



## Board process and moderating effects of company secretaries' attributes on real earnings management in Malaysian listed companies

**Mohd Azuwan**

**Khalidi**<sup>1+</sup>

**Nur Ashikin Mohd**

**Saat**<sup>2</sup>

**Lau Yeng Wai**<sup>3</sup>

**Fatima Abdul**

**Hamid**<sup>4</sup>

<sup>1,2,3</sup>*School of Business and Economics, Universiti Putra Malaysia, Malaysia.*

<sup>1</sup>*Email: azuwan@cherwan.com.my*

<sup>2</sup>*Email: shiknms@upm.edu.my*

<sup>3</sup>*Email: wai\_ly@upm.edu.my*

<sup>4</sup>*Kulliyah of Economics and Management Sciences, International Islamic University Malaysia, Malaysia.*

<sup>4</sup>*Email: afatima@iium.edu.my*



(+ Corresponding author)

### ABSTRACT

#### Article History

Received: 10 March 2025

Revised: 17 November 2025

Accepted: 14 January 2026

Published: 9 February 2026

#### Keywords

Board processes

CEO succession planning

CEO succession

Company secretaries' attributes

Real earnings management

This study aims to establish the relationship between board procedures and earnings management (REM), focusing on Malaysian listed companies during the period from 2017 to 2019. It examines the moderating influence of the company secretary. In analyzing the multicollinear relationships among various board processes and the role of company secretaries in moderating REM practices, the author employs the PCSE method. The analysis utilizes data from Thomson Reuters' Advance DataStream, Bursa Malaysia, company annual reports, and MyData. The results indicate that the length of the CEO's term of office influences REM values. Specifically, if the organization's head is appointed from outside the company, REM values tend to be lower. Conversely, if the CEO is internally promoted, REM values are relatively higher. The technical, commercial, and social characteristics of company secretaries impact the relationship between board processes and REM, highlighting their relevance to corporate governance measures and controversies related to earnings management standards. The study offers valuable recommendations for executives and directors aimed at improving the quality of corporate governance systems and decision-making processes. Furthermore, it provides a foundation for regulators and policymakers to enhance or establish governance frameworks that promote ethical business conduct, corporate transparency, and accountability.

**Contribution/Originality:** This study pioneers an empirical analysis of company secretaries' technical, commercial, and social attributes as moderators of CEO succession-REM dynamics. By applying a structured index within a behavioral governance framework, it offers original insights into underexplored internal mechanisms that influence financial reporting quality in Malaysian listed companies.

## 1. INTRODUCTION

REM has attracted significant interest from practitioners and scholars due to its widespread use within corporations. Similar to Ipino and Parbonetti (2017) and Md Nasir, Ali, Razzaque, and Ahmed (2018), the study found that organizations turn to REM, which affects future operational performance and may potentially erode long-term corporate value. The use of normal business activities to manage near-term earnings is not only deceptive to stakeholders but also transforms the financial structure of the organization. For example, Amran, Ishak, and Manaf (2016) and Shaikh, Fei, Shaique, and Nazir (2019) revealed that firms with high and low ratios of debt are motivated

to implement REM in order to meet specific earning targets and avoid violating debt covenants. Like earlier research by Kouaib and Jarboui (2016), noted that managers inflate earnings through the following techniques: sales are accelerated, while COGS are reduced, and discretionary expenses are decreased. Specifically, Enomoto, Kimura, and Yamaguchi (2015) and Enomoto, Kimura, and Yamaguchi (2018). In their studies, it has been established that Malaysia is among the active countries for the establishment of REM in the Southern Asia region, and the activities intensify before malpractice involving noted entities. The outcome of REM includes higher cash flow effects, as proposed by Alhadab and Clacher (2018), whereby even quality auditors are unable to identify sales manipulation, thus increasing costs in information processing. Additionally, REM is magnified when disclosure quality is lowered due to information asymmetry, which results in higher agency costs for investors (Abad & Bravo, 2018; Li, Lin, & Luo, 2020). Considering all the implications of such effects, this research aims to explore various aspects of REM to understand its broader implications for business transparency and investor trust. It also emphasizes the need to examine the long-term impacts of REM on corporate integrity and sustainable business performance.

Based on studies conducted on Malaysian firms, there is evidence suggesting that these firms are more likely to engage in high-risk REM activities in the pre-fraud environment (Md Nasir et al., 2018). Thus, we find that the subject of REM has been placed under focus both by theorists and by implementers since it is evident that most firms are involved in REM practices (Ipino & Parbonetti, 2017; Md Nasir et al., 2018). Such practices not only erode future operating cash flows but also hinder the gradual decline of overall corporate value, as managers manipulate real business conditions to achieve artificial gains for somewhat fictional earnings targets.

Drábek, Lorincová, and Javorčíková (2017) all these scholars call for increased emphasis on human capital as one of the most significant aspects of a company's business model, emphasizing its absolute indispensability to the firm's success. This is supported by the NACD (2019). From this finding, it was revealed that 74% of boards consider CEO succession planning an adequate challenge within the boardroom, emphasizing the importance of maintaining strong leadership pipelines and establishing effective long-term succession plans. Furthermore, the report indicates that as many as 38% of boards recognize that succession management is often misaligned with strategic organizational needs, highlighting a significant area for improvement in governance practices. As suggested by Marcec (2018) revelation that the median chief executive officer (CEO) tenure has reduced from six years in 2015 to five years in 2017, and while the average age of CEOs has risen, it is clear that boards must improve on their performance to improve on their effectiveness, especially in terms of CEO succession planning. According to Attia, Ismail, and Mehfadi (2022) board characteristics tend to contribute to firm performance. Despite the increasing number of studies, research gaps still exist regarding the influence of board characteristics, earnings management practices, and firm performance. This study makes a significant contribution to the existing body of research (Amer, 2016; Salem, Metawe, Youssef, & Mohamed, 2019; Zalata, Ntim, Alsohagy, & Malagila, 2022) related to real-based earnings management activities. This analysis examines whether real earnings management tends to be influenced by corporate governance, considering the characteristics of the board. This is a significant area of study, particularly in the context of Malaysia.

Therefore, a fluctuating relationship between the board processes involved in human capital management and the Malaysian entities' REM practices emerges as an essential area that requires extensive research. Exploring how boards manage human capital decisions provides insights into how boards might enhance the quality of firms' financial reporting or optimize its alignment with stakeholder goals (Nawaz, 2019). Therefore, this study aims to fill the existing research gap by analyzing the relationship between board processes related to human capital management, with an emphasis on CEO succession and planning, and the extent of REM activities among Malaysian firms. In this regard, the study seeks to enhance the corporate governance debate, improve existing regulatory frameworks, and boost organizational performance within the Malaysian context. These efforts will contribute significantly to the body of knowledge in corporate governance. The research is designed to investigate the interaction between board processes and human capital concerning REM activities. Additionally, the study aims to assess the moderating role

played by the technical, commercial, and social characteristics of company secretaries in mediating the relationship between board processes, human capital, and REM activities.

## 2. LITERATURE REVIEW

### 2.1. The Agency Theory as the Theoretical Framework of this Study

Agency theory, which emphasizes the principal-agent relationship between shareholders and CEOs or managers, can be applied in this research AlHares (2020); Bodin (2023); Bw'uma (2021) and Rauterberg (2020). This study aims to understand how various types of CEOs might influence REM activities in a manner that aligns with their or shareholders' interests. Specifically, young CEOs or those with early tenure may engage in REM to build a performance record for themselves and to make their claims. However, both heir apparent and outside CEOs may have objectives that differ due to their varying relationships with the board and shareholders. The following is a list of factors that could be investigated concerning the attributes of company secretaries (technical, commercial, social). If these attributes are fully understood, they can serve as moderating variables that impact the processes through which the board monitors and controls REM activities, thereby helping to minimize agency costs.

### 2.2. Board Process and REM

Zahra and Pearce (1989) It has been suggested that the board's strategic capabilities focus on their capacity to maneuver through decision-making processes, deliberate on other important questions, and appraise strategic choices. This underscores the fact of their incontestable significance for the further evolution of the organization. To effectively perform these roles and exert influence appropriately, the board must possess a decision-making mechanism that is different from the usual. They should have the remarkable competency to envision and plan for future situations, tolerate inherent vagueness, reason systematically, and collaborate effectively with others (Zhang & Rajagopalan, 2010). With reference to knowledge and reflection, the board can unleash the potential of different thinking and proficiency (Zhu, Wang, & Bart, 2016). This approach enables them to concentrate on the most appropriate business activities that will advance the organization's objectives and ensure its longevity.

### 2.3. CEO Succession

In the case of CEO succession, there are indications that both the incumbent and the incoming CEO may engage in related practices. CEO succession impacts various aspects of executives' careers and reputations, as well as organizational strategy and performance. CEOs who are about to leave office may have incentives to inflate earnings to enhance their personal image. For example, using the same variables from the referenced study, Setyawan and Anggraita (2017) suggested that outgoing CEOs might be inclined to protect their professional reputation, negotiate for higher terminal severance payments, and ensure that their final years of service are associated with improved firm performance.

### 2.4. Young CEO and REM

The age of a CEO can influence company performance in both positive and negative ways. A study conducted by Suherman, Mahfirah, Usman, Kurniawati, and Kurnianti (2023) demonstrated that CEO age is positively associated with accounting performance, as measured by ROA and ROE. The authors suggest that older CEOs may enhance financial performance due to their extensive experience and broad network of contacts. Conversely, the same study found a negative correlation between CEO age and Tobin's Q, a market-based performance measure. These findings indicate that the relationship between CEO age and firm performance is complex and may depend on the specific performance metrics used.

Based on the findings of prior research, young CEOs are more suitable for the processes of growth and innovation than older CEOs, and they also care more about their careers and financial security (Gupta, 2022; Nadeem, Zaman,

Suleman, & Atawnah, 2021; Zhao, O'Connor, Wu, & Lumpkin, 2021). For instance, Han (2024), who did his study in the US, discovered that venture-aged firms headed by young CEOs have greater sales growth and asset growth rates, greater capital expenditures and R&D intensity, and better operating performances than comparable firms headed by older CEOs. In addition, Zhang, Bhabra, Chou, and Tan (2019) affirm that young managers are less risk-averse and are better suited for perceiving novel concepts and adopting new patterns, which can lead to risky and innovative strategies that may result in higher growth and variability in profitability compared to mature managers in similar industries. Pan, Yue Wang, and Weisbach (2018) looking at the impact of firm-level CEO age and credit default swap (CDS), argue that market assessment of default risk depends on the level of uncertainty relating to new CEO and noticeably found that this has a larger bearing when the CEO is below the age of 50 at the time of appointment.

### ***2.5. CEO Early Tenure and REM***

A recent study has endeavored to shed light on CEO succession and its relationship with factors such as CEO tenure, as well as its moderate effects on earnings management. For instance, in a study carried out by Ali and Zhang (2015), the authors observed that firms' earnings are overstated in the early years more than in the later years of the CEO's tenure. The authors seem to imply that when CEOs are relatively unknown to the public and when people know little about them, especially when these CEOs are relatively new, these individuals strive to create a positive image in the eyes of the stock market and investors. This effort is particularly evident at a time when the market has yet to determine their actual performance or standing. This behavior might be due to the fact that CEOs are replaced fairly often, and they are succeeded by other individuals; for example, within a year (Yuan, Hu, & Cheng, 2023).

Bouaziz, Salhi, and Toumi (2020), using a sample of firms located in France, found that earnings management that portray CEOs in a better light occurs at the onset of the CEOs' tenures and during their entire tenure as CEOs. Other researchers including (Setyawan & Anggraita, 2017), also support this view by arguing that during times of transition, introducing new CEOs often brings in elements that present the company's earnings in a more favorable light. They both employ AEM and REM when declaring higher remits such as more profits, particularly at the start of their term. Moreover, in the study conducted in the US by Geiger and North (2011), it was detected that discretionary accruals of CEOs depend on the year of their appointment and are very high in the first full year of reporting.

### ***2.6. CEO Succession Planning***

Another significant board process is the CEO succession planning (Malaysia Securities Commission, 2012; Naguib et al., 2004). Succession planning is therefore the process of identifying individuals who could, in the future, replace the CEO (Schepker, Nyberg, Ulrich, & Wright, 2018). The process outlined above facilitates organizations in achieving smooth succession planning and strategic management. CEO succession planning typically begins with the Board conducting interviews and assessments to determine the qualities and skills required for the next CEO (Geiger & North, 2011; Gupta, 2022; Han, 2024; Suherman et al., 2023). The company's current and future requirements, industry trends, and strategic objectives are taken into account.

### ***2.7. Heir Apparent CEO and REM***

Heir apparent CEOs are usually individuals who have been with the company for some time and, therefore, have gained a good understanding of the organization's strengths and weaknesses, its financial position, and its strategy. The environment for the heir apparent is experienced, socialized, and involved in top management decisions within the company before taking over as the CEO (Bigley & Wiersema, 2002). In addition, by gaining exposure to CEO responsibilities, the heir apparent is able to receive practice before assuming the position, which may in effect reduce the organization's performance risk due to the new CEO's inexperience in a specific context (Zhang & Rajagopalan,

2004). According to Bae, Joo, and Yu (2023) and Cvijanovic, Gantchev, and Hwang (2018), the fact that a firm has a heir apparent does not mean that it has a real succession plan.

### **2.8. Outside CEO and REM**

Schepker, Kim, Patel, Thatcher, and Campion (2017) used chronological data from several studies performed from 1972 to 2013 only. In all, the analysis had 60 samples, with 13,578 follow-ups included. One research showed that when firms 'grow' their CEO from within the organization, the firms typically outperform when compared to those that hire CEOs from outside. Furthermore, as rightly pointed out by Zhang and Rajagopalan (2004), there is a tendency for the internal successor to be almost a replica of the CEO more than an external successor. This could lead to enhanced organizational performance after the succession has taken place. The first reason is their better stock of knowledge, which enables them to identify better configurations of knowledge and resources, as well as understand the competition, while internal successors possess firm-specific knowledge and resources. As a result, this eliminates the need for large-scale strategic changes (Schepker et al., 2017). This hard evidence is arrived at from the study conducted by Brockman, Krishnan, Lee, and Salas (2019), where it is concluded that CEOs with inside knowledge of the company are associated with lower audit fees. This suggests that their understanding of the company's products, competitors, markets, and customers enables them to better assess the company's actual performance in the financial statements, thereby reducing audit risk.

## **2.9. Moderation of the Company's Secretary Attributes**

### **2.9.1. Technical Attributes**

The critical attributes of professional corporate secretaries include holding a master's degree, international experience, legal acumen, and an accounting background to enhance the board process. Kakabadse, Khan, and Kakabadse (2016) and Sigauke, Collins, Mutambara, and Sibanda (2015) state that wherever advanced accounting, legal, overseas experience and higher education, among other factors, were observed to influence job responsibility. The incumbents were found to be more responsible in their roles. The company secretary is formally bound with the legal accountability for observing the regulations or supervising the legal requirements and the sustainability of theoretical corporate governance (International Finance Corporation, 2016; Kakabadse et al., 2016).

### **2.9.2. Commercial Attributes**

The commercial role should be that of an experienced company secretary who has been in an operational capacity, involved in running a commercial business, or at least having a background in entrepreneurship. This experience helps them to provide specialized services in business, risk, and financial aspects related to the commercial character. The secretary also enables the secretary to understand the details of the company's business, such as sources of revenue, costs, and market forces in operation. PWC (2022) also notes that in this model, the effectiveness of client relations and the application of business operations necessitate that professionals in the field possess commercial awareness regarding business models.

### **2.9.3. Social Attributes**

The third attribute of company secretaries is their social skills. According to Kakabadse et al. (2016), it is the social responsibility that requires an efficient corporate secretary to discharge their duties well. Based on the study by Nguyen, Hagendorff, and Eshraghi (2015), organizational performance depends on the specific style adopted by individual executives. Organizational research emphasizes the practical importance of the heterogeneity of managers' traits in the decision-making process (Zhang et al., 2022). This variety facilitates problem solving and also disseminates more information about the topic under discussion (Adams, Akyol, & Verwijmeren, 2018; Zhang et al., 2019).

## 2.10. Hypothesis Development

The framework is provided in Figure 1.

*Hypothesis 1: A young CEO is negatively related to REM.*

*Hypothesis 1a: A young CEO is negatively related to the ACFL.*

*Hypothesis 1b: A young CEO is negatively related to the APCO.*

*Hypothesis 1c: A young CEO is negatively related to the ADEX.*

*Hypothesis 1d: A young CEO is negatively related to the REMALL.*

*Hypothesis 2: CEO early tenure is negatively related to REM.*

*Hypothesis 2a: The early tenure of the CEO is negatively related to the ACFL.*

*Hypothesis 2b: CEO early tenure is positively related to the APCO.*

*Hypothesis 2c: CEO early tenure is negatively related to the ADEX.*

*Hypothesis 2d: CEO early tenure is negatively related to REMALL.*

*Hypothesis 3: The heir apparent CEO is negatively related to the REM.*

*Hypothesis 3a: The heir apparent CEO is negatively related to the ACFL.*

*Hypothesis 3b: The heir apparent CEO is negatively related to the APCO.*

*Hypothesis 3c: The heir apparent CEO is negatively related to the ADEX.*

*Hypothesis 3d: The heir apparent CEO has a negative impact on REMALL.*

*Hypothesis 4: An outside CEO is negatively related to the REM.*

*Hypothesis 4a: An outside CEO is negatively related to the ACFL.*

*Hypothesis 4b: An outside CEO is negatively related to APCO.*

*Hypothesis 4c: An outside CEO is negatively related to the ADEX.*

*Hypothesis 4d: An outside CEO has a negative impact on REMALL.*

*Hypothesis 5: Company secretaries' technical attributes weaken the positive relationship between young CEOs and REM.*

*Hypothesis 5a: Company secretaries' technical attributes weaken the positive relationship between young CEOs and ACFL.*

*Hypothesis 5b: Company secretaries' technical attributes weaken the positive relationship between young CEOs and APCO.*

*Hypothesis 5c: Company secretaries' technical attributes weaken the positive relationship between young CEOs and ADEX.*

*Hypothesis 5d: Company secretaries' technical attributes weaken the positive relationship between young CEOs and REMALL.*

*Hypothesis 6: Company secretaries' technical attributes weaken the positive relationship between CEO early tenure and REM.*

*Hypothesis 6a: Company secretaries' technical attributes weaken the positive relationship between CEO early tenure and ACFL.*

*Hypothesis 6b: Company secretaries' technical attributes weaken the positive relationship between CEO early tenure and APCO.*

*Hypothesis 6c: Company secretaries' technical attributes weaken the positive relationship between CEO early tenure and ADEX.*

*Hypothesis 6d: Company secretaries' technical attributes weaken the positive relationship between CEO early tenure and REMALL.*

*Hypothesis 7: Company secretaries' technical attributes strengthen the negative relationship between heir apparent CEOs and REM.*

*Hypothesis 7a: Company secretaries' technical attributes strengthen the negative relationship between heir apparent CEOs and ACFL.*

*Hypothesis 7b: Company secretaries' technical attributes strengthen the negative relationship between heir apparent CEOs and APCO.*

*Hypothesis 7c: Company secretaries' technical attributes strengthen the negative relationship between heir apparent CEOs and ADEX.*

*Hypothesis 7d: The technical attributes of company secretaries strengthen the negative relationship between heir apparent CEOs and REMALL.*

*Hypotheses 8: The technical attributes of company secretaries strengthen the negative relationship between outside CEOs and REM.*

*Hypothesis 8a: The technical attributes of company secretaries strengthen the negative relationship between outside CEOs and ACFL.*

*Hypothesis 8b: Company secretaries' technical attributes strengthen the negative relationship between outside CEOs and APCO.*

*Hypothesis 8c: Company secretaries' technical attributes strengthen the negative relationship between outside CEOs and ADEX.*

*Hypothesis 8d: Company secretaries' technical attributes strengthen the negative relationship between outside CEOs and REMALL.*

*Hypothesis 9: The commercial attributes of company secretaries weaken the positive relationship between young CEOs and REM.*

*Hypothesis 9a: Company secretaries' commercial attributes weaken the positive relationship between young CEOs and ACFL.*

*Hypothesis 9b: Company secretaries' commercial attributes weaken the positive relationship between young CEOs and APCO.*

*Hypothesis 9c: Company secretaries' commercial attributes weaken the positive relationship between young CEOs and ADEX.*

*Hypothesis 9d: The commercial attributes of company secretaries weaken the positive relationship between young CEOs and REMALL.*

*Hypothesis 10: The commercial attributes of company secretaries weaken the positive relationship between CEO early tenure and REM.*

*Hypothesis 10a: Company secretaries' commercial attributes weaken the positive relationship between CEO early tenure and ACFL.*

*Hypothesis 10b: Company secretaries' commercial attributes weaken the positive relationship between CEO early tenure and APCO.*

*Hypothesis 10c: Company secretaries' commercial attributes weaken the positive relationship between CEO early tenure and ADEX.*

*Hypothesis 10d: Company secretaries' commercial attributes weaken the positive relationship between CEO early tenure and REMALL.*

*Hypothesis 11: The commercial attributes of company secretaries strengthen the negative relationship between heir apparent CEOs and REM.*

*Hypothesis 11a: The commercial attributes of company secretaries strengthen the negative relationship between heir apparent CEOs and ACFL.*

*Hypothesis 11b: Company secretaries' commercial attributes strengthen the negative relationship between heir apparent CEOs and APCO.*

*Hypothesis 11c: Company secretaries' commercial attributes strengthen the negative relationship between heir apparent CEOs and ADEX.*

*Hypothesis 11d: The commercial attributes of company secretaries strengthen the negative relationship between heir apparent CEOs and REMALL.*

*Hypothesis 12: The commercial attributes of company secretaries strengthen the negative relationship between outside CEOs and REM.*

*Hypothesis 12a: The commercial attributes of company secretaries strengthen the negative relationship between outside CEOs and ACFL.*

*Hypothesis 12b: Company secretaries' commercial attributes strengthen the negative relationship between outside CEOs and APCO.*

*Hypothesis 12c: The commercial attributes of company secretaries strengthen the negative relationship between outside CEOs and ADEX.*

*Hypothesis 12d: The commercial attributes of company secretaries strengthen the negative relationship between outside CEOs and REMALL.*

*Hypothesis 13: Company secretaries' social attributes weaken the positive relationship between young CEOs and REM.*

*Hypothesis 13a: Company secretaries' social attributes weaken the positive relationship between young CEOs and ACFL.*

*Hypothesis 13b: Company secretaries' social attributes weaken the positive relationship between young CEOs and APCO.*

*Hypothesis 13c: Company secretaries' social attributes weaken the positive relationship between young CEOs and ADEX.*

*Hypothesis 13d: Company secretaries' social attributes weaken the positive relationship between young CEOs and REMALL.*

*Hypothesis 14: Company secretaries' social attributes weaken the positive relationship between CEO early tenure and REM.*

*Hypothesis 14a: Company secretaries' social attributes weaken the positive relationship between CEO early tenure and ACFL.*

*Hypothesis 14b: Company secretaries' social attributes weaken the positive relationship between CEO early tenure and APCO.*

*Hypothesis 14c: Company secretaries' social attributes weaken the positive relationship between CEO early tenure and ADEX.*

*Hypothesis 14d: Company secretaries' social attributes weaken the positive relationship between CEO early tenure and REMALL.*

*Hypothesis 15: Company secretaries' social attributes strengthen the negative relationship between heir apparent CEOs and REM.*

*Hypothesis 15a: Company secretaries' social attributes strengthen the negative relationship between heir apparent CEOs and ACFL.*

*Hypothesis 15b: Company secretaries' social attributes strengthen the negative relationship between heir apparent CEOs and APCO.*

*Hypothesis 15c: Company secretaries' social attributes strengthen the negative relationship between heir apparent CEOs and ADEX.*

*Hypothesis 15d: Company secretaries' social attributes strengthen the negative relationship between heir apparent CEOs and REMALL.*

*Hypothesis 16: Company secretaries' social attributes strengthen the negative relationship between outside CEOs and REM.*

*Hypothesis 16a: Company secretaries' social attributes strengthen the negative relationship between outside CEOs and ACFL.*

*Hypothesis 16b: Company secretaries' social attributes strengthen the negative relationship between outside CEOs and APCO.*

*Hypothesis 16c: Company secretaries' social attributes strengthen the negative relationship between outside CEOs and ADEX.*

*Hypothesis 16d: Company secretaries' social attributes strengthen the negative relationship between outside CEOs and REMALL.*

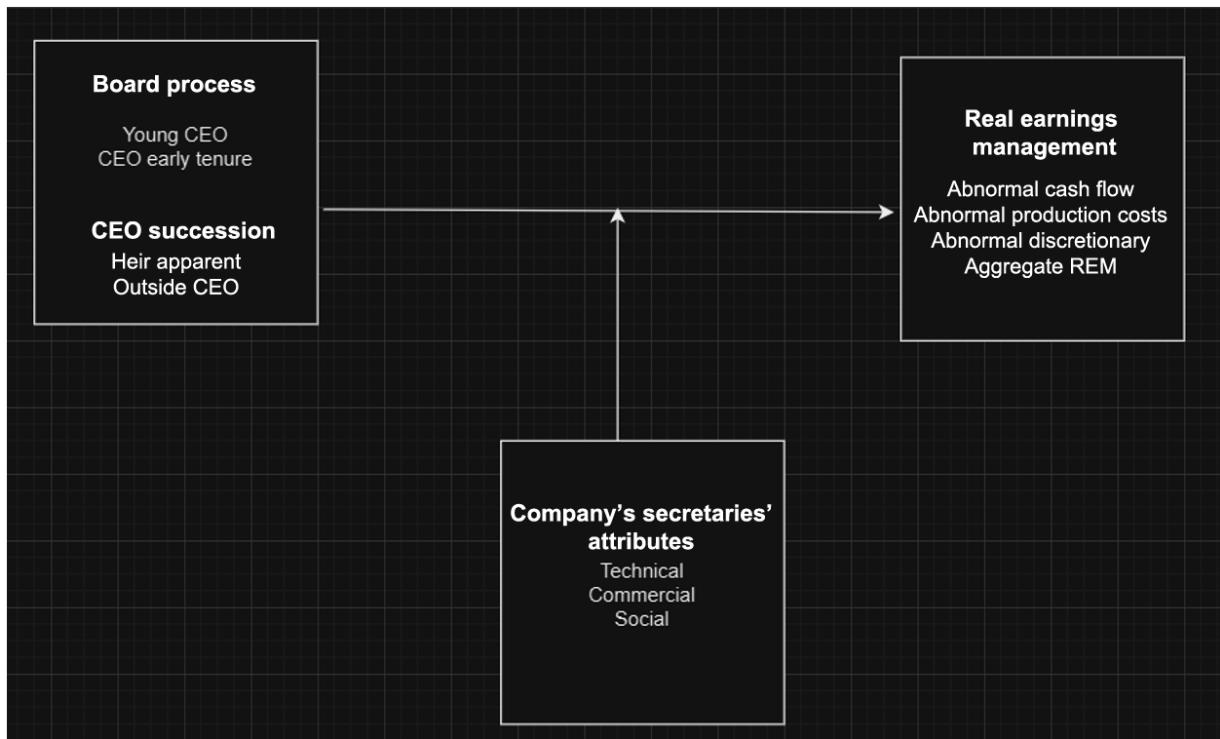


Figure 1. Conceptual framework.

### 3. METHODS

#### 3.1. Research Design and Approach

The study employs a positivist perspective, which aligns with traditional quantitative research methodologies. The research methods to be utilized in this study are outlined in Figure 2.

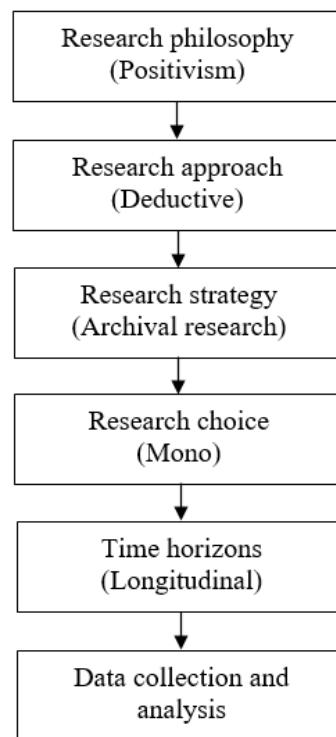


Figure 2. Research strategy diagram.

### 3.2. Data Collection Sources

This study employed secondary data obtained from business annual reports accessible on the Bursa Malaysia website and from the respective firms as research materials. The financial data for each company was obtained from Thomson Reuters Eikon DataStream. Precise information regarding the firms was collected from the Bursa Malaysia website. Data concerning board members and company secretaries, including their age, dates of appointment or departure, tenure, managerial positions, and the number of directorships, was carefully gathered manually from the annual reports available on the Bursa Malaysia website. Additionally, the information provided in the annual reports on the board directors and company secretaries was cross-checked manually with the details of the directors and officers included in the MyData database. MyData is a reliable electronic database that is directly linked to enterprises that are formally registered with the CCM. It provides accurate and current information (Data, 2023) (Refer Table 1).

### 3.3. Variables Description

The following Table 1 shows the details regarding how independent, dependent and moderating variables are measured in this study. Real earnings management is assessed using abnormal cash flow, production costs, discretionary expenditures, and aggregate REM. The selection of these variables is justified by previous literature. For example, abnormal discretionary expenditure is chosen for two reasons: first, it is based on survey reports from financial executives; second, it provides a clearer framework for evaluating real earnings management and its impact on earnings quality (Li, 2019). Moreover, previous studies have also used abnormal cash flow and production costs for the assessment of real earnings management (Zamri, Rahman, & Isa, 2013). The study considers characteristics as independent variables. For example, selecting a Young CEO as an attribute is based on the core concepts of Upper Echelon Theory (Hambrick & Mason, 1984). This theory suggests that younger CEOs tend to be more resilient, innovative, risk-tolerant, and possess stronger career concerns, which can positively influence organizational performance.

**Table 1.** Description of variable.

Construct	Variables	Measurement	References
<b>Dependent variable</b>			
Rem	Abnormal cash flow	Cash flow from the associated operations (Zamri et al., 2013)	ACFL
	Abnormal production cost	Sum of change within inventory and goods' costs (Zamri et al., 2013)	APCO
	Abnormal discretionary expenditure	Sum of general, administrative and selling expenses and R&D expenses (Zamri et al., 2013)	ADEX
	Aggregate REM	All dimensions	REMALL
<b>Independent variable</b>			
	Young CEO	A dummy variable that equals 1 if the CEO is younger than 50 when taking office, and 0 otherwise.	YOUNG
	CEO early tenure	A dummy variable that equals 1 if the CEO has been in office for three years or less, and 0 otherwise.	EARLY
	Heir apparent CEO	A dummy variable that equals one if the new CEO was an heir apparent, and zero otherwise.	(HEIR)
	Outside CEO origin	A dummy variable that equals one if the CEO is hired from outside, and zero otherwise.	
<b>Moderating variable</b>			
	Technical role	Technical role index	CSTECH
	Commercial role	Commercial role index	(CSCCOMM)
	Social role (CSSOCl)	Social role index	(CSSOCl)

### 3.4. Data Analysis Techniques

This study employs descriptive statistics to present summary data, including frequency (N), measures of central tendency such as the mean and median, measures of dispersion like the standard deviation, and the maximum and minimum values. The research utilized the Pearson correlation technique to explore the relationships among various elements, such as board processes, company secretaries' attributes, and real earnings management (REM).

### 3.5. Model Specification

#### 3.5.1. Board Processes and REM

The study constructs a REM model specification that treats REM through both specific dependent variables and an aggregated REM for a thorough analysis. This methodological approach is designed to shed light on the impact of the processes and practices of REM within organizations. By analyzing REM via individual measures alongside an aggregate, this study aims to provide in-depth insights into the dynamics between board processes and REM activities.

$$ACFL = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 ZSCORE_{it} + \beta_8 BIG4_{it} + \varepsilon_{it} \quad (1)$$

$$APCO = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 ZSCORE_{it} + \beta_8 BIG4_{it} + \varepsilon_{it} \quad (2)$$

$$ADEX = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 ZSCORE_{it} + \beta_8 BIG4_{it} + \varepsilon_{it} \quad (3)$$

$$REMALL = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 ZSCORE_{it} + \beta_8 BIG4_{it} + \varepsilon_{it} \quad (4)$$

Where, ACFL= ACF as per model 2, APCO= APC as per model 3, ADEX = ADE as per model 5, REMALL= Aggregate REM as per model 6, YOUNG= Young CEO, EARLY= CEO early tenure, HEIR= Heir apparent CEO, OUTSIDE= Outside, ROA= Net income divided by total assets, LEV= Total debts divided by total assets, ZSCORE= Altman's Z-score, and BIG4= Big 4.

#### 3.5.2. Model Specification for Company Secretaries Attributes as a Moderator

The study investigates whether the characteristics of the company secretary can strengthen or weaken the association between board processes and the extent of REM within firms. In the regression model developed for this purpose, each governance-related independent variable, which represents various aspects of board processes, is interacted with variables that capture the attributes of the company secretary.

$$ACFL = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 YOUNG * CSTECH_{it} + \beta_6 BEARLY * CSTECH_{it} + \beta_7 HEIR * CSTECH_{it} + \beta_8 OUTSIDE * CSTECH_{it} + \beta_9 YOUNG * CSCCOMM_{it} + \beta_{10} EARLY * CSCCOMM_{it} + \beta_{11} HEIR * CSCCOMM_{it} + \beta_{12} OUTSIDE * CSCCOMM_{it} + \beta_{13} YOUNG * CSSOCI_{it} + \beta_{14} EARLY * CSSOCI_{it} + \beta_{15} HEIR * CSSOCI_{it} + \beta_{16} OUTSIDE * CSSOCI_{it} + \beta_{17} ROA_{it} + \beta_{18} V_{it} + \beta_{19} ZSCORE_{it} + \beta_{20} BIG4_{it} \varepsilon_{it} \quad (5)$$

$$APCO = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 YOUNG * CSTECH_{it} + \beta_6 BEARLY * CSTECH_{it} + \beta_7 HEIR * CSTECH_{it} + \beta_8 OUTSIDE * CSTECH_{it} + \beta_9 YOUNG * CSCCOMM_{it} + \beta_{10} EARLY * CSCCOMM_{it} + \beta_{11} HEIR * CSCCOMM_{it} + \beta_{12} OUTSIDE * CSCCOMM_{it} + \beta_{13} YOUNG * CSSOCI_{it} + \beta_{14} EARLY * CSSOCI_{it} + \beta_{15} HEIR * CSSOCI_{it} + \beta_{16} OUTSIDE * CSSOCI_{it} + \beta_{17} ROA_{it} + \beta_{18} LEV_{it} + \beta_{19} ZSCORE_{it} + \beta_{20} BIG4_{it} \varepsilon_{it} \quad (6)$$

$$ADEX = \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 YOUNG * CSTECH_{it} + \beta_6 BEARLY * CSTECH_{it} + \beta_7 HEIR * CSTECH_{it} + \beta_8 OUTSIDE * CSTECH_{it} + \beta_9 YOUNG * CSCCOMM_{it} + \beta_{10} EARLY * CSCCOMM_{it} + \beta_{11} HEIR * CSCCOMM_{it} + \beta_{12} OUTSIDE * CSCCOMM_{it} + \beta_{13} YOUNG * CSSOCI_{it} +$$

$$\beta_{14}EARLY * CSSOCI_{it} + \beta_{15}HEIR * CSSOCI_{it} + \beta_{16}OUTSIDE * CSSOCI_{it} + \beta_{17}ROA_{it} + \beta_{18}LEV_{it} + \beta_{19}ZSCORE_{it} + \beta_{20}BIG4_{it} \varepsilon_{it} \quad (7)$$

$$\begin{aligned} REMALL = & \beta_0 + \beta_1 YOUNG_{it} + \beta_2 EARLY_{it} + \beta_3 HEIR_{it} + \beta_4 OUTSIDE_{it} + \beta_5 YOUNG * CSTECH_{it} + \beta_6 BEARLY * \\ & CSTECH_{it} + \beta_7 HEIR * CSTECH_{it} + \beta_8 OUTSIDE * CSTECH_{it} + \beta_9 YOUNG * CSCCOMM_{it} + \beta_{10} EARLY * \\ & CSCCOMM_{it} + \beta_{11} HEIR * CSCCOMM_{it} + \beta_{12} OUTSIDE * CSCCOMM_{it} + \beta_{13} YOUNG * CSSOCI_{it} + \\ & \beta_{14} EARLY * CSSOCI_{it} + \beta_{15} HEIR * CSSOCI_{it} + \beta_{16} OUTSIDE * CSSOCI_{it} + \beta_{17} ROA_{it} + \beta_{18} LEV_{it} + \\ & \beta_{19} ZSCORE_{it} + \beta_{20} BIG4_{it} \varepsilon_{it} \end{aligned} \quad (8)$$

## 4. RESULTS

### 4.1. Descriptive Statistics for the Proxy of REM

The summary statistics for the proxies of REM are presented in Table 2, derived from a dataset of 1,302 observations. These statistics reveal significant patterns regarding the behavior of REM practices within the analyzed sample. Analyzing the descriptive statistics for the REM indicators provides comprehensive insights into how businesses engage in REM activities via REMALLs, ADEX, ACFL, and APCO.

**Table 2.** Summary statistics for the proxies of REM.

Variable	Mean	Standard Deviation	Median	Min.	Max.
ACFL	0.001	0.095	0.010	-0.620	0.750
APCO	-0.001	0.142	0.010	-0.860	0.730
ADEX	0.003	0.090	0.020	-0.730	0.350
REMALL	0.003	0.249	0.020	-1.550	1.120

Note: N=1,302.

### 4.2. Descriptive Statistics for Board Process

Table 3 provides a comprehensive review of facts related to board processes, supported by various literature sources. By examining board and CEO attributes, it analyzes 1,302 cases concerning CEO characteristics and succession. These cases offer valuable information about the age, years of service, source of succession, and outside recruitment of CEOs. Such factors may influence corporate governance and the decision-making processes within organizations.

**Table 3.** Summary statistic for board process.

Variable	Mean	Standard deviation	Median	Min.	Max.
Young	0.590	0.492	1.000	0.000	1.000
Early	0.250	0.433	0.000	0.000	1.000
Heir	0.362	0.481	0.000	0.000	1.000
Outside	0.085	0.279	0.000	0.000	1.000

Note: N=1,302.

### 4.3. Descriptive Statistics for Moderating Variables

Table 4 illustrates the aggregate data of the moderating variables of company secretary traits from 2017 to 2019. The data is obtained from a dataset comprising 1,302 cases. The traits are categorized into technical, commercial, and social series. Each aspect is assessed using different indices that acknowledge the variety of tasks faced by company secretaries within the modern corporate governance system. The findings indicate that the degree of variation among these traits is best represented by the mean score of the technical attributes index, which is 0.547. This suggests that most business secretaries possess advanced levels of technical specialization. These requirements include experience in accounting and finance, comprehensive knowledge of legal frameworks both domestically and internationally, high academic achievements, and international experience. The binary scoring approach employed here demonstrates that all technical skills fall within this broad range, with a standard deviation of 0.201 and a median of 0.500. This underscores the critical importance of technical expertise in managing various aspects related to corporate governance.

**Table 4.** Summary statistics for moderating variable.

Variable	Mean	Standard deviation	Median	Min.	Max.
CSTECH	0.547	0.201	0.500	0.000	1.000
CSCCOMM	0.066	0.158	0.000	0.000	1.000
CSSOCI	0.643	0.226	0.750	0.000	1.000

Note: N=1,302.

**4.4. Correlational Analysis for Board Process and REM****4.4.1. Board Process and ACFL**

Table 5 examines the relationships between the variables in the Board Process and ACFL as well as the impact of the company secretary's characteristics and a few other control variables on ACFL. The significance levels (\*\*\* for 0.01, \*\* for 0.05 and \* for 0.10) indicate the strength and reliability of these correlations.

**Table 5.** Correlation matrix for board processes and ACFL.

Variables	ACFL	YOUNG	EARLY	HEIR	OUTSIDE	CSTECH	CSCCOMM
ACFL	1.000						
YOUNG	0.084***	1.000					
EARLY	-0.020	-0.199***	1.000				
HEIR	-0.066**	0.017	0.100***	1.000			
OUTSIDE	0.039	-0.025	0.300***	-0.201***	1.000		
CSTECH	0.069**	0.022	-0.009	-0.052*	0.018	1.000	
CSCCOMM	-0.027	0.022	-0.041	-0.034	-0.030	0.288***	1.000
CSSOCI	0.098***	0.048*	0.012	0.006	0.029	0.269***	-0.010
ROA	-0.134***	0.003	-0.052*	0.059**	-0.093***	-0.011	0.004
LEV	0.034	0.029	-0.028	0.016	0.005	0.115***	0.079***
ZSCORE	-0.248***	-0.042	0.108***	0.170***	0.046*	0.044	-0.010
BIG4	-0.142***	-0.136***	0.128***	0.008	0.012	-0.008	0.137***
Cont'd							
Variables	CSSOCI	ROA	LEV	ZSCORE	BIG4		
CSSOCI	1.000						
ROA	-0.042	1.000					
LEV	0.060**	-0.026	1.000				
ZSCORE	0.021	0.147***	-0.086***	1.000			
BIG4	-0.060**	0.029	0.008	0.041	1.000		

Note: \* Indicate significance at the 10% level (p &lt; 0.10), \*\* at the 5% level (p &lt; 0.05), and \*\*\* at the 1% level (p &lt; 0.01).

**Table 6.** Correlation matrix for board process and APCO.

Variables	APCO	YOUNG	EARLY	HEIR	OUTSIDE	CSTECH	CSCCOMM
APCO	1.000						
YOUNG	0.021	1.000					
EARLY	-0.090***	-0.199***	1.000				
HEIR	-0.176***	0.017	0.100***	1.000			
OUTSIDE	-0.036	-0.025	0.300***	-0.201***	1.000		
CSTECH	0.000	0.022	-0.009	-0.052*	0.018	1.000	
CSCCOMM	-0.032	0.022	-0.041	-0.034	-0.030	0.288***	1.000
CSSOCI	0.046	0.048*	0.012	0.006	0.029	0.269***	-0.010
ROA	-0.142***	0.003	-0.052*	0.059**	-0.093***	-0.011	0.004
LEV	0.048*	0.029	-0.028	0.016	0.005	0.115***	0.079***
ZSCORE	-0.317***	-0.042	0.108***	0.170***	0.046*	0.044	-0.010
BIG4	-0.051*	-0.136***	0.128***	0.008	0.012	-0.008	0.137***
Cont'd							
Variables	CSSOCI	ROA	LEV	ZSCORE	BIG4		
CSSOCI	1.000						
ROA	-0.042	1.000					
LEV	0.060**	-0.026	1.000				
ZSCORE	0.021	0.147***	-0.086***	1.000			
BIG4	-0.060**	0.029	0.008	0.041	1.000		

Note: \* Indicate significance at the 10% level (p &lt; 0.10), \*\* at the 5% level (p &lt; 0.05), and \*\*\* at the 1% level (p &lt; 0.01).

#### 4.4.2. Board Process and APCO

A correlation matrix examining the relationships between different board process APCOs is shown in Table 6 below. The significance levels (\*\*\* for 0.01, \*\* for 0.05 and \* for 0.10) indicate the strength and reliability of these correlations.

#### 4.4.3. Board Process and ADEX

Table 7 also analyzes the links between ADEX and board process variables, along with the role of company secretary account traits on ADEX. It is important to note how board processes and secretarial roles, which are discussed below, relate to discretionary spending within firms. The significance levels (\*\*\* for 0.01, \*\* for 0.05, and \* for 0.10) indicate the strength and reliability of these correlations.

**Table 7.** Correlation matrix for board process and ADEX.

Variables	ADEX	YOUNG	EARLY	HEIR	OUTSIDE	CSTECH	CSCCOMM
ADEX	1.000						
YOUNG	-0.012	1.000					
EARLY	-0.153***	-0.199***	1.000				
HEIR	-0.124***	0.017	0.100***	1.000			
OUTSIDE	-0.068**	-0.025	0.300***	-0.201***	1.000		
CSTECH	0.060**	0.022	-0.009	-0.052*	0.018	1.000	
CSCCOMM	-0.029	0.022	-0.041	-0.034	-0.030	0.288***	1.000
CSSOCI	0.040	0.048*	0.012	0.006	0.029	0.269***	-0.010
ROA	0.004	0.003	-0.052*	0.059**	-0.093***	-0.011	0.004
LEV	0.007	0.029	-0.028	0.016	0.005	0.115***	0.079***
ZSCORE	-0.095***	-0.042	0.108***	0.170***	0.046*	0.044	-0.010
BIG4	-0.047*	-0.136***	0.128***	0.008	0.012	-0.008	0.137***
Cont'd							
Variables	CSSOCI	ROA	LEV	ZSCORE	BIG4		
CSSOCI	1.000						
ROA	-0.042	1.000					
LEV	0.060**	-0.026	1.000				
ZSCORE	0.021	0.147***	-0.086***	1.000			
BIG4	-0.060**	0.029	0.008	0.041	1.000		

Note: \* Indicate significance at the 10% level ( $p < 0.10$ ), \*\* at the 5% level ( $p < 0.05$ ), and \*\*\* at the 1% level ( $p < 0.01$ ).

**Table 8.** Correlation matrix for board process and REMALL.

Variables	REMALL	YOUNG	EARLY	HEIR	OUTSIDE	CSTECH	CSCCOMM
REMALL	1.000						
YOUNG	0.040	1.000					
EARLY	-0.114***	-0.199***	1.000				
HEIR	-0.170***	0.017	0.100***	1.000			
OUTSIDE	-0.030	-0.025	0.300***	-0.201***	1.000		
CSTECH	0.048*	0.022	-0.009	-0.052*	0.018	1.000	
CSCCOMM	-0.039	0.022	-0.041	-0.034	-0.030	0.288***	1.000
CSSOCI	0.078***	0.048*	0.012	0.006	0.029	0.269***	-0.010
ROA	-0.132***	0.003	-0.052*	0.059**	-0.093***	-0.011	0.004
LEV	0.043	0.029	-0.028	0.016	0.005	0.115***	0.079***
ZSCORE	-0.310***	-0.042	0.108***	0.170***	0.046*	0.044	-0.010
BIG4	-0.101***	-0.136***	0.128***	0.008	0.012	-0.008	0.137***
Cont'd							
Variables	CSSOCI	ROA	LEV	ZSCORE	BIG4		
CSSOCI	1.000						
ROA	-0.042	1.000					
LEV	0.060**	-0.026	1.000				
ZSCORE	0.021	0.147***	-0.086***	1.000			
BIG4	-0.060**	0.029	0.008	0.041	1.000		

Note: \* Indicate significance at the 10% level ( $p < 0.10$ ), \*\* at the 5% level ( $p < 0.05$ ), and \*\*\* at the 1% level ( $p < 0.01$ ).

#### 4.4.4. Board Process and REMALL

Table 8 presents the correlation matrix from Model 20, exploring the influence of board process variables on the REMALL, along with the impact of company secretary attributes on REMALL. This matrix provides a nuanced understanding of how governance processes and roles within the company correlate with REMALL. The significance levels (\*\* for 0.01, \*\* for 0.05, and \* for 0.10) indicate the strength and reliability of these correlations.

**Table 9.** Result for moderating effects of company secretaries' attributes between board process and REM.

Variables	ACFL	APCO	ADEX	REMALL
YOUNG	0.004 (0.007)	0.008 (0.015)	-0.022** (0.009)	-0.010 (0.015)
EARLY	-0.042 (0.057)	0.026 (0.027)	-0.050* (0.029)	-0.065 (0.065)
HEIR	-0.036 (0.023)	-0.090*** (0.022)	-0.032*** (0.013)	-0.158*** (0.035)
OUTSIDE	-0.017 (0.062)	-0.017 (0.052)	0.045 (0.029)	0.011 (0.078)
YOUNGCSTECH	0.015* (0.008)	-0.006 (0.023)	0.009 (0.016)	0.018 (0.031)
EARLYCSTECH	0.058 (0.064)	-0.127*** (0.037)	0.035 (0.042)	-0.034 (0.059)
HEIRCSTECH	-0.004 (0.016)	0.059** (0.023)	0.007 (0.019)	0.062*** (0.020)
OUTSIDECSTECH	0.042 (0.078)	0.004 (0.089)	0.008 (0.054)	0.053 (0.136)
YOUNGCSCOMM	-0.004 (0.021)	0.012 (0.026)	0.015 (0.016)	0.024 (0.047)
EARLYCSCOMM	-0.013 (0.037)	-0.085* (0.051)	-0.067*** (0.026)	-0.165* (0.092)
HEIRCSCCOMM	-0.048** (0.020)	-0.125*** (0.023)	-0.078*** (0.009)	-0.251*** (0.032)
OUTSIDECSCOMM	0.039 (0.072)	0.199*** (0.072)	0.132*** (0.039)	0.370** (0.147)
YOUNGSSOCI	-0.004 (0.011)	-0.015 (0.020)	0.010 (0.009)	-0.009 (0.020)
EARLYCSSOCI	0.025 (0.037)	0.060** (0.023)	0.017 (0.034)	0.102** (0.047)
HEIRCSSOCI	0.059** (0.024)	0.041* (0.022)	0.020 (0.022)	0.120*** (0.045)
OUTSIDECSSOCI	0.003 (0.047)	-0.041 (0.026)	-0.113*** (0.018)	-0.151** (0.062)
ROA	-0.042*** (0.015)	-0.070*** (0.022)	0.004 (0.015)	-0.108** (0.042)
LEV	0.002 (0.003)	0.009*** (0.003)	0.001 (0.003)	0.012* (0.007)
ZSCORE	-0.001*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.003*** (0.000)
BIG4	-0.023*** (0.004)	-0.008*** (0.002)	-0.004** (0.002)	-0.035*** (0.007)
Constant	0.018*** (0.005)	0.049*** (0.007)	0.028*** (0.004)	0.095*** (0.013)
Observations	1,302	1,302	1,302	1,302
R-squared	0.113	0.152	0.067	0.155
Prob > chi <sup>2</sup>	0.000	0.000	0.000	0.000
No. of firm	434	434	434	434

**Note:** ACFL=ACF as per model 2, APCO=APC as per model 3, ADEX=ADE as per model 5, REMALL=Aggregate REM as per model 6, BSIGH=Board oversight, BINDE=ID, BTIME=Board time commitment, BDUAL=CEO duality, BDIGI=Board digital competence, BKNOW=Board industry know-how, ROA=Return on assets, LEV=Leverage, ZSCORE=Altman's Z-Score, BIG4=Big 4 audit firm; and \*\*\*significant at 0.01, \*\*significant at 0.05, \*significant at 0.10.

#### *4.5. Moderating Effect of the Company Secretaries' Attributes in the Relationship between the Board Process and REM Activities*

Lastly, the findings reported in Table 9 indicate that the R-squared value for REMALL increased by 2.4%, from 13.1% to 15.5%, as shown in Table 9. The increase in all R-squared values in ACFL suggests that the company secretary plays a significant role in moderating the relationship between board leadership and REM. This contributes to a more nuanced understanding of how board leadership influences REM practices within the company.

##### *4.5.1. The Moderation Effects of Company Secretaries' Attributes on ACFL*

In Table 9, the regression analysis explores the moderating effects of company secretaries' attributes on the relationship between board process variables and ACFL. The R-squared value of ACFL increased by 1.9% to 11.3% from 9.4%, as reported in Table 9. This suggests that the company secretary variable explains an additional 1.9% of the variability in ACFL beyond what is explained by the board leadership model alone.

##### *4.5.2. The Moderation Effects of Company Secretaries' Attributes on APCO*

In the sophisticated analysis presented in section 9, the investigation into the moderating effects of company secretaries' attributes on the relationship between board processes and APCO reveals insightful nuances. An improvement in the R-squared value by 2.1%, increasing from 13.1% to 15.2%, indicates the enhanced explanatory power brought by the inclusion of company secretaries' attributes. This enhancement enriches the model's capacity to account for variations in APCO beyond the foundational influences of board processes.

##### *4.5.3. The Moderation Effects of Company Secretaries' Attributes on ADEX*

In Table 9, the research explores the nuanced role of company secretaries' attributes in influencing the dynamics between board process factors and ADEX. This study clarifies how specific traits of corporate secretaries may impact the management of discretionary spending within organizations. With a significance level of  $p=0.000$ , the model demonstrates statistical significance, and the R-squared value of 0.067 indicates that approximately 6.7% of the variation in ADEX can be explained by the variables examined in the study.

##### *4.5.4. The Moderation Effects of Company Secretaries' Attributes on REMALL*

Table 9 also presents the results of company secretaries' attributes in mediating the relationship between board process factors and the overall measure of REM, referred to as REMALL. The analysis yields an R-squared value of 15, indicating that 15% of the variance in REMALL is explained by the model. The results are statistically significant, with a p-value of less than 0.001, providing evidence not only for the significance of the model but also for the effects of two key variables: the expertise possessed by the company secretaries and the characteristics of the CEOs. These findings suggest that both the expertise of company secretaries and CEO attributes play a meaningful role in influencing REMALL, highlighting their importance in corporate governance processes.

## **5. DISCUSSION**

### *5.1. The Effects of Board Process on REM Activities*

This paper also discovers that the variable Youthful CEO has a highly negative effect on ADEX, indicating that firms with youthful CEOs are likely to employ a lower level of aggressive financial reporting. These findings suggest that young CEOs are more likely to adopt conservative accounting procedures to maintain a positive image in the eyes of stakeholders (Demers & Wang, 2010). In the same way, they may give preference to matters that can create value and facilitate strategic decision-making more than manipulating short-term earnings (Demers & Wang, 2010). This paper also examines the existence and direction of the correlation between early tenure of CEOs (EARLY) and REM activity. The findings imply that the variable concerning the CEO's tenure affects ADEX negatively, indicating that a CEO tenure of three years or less is generally associated with an increase in ADEX. Furthermore, it is noted

that EARLY has a negative effect on APCO and REMALL; however, these effects are statistically non-significant. The insignificance of these coefficients suggests that there is insufficient evidence to support the hypothesis of an inverse relationship between CEO tenure and both APCO and REMALL. Additionally, EARLY has a slightly positive effect on ACFL, with a magnitude close to zero. This indicates that a short CEO tenure is associated with a marginal increase in ACFL, although this effect lacks statistical significance. In summary, EARLY plays a significant role in increasing the value of ADEX, while its impact on APCO, ACFL, and REMALL is either minimal or statistically insignificant.

Moreover, using regression analysis, this research finds that HEIR has an estimated negative effect on the APCO, ADEX, and REMALL variables. This suggests that when CEOs are newly appointed and have prior experience in the same organization as president or COO, this reduces the APCO, ADEX, and REMALL. The negative and significant effect of HEIR on APCO can be attributed to those CEOs who have had prior experience in the same organization and therefore possess good knowledge of the firm's operational and financial performance. This enables them to identify abnormalities and implement measures to eliminate those costs. Due to the HEIR's understanding of the organizational culture and the peculiarities of the business processes, their experience can facilitate a smoother transition (Tao & Zhao, 2019). This increased support for activities aimed at cost reduction, as well as better control of discretionary expenses, can be achieved through such experienced leadership. In summary, HEIR exerts a significant impact on downsizing APCO, ADEX, and REMALL, making wise talent cultivation, operational improvements in management proficiency, and financial frugality of major importance.

Finally, based on the analysis of this research, it is established that the use of an outside CEO reduces APCO, ADEX, and REMALL by a statistically significant level. What this means is that such a hiring decision contributes to reducing APCO, discretionary spending, and REM activity by a significant degree. Whenever there is an external CEO, a negative and significant effect on APCO, ADEX, and REMALL results mainly stems from their neutral stance on the company's strategies, strict management of costs, improvements in production, and stringency in financial matters (Hillman, Cannella, & Paetzold, 2000; Oradi, 2021).

### *5.2. Moderating Effect of the Company Secretary's Attributes in the Relationship between the Board Process and REM Activities*

The results of this study indicate that, at a statistically significant level of 1%, the association between a young CEO and the technical expertise of the company secretary (CSTECH) has a notably positive effect on the cash flow from operations (ACFL) of the organization. The correlation between YOUNG and CSTECH has no substantial impact on ADEX and REMALL. The correlation between a CEO in the early stages of their tenure (EARLY) and CSTECH has a statistically significant adverse impact on APCO, with a significance level of 1%. This suggests that the association between an early-tenure CEO and APCO is diminished when there is a company secretary with expertise in accounting, legal matters, and education. However, the correlation between a young CEO (YOUNG) and the commercial attribute of the company secretary (CSCCOMM) does not exhibit a substantial association with ACFL, ADEX, and REMALL. Additionally, the existence of CSCCOMM does not have a substantial impact on the interaction between a young CEO and REM activities. This study reveals that the interaction between a CEO who is in the early stages of their tenure and the CSCCOMM variable has a statistically significant negative impact on APCO at a 10% level, a statistically significant negative impact on ADEX at a 1% level, and a statistically significant negative impact on REMALL at a 10% level. This study proposes that increasing the focus or participation of the company secretary in their commercial responsibilities decreases the connection between a CEO with limited time in office and specific financial operations, resulting in decreased levels of excessive output and discretionary spending. Furthermore, the correlation between a future CEO (HEIR) and the business aspect of the company secretary (CSCCOMM) has a statistically significant adverse impact on ACFL at a 5% significance level, APCO at a 1% level, ADEX at a 1% level, and REMALL at a 1% level. Therefore, when the company secretary's commercial role is more emphasized or

involved, it decreases the connection between a potential CEO successor and actions related to earnings manipulation, resulting in decreased levels of earnings manipulation.

Furthermore, the interaction between a young CEO (YOUNG) and the social attribute of the company secretary (CSSOCI) does not demonstrate a significant relationship with ACFL, ADEX, and REMALL. The study also found that the interaction between an early-tenure CEO (EARLY) and CSSOCI has a statistically significant positive relationship with APCO at the 5% significance level and with REMALL at the 5% significance level.

### **5.3. Research Implications**

The significance of agency theory in examining the correlation between board processes such as having a youthful CEO, a CEO with a short-term outlook, a CEO expected to succeed, and an external CEO lies in its emphasis on ensuring that management's actions align with shareholders' interests. The study investigates the impact of board features on earnings management practices, contributing to the understanding of how governance structures can reduce agency conflicts and promote transparency and accountability within organizations. CEO succession, particularly when involving young CEOs, can influence agency theory in several ways: Young CEOs are more inclined to prioritize shareholders' interests because they have a shorter career horizon and greater opportunities to accumulate personal wealth based on the company's performance (Han, 2024; Schepker et al., 2018). The significance of agency theory lies in its focus on governance mechanisms and oversight functions when analyzing the impact of company secretary attributes such as technical, commercial, and social skills on the relationship between board processes. These processes include the presence of a young CEO, early CEO tenure, an heir apparent CEO, and an outside CEO, and their influence on REM.

### **5.4. Conclusion**

The study on CEO succession, specifically examining the intricacies of young CEOs those in the initial phases of their leadership designated successors, and CEOs hired externally presents important policy implications for improving corporate governance and strengthening shareholder safeguards. The study's findings on the varied effects of CEO profiles on organizational performance and stakeholder value highlight the necessity for legislators to improve governance legislation and succession planning strategies. Regulators can enhance business performance and increase shareholder trust by promoting efficient succession arrangements. Furthermore, placing a strong emphasis on transparency and disclosure regarding CEO succession processes can enhance market confidence. Regulators should require comprehensive information about the criteria, qualifications, and backgrounds of potential CEOs. This will improve investor and market confidence in the succession planning framework.

### **5.5. Limitations and Future Research Indications**

This study, like other studies, faces specific constraints that deserve recognition. The sample size of 1,302 observations across eight industries may be considered somewhat small, which could limit the generalizability of the findings to a wider range of companies. To determine the links under inquiry more thoroughly, the sample size should have been increased. It could also have been advantageous to include a wider range of industries in the study. Furthermore, since the study covers the years 2017–2019, it might not highlight trends or variations in the company's financial performance and corporate governance procedures. A greater understanding of changing processes and traits might be obtained by extending a longitudinal study or using a longer period of emphasis. The quality and reliability of the analysis may also have been impacted by a few problems with data access and accuracy, which are both gathered through yearly reports and Thomson Reuters Eikon DataStream. Results could be interpreted incorrectly or with uncertainty if some components are missing or inconsistent. To help future researchers overcome these obstacles and introduce new ideas, the potential limitations have been outlined.

**Funding:** This study received no specific financial support.

**Institutional Review Board Statement:** Not applicable.

**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Data Availability Statement:** The corresponding author can provide study data upon reasonable request.

**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

## REFERENCES

- Abad, C., & Bravo, F. (2018). Audit committee accounting expertise and forward-looking disclosures: A study of the US companies. *Management Research Review*, 41(2), 166-185. <https://doi.org/10.1108/MRR-02-2017-0046>
- Adams, R. B., Akyol, A. C., & Verwijmeren, P. (2018). Director skill sets. *Journal of Financial Economics*, 130(3), 641-662. <https://doi.org/10.1016/j.jfineco.2018.04.010>
- Alhadab, M., & Clacher, I. (2018). The impact of audit quality on real and accrual earnings management around IPOs. *The British Accounting Review*, 50(4), 442-461. <https://doi.org/10.1016/j.bar.2017.12.003>
- AlHares, A. (2020). Corporate governance mechanisms and R&D intensity in OECD courtiers. *Corporate Governance: The International Journal of Business in Society*, 20(5), 863-885. <https://doi.org/10.1108/CG-11-2019-0349>
- Ali, A., & Zhang, W. (2015). CEO tenure and earnings management. *Journal of Accounting and Economics*, 59(1), 60-79. <https://doi.org/10.1016/j.jacceco.2014.11.004>
- Amer, M. M. (2016). Measuring the effect of the board of directors and audit committee characteristics on firm financial performance in Egypt. Doctoral Dissertation, Cardiff Metropolitan University.
- Amran, N. A., Ishak, R., & Manaf, K. (2016). The influence of real earnings on Malaysian corporate board structure. *The Social Sciences*, 11(30), 7258-7262.
- Attia, E. F., Ismail, T. H., & Mehafdi, M. (2022). Impact of board of directors attributes on real-based earnings management: Further evidence from Egypt. *Future Business Journal*, 8(1), 56. <https://doi.org/10.1186/s43093-022-00169-x>
- Bae, J., Joo, J. H., & Yu, J. (2023). CEO succession planning and market reactions to CEO turnover announcements. *Finance Research Letters*, 58, 103946. <https://doi.org/10.1016/j.frl.2023.103946>
- Bigley, G. A., & Wiersema, M. F. (2002). New CEOs and corporate strategic refocusing: How experience as heir apparent influences the use of power. *Administrative Science Quarterly*, 47(4), 707-727. <https://doi.org/10.2307/3094914>
- Bodin, K. (2023). Host community residents and long-term event outcomes: The role of trust, knowledge, and power in the public/government relationship. Doctoral Dissertation. Université d'Ottawa/University of Ottawa.
- Bouaziz, Z., Salhi, B., & Toumi, N. (2020). The effect of CEO characteristics on real earnings management: Evidence from France. *Journal of Financial Reporting and Accounting*, 18(1), 77-103.
- Brockman, P., Krishnan, G., Lee, H. S., & Salas, J. M. (2019). Implications of CEO succession origin and in-house experience for audit pricing. *Journal of Accounting, Auditing & Finance*, 37(1), 173-204. <https://doi.org/10.1177/0148558X19832104>
- Bw'auma, C. M. (2021). Board characteristics and financial performance of commercial banks in Kenya. Jomo Kenyatta University of Agriculture and Technology – College of Human Resource Development (COHRED)). JKUAT Institutional Repository.
- Cvijanovic, D., Gantchev, N., & Hwang, S. (2018). *Changing of the guards: Does succession planning matter*. SSRN Working Paper No. 2862653. Social Science Research Network.
- Data, M. (2023). *About MyData 2023 conference*. Retrieved from <https://2023.mydata.org/about/>
- Demers, E., & Wang, C. (2010). *The impact of CEO career concerns on accruals based and real earnings management*. SSRN Working Paper No. 1466029. Social Science Research Network.
- Drábek, J., Lorincová, S., & Javorčíková, J. (2017). Investing in human capital as a key factor for the development of enterprises. *Issues of Human Resource Management*, 1(1), 54-78.

- Enomoto, M., Kimura, F., & Yamaguchi, T. (2015). Accrual-based and real earnings management: An international comparison for investor protection. *Journal of Contemporary Accounting & Economics*, 11(3), 183-198. <https://doi.org/10.1016/j.jcae.2015.07.001>
- Enomoto, M., Kimura, F., & Yamaguchi, T. (2018). A cross-country study on the relationship between financial development and earnings management. *Journal of International Financial Management & Accounting*, 29(2), 166-194. <https://doi.org/10.1111/jifm.12078>
- Geiger, M. A., & North, D. S. (2011). Do CEOs and principal financial officers take a "bath" separately or together?: An investigation of discretionary accruals surrounding appointments of new CEOs and PFOs. *Academy of Accounting and Financial Studies Journal*, 15(1), 1-30.
- Gupta, G. (2022). CEO's age and investment-cash flow sensitivity. *Managerial and Decision Economics*, 43(6), 2212-2224. <https://doi.org/10.1002/mde.3519>
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-206.
- Han, S. X. (2024). Are young CEOs a better match for young firms? Evidence from age, firm performance and CEO compensation. *International Journal of Managerial Finance*, 20(1), 94-118. <https://doi.org/10.1108/IJMF-12-2021-0607>
- Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies*, 37(2), 235-256. <https://doi.org/10.1111/1467-6486.00179>
- International Finance Corporation. (2016). *The corporate secretary: The governance professional*. Washington, DC: World Bank.
- Ipino, E., & Parbonetti, A. (2017). Mandatory IFRS adoption: The trade-off between accrual-based and real earnings management. *Accounting and Business Research*, 47(1), 91-121. <https://doi.org/10.1080/00014788.2016.1238293>
- Kakabadse, A., Khan, N., & Kakabadse, N. K. (2016). Company secretary: A role of breadth and majesty. *Society and Business Review*, 11(3), 333-349. <https://doi.org/10.1108/SBR-04-2016-0023>
- Kouaib, A., & Jarbou, A. (2016). The moderating effect of CEO profile on the link between cutting R&D expenditures and targeting to meet/beat earnings benchmarks. *The Journal of High Technology Management Research*, 27(2), 140-160. <https://doi.org/10.1016/j.hitech.2016.10.005>
- Li, V. (2019). The effect of real earnings management on the persistence and informativeness of earnings. *The British Accounting Review*, 51(4), 402-423. <https://doi.org/10.1016/j.bar.2019.02.005>
- Li, X., Lin, Z., & Luo, J.-H. (2020). Does auditor-client distance matter to real earnings management? Evidence from China. *Asia-Pacific Journal of Accounting & Economics*, 27(5), 531-557. <https://doi.org/10.1080/16081625.2019.1567353>
- Malaysia Securities Commission. (2012). *Malaysian code on corporate governance*. Malaysia: Securities Commission Malaysia.
- Marcec, D. (2018). *CEO tenure rates*. *Harvard Law school forum on corporate governance*. Retrieved from <https://corpgov.law.harvard.edu/2018/02/12/ceo-tenure-rates/>
- Md Nasir, N. A. B., Ali, M. J., Razzaque, R. M. R., & Ahmed, K. (2018). Real earnings management and financial statement fraud: Evidence from Malaysia. *International Journal of Accounting & Information Management*, 26(4), 508-526. <https://doi.org/10.1108/IJAIM-03-2017-0039>
- NACD. (2019). *Governance challenges 2019: CEO succession planning*. Retrieved from <https://www.nacdonline.org/all-governance/governance-resources/governance-research/outlook-and-challenges/governance-challenges-2019-ceo-succession-planning?ItemNumber=65272/1000>
- Nadeem, M., Zaman, R., Suleman, T., & Atawnah, N. (2021). CEO ability, career concerns, firms' lifecycle and investments in intellectual capital. *International Review of Economics & Finance*, 75, 237-251. <https://doi.org/10.1016/j.iref.2021.04.023>
- Naguib, N., Ye, H., Gogotsi, Y., Yazicioglu, A. G., Megaridis, C. M., & Yoshimura, M. (2004). Observation of water confined in nanometer channels of closed carbon nanotubes. *Nano Letters*, 4(11), 2237-2243. <https://doi.org/10.1021/nl0484907>
- Nawaz, T. (2019). Exploring the nexus between human capital, corporate governance and performance: Evidence from Islamic banks. *Journal of Business Ethics*, 157, 567-587. <https://doi.org/10.1007/s10551-017-3694-0>

- Nguyen, D. D., Hagendorff, J., & Eshraghi, A. (2015). Which executive characteristics create value in banking? Evidence from appointment announcements. *Corporate Governance: An International Review*, 23(2), 112-128. <https://doi.org/10.1111/corg.12084>
- Oradi, J. (2021). CEO succession origin, audit report lag, and audit fees: Evidence from Iran. *Journal of International Accounting, Auditing and Taxation*, 45, 100414. <https://doi.org/10.1016/j.intaccaudtax.2021.100414>
- Pan, Y., Yue Wang, T., & Weisbach, M. S. (2018). How management risk affects corporate debt. *The Review of Financial Studies*, 31(9), 3491-3531. <https://doi.org/10.1093/rfs/hhx071>
- PwC. (2022). Building trust through assurance. Retrieved from <https://www.pwc.ie/publications/2023/2022-pwc-audit-quality-transparency-report.pdf>
- Rauterberg, G. (2020). The essential roles of agency law. *Michigan Law Review*, 118(4), 609-654. <https://doi.org/10.36644/mlr.118.4.essential>
- Salem, W. F., Metawe, S. A., Youssef, A. A., & Mohamed, M. B. (2019). Boards of directors' characteristics and firm value: A comparative study between Egypt and USA. *Open Access Library Journal*, 6(4), 1-32.
- Schepker, D. J., Kim, Y., Patel, P. C., Thatcher, S. M. B., & Campion, M. C. (2017). CEO succession, strategic change, and post-succession performance: A meta-analysis. *The Leadership Quarterly*, 28(6), 701-720. <https://doi.org/10.1016/j.lequa.2017.03.001>
- Schepker, D. J., Nyberg, A. J., Ulrich, M. D., & Wright, P. M. (2018). Planning for future leadership: Procedural rationality, formalized succession processes, and CEO influence in CEO succession planning. *Academy of Management Journal*, 61(2), 523-552. <https://doi.org/10.5465/amj.2016.0071>
- Setyawan, M. B., & Anggraita, V. (2017). *The effects of CEO tenure on earnings management: The role of CEO career origin and affiliated relationships*. Paper presented at the 6th International Accounting Conference (IAC 2017). <https://doi.org/10.2991/iac-17.2018.19>
- Shaikh, R., Fei, G., Shaique, M., & Nazir, M. R. (2019). Control-enhancing mechanisms and earnings management: Empirical evidence from Pakistan. *Journal of Risk and Financial Management*, 12(3), 130. <https://doi.org/10.3390/jrfm12030130>
- Sigauke, J., Collins, P., Mutambara, E., & Sibanda, R. (2015). The company secretary's role in CG: Private and public owned South African companies. *Corporate Ownership and Control*, 13(1-2), 401-413. <https://doi.org/10.22495/cocv13i1c3p8>
- Suherman, S., Mahfirah, T. F., Usman, B., Kurniawati, H., & Kurnianti, D. (2023). CEO characteristics and firm performance: Evidence from a Southeast Asian country. *Corporate Governance: The International Journal of Business in Society*, 23(7), 1526-1563. <https://doi.org/10.1108/CG-05-2022-0205>
- Tao, R., & Zhao, H. (2019). "Passing the baton": The effects of CEO succession planning on firm performance and volatility. *Corporate Governance: An International Review*, 27(1), 61-78. <https://doi.org/10.1111/corg.12251>
- Yuan, Y., Hu, M., & Cheng, C. (2023). CEO succession and corporate innovation: A managerial myopic perspective. *The North American Journal of Economics and Finance*, 64, 101863. <https://doi.org/10.1016/j.najef.2022.101863>
- Zahra, S. A., & Pearce, J. A. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management*, 15(2), 291-334. <https://doi.org/10.1177/014920638901500208>
- Zalata, A. M., Ntim, C. G., Alsohagy, M. H., & Malagila, J. (2022). Gender diversity and earnings management: The case of female directors with financial background. *Review of Quantitative Finance and Accounting*, 58, 101-136. <https://doi.org/10.1007/s11156-021-00991-4>
- Zamri, N., Rahman, R. A., & Isa, N. S. M. (2013). The impact of leverage on real earnings management. *Procedia Economics and Finance*, 7, 86-95. [https://doi.org/10.1016/S2212-5671\(13\)00222-0](https://doi.org/10.1016/S2212-5671(13)00222-0)
- Zhang, R., Bhabra, G. S., Chou, H.-I., & Tan, E. K. M. (2019). *CEO succession gap and firm performance*. SSRN Working Paper No. 3456866. Social Science Research Network.
- Zhang, Y., & Rajagopalan, N. (2004). When the known devil is better than an unknown god: An empirical study of the antecedents and consequences of relay CEO successions. *Academy of Management Journal*, 47(4), 483-500.

- Zhang, Y., & Rajagopalan, N. (2010). Once an outsider, always an outsider? CEO origin, strategic change, and firm performance. *Strategic Management Journal, 31*(3), 334-346. <https://doi.org/10.1002/smj.812>
- Zhang, Z., Zhu, L., Chen, G., Shang, L., Zhao, Q., & Ren, F. (2022). How entrepreneurial team heterogeneity impacts decision-making performance? An input-process-output approach. *Chinese Management Studies, 16*(5), 965-992. <https://doi.org/10.1108/CMS-12-2020-0564>
- Zhao, H., O'Connor, G., Wu, J., & Lumpkin, G. T. (2021). Age and entrepreneurial career success: A review and a meta-analysis. *Journal of Business Venturing, 36*(1), 106007. <https://doi.org/10.1016/j.jbusvent.2020.106007>
- Zhu, H., Wang, P., & Bart, C. (2016). Board processes, board strategic involvement, and organizational performance in for-profit and non-profit organizations. *Journal of Business Ethics, 136*, 311-328. <https://doi.org/10.1007/s10551-014-2512-1>

*Views and opinions expressed in this article are the views and opinions of the author(s), Humanities and Social Sciences Letters shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/ arising out of the use of the content.*