	− 0.0466
	(0.0337)	(0.0297)	(0.1861)	(0.1993)	(0.0275)	(0.0288)	(0.1709)	(0.1960)
COMMITTEE	0.0182	0.0094	0.1019	0.0486	0.0742***	0.0572*	0.2650**	0.1995
	(0.0184)	(0.0293)	(0.1064)	(0.1288)	(0.0183)	(0.0314)	(0.1109)	(0.1396)
BIG4	− 0.0416***	− 0.0143	− 0.1318**	− 0.1011	− 0.1170***	− 0.0942***	− 0.2972***	− 0.2130*
	(0.0098)	(0.0140)	(0.0540)	(0.0921)	(0.0159)	(0.0330)	(0.0739)	(0.1114)
PROFIT	− 0.0090***	0.0004	− 0.0751**	− 0.0523	− 0.0121***	− 0.0021	− 0.0878**	− 0.0637
	(0.0034)	(0.0085)	(0.0358)	(0.0486)	(0.0041)	(0.0074)	(0.0370)	(0.0467)
CASHFLOW	0.3098***	0.1787***	0.9392***	0.6609***	0.3153***	0.1950***	0.9958***	0.7448***
	(0.0132)	(0.0497)	(0.0725)	(0.2381)	(0.0230)	(0.0537)	(0.1015)	(0.2437)
LAG (EM)		0.4738***		0.2707		0.4176***		0.2366
		(0.1322)		(0.2652)		(0.1318)		(0.2656)
CONSTANT	0.0689	0.0318	0.5522*	0.4513	2.3692***	1.6254***	7.1322***	5.4410***
	(0.0849)	(0.1161)	(0.3252)	(0.4309)	(0.1752)	(0.4415)	(0.6898)	(1.6990)

Table 6 (continued)

	MAJ	PMAC			MAJ		PMAC	
	F/E	GMM	F/E	GMM	F/E	GMM	F/E	GMM
r2	0.603	NA	0.4371	NA	0.6648	NA	0.4746	NA
m1 (p-value	NA	0.0001	NA	0.0000	NA	0.0001	NA	0.0000
m2 (p-value)	NA	0.5457	NA	0.1908	NA	0.2892	NA	0.1908
Sargan (p-value)	NA	0.4377	NA	0.415	NA	0.3901	NA	0.0968

The regression analysis is run for both earnings management measures: Modified Accrual Jones (MAJ) and Performance Matched Accrual (PMAC). HIGHNARC refer to high Narcissism score. The moderation is the interaction between remuneration and high Narcissism (Highnarc*Remun). The reported values are coefficient values, and values inside parentheses are standard errors

*, **, and *** refer to significance level at 10%, 5%, and 1% respectively

the high narcissism. To determine whether high narcissism plays important role on earnings management, we re-estimate the regression of our full model with a new measure of narcissism. First, we rank narcissism from highest to lowest according to the score for each year and each industry. Second step is to give score 1 for score that in 75th percentile or higher, otherwise, the score will be 0. High narcissism score is those firms with score 1, and low narcissism score is those with score 0. We introduce that high narcissism variable into our full model, and take out the narcissism variable. We re-estimate the model under robust fixed effect panel regression and two-step GMM panel regression.

The findings on Table 6 are very interesting because its conclusion is different from our prior findings in Tables 4 and 5. First, high narcissism has negative effect on earnings management. In other words, high narcissistic CEO has lower earnings management compared to the non-high narcissistic CEOs. This implies that even though narcissistic CEOs are an arrogance, overconfident, and grandiosity individu, those with high level of narcissism may relook their reputation.

Second, it is also found that there is a moderation role of remuneration on the relationship between high narcissism and earnings management. The moderation has negative effect on earnings management. This implies that higher compensation may lead to lower earnings management for firms with high level of narcissism CEOs. Hence, remuneration may weaken the effect of high narcissism on earnings management. Using Cohen F^2 approach,[6] we found that the moderation effect size is medium for Modified Accrual Jones model (MAJ), and small form Performance Matched Accrual Model (PMAC),[7] where the F^2 values are 0.18 and 0.07 for MAJ and PMAC, respectively. In short, remuneration has medium and big moderating effect on the relationship between high narcissism and earnings management.

Giving better remuneration to high narcissistic CEO will trigger their ego and make them to consider their reputation by not providing bad earnings quality report. In addition, Table 6 also demonstrates that remuneration has negative effect on earnings management. Higher compensation given to CEOs may results lower earnings management. It is tally with alignment hypothesis of agency theory, and confirms that compensation may reduce the agency cost outcome such as earnings management.

One explanation for those first and second findings from Table 6 is reputation. Psychology literature such Foster et al. (2011) and Campbell et al. (2004) argue that narcissistic leader has strong motivation to pursue desirable outcomes while also possessing weak motivation if it is related to their reputation. High narcissistic (extreme narcissism) CEOs do not want to harm their reputation by doing earnings management due to their grandioses sense of superiority and self-enhacement. High narcissistic CEOs may prefer to report the loss, and then claim it as part of process and put the blame on others (Rauthmann, 2012). Further, reporting losses with good earnings quality report is much better for the high narcissistic CEOs for

[6] Cohen F^2 formula is $R2_{moderation} - R2_{withoutmoderation} / 1 - R2_{Moderation}$.

[7] The threshold guideline for Cohen F^2 is $f2 \geq 0.02$, $f2 \geq 0.15$, and $f2 \geq 0.35$ represent *small*, *medium*, and *large* effect sizes, respectively.

their self-esteem. Especially with higher remuneration, high narcissistic CEOs may consider the financial losses actually part of temporal process or the failure from others because they think that if the failures are due to their incapability, they should not be paid higher. Although these results suggest that high remuneration are able to weaken the relationship between high narcissism and earnings management, our data does not allow to rule out alternative explanation about high narcissism CEOs role on compensation and earnings management. We leave the debate about the mediation of compensation on high narcissism and earnings management for future research.

5 Conclusion

Our study addresses an interesting perspective of earnings management; gauging the CEO's psychology. Our study is chiefly motivated by the emerging issue of psychological factors influencing organizational decision making, especially in the context of developing countries. This research, by all means, lays the foundation for further research into this topic on emerging markets with more focus on country-specific characteristic dimensions.

Our results show that there is a positive, significant relationship between CEO narcissism and earning management which is consistent with the results Rijsenbilt and Commendeur (2013). Our results also bring implications for the confirmation of the upper echelon theory. The findings surmise that narcissism in CEO psychology preserves the pride and ego, and the same trait compels the CEO to deceptively manage the company's earnings. The results also suggest that CEOs put their personal reputation above the wealth of companies by running earnings management; a confirmation of agency theory. Another contributing aspect of our study is our use of the panel data approach, which allows for assessing changes in CEOs' narcissistic levels over time—thereby, providing a more reliable conclusion. Some of the implications suggested by this research study may be valuable knowledge to be shared with stakeholders and policy makers. That is to say, stakeholders would benefit by being informed of the companies that have narcissistic CEOs.

Having said this, these findings need to be further validated in other countries' contexts. In particular, similar studies should be conducted in other developing countries to verify some facts about the role of narcissism plays in earnings management. First, more in-depth insights can be gathered through another research design such as a survey. Secondly, it would be valuable to test and compare these propositions within the financial industry. The behavior of narcissistic CEO in financial industry might be different due to strict and tight regulation and monitoring. The accounting and financial innovation in financial industry is also relatively more complex triggering the grandiosity of CEOs to do earnings management. Additionally, future research may engage with the power level of narcissistic CEO towards earnings management under power circulation theory, or ownership expropriation effect on narcissistic CEO-earnings management, or some corporate governance variables can be considered as the new perspective providing another interesting extension to this research.

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