

CHARACTERISTICS OF BRAZILIAN CEOs AND RESULTS MANAGEMENT

CARACTERÍSTICAS DOS CEOS BRASILEIROS E GERENCIAMENTO DE RESULTADOS

ABSTRACT

This study explores the relationship between the specific characteristics and competencies of Brazilian CEOs and earnings management, focusing on the period from 2016 to 2019, with an emphasis on non-financial companies listed on B3. A sample of 194 firms was analyzed using a multiple regression model with unbalanced panel data. Earnings management was assessed using the model proposed by Pae (2005). Descriptive statistics show that the average age of CEOs is 53.63 years, with an average tenure of approximately two years. Additionally, 44.90% of the CEOs in the sample hold both the CEO and chairperson roles. The average annual compensation for Brazilian CEOs was R\$ 3,248,286.00. Econometric analysis revealed that three variables – duality of roles, CEO age, and CEO participation in board meetings – were statistically significant, supporting hypotheses H2, H3, and H7. However, no significant statistical relationships were found for the variables of compensation, gender, educational background, tenure, and familial CEO status. This research contributes to the understanding of how CEO characteristics and managerial skills impact corporate outcomes, particularly in the context of earnings management. The findings offer valuable insights for organizations, encouraging reflection on the alignment between CEO profiles and corporate strategies, and for financial analysts, who can use these results to better interpret accounting information. Moreover, the study makes a theoretical contribution to the emerging literature on this topic within the national context.

Keywords: CEO Characteristics; Earnings Management; Corporate Governance; Duality of Roles; Upper Echelons Theory; Panel Data Analysis.

RESUMO

Este trabalho investigou a relação entre as características e habilidades específicas dos CEOs brasileiros e o gerenciamento de resultados, a partir de um lapso temporal de 2016 a 2019, compreendendo as companhias não financeiras listadas na B3. Foi utilizada uma amostra com 194 empresas e realizada uma regressão múltipla com dados em painel desbalanceado. O gerenciamento foi capturado a partir do modelo de Pae (2005). A análise descritiva das variáveis demonstra uma média de idade dos CEOs de 53,63 anos, mandato médio de aproximadamente dois anos e CEOs que acumulam a função de diretor e presidente do conselho, representando 44,90% da amostra. A remuneração média dos CEOs brasileiros foi de R\$ 3.248.286,00. Com relação aos resultados econométricos, verificou-se que três variáveis apresentaram significância estatística: dualidade, idade e participação nas reuniões do Conselho de Administração, aceitando as hipóteses H2, H3 e H7, entretanto, as variáveis remuneração, gênero, área de formação, tempo de mandato e CEO familiar não apresentaram significância estatística. Este estudo contribui para ampliar o entendimento acerca de como as características e habilidades específicas dos gestores podem impactar os resultados das empresas. Os achados oferecem potenciais benefícios tanto para as organizações, ao incentivar uma reflexão sobre o alinhamento entre os perfis dos CEOs contratados e as estratégias empresariais, como também para os analistas financeiros, que poderão utilizar esses resultados para enriquecer sua compreensão da informação contábil. Além disso, contribui teoricamente para a literatura incipiente sobre a temática em contexto nacional.

Palavras-chave: Características de CEO; Chief Executive Officer; Qualidade da Informação Contábil; Perfil de CEO; Teoria do Alto Escalão.

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1. INTRODUCTION

The Chief Executive Officer (CEO) is held accountable for the performance of the corporation and is vested with authority over the decision-making processes (Chou & Chan, 2018). As top executives, CEOs have the capacity to influence other members of the executive team and play a pivotal role in determining the company's strategic direction. This position often provides the CEO with the ability to negotiate more favorable compensation and an extended tenure. As Sprenger et al. (2017) observe, a company's financial performance serves as a key indicator of its success, directly influencing the benefits managers receive, particularly since bonuses are frequently tied to performance outcomes. This dynamic may encourage the CEO to engage in earnings management practices (Putra & Setiawan, 2024). According to Bouaziz et al. (2020), the CEO's personal characteristics and experiences can impact both their decision-making processes and the overall outcomes for the organization.

Putra and Setiawan (2024) propose that the traits of the CEO may be pivotal in elucidating the phenomenon of earnings management, given that the CEO has incentives to influence the company's results. The Upper Echelons Theory (UET) posits that managerial decisions reflect the cognitive foundations and values of executives, emphasizing characteristics such as age, education, financial standing, and experience, which can impact decision-making processes (Hambrick & Mason, 1984). In accordance with this theory, CEOs can exert influence over the creation of value, strategic choices, and financial reporting decisions within the company, due to their specific characteristics and skills. Hambrick and Mason (1984) emphasize that top executives affect strategic decision-making and organizational performance, and their decisions may sometimes conflict with the interests of shareholders, as discussed in Agency Theory (Jensen & Meckling, 1976). These conflicts, coupled with the executive's discretion in decision-making, may prompt the CEO to manage earnings for personal gain, rather than upholding the interests of investors (Sprenger et al., 2017).

Accounting researchers have devoted significant attention to concerns regarding accounting manipulation and the transparency of financial reporting, particularly in light of the global economic and financial crises that have unfolded in recent years. These events have fostered a climate of skepticism among markets, investors, and the general public about the reliability of financial statements. It is widely acknowledged that financial statements serve as the primary means through which investors, employees, and society at large assess a company's financial health. Bouaziz et al. (2020) highlight that the CEO is ultimately responsible for the accuracy of the information presented in financial statements, and this responsibility may increase the potential for earnings management. Furthermore, they observe that the relationship between CEO behavior and earnings management remains a key issue that warrants further investigation.

Healy and Wahlen (1999) argue that managers are motivated to engage in earnings management for a multitude of reasons, though the primary objectives should be maximizing the company's value and enhancing its financial quality. Earnings management refers to the accounting choices made by managers to alter financial reports in ways that do not fully reflect the company's actual performance. It is important to clarify that this does not constitute fraud, as such decisions are made within legal limits and may involve the manipulation of accruals, which are earnings not yet reflected in current cash flows (Bergstresser & Philippon, 2006), as well as the alteration of operational decisions, which can affect the company's routine operations (Roychowdhury, 2006).

International studies have explored the relationship between CEO characteristics and earnings management, considering factors such as age, tenure, duality, compensation, gender, overconfidence, education, postgraduate qualifications, experience, nationality, board meeting participation, the number of positions held in other companies, turnover, ownership, and family ties (Ali & Zhang, 2015; Ameila & Eriandani, 2021; Ashafoke et al., 2021; Alqatamin et al., 2017; Bouaziz et al., 2020; Cella et al., 2014; Chou & Chan, 2018; Gulzar & Wang, 2011; Isidro & Gonçalves, 2011; Musa et al., 2023; Oussii & Klibi, 2023; Putra & Setiawan, 2024; Qawasmeh & Azzam, 2020; Yang, 2010).

With this in mind, and with the goal of contributing to the existing literature on earnings management within the Brazilian context by examining it in conjunction with the specific characteristics and skills of CEOs, this research aims to provide users of accounting information with a more nuanced understanding of the relationship between these variables. The research question is as follows: **What is the relationship between the characteristics and specific skills of Brazilian CEOs and earnings management?** Our primary objective is to investigate the relationship between the characteristics and specific skills of Brazilian CEOs and earnings management.

This research question addresses a topic that has been extensively discussed in international literature but requires further exploration in Brazil. Accordingly, the objective of this study is to provide novel insights into the potential influence of specific CEO traits and skills on earnings management practices. While numerous international studies have been conducted in developed countries with robust stock markets, this research stands out by focusing on Brazilian firms, which may produce unique findings. Additionally, the study highlights the relevance of the Upper Echelons Theory (UET), which emphasizes the significance of CEO characteristics in shaping strategic and financial decision-making within organizations. As such, UET is a central framework for interpreting the results of this study (Corrêa et al., 2024).

Furthermore, this study is justified by the critical role that management plays in enhancing the quality of accounting information and the impact of the CEO on the reliability of financial reporting. The findings will be of value to companies, as they provide insights into the characteristics of CEOs that align with organizational strategies and can inform the selection of new executives. These insights will also benefit financial analysts, enabling them to assess the quality and timeliness of accounting data with greater accuracy, taking into account the impact of CEO profiles on earnings management.

2. THEORETICAL FRAMEWORK

This chapter provides a comprehensive overview of the theoretical concepts underpinning this study, structured into two main sections. The first section addresses the Agency Theory, the Accounting Choice Theory, and Earnings Management, with a particular focus on the separation between ownership and control within organizations and the alignment mechanisms between managers and shareholders. Furthermore, it examines accounting decisions and methods of earnings management, clarifying how these influence financial reporting and overall corporate performance.

The second section explores the Upper Echelons Theory and the relationship between CEO characteristics and earnings management. It analyzes how demographic and professional attributes of CEOs, such as age, gender, duality of roles, education, and tenure, affect earnings management. Furthermore, it examines the participation of CEOs in board meetings and the influence of familial ties on managerial practices.

2.1 The Agency Theory, the Accounting Choice Theory, and Earnings Management

In the business context, the separation between ownership and control has been a topic of considerable debate due to its impact on corporate performance. Discussions on organizational structure, considering this separation, were initiated by Berle and Means (1932), who introduced the idea of a property structure distinguishing between owner and manager. Jensen and Meckling (1976) emphasize that the agency relationship is outlined by a contract, in which the principal (shareholder) grants authority to the agent (manager) to act on their behalf. Both parties are expected to seek to maximize the utility of the firm; however, as Fama and Jensen (1983) highlight, this delegation often leads to agency conflicts.

As defined by Jensen and Meckling (1976) and Fama and Jensen (1983), the agency theory outlines the control mechanisms and incentives that are designed to align the interests of the managers and the shareholders, thereby mitigating information asymmetry between stakeholders and fostering managerial efficiency. Recent research, such as Bouaziz et al. (2020), underscores that information asymmetry within this framework often results in managerial decisions that disproportionately benefit managers, sometimes at the expense of other stakeholders.

It is also important to consider the accounting choices that are made by managers when selecting specific accounting methods in preference to others. As posited by Fields et al. (2001), these choices encompass any decision aimed at influencing accounting outcomes, including not only financial statements but also accounting-related information, such as regulatory and tax matters. These choices are intrinsic to the flexibility of accounting standards, which involve not only managers but also other stakeholders. They are influenced by a range of factors, including contractual, economic, and institutional considerations. In this context, earnings management can be defined as the accounting choices made by managers to modify financial reports and present information that deviates from the actual reality. Healy and Wahlen (1999) define it as the use of judgment by managers in financial reporting to manipulate accounting information for opportunistic purposes, with the intention of drawing attention from users of accounting information.

It is important to note that earnings management is not regarded as a form of financial fraud, as it operates within the confines of established accounting standards. While managers adhere to these standards when preparing financial statements, they are frequently compelled to make decisions based on judgment to select the option that most accurately reflects the entity's circumstances. However, this discretion can be misused to present a view of financial performance that does not accurately reflect economic reality (Sprenger et al., 2017).

Earnings management strategies can be categorized into two forms: management through accruals and management through operational decisions (Healy & Wahlen, 1999). To detect earnings management, researchers frequently employ the use of accruals, which represent the discrepancies between cash receipts or disbursements and the recognition of revenue or expenses (Healy & Wahlen, 1999). These outcomes are not reflected in current cash flows, with a significant portion of managerial discretion being embedded in them (Bergstresser & Philippon, 2006). It is important to note that accrual-based management typically occurs between the fiscal year-end and the publication of the financial statements (*ex post*).

Martinez (2008) notes that there is no inherent problem with the recognition of accruals, as their purpose is to measure profit in its economic sense, effectively reflecting an increase in the entity's wealth. The challenge arises when the manager, exercising discretion, adjusts the accruals to modify profit. Accruals are categorized into discretionary and non-discretionary (Martinez, 2008). Discretionary accruals are associated with the manipulation of accounting information, whereas non-discretionary accruals are inherent to the company's operations and are not subject to alteration through accounting choices made to benefit any party.

2.2 The Upper Echelons Theory (UET), CEO Characteristics, and Earnings Management (EM)

When examining top management, the focus often shifts to the CEO. According to Chou and Chan (2018), CEOs are not only responsible for corporate performance and wield decision-making authority, but also use their position to increase their compensation and secure their tenure. Ashafoke et al. (2021) highlight that these leaders base their decisions on their personal experiences, values, and other human factors. The Upper Echelons Theory (UET), as proposed by Hambrick and Mason (1984), suggests that the organization reflects the characteristics of its CEO, thereby influencing the strategic choic-

es made. In accordance with this theory, Bouaziz et al. (2020) posit that the characteristics and experiences of the CEO significantly affect organizational decisions and outcomes. Moreover, Hambrick (2007) posits that, in addition to values and cognitive foundations, ethical and moral considerations also play a pivotal role in shaping business decisions.

The Upper Echelons Theory (UET) is examined by scholars from two perspectives. The first is the decision-making of executives, which is influenced by their personal interpretation of strategic situations. The second is the interpretation itself, which is seen as a reflection of the executives' experiences, values, and personalities. Identifying direct psychological traits is a challenging endeavor; thus, demographic characteristics such as age, gender, tenure, and education are often employed as proxies to infer these psychological aspects. As observed by Hambrick and Mason (1984), while research tends to concentrate on discernible attributes such as age and experience to predict managerial conduct and organizational efficacy, this methodology is constrained in its capacity to elucidate the underlying psychological characteristics of those occupying senior positions. The CEO plays a pivotal role in the preparation of a company's financial reports (Bouaziz et al., 2020). The available evidence indicates that CEO characteristics, including financial experience, compensation, and gender, play a significant role in the preparation of high-quality financial reports (Musa et al., 2023). Additionally, research suggests that CEO attributes can mitigate earnings management practices, thereby enhancing their capacity to safeguard the company's resources (Chou & Chan, 2018).

In this context, executive compensation policy is a crucial element for the success of the company. Sun (2014) highlights that managers may adjust the company's earnings to increase their compensation, especially when it is primarily based on reported earnings. Following the Agency Theory framework, which assumes the presence of conflicts of interest between managers and shareholders (Jensen & Meckling, 1976), higher compensation helps mitigate agency problems. Thus, this study, like that of Musa et al. (2023), assumes that CEO compensation contracts can help align their interests with those of the owners, thereby reducing earnings management. This suggests a significant negative relationship between CEO compensation and the propensity for earnings management. This formulation leads to the first research hypothesis.

H1: CEOs with higher compensation are less inclined to engage in earnings management.

A further potential source of conflicts of interest between ownership and management is the CEO's duality of roles. This limits the effective oversight of their decisions by the Board of Directors (BoD) and enables the CEO to act in accordance with personal interests. This duality arises when the CEO assumes both the role of chief executive officer and chairman of the board of directors (Fama & Jensen, 1983). In accordance with the tenets of agency theory, the existence of a duality of roles serves to reinforce the authority of the CEO, thereby reducing the efficacy of the monitoring functions of the Board of Directors (Chou & Chan, 2018; Gulzar & Wang, 2011). In the Brazilian stock market, a distinction is made between senior management, which is responsible for the operational management of the company, and the BoD, which is tasked with the protection of the interests of shareholders (Garcia et al., 2022). The same individual may simultaneously serve as both the CEO and the chairman of the BoD, which reflects the structural power of this administrator (Adams et al., 2005). Such circumstances have the potential to engender feelings of unease among investors. In accordance with Jensen and Meckling's (1976) agency theory, such managers may exploit their position to make decisions that are self-serving. Baker et al. (2018) corroborated the findings of their study, which indicated that the prevalence of earnings management is higher in companies with a CEO who serves in a dual capacity. In accordance with the tenets of the agency theory, it is anticipated that the phenomenon of CEO duality will exhibit a pronounced positive correlation with the prevalence of earnings management. This leads to the formulation of the second research hypothesis:

H2: CEOs with duality of roles are more inclined to engage in earnings management.

Huang et al. (2012) highlight that the CEO's age is related to the quality of financial reports. They suggest that older leaders tend to be more ethical and risk-averse than their younger counterparts, thereby reducing the likelihood of unethical behavior. As CEOs age, they are more likely to adopt ethical and conservative behaviors, leading to less engagement in earnings management, which results in higher-quality financial reports. Cornett et al. (2008) argue that the association between older CEOs and lower levels of discretionary accruals can be attributed to the fact that newly appointed CEOs, with less experience, have a greater incentive to engage in manipulative practices. In line with the literature suggesting that managers become more ethical over time, the third research hypothesis posits a significant negative relationship between these variables:

H3: Older CEOs are less inclined to engage in earnings management.

Gender significantly influences individual behaviors, with men and women often adopting distinct approaches when performing identical tasks (Putra & Setiawan, 2024). Ashafoke et al. (2021) emphasize that ethical differences between genders have been extensively studied, revealing that men and women differ in their values and interests concerning unethical conduct in business settings. Men are generally more focused on potential gains and personal success, which may lead them to breach rules to achieve corporate objectives. Conversely, women tend to prioritize harmonious rela-

tionships, demonstrate a stronger inclination to assist others, and exhibit greater sociability, rendering them less prone to unethical behavior.

Setyaningrum et al. (2019), in their study on Indonesian firms, analyzed the influence of female CEOs on earnings management. Their findings indicated a negative relationship between the presence of female CEOs and earnings management, suggesting that female leadership may mitigate manipulative practices within organizations. Drawing from these findings and the preceding arguments, it is hypothesized that male CEOs are more inclined to engage in earnings management, reflecting a significant positive relationship. Accordingly, the fourth research hypothesis is formulated as follows:

H4: Male CEOs are more inclined to engage in earnings management.

CEOs in senior executive positions frequently utilize their expertise to influence earnings management practices (Putra & Setiawan, 2024). Isidro and Gonçalves (2011) underscore that this attribute is a critical factor considered by boards of directors when selecting an executive to lead an organization. Typically, individuals with the requisite knowledge, skills, and experience to maximize shareholder value are appointed, with CEOs possessing a background in business being regarded as particularly well-qualified for such roles (Isidro & Gonçalves, 2011). The Upper Echelons Theory (UET) posits that CEOs with financial specialization are well-acquainted with the intricacies of report quality (Oussii & Klibi, 2023). This perspective aligns with the findings of Qawasmeh and Azzam (2020), who observed that CEOs often leverage their financial expertise to achieve specific profit targets rather than prioritizing shareholder wealth maximization. In this regard, a CEO is considered to have a business-oriented educational background if they hold qualifications in fields such as Business Administration, Accounting, or Economics (Garcia et al., 2022). Thus, drawing from the literature, a significant positive association is expected between a CEO's educational background in business and their propensity to engage in earnings management, due to their advanced familiarity with accounting and financial practices. Accordingly, the fifth research hypothesis is formulated as follows:

H5: CEOs with a background in business are more inclined to engage in earnings management.

The CEO's tenure refers to the period during which an individual holds the position of CEO within a company, also reflecting their accumulated experience within that organization (Putra & Setiawan, 2024). Empirical evidence suggests that earnings management is more prevalent during the initial years of a CEO's tenure, progressively diminishing overtime. Ali and Zhang (2015) examined the incentives for CEOs to engage in earnings management during their tenure, finding that CEOs, particularly in the early years of their service, used earnings management to inflate profits. Similarly, Cella et al. (2014) observed that the levels of earnings management gradually decrease as CEOs advance in their tenure. Considering this evidence, a positive relationship is expected between tenure and earnings management during the initial years, while this relationship is anticipated to become negative over time. Thus, the sixth research hypothesis is proposed as follows:

H6: CEOs in the early years of their tenure are more inclined to engage in earnings management.

A relevant yet underexplored aspect in Brazilian research is the participation of CEOs in Board of Directors (BoD) meetings. In international literature, initial studies focused on the frequency of board meetings. Davidson and DaDalt (2003) found that boards that meet more frequently are more likely to reduce the level of earnings management. However, this research shifts the focus from the frequency of meetings to the influence of CEO participation in these meetings. In this regard, Sukeecheep et al. (2013) conducted a study investigating this relationship through a dummy variable, assigning a value of 1 when the CEO participated in at least 75% of BoD meetings, and 0 otherwise. Based on this perspective, it is expected that CEO participation in BoD meetings has a significant negative relationship with earnings management. Thus, the following research hypothesis is proposed:

H7: CEOs who participate in BoD meetings are less inclined to engage in earnings management.

The context of family businesses highlights the role of the CEO's familial ties to the company's founder or family, reflecting a strong sense of responsibility for ensuring the firm's continuity for future generations. This connection often results in more effective oversight, including rigorous monitoring of financial reports (Putra & Setiawan, 2024). Prencipe et al. (2008) argue that family CEOs tend to prioritize the company's long-term performance and survival, investing in enduring assets such as reputation and social capital. These CEOs focus on maintaining trust with the controlling family, reinforcing their commitment to advancing the family's interests beyond their own. As a result, family CEOs are less motivated by short-term gains and less inclined toward earnings management (Yang, 2010). Yang further emphasizes that the incentives for such practices differ between family and non-family CEOs, with non-family CEOs being more likely to engage in earnings management. Accordingly, it is hypothesized that family-linked CEOs are less likely to participate in earnings management, indicating a significant negative relationship. This forms the basis for the eighth and final research hypothesis:

H8: CEOs with familial ties to the company are less inclined to engage in earnings management.

3. METHODOLOGICAL PROCEDURES

In this study, the adopted methodology is structured into three main stages. First, the process of sample definition and data collection will be described, highlighting the inclusion and exclusion criteria for the participating companies. Next, the specification of the model used to estimate discretionary accruals, which serve as a proxy for earnings management, will be presented. Finally, the independent and control variables used in the econometric model will be detailed, with their selection justified based on the literature, along with a description of the regression technique applied for data analysis.

3.1 Sample Definition and Data Collection

The study’s population comprised companies listed on the Brasil, Bolsa, Balcão [B3] stock exchange from 2016 to 2019. The starting year, 2016, was chosen because the variable “CEO participation in board meetings,” which has not yet been extensively explored in the Brazilian context, became available in the Reference Form (RF) only from that year onward. The end year, 2019, was selected to exclude the economic and financial impacts of the COVID-19 pandemic, which began in 2020, as the pandemic lies outside the scope of this study.

The population included companies active in the Economatica® database as of November 18, 2021, totaling 413 listed firms. However, 143 companies in the finance, insurance, and holding sectors were excluded due to their unique regulatory frameworks. Additionally, 76 companies lacking the necessary data to calculate discretionary accruals were removed, resulting in a final sample of 194 firms. Data for the independent variables were collected from the RF, while data for the dependent variable and control variables were sourced from the Economatica® database.

3.2 Specification of the Model for Estimating Discretionary Accruals

Research on accrual-based earnings management uses discretionary accruals as a proxy for earnings management practices. The models in the literature aim to isolate the discretionary accruals embedded in the earnings of a given period. For this study, we adopt the model proposed by Pae (2005), which enhances the predictive power of the Jones and Modified Jones Models by incorporating variables representing operational cash flow and the natural reversal of prior-period accruals. Discretionary accruals are obtained from the residuals of the model, as shown in Equation (1):

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \beta_1 \frac{\Delta REV_{it}}{A_{it-1}} + \beta_2 \frac{PPE_{it}}{A_{it-1}} + \beta_3 \frac{CFO_{it}}{A_{it-1}} + \beta_4 \frac{CFO_{it-1}}{A_{it-1}} + \beta_5 \frac{TA_{it-1}}{A_{it-1}} + \varepsilon_{it} \quad (1)$$

Where: TA_{it} : Total accruals of firm i in period t ; A_{it-1} : Total assets of firm i at the end of period $t-1$; ΔREV_{it} : Change in net revenue from the end of period $t-1$ to the end of period t ; PPE_{it} : Total property, plant, and equipment; CFO_{it} : Operating Cash Flow; CFO_{it-1} : operating cash flow of firm i at the end of period $t-1$; TA_{it-1} : Total accruals of firm i at the end of period $t-1$; $\alpha_1, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$: Parameters ε_{it} : residuals representing discretionary accruals.

3.3 Research Variables and Econometric Model Definition

Table 1 outlines the variables analyzed in this study, specifying their respective metrics, data sources, expected signs, and underlying theoretical frameworks. It is essential to highlight that all non-binary variables were winsorized at the 1% level to ensure comparability of the data. Winsorization, as defined by Lev and Sunder (1979), is a technique employed to mitigate the influence of outliers by systematically substituting extreme values with the nearest non-extreme values, determined by the percentiles of the sample distribution. This approach helps maintain the integrity of the dataset without excluding potentially informative data points (Barnes, 2010; Hoaglin et al., 1983).

Table 1 – Research Variables

Variable	Metrics	Expected Sign	Theoretical Foundation
Earnings Management (EM)	<i>Discretionary Accruals</i>	N/A	Baker et al. (2018); Bouaziz et al. (2020); Qawasmeh e Azzam (2020).
Compensation (COMP)	Highest individual director compensation / Net Income	(-)	Baker et al. (2018); Bouaziz et al. (2020); Chou and Chan (2018); Musa et al. (2023).
Duality of roles (DUAL)	Dummy variable, 1 if CEO holds both CEO and Chairman of the Board positions, 0 otherwise	(+)	Baker et al. (2018); Bouaziz et al. (2020); Chou and Chan (2018); Oussii e Klibi (2023).

Variable	Metrics	Expected Sign	Theoretical Foundation
Age (AGE)	CEO age in years	(-)	Ali e Zhang (2015); Bouaziz et al. (2020); Chou and Chan (2018); Putra e Setiawan, (2024).
Gender (GEN)	Dummy variable, 1 if CEO is male, 0 otherwise	(+)	Ameila e Eriandani (2021); Bouaziz et al. (2020); Putra and Setiawan, (2024); Setyaningrum et al. (2019).
Business Education (EDU)	Dummy variable, 1 if CEO has a business-related education (Business Administration, Accounting, or Economics), 0 otherwise	(+)	Baker et al. (2018); Chou and Chan (2018); Sprenger et al. (2017).
Tenure (TEN)	Number of years CEO has held position at the firm	(-)	Ali e Zhang (2015); Chou and Chan (2018); Qawasmeh e Azzam (2020).
CEO Participation in Board Meetings (MEET)	Dummy variable, 1 if CEO participates in board meetings, 0 otherwise	(-)	Chou and Chan (2018); Sukeecheep et al. (2013).
Family CEO (FAM)	Dummy variable, 1 if CEO is a family member, 0 otherwise	(-)	Putra and Setiawan, (2024); Yang (2010).
Firm size (SIZE)	Ln of Total Assets	(-)	Chou and Chan (2018); Bouaziz et al. (2020); Oussii and Klibi (2023); Putra and Setiawan, (2024); Qawasmeh and Azzam (2020); Musa et al. (2023).
Return on Invested Capital (ROIC)	NOPAT / Total Capital Invested	(-)	Barker (1999); Demirakos et al. (2004).
Leverage (LEV)	Long-Term Debt / Total Assets	(+)	Ali and Zhang (2015); Chou and Chan (2018); Putra and Setiawan, (2024); Musa et al. (2023); Qawasmeh and Azzam (2020).
Firm Age (FIRM_AGE)	Number of years since firm establishment	(-)	Ameila and Eriandani (2021); Bouaziz et al. (2020); Musa et al. (2023); Qawasmeh and Azzam (2020).
Big Four (BIG)	Dummy variable, 1 if the firm is audited by a Big Four firm, 0 otherwise (Big Four: Deloitte, PricewaterhouseCoopers, Ernst & Young, KPMG)	(-)	Chou and Chan (2018); Huang et al. (2012); Oussii and Klibi (2023); Putra and Setiawan, (2024); Silva et al. (2014).
Corporate Governance (GOV)	Dummy variable, 1 if the firm is listed at a differentiated corporate governance level (Level 1, Level 2, or Novo Mercado), 0 otherwise	(-)	Mazzioni et al. (2015); Piccoli et al. (2014).

Note: Prepared by the authors (2022).

As highlighted in the table, this research will also include some control variables to neutralize effects that might impact on the analysis, since, according to the literature, CEO characteristics are not the only determinants for earnings management. After collecting all the variables, a multiple regression with unbalanced panel data was used. The following equation (2) outlines the present regression model:

$$EM = \alpha_0 + a_1COMP + a_2DUAL + a_3AGE + a_4GEN + a_5EDU + a_6TEN + a_7MEET + a_8FAM + a_9SIZE + a_{10}ROIC + a_{11}LEV + a_{12}FIRM_AGE + a_{13}BIG + a_{14}GOV \quad (2)$$

Where:

EM = Earnings Management; COMP = CEO Compensation; DUAL = CEO Duality of roles; AGE = CEO Age; GEN = CEO Gender; EDU = CEO Education; TEN = CEO Tenure; MEET = CEO Attendance at Board Meetings; FAM = Family CEO; SIZE = Company Size; ROIC = Return on Invested Capital; LEV = Leverage; FIRM_AGE = Firm Age; BIG = Big Four Auditors; GOV = Corporate Governance.

This model aims to analyze the relationship between the variables and earnings management, evaluating their significance – both positive and negative. By doing so, it is possible to more precisely assess how specific characteristics and skills of Brazilian CEOs influence earnings management, providing a deeper understanding of the impact of these factors.

4. RESULTS

This section presents the analysis of the data collected and the discussion of the main findings of the research. The study aims to understand how specific CEO characteristics influence earnings management in Brazilian companies. The analysis was conducted in two stages: (i) descriptive statistics of the variables, summarizing the collected data and highlighting key trends observed among the companies and CEOs studied; and (ii) multiple regression analysis, which examines the impact of explanatory variables on earnings management, testing the hypotheses derived from existing literature. Both the descriptive and econometric analyses are detailed considering findings from prior research, offering a critical perspective on the role of CEOs and the influence of their attributes on earnings management practices.

4.1 Descriptive Statistics

The descriptive statistics section provides an overview of the main characteristics of the variables analyzed, laying the groundwork for understanding data behavior prior to applying more advanced analyses. At this stage, key statistical parameters of the variables used in the study are presented, including mean, standard deviation, minimum, and maximum values. These indicators are essential for identifying patterns, trends, and data dispersion, offering a preliminary analysis of the context in which Brazilian CEOs operate and the traits that may influence earnings management. Descriptive analysis is pivotal for grasping the data distribution and setting the stage for subsequent inferential analyses, which will investigate the relationship between these variables and earnings management (EM), the dependent variable in this study.

Table 2 - Descriptive Statistics of Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
EM	0,034	0,131	-0,000	0,790
COMP	29,238	142,604	-385,516	799,585
DUAL	0,449	0,497	0	1
AGE	53,628	10,022	31	88
GEN	0,978	0,144	0	1
EDU	0,341	0,474	0	1
TEN	2,352	1,248	1	6
MEET	0,291	0,454	0	1
FAM	0,538	0,499	0	1
SIZE	14,606	1,850	10,498	18,504
ROIC	4,960	11,699	-43,633	36,388
LEV	0,785	0,695	0,102	4,588
FIRM_SIZE	48,402	28,595	7	129
BIG	0,721	0,448	0	1
GOV	0,660	0,473	0	1

Note: Prepared by the authors (2022).

In terms of earnings management (EM), the average observed was 0.03. A study conducted by Putra and Setiawan (2024) on manufacturing firms listed on the Indonesian Stock Exchange from 2015 to 2021 reported an average EM of -0.01, with a range between 1.00 and 5.00. In Nigeria, the mean, minimum, and maximum values for EM were 0.934, -0.273, and 1.638, respectively (Musa et al., 2023). Regarding CEO compensation, the descriptive statistics do not support direct inferences, as the minimum, mean, and maximum values do not represent the actual compensation. This is because the metric used was the ratio of CEO compensation to the company's net income, deemed appropriate given the impact of earnings management on net income, as highlighted by Sprenger et al. (2017). A separate analysis exclusively for this variable revealed that the average CEO compensation in Brazil is approximately BRL 3,248,286. In Nigeria, CEO compensation averaged NGN 8.596 million, with minimum and maximum values of NGN 7.039 million and NGN 10.696 million, respectively (Musa et al., 2023).

For CEO duality of roles, the average was 0.45, within a range of 0 to 1. In Tunisia, 55% of CEOs held dual roles as company executives and board committee members (Oussii & Klibi, 2023). Regarding age, Brazilian CEOs averaged 53 years, ranging from 31 to 88, as shown in Table 2. Comparatively, average CEO ages were 52 years in Jordan (Qawasmeh & Azzam, 2020), 51 years in Jordan (Alqatamin et al., 2017), 53 years in Portugal (Isidro & Gonçalves, 2011), 54 years in France (Bouaziz et al., 2020), and 55 years in Indonesia (Putra & Setiawan, 2024).

Concerning gender, the average was 0.97 on a 0-to-1 scale, indicating that nearly all CEOs in the sample were male. In Indonesia, only 6% of CEOs were women (Putra & Setiawan, 2024), while in Nigeria, the proportion of female CEOs was 29.5% (Musa et al., 2023). Regarding business education, the mean was 0.34. CEO tenure averaged two years, ranging from one to six years, as evidenced in Table 2. In a sample of 744 companies, Ameila and Eriandani (2021) reported a tenure of up to 49 years for a CEO, though the majority had shorter tenures, with 87 companies having CEOs for only one year. In Jordan, Qawasmeh and Azzam (2020) found an average tenure of 3.5 years, while Bouaziz et al. (2020) reported an average of eight years. In Indonesia, CEO tenure averaged 10.65 years, ranging from 0 to 47 years (Putra & Setiawan, 2024).

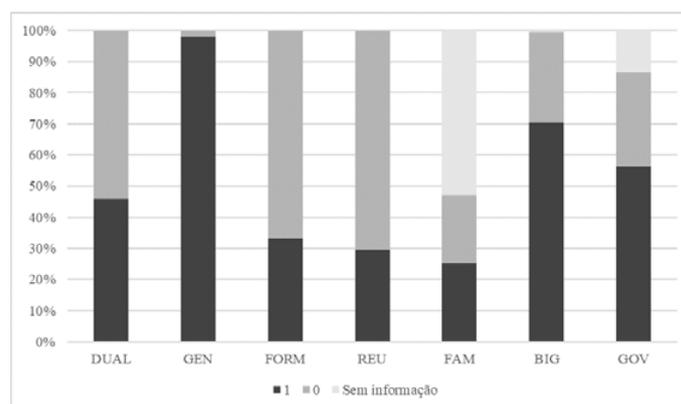
The average participation rate of CEOs in board meetings was 0.29. For family CEOs, the average was 0.53, with a range of 0 to 1. In Indonesia, the average was 0.45 (Putra & Setiawan, 2024), while in Tunisia, family CEOs accounted for 23.78% of the sample (Oussii & Klibi, 2023), suggesting stronger family ties in the Brazilian context. The average firm size in Brazil was 14.60, similar to the findings of Sprenger et al. (2017), who reported a mean of 14.08. In Nigeria, the mean firm size was 16.27 (Musa et al., 2023), while in Tunisia, it was 18.44 (Oussii & Klibi, 2023). The average return on invested capital (ROIC) was 4.96, indicating firms' profitability. Leverage averaged 0.78, while in Jordan, leverage was 0.33 (Qawasmeh & Azzam, 2020) and 0.29 (Alqatamin et al., 2017). In Indonesia, leverage averaged 0.58 (Putra & Setiawan, 2024), and in Nigeria, it was 0.56 (Musa et al., 2023).

The average age of Brazilian companies is 48 years, with some being as young as seven years and others as old as 129 years. Comparatively, Bouaziz et al. (2020) reported an average company age of 51 years in France. In Jordan, the average age is significantly lower at 21.6 years (Qawasmeh & Azzam, 2020), while in Nigeria, companies are notably younger, with an average age of just three years (Musa et al., 2023).

For companies audited by Big Four firms, an average of 0.72 is observed, indicating that more than half of the sampled companies are audited by these firms. In Indonesia, this average was 0.41 (Putra & Setiawan, 2024), and in Tunisia, it was 0.63 (Oussii & Klibi, 2023). Regarding corporate governance, an average of 0.66 was found for companies listed under the differentiated levels (N1, N2, and NM) of governance on the B3 stock exchange.

For variables such as duality, gender, business education, board meeting attendance (%), family CEOs, Big Four auditing, and corporate governance, the descriptive statistics provide an overview. However, their detailed analysis is presented graphically in Figure 1, as these variables are measured using dummy variables.

Figure 1 – Analysis of Dummy Variables

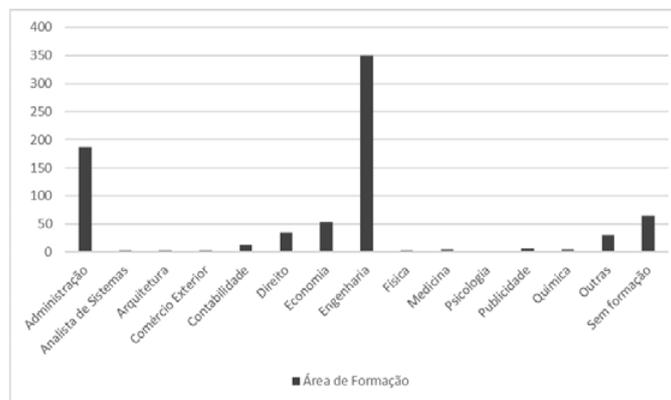


Note: Prepared by the authors (2022).

In Brazil, 45.92% of CEOs simultaneously hold the roles of director and chairperson of the Board of Directors (BoD), while 54.08% serve only as directors. Comparatively, Isidro and Gonçalves (2011) reported that 37% of Portuguese CEOs hold both positions, and Bouaziz et al. (2020) found a similar trend with 53.64% of French CEOs assuming both roles. Regarding gender, a significant 97.89% of CEOs in the Brazilian sample are male, with only 2.11% being female. This aligns with global patterns, as noted by Alqatamin et al. (2017), where 95% of CEOs were male, and Ameila and Eriandani (2021), who observed that only 8.2% of CEOs in their total sample were female.

In the variable ‘CEO participation in board meetings’, only 29.34% of CEOs participate in meetings, possibly because 45.92% also hold the position of chairman of the board. Regarding CEO Familiarity, 26.44% have a family connection with the company, while 22.63% have no familial ties, and 50.93% of companies did not disclose this information. For the Big Four and Corporate Governance variables, 73.42% of companies are audited by one of the Big Four, indicating concern with the reliability of the information, and 58.55% are in differentiated levels of Corporate Governance, which highlights the effort to reduce agency conflicts and information asymmetry. Regarding the CEO’s education, only 33.28% of CEOs have a background in business-related fields, which contrasts with the 84% found in Portugal (Isidro & Gonçalves, 2011). This situation raises questions about the experience of these managers in areas outside of business studies, emphasizing the importance of business knowledge for leadership. Figure 2 provides a more detailed analysis of the educational backgrounds of Brazilian CEOs.

Figure 2 - CEO’s Educational Background.



Note: Prepared by the authors (2022).

According to Figure 2, the most common educational background among Brazilian CEOs is engineering, with 349 professionals, indicating a strong preference for technical and strategic skills. Business administration ranks second, with 187 CEOs, emphasizing the importance of corporate management expertise. Economists come in third, with 53 CEOs, reflecting the relevance of economic analysis for leadership roles. Legal and accounting professionals account for 34 and 13 CEOs, respectively, illustrating that while less common, these fields also play a significant role in corporate leadership. Other academic backgrounds are represented as shown in the graph, demonstrating the diversity of profiles among Brazilian CEOs.

4.2 Regression Analysis Results

This section presents the findings of the econometric model developed to test the hypotheses regarding the specific characteristics and skills of CEOs in earnings management. To refine the estimator definition in panel data, assumption tests were conducted as detailed in Table 4. Three procedures were applied: (i) the Shapiro-Wilk residual normality test revealed a p-value of 0.00000, indicating that the residuals do not follow a normal distribution. This indicates that the findings are sample-specific and should not be generalized to companies beyond the scope of this study. The Breusch-Pagan heteroskedasticity test indicated p-values of 0.0000, evidencing variance issues, as shown in Table 4. To address these problems, the regression model was adjusted with robust standard errors, an approach recommended by Fávero and Belfiore (2017) for addressing such issues. Additionally, the VIF test was conducted to evaluate the presence of multicollinearity, with a mean value of 1.57. This value suggests no multicollinearity in the model, according to the definition by Fávero and Belfiore (2017), who consider values below 4.00 to indicate the absence of multicollinearity.

Using the Pae (2005) model, discretionary accruals were estimated for each company in the sample during each year studied. These accruals represent earnings management, and the values obtained constitute the dependent variable in the regression analysis. The results pertain to 194 Brazilian companies over the period from 2016 to 2019, forming an unbalanced panel with 252 observations

Table 4 - Regression Model of the EM Variable and Explanatory Variables

Variable	Coefficient	Standard Error	z	p-value
COMP	0,000	0,000	1,03	0,305
DUAL	0,081	0,036	2,25	0,025**
AGE	-0,002	0,000	-2,12	0,034**
GEN	0,004	0,019	0,24	0,811
EDU	-0,017	0,016	-1,07	0,283
TEN	0,006	0,006	1,05	0,292
MEET	-0,088	0,036	-2,42	0,015**
FAM	0,023	0,017	1,34	0,180
SIZE	0,015	0,006	2,29	0,022**
ROIC	-0,000	0,000	-0,29	0,773
LEV	-0,069	0,031	-2,21	0,027**
FIRM_AGE	0,000	0,000	0,31	0,759
BIG	-0,010	0,021	-0,51	0,609
GOV	-0,020	0,024	-0,83	0,404
Constant	-0,058	0,094	-0,62	0,535

Note: *, **, and *** indicate statistical significance at 1%, 5%, and 10%, respectively.

Prepared by the authors (2022).

Regarding the results presented by this regression, significant findings were identified for three variables of relevance: duality of roles, CEO's age, and participation in board meetings, confirming hypotheses H2, H3, and H7. On the other hand, variables such as compensation, tenure, gender, education, and CEO familiarity did not exhibit statistical significance, leading to the rejection of hypotheses H1, H4, H5, H6, and H8. Among the control variables, firm size and leverage were significant, while ROIC, firm age, Big Four, and corporate governance were not.

The CEO compensation variable did not demonstrate statistical significance, indicating that it does not influence earnings management practices among the Brazilian companies analyzed over this four-year period. These findings contrast with the results of the national study by Sprenger et al. (2017) and international research, such as Baker et al. (2018) and Sun (2014), which suggested a significant relationship. However, similar outcomes were observed by Chou and Chan (2018) and Bouaziz et al. (2020), who also found no connection between CEO compensation and earnings management. This suggests that compensation plans might not effectively align the interests of agents and principals, thereby challenging the core assumptions of Agency Theory.

The variable duality of roles was found to be significant and positive, aligning with the results reported in the international literature (Baker et al., 2018; Bouaziz et al., 2020; Chou & Chan, 2018; Gulzar & Wang, 2011; Isidro & Gonçalves, 2011). This suggests that CEOs who hold both the CEO and Chairman roles are more inclined to engage in earnings management. The presence of duality enhances the power of top management, providing them with greater leverage to manage earnings in a way that reports positive profits and sustains recent performance (Oussii & Klibi, 2023). This finding supports the Agency Theory's assumption that CEOs may act opportunistically in such circumstances (Oussii & Klibi, 2023).

For the variable CEO age, a significant relationship was found, corroborating both national and international literature, such as the study by Sprenger et al. (2017), which identified the significance of CEO age in earnings management. This leads to the inference that CEO age impacts accounting manipulation. The CEO gender variable, however, was not significant, as also found by Sprenger et al. (2017). This aligns with international findings (Ameila & Eriandani, 2021; Chou & Chan, 2018), confirming the absence of gender influence on earnings management in Brazilian companies. According to Alqatamin et al. (2017), the lack of a significant relationship may simply be due to the extremely small number of female CEOs in the sample, which could have influenced the results, considering that only 2.11% of the CEOs studied were women.

No relationship was found between CEO education in business and earnings management, which is consistent with both national and international findings (Isidro & Gonçalves, 2011; Sprenger et al., 2017). This suggests that having a business-related degree does not influence the management practices of the company (Bouaziz et al., 2020). Furthermore, the expected negative and significant relationship with the CEO's tenure was not validated, contrary to the findings of several international studies (Bouaziz et al., 2020; Chou & Chan, 2018; Qawasmeh & Azzam, 2020). However, a recent

study in Indonesia also found no significant relationship (Putra & Setiawan, 2024), indicating that a CEO's tenure may not impact earnings management practices.

Regarding the family CEO variable, no significant relationship was found, contrary to the hypothesis. This suggests that whether the CEO is a family member or not does not impact the level of earnings management practiced by the Brazilian companies in this study. On the other hand, participation in board meetings variable – one of the most important in this research, as it constrained the start of the sample period to 2016 – was found to be significant. The results indicate that when CEOs participate in these meetings, earnings management tends to decrease. This can be attributed to the expectation that increased board oversight and more thorough discussions of internal matters during these meetings may address potential issues related to information manipulation.

Regarding the control variables, firm size was found to be significant, with a positive coefficient, which contradicts findings from both national and international studies (Ameila & Eriandani, 2021; Bouaziz et al., 2020; Sprenger et al., 2017). In this study, larger firms were associated with more pronounced earnings management. The ROIC variable, on the other hand, did not show statistical significance. Similarly, the firm age did not present a significant relationship, in line with expectations based on the literature, such as Bouaziz et al. (2020). Furthermore, neither Big Four audit nor corporate governance were significant, suggesting that auditing by a Big Four firm and adherence to advanced corporate governance practices do not significantly influence earnings management. This is consistent with the findings of Oussii and Klibi (2023), who concluded that audit quality does not have a significant impact on earnings management practices.

The results presented in this section reveal a notable shift in the research landscape, especially given that most of the variables analyzed – such as CEO compensation, gender, education, tenure, and familiarity – did not show statistical significance. These findings challenge central assumptions of both the Upper Echelons Theory (UES), which posits that individual characteristics of executives directly influence organizational decisions, and Agency Theory, which underscores the importance of aligning the interests of managers and shareholders to optimize firm performance. Therefore, the findings underscore the necessity to reassess the influence of these variables on earnings management, suggesting a broader reflection on other factors that may have a greater impact on managerial behavior.

5. CONCLUSION

This study investigated the relationship between the specific characteristics and skills of Brazilian CEOs and Earnings Management over the period from 2016 to 2019. A sample of 194 companies was used, and a multiple regression with an unbalanced panel was conducted. Brazilian CEOs have an average annual compensation of R\$3,248,286.00, an average age of 53 years, and an average tenure of approximately two years. Brazilian companies have an average size of 14.60, an average ROIC of 4.96, and an average leverage of 0.78, with an average age of 48 years. Among dummy variables, 45.92% of CEOs hold both the position of CEO and Chairman of the Board (Board), 97.89% are male, only 29.34% participate in Board meetings, and 26.44% have familial ties with the company. Additionally, 73.42% of companies are audited by Big Four firms, and 58.55% adhere to one of the differentiated levels of governance. Regarding education, only 33.28% of CEOs hold a degree in business-related fields such as Business Administration, Accounting, or Economics.

In the regression analysis, the variables of duality of roles, CEO age, and participation in Board meetings were significant, validating hypotheses H2, H3, and H7. CEO compensation did not influence earnings management in the Brazilian companies studied during the analyzed period, contradicting the Agency Theory, which suggests that bonus plans and compensation align the interests between principals and agents. Duality was found to be significant and positive, suggesting that CEOs who hold both positions are more likely to engage in earnings management, which limits the board's ability to monitor the CEO, thereby exacerbating agency problems. Age was significant, indicating that older CEOs are more likely to manage earnings. Participation in board meetings showed a negative significance, indicating that such involvement reduces the levels of earnings management. The variables of gender, tenure, educational background, and family relations of the CEO were not significant. Among the control variables, firm size was positively significant, indicating that larger companies are engaging in more earnings management; leverage was also significant, while ROIC showed no relevance. The age of the company, as well as the Big Four and governance variables, did not demonstrate significant relationships.

The study suggests a shift in the profile of CEOs, as most variables showed no significance, questioning the assumptions of the Upper Echelons Theory (UET). The sample and the four-year period should be noted as limitations. Future research could incorporate variables such as prior professional experiences of CEOs and their nationality, using different metrics for compensation, governance, and audit measurements. The high proportion of companies audited by Big Four firms (73.42%) and included in differentiated governance levels (58.55%) reinforces the relevance of these factors, suggesting that they may influence earnings management in ways not captured by the metrics employed in this study.

Several limitations should be considered when interpreting the results. First, the analysis period was limited to the years 2016 to 2019, excluding any potential impacts of the COVID-19 pandemic on earnings management practices in companies. Furthermore, the sample encompassed 194 companies listed on the B3, which may not fully capture the behavior of Brazilian companies in other sectors or periods. Although relevant, the variables analyzed may not account for other significant factors, such as CEOs' international experience or their psychological characteristics, which could influence earnings management in ways not yet explored in the literature. Future research should explore the influence of psychological characteristics of managers on earnings management and consider extending the temporal scope to

post-pandemic in order to examine whether this period caused any changes in the profile of Brazilian CEOs and their influence on earnings management practices.

In summary, this study offers new perspectives on the relationship between the characteristics of Brazilian CEOs and earnings management, highlighting variables such as duality of roles, CEO age, and participation in board meetings as determining factors. While some traditional hypotheses of Agency Theory and Upper Echelons Theory were not validated, the results contribute to a better understanding of corporate governance practices in Brazil. Future research that expands the temporal scope and incorporates new variables could provide broader and more robust insights into the role of CEOs in managing earnings in Brazilian companies.

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