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**CEO Old/New School Mentality
and Earnings Management**

*Master thesis
in
Accounting, Auditing, and Control*

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01.11.2022

ABSTRACT

This research examines the association between CEO old/new school mentality and earnings management and CEO age and earnings management. The discretionary accruals model measures earnings management, and the self-made ideology index captures CEO's new/old-school mentality. The ideology index includes the CEO's age, tenure, political beliefs, social media status, and ESG-Score. According to the extant literature, this study hypothesizes that CEO age is not associated with earnings management, but the CEO's old/new school mentality is. Using the panel sample of 200 S&P firms during the 2015-2019 period, this study detects a significant positive association between CEO age and income-increasing practices and does not find any significant association between CEO old/new school mentality and earnings management. The CEO's age is a more crucial explanatory variable towards earnings management than the CEO's old/new school mentality. This research also finds a significant negative association between total audit fees and income-increasing manipulations. Dividing the ideology index into the components, this research discovers a significant positive association between tenure and income-increasing manipulations and a significant positive association between ESG-Score and income-increasing practices. Therefore, this research adds prospects to the corporate governance literature and financial reporting regulators by recognizing the CEO age, CEO tenure, total audit fees, and ESG-Score as critical patterns of earnings management.

1. INTRODUCTION

Researchers have long studied CEOs' heterogeneous talents and abilities represented in firm performance (Kaplan, S. N., Klebanov, M. M., & Sorensen, M. 2012). CEOs have a vital influence on corporate governance and the whole in-house environment. Chief executives are also humans and have their characteristics along with their values and beliefs. The ideology of a manager tends to be an essential driver of the actions and decision-making in the firms. Not only the industry or company factors influence the performance as well as the characteristics of top executives. CEOs hold the responsibility to transmit their abilities and ideology to the fair and better performance of the firms (Altarawneh, M., Shafie, R., & Ishak R. 2020). Corporate governance and psychology literature investigates the CEOs' behavior and characteristics to understand the actions and decision makings of firms. The research in that field plays a vital role in the stock markets; thus, the potential answers to the market problems might assist the financial world that has overlived massive accounting scandals. The financial world demands high accounting quality and the reliable and fair representation of information to ensure that their investors are protected from market noises (He, X. Z., Li, Y., & Zheng, M. 2019). Knowing the factors that can or cannot directly impact accounting quality is one of the essential aspects of accounting research. Accounting quality is a central focus of the market participants; therefore, the discovery of a new variable that might influence the financial reporting quality will likely be a concern of engaged individuals. The accounting quality literature always has tremendous attention among accounting academics and investors because it provides a predictive and explanative environment for all interested parties (Hassan, O. A., & Marston, C. 2019).

This research measures earnings management with the Kothari (2005) discretionary accruals model to proxy for the quality of accounting and creates the self-made ideology index that captures the CEO's old or new-school mentality. The study compares the explanatory variables, precisely the CEO's age, and the CEO's old/new school ideology, as the ideology hidden behind the age. Age influences the ideology of the top executives depending on the time and environment they grew up in (Desislava, S., & Elena, Z. P. (2018)). Using a panel sample of 200 S&P firms during the 2015-2019 period, the empirical results indicate no significant association between CEO new/old school mentality and earnings management. However, this research observes a significant positive relationship between CEO age and earnings management. The results are inconsistent with the extant study by Huang et al. (2012). It has already examined the relationship between CEO age and accounting quality by providing the

critical findings that CEO age positively affects financial reporting quality, corroborating that older CEOs tend to avoid risks of failures. Huang et al. (2012) measured the financial reporting quality by meeting and beating analysts' forecasts and restatements, but the inferences of the same concept are not coherent. This research claims that older CEOs will likely use more income-increasing practices than younger CEOs, or the younger old CEOs tend to manipulate earnings more in the downward direction. It can also be inferred that the higher the discretionary accruals, the older the CEO; therefore, the accounting quality is lower. Both earnings management practices impair the reliability of the financial statements. However, the income-increasing manipulations worsen the accounting quality more in the short term, so the executives' targets may be attained in the nearest period. The first explanation of this paper's results might be that the older CEOs may understand that they are nearer to retirement, consequently, demand to accomplish most of the compensation and share-based plans as early as possible. Younger-aged CEOs tend to have more possibilities in terms of time; hence they may postpone better performance for later periods. The second interpretation is the post-period after the worldwide scandals, such as Enron, WorldCom, Tycon, American International Group, and Lehman Brothers, giant corporations and business schools started to implement new ethics and integrity courses to maintain moral principles in the upcoming corporate executives. Younger CEOs attend more ethics courses because of growing up in a different environment.

Apart from the focus of this research, it also observes the significant negative relationship between total fees paid to auditors and earnings management. The prior literature discovers mixed results, such as Greiner et al. (2017) and Gupta et al. (2012). The more fees paid to audit companies, the lower level of income-increasing practices. Hence, after the well-known accounting scandals, the audit quality might be augmented at the firms with higher prices for auditing, specifically at the Big4 companies. The 2002 Sarbanes-Oxley Act (SOX) decreased the earnings management at companies after the famous scandals (Rutledge, R. W., Karim, K. E., & Luo, X. 2014).

Furthermore, this study examines the significant positive association between ESG Score and earnings management. The observed association is not as strong as age and total fees; however, it falls under statistical significance. Therefore, more ecology-protective firms with better corporate governance tend to manipulate their earnings more upwards. This result is not consistent with the extant study, Velte, P. (2019). Companies with higher ESG-Score may mask their accurate financial indicators to show better performance. ESG activities are appealing and

respectful in today's business world and might be used as a strategy to hide the actual representation.

This study opens a new chapter in the corporate governance and auditing literature by discovering the significant associations. Total audit fees are a prominent feature of the accounting academia; therefore, this research has only proven the relationship. Large ESG-Score might be a sign or a red flag to the regulators and auditors. The findings of that paper can provide HR managers that manage to establish new personality developments and schemes of management organizations with a great idea of how to control and improve firms' ethical behavior by implementing new characteristics and values in the future CEOs. It can ensure standards setters with valuable potential ideas on limiting the acceptance of CEO positions regarding age and tenure. Following the famous worldwide scandals that occurred not so many years ago, the business world requires intense safeguards in the regulations and law sections and the ethical behavior aspects. Research is based on S&P firms; therefore, the results might not be generalizable to other countries or other sizes of companies. Future research may deepen the study of the essential relationship between the ESG score and earnings management, denoted by the discretionary accrual model. The literature on accounting quality will always be necessary unless managers and executives stop manipulating the numbers and committing various types of fraud.

2. LITERATURE REVIEW

2.1 Old and New School Management

The concept that human beings can be divided into generations with their patterns and mentalities is an exciting challenge for sociological and psychological studies. The categories of generations have brought attention not only to socio-psychological research but also to corporate and human resource management academia. The division of generations has impacted the business world that introduced us to new and old-school management approaches (Williams, 2020).

On the very long ago, Harvey, Smith, & Wilkinson, (1984) discussed the values and meanings that can influence managers' actions through interviews with real corporate executives. The experiment examined the managerial phenomenon and observed different behaviors of the old-school and new-school managers towards the problems in the case study, which has illustrated the diversity in leadership, such as old-school and new-school leadership

styles. The central aspect is that these two schools of managing a business are well distinguished in the aged and most recent studies, and both attract corporate executives by their taste. The new leadership school consists of specific preferences, which Bhalla, M. & Toader, S. (2022) tried to investigate in their study. The paper expects the leaders of the new generation, or, as it is called in the study, the millennium leaders, to be interested in digital and innovative changes while at the same time focusing on the personal development of the entire work team to maintain sustainable future growth with the borrowed characteristics from old-school managers as an inclusive and collaborative style of leading the operations, the new generation plan to use their creativity to develop new trended ideas (Andert et al., 2019; Gerard, 2019; PwC, 2021). Modern leadership points out the desire to improve something with recent ideas or expand with glamorous popularity. As well as the new school managers, the old style of leadership also has its own beliefs and patterns, which Tunstall, (2007) examined. The old-school management approach focuses on a solid hierarchy system to control the whole management structure and decisions compared to the new generation, which prefers to separate the duties and divide parts into parts. Old-school leadership focuses on pure power and control over their employees. Hewson, (1997), the paper defines the old-school management approach as a hierarchical, autocratic leadership that is the opposite of the democratic way of managing a business. The conservative way of organizing and controlling operations considers the strictness and traditions contrary to autonomy, which improves creativity and innovative long-term thinking (Tunstall, 2007). The discovery of the two ways of leading has interested academia, investigating the factors and patterns attached to these two leadership schools. The well-known and stereotypical factor affecting the difference between the two management schools is age. Marshall et al. (2006) claim that age causes conflicts between two schools of entrepreneurs since age influences people's mindsets. In addition to age, CEO tenure has its own effect on the CEO's behavior, precisely the demand for more power. Furthermore, the longest tenure of the CEO may increase the salary or bonus of the CEO (Graham, Kim & Leary, 2017). These affirmations are supposed to be necessary for differentiating two schools of leadership. Besides age and tenure as logical patterns demarcating new and old styles, the political preference of leading a business democratically and conservatively also plays a crucial role. Liberalism or democratic leadership may emphasize the corporate social responsibility incentives with more attention than conservatism or the old-fashioned style (Chin, Hambrick & Treviño, 2013). Francis et al. (2016) and Elnahas et al. (2017) indicate that political belief is an essential factor influencing behavior and decision-making in various aspects. Political belief might explain some information regarding both management schools, whereas the CEO

is a republican or a democrat. Further, the corporate social responsibility incentives might include environmental and ecologically friendly objectives. According to the Refinitiv Eikon database, a small number of companies have available ESG scores in the period before the 2010s. Hence, the trend of environmental care was significantly lower, and it did not get much attention. The support of «the green world» is an increasing trend captured over time. Besides the variables mentioned above, CEOs' active social media influences business performance, especially the financial indexes (Bai, Yan & Yu, 2019). Social media usage strongly impacts the CEOs' behavior and adduces the opportunistic behavior of the CEOs (Li, Liang & Tang, 2020). Social media is a new concept of advertising and promoting a business that was not a trend. In comparison with old-traditional ways of media communication, such as the TV, the radio, and the newspapers, social media is an innovative and cost-effective concept that appeals to high numbers of users (Leeflang, Verhoef, Dahlström, & Freundt, 2014). It is improbable that managers from the retrospective leadership school use social media platforms for business-oriented purposes or actively support «the green world» incentives as today's trend.

The retrospective school of management concentrates on concrete stable performance, strictness, and pure power, while the neoteric style centers more on social and ecological norms and freedom of choice, temporarily focusing on the trend and sustainable growth. The new and old schools of corporate executives are known to the latest and previous literature because of the underlined factors that may affect the differences in the ideology. Such factors as mindset, preferences, and ethics might be the dimensions affecting not only the managers' outcomes but also the results of the whole business. Even though the differences between the two leadership styles exist, many academics have been seeking to discover how exactly the old or new-school way of managing a business influence the CEO leadership performance (Espinoza & Schwartzbart, 2016; Karriker & Hartman, 2019).

2.2 Ethical Behavior affected by Earnings management

Ethical behavior is one of the most crucial aspects of accounting professionals, as it is well indicated by accounting professional associations' codes of conduct (Mubako, Bagchi, Udo, & Marinovic, 2021). Accounting plays a vital role and holds an enormous responsibility in the financial markets because investors and other interested stakeholders demand public trust and adequate and valid information (Fritzsche & Oz, 2007; Shafer et al., 2001). Considering the importance of ethical behavior in accounting, academia requires literature on ethical behavior and factors that may impact ethical behavior (Karacaer et al., 2009; Abdolmohammadi, 2005).

Ethical behavior is shown in the common goals supported by a sustainable and moral environment rather than egoistically focusing on personal targets. In the accounting and corporate business field, senior managers are mainly responsible for the equal distribution of non-financial resources, such as accounting information, among other stakeholders (Man & Ciurea, 2016). Ethical behavior is present in every step of the business world, specifically in the relationships with stakeholders or fair dissemination of the correct information. Under the corporate governance guidelines, one of the primary obligations of the corporate executives is to fairly recognize the firm's actual value along with its accurate performance indicators. The information provided to other parties is obliged to be reliable. An accurate and fair view of the information remains important in accounting standards (FRC, 2014).

According to previous accounting literature, earnings management is a well-known ethical problem that impairs the reliability of company information. Earnings management faces the issue of ethical behavior (Belgasem-Hussain & Hussain, 2020). Earnings management indicates the part of the accruals that may be influenced by opportunistic incentives of the CEOs that falsely improve the firm's financial position; hence the information becomes unreliable. The extant earnings management literature claims that opportunistic incentives are the incentives that help corporate executives to achieve their personal goals, such as compensation plans and other financial bonus schemes. The attainment of own goals egoistically impairs the fairness of the information (Almadi & Lazic, 2016). Opportunistic incentives impact ethical behavior because this is a choice of the CEOs whether to impair the informativeness of the accounting information and accomplish personal goals or present accurate and fair content to the interested parties that believe in the public trust. This is a well-known corporate governance dilemma attached to ethical behavior. Therefore, earnings management should have a measurement approach to capture the extent of potential misrepresentation. The accounting literature raised the question of earnings management measurement. Standard Jones and modified Jones models have various added factors (Costa & Soares, 2021). Accounting literature also titles the earnings management models as the discretionary accruals models. The non-discretionary accruals are the accruals influenced by the economic activity of the firms, and the discretionary accruals are solely related to the managers' decisions (Bartov, Gul & Tsui, 2000). The models can estimate and distinguish the part of accruals controlled by managers' incentives rather than the firm's economic activity. Hence, the models detect the side of the accounting data influenced by managers' decisions and may raise a red flag to the auditors (Dechow, Sloan & Sweeney, 1995). The accruals being

related only to the corporate managers' decisions and the factors impacting these accruals are much in attention to the accounting literature.

The ethical choice between fair recognition of the financial statements and misrepresenting the accounting information is attached to the amount of the discretionary accruals. According to the study of [Linck et al. \(2013\)](#), it has financially constrained firms have high discretionary accruals before the investments. The incentive of managers is to signal the positive prospects of the performance to the investors that will provide companies with capital. The predictive amount of the discretionary accruals might explain the behavior of the corporate executives. Higher the discretionary accruals, the higher the likelihood of earnings management, hence the lower acts of ethical behavior of the CEOs.

The desire to achieve personal goals can overcome the desire to recognize truthful information in financial statements. A firm's incentives are opportunistic incentives that might influence the reliability of the accounting information presented. Recognizing and disseminating adequate and trustworthy information to investors and other stakeholders is an ethical choice of CEOs. Alternatively, demonstrating false and misrepresented performance by various shenanigans is unethical and immoral behavior. The number of discretionary accruals predicts the tone of the ethics and morality in the entity, especially the ethical decisions made by chief executive officers and other top executives ([Beaudoin, Cianci & Tsakumis, 2015](#)).

2.3 Factors of the Management Schools and Ethical Behavior

Ethical behavior is essential in accounting and financial reporting, especially concerning earnings management behavior, because of social responsibility and personal moral philosophies ([Elias, 2002](#)). Research claims that earnings management behavior is considered unethical and egoistic ideology but is limited to other specific situations ([Habib, Ranasinghe, Wu, Biswas & Ahmad, 2022](#)). Therefore, ethical or unethical behavior in accounting may be explored by earnings management. The main question is what factors impact ethical behavior. Many theoretical studies claimed to find ethical behavior dimensions in accounting research, corporate governance, and psychology literature. Most corporate governance and psychology research focuses on age as a primary variable impacting ethical behavior. [Dawson \(1997\)](#) and [Peterson et al. \(2001\)](#) investigated the association between ethical beliefs and age and found that older managers possess more ethics in their beliefs. The empirical research in the public sector guided by [Ermasova et al. \(2018\)](#) has indicated that age, among other things, is a significant factor influencing the ethical reasoning of employees. The results have shown that

older groups of government workers aged from 46 to 54, as well as the group from 55 and older, tend to have higher ethical maturity than the younger group in the range from 17 to 25 years old. That study claims that older workers tend to understand ethical situations better and behave more ethically than younger workers, majorly focusing on age. According to one of the latest research projects on age differences in moral judgment, McNair S. et al. (2018) ascertained that older participants had made more deontological moral judgments than younger people. Scientists have evaluated the outcomes of the participants' moral decisions based on the psychological dilemmas involving deontological judgments against utilitarian judgments. The relationship between age and deontological moral judgments was partly explained by the older group having more morally ideal values than younger adults in the experiment. As a result, older participants possess more ethical beliefs and behavior than younger participants.

The finance and accounting literature has also focused on the age influencing ethical behavior and decision-making in accounting. The extant study by Huang et al. (2012) has already examined the relationship between CEO age and accounting quality, providing the critical findings that CEO age has a positive association with financial reporting quality, corroborating that older CEOs tend to avoid risks of failures. Additionally, the most recent research by James et al. (2020) has also probed the association between CEO age and tax planning that illustrated the negative relationship between CEO age and permanent book-tax difference, suggesting that the older CEO will have fewer incentives to take actions towards the lower tax burden. Hence, the less likeliness to avoid taxes, the higher quality of the accounting, thereby this paper illustrates the age affecting reporting quality, but from another perspective. The study guided by Davis et al. (2015) empirically indicated that older managers tend to make fewer positive statements during earnings conference calls than younger managers. The explanation of the relationship is grouped with other variables, such as gender and previous experience.

However, this paper introduces the vast difference between an old and new school of management, which does not only concentrate on age. As mentioned in the previous sections, various management styles have indicated the differences in leading and structuring an organization. Hence, the preference for being an old or new-school leader might also influence the ethical behavior of CEOs. Both leadership schools have their patterns and criteria, which might relate to the CEOs' ethical behavior. The variables from prior literature, such as age, tenure, political beliefs, social media status, and ESG scores, relate to the distinguishment between the two management schools. These components might be the hidden variables influencing ethical behavior denoted in earnings management.

As well as the above-cited studies that examined a positive relationship between age and ethical behavior, other studies claim a negative or no relationship. Alternatively, the study of Honeycutt et al. (2001) on determinants of ethical behavior has reported that education, as well as age, are not significantly related to ethical behavior, along with asserting that other factors such as ethical perception, method of compensation, and legal perception are the significant determinants of ethical behavior. Based on another study of the effect of age, gender, and GPA on the ethical behavior of accounting students guided by Gupta S. et al. (2010), researchers observed that ethical behavior denoted in the ethical choices is not influenced by the age nor gender and GPA. The experiment was structured on accounting students' responses to Business Ethics Quiz and has indicated that age is not a significant factor for ethical decision-making in the given settings. The researchers claimed there must be other factors that affect ethical behavior. Additionally, the empirical research of Buchholtz et al. (1998) has observed a negative relationship between CEO age and the link between CEO pay and firm performance. The results have been significant, claiming that older CEOs tend to break the link between CEO pay and firm performance, such as older CEOs requiring high enough pay regardless of the firm performance. Hence, older CEOs may be more selfish than younger ones because older top managers do not consider the common interest of all stakeholders; instead, they focus only on their own goal, namely the financial bonus. Thus, ethical behavior is negatively associated with the age of CEOs in this specific study.

Following the previous management literature, academia established the difference between retrospective and new generations of leadership and investigated the patterns of both schools of thought. The characteristics and mindsets are focused on two completely different ways to control and maintain operations in the firm: conservatism by the old school of leadership and democracy by the new school of leadership. As mentioned in the literature review, the distinction between new and old management schools is mainly influenced by age, but as discussed further, the results could be more consistent.

The desire for total control and power in managers from the retrospective school might also exist in younger leaders because of the mindset or ideology itself. Not only age but also other factors give managers an old-school leadership mentality. Political beliefs, ESG scores, and social media status might open new and hidden information about ethical behavior. Earnings management is a significant concern attached to accounting quality and is a direct opponent of ethical characteristics, such as integrity and honesty. Therefore, the extant research that claimed the positive association between age and financial reporting quality, age, and higher tax rates

could have a potential endogeneity issue in capturing only one variable, age. Age is just a number. What are the actual decision-making factors and characteristics behind age?

The difference between the two leadership schools may provide the business world with another explorative dimension of ethical behavior defined through earnings management in accounting. The above-adverted variables might be masked in the age that can impact the CEOs' ethical behavior denoted in the financial reporting information. Age is a vital factor influencing the behavior of CEOs; however, age might conceal some power from other features that are well hidden. This research examines the concept of old-fashioned along with new-school beliefs and values that might be disguised behind age and purports that there are factors in the age that can explain the ethical behavior of CEOs. This paper hypothesizes that CEO Age alone is not associated with accounting quality, but the variables behind the age might have.

H1: There is no association between CEO Age and earnings management.

H2: There is an association between CEO retrospective/modern mentality and earnings management.

3. RESEARCH DESIGN

3.1 Sample and Data

The panel sample consists of 200 CEOs randomly chosen from the S&P 1000 firms during the 2015-2019 period from the Compustat ExecuComp, which is the 1000 observations. The main settings of the panel sample are to have a period before 2020 to avoid the Covid-19 pandemic and have each CEO controlling the firm from 2015 to the end of 2019 with no CEOs rotation. In addition, to have available financial information of the CEOs' companies from 2014-2019 to calculate all the needed annual differences from the financial data, having available data regarding the total compensation.

The data of CEO details were collected from the Compustat - ExecuComp and the Capital IQ - People Intelligence. The CEO details include the name/initials, age, gender, CEO tenure, and total compensation. The financial statements data from the Compustat Tools are used to determine discretionary accruals. To estimate the model, the research manually calculated the total accruals and the annual differences in accounts receivables and revenue. Additionally, the financial ratios and data, specifically the book-to-market ratio and the return on assets, as well

as the total assets, were also obtained from the Compustat Tools. The total fees variable, notably the sum of audit and non-audit fees, was attained from Audit Analytics. The data needed for the Ideology index consisted of variables taken from Compustat - ExecuComp, precisely the CEO age, and the CEO tenure, along with the ESG scores gathered from Thomas Reuters. The other variables, such as the social media status and the political belief of the CEO, were hand-collected from the Twitter platform and the Federal Election Commission United States of America, respectively.

In **Figure.1**, the data indicates the political beliefs of CEOs in the period of 2015-2019 ³, in which around 35% of CEOs supported democrats and other 65% supported republicans during all five years. **Figure.1** displays the 2017 CEO political beliefs, in which there is an increase in democrats compared to the previous years. **Figure.1** presents the decrease in democrats in 2018 compared to 2017, indicating the same level of democrats and republicans for 2015 and 2016 results. Only nine female CEOs out of 200, from which the majority vote for the Republicans.

Figure.1

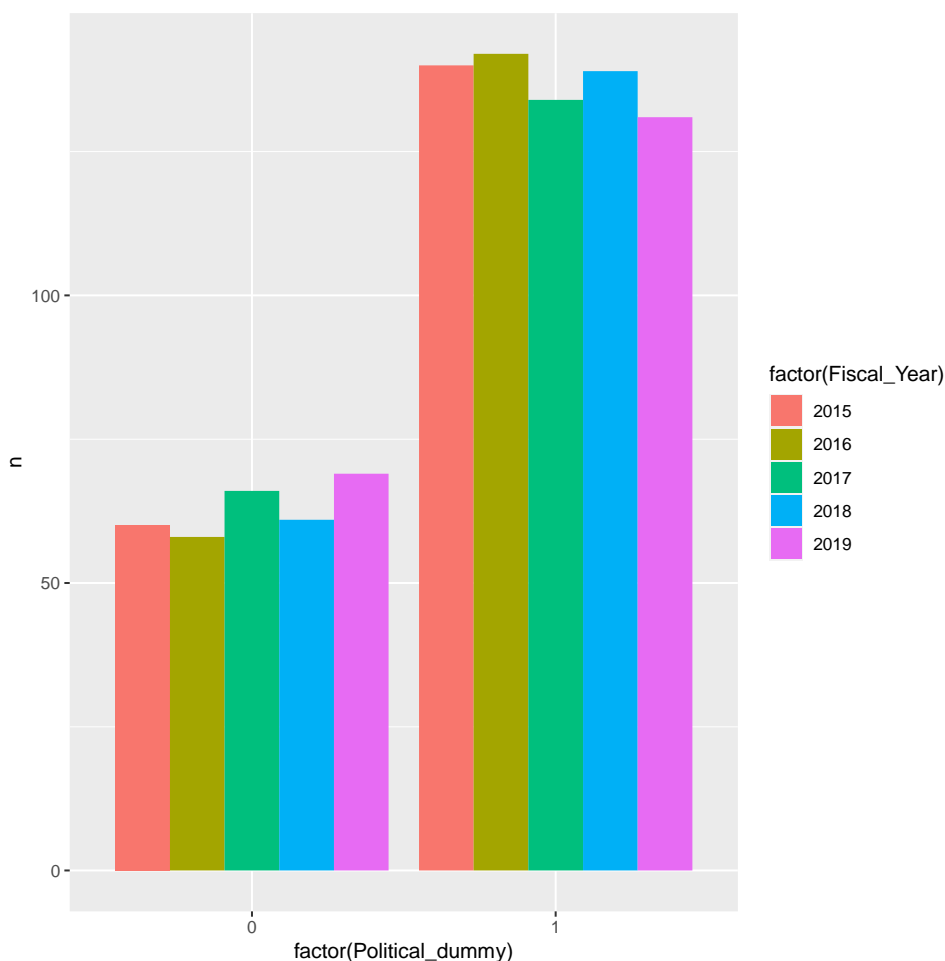
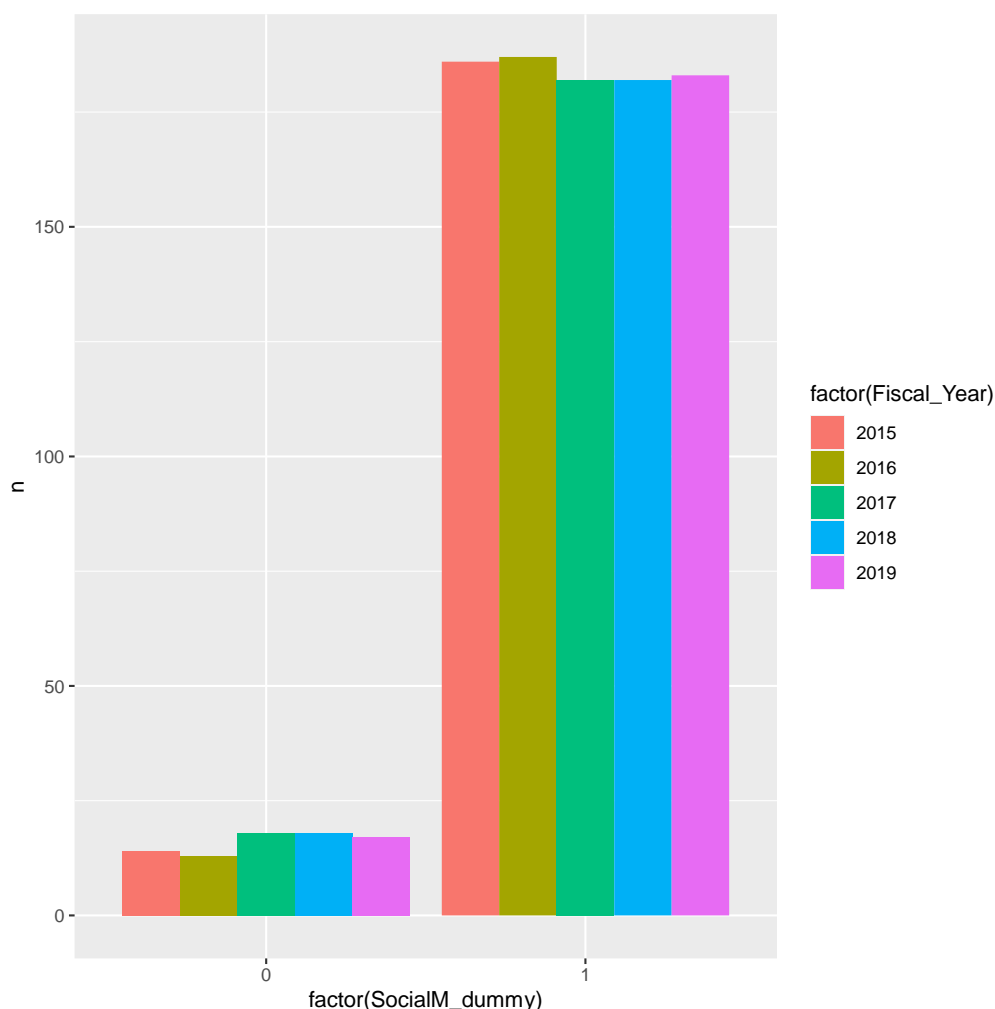


Figure.1 indicates another increase in CEO democrats during Compustat Tools 019 compared to 2018, however, staying on the same level as 2017. The decreases and increases in the number of CEO democrats and CEO republicans during the period 2015-2019. The results provide an incentive to show the hand-collected data. **Figure.2** displays the results of hand-collected data for the CEO's social media status during 2015-2019. Only 5-10% of the CEOs in 2015-2019 used Twitter actively. In **Figure.2**, the study shows no significant changes in 2016 compared to 2015. **Figure 2** demonstrates a slight growth in the number of active social media users in 2017 compared to 2015 and 2016. **Figure.2** indicates the same results for 2018 as in 2017. **Figure.2**, illustrating 2019, consists of the same data as in 2017 and 2018. The primary purpose of the tables is to demonstrate the results of hand-collected information with interesting potential insights. There are no explanations of changes in the number of active Twitter users during 2015-2019 in this study. Eight female CEOs are active social media users, and only one female CEO does not use social media.

Figure.2



3.2 Methodology

The study investigates the association between a CEO's retrospective/modern mentality and ethical behavior denoted through accounting quality and checks the relationship between pure age and accounting quality. This research estimates two linear regression models. The first regression model examines the positive association between pure CEO Age and financial reporting quality measured by financial restatements and meeting/beating of analysts' earnings forecasts. The researchers claim that age alone influences financial reporting quality (Huang, Rose-Green & Lee, 2012). Various measures can capture the financial reporting quality; thus, this paper uses an earnings management approach. This research utilized the Kothari et al. (2005) discretionary accruals model from the earnings management theory to measure the accounting quality, thereby asserting that earnings management is a more accurate measure of accounting quality. The SEC also concentrates on earnings management practices to avoid firms impairing accounting quality (Cunningham, Johnson, Johnson & Leipsic, 2020).

The Kothari et al. (2005) discretionary accruals model from the earnings management theory:

$$NDACC_{it}/TA_{it-1} = 1/TA_{it-1} + (\Delta REV_{it} - \Delta REC_{it})/TA_{it-1} + PPE_{it}/TA_{it-1} + ROA_{it-1} + \varepsilon_{it} \quad (1)$$

$NDACC_{it}$ = non-discretionary accruals of firm i in year t ;

TA_{it-1} = total assets of firm i in year t ;

ΔREV_{it} = Δ revenue between the current year and last year of firm i in year t ;

ΔREC_{it} = Δ accounts receivables between the current year and last year of firm i in year t ;

PPE = property, plant, and equipment of firm i in year t ;

ROA_{it-1} = return on assets (net income of firm i in year t / total assets-1)

The residuals of the estimated Kothari et al. (2005) model are the discretionary accruals:

$$DA_{it} = TACC_{it} - NDACC_{it} \quad (2)$$

DA_{it} = discretionary accruals of firm i in year t ;

$TACC_{it}$ = total accruals computed as net income/loss less cash flow from operating activities of firm i in year t ;

$NDACC_{it}$ = non-discretionary accruals of firm i in year t

The above equations estimate the dependent variable, the discretionary accruals. The non-discretionary accruals are the accruals influenced by the economic activity of the firms, and the discretionary accruals are solely related to the managers' decisions (Bartov, Gul & Tsui, 2000). The independent variable CEO Age was taken from the Compustat ExecuComp.

The paper estimates the following linear regression model.

$$DA_{i,t} = \beta_0 + \beta_1 Age_{i,t} + \beta_2 TotalCompensation_{i,t} + \beta_3 ROA_{i,t} + \beta_4 BM_{i,t} + \beta_5 TotalFees_{i,t} + \beta_6 Assets_{i,t} + \varepsilon_{i,t} \quad (3)$$

I run five more tests, and in each one, I change *Age* with *IdeolIndex*, *Tenure*, *Polit*, *SocialM*, or *ESG*. This linear regression model can show whether the CEO's age can sufficiently explain the ethical behavior denoted by the accounting quality.

The second linear regression model investigates the association between a CEO's retrospective/modern mentality and accounting quality. The second regression model contains more information about the CEOs than their age. The Kothari et al. (2005) model also measures accounting quality. The CEO's retrospective ideology is measured by the self-made index created by this research, the Ideology-score. According to the literature review, social media status, ESG scores, political beliefs, CEO tenure, and age are linked to the CEOs' ideology as well as to the preference of the leadership. Hence, the Ideology-score is scaled from 0 to 5, and each mentioned component weighs 0 or 1. The higher the score, the more old-fashioned or conservative the CEO is, and otherwise less traditional and more of new school leadership. The social media status and political beliefs were hand collected from Twitter and the Federal Election Commission United States of America, respectively. The existence of an account, along with the active post & tweets, capture the social media status of the CEO (0 is active and one otherwise). The political belief of the CEO is measured by the financial donations to the political parties and candidates (0 is democrat and one is republican). The CEO Age and the CEO Tenure were taken from the Compustat ExecuComp (0 is the age less than the median age for each year of the 200 CEOs, meaning younger the individuals; otherwise 1, meaning older CEOs; 0 is the CEO tenure less than the median for each year of the 200 CEOs, otherwise 1)¹. The last component of the Old-school index is the ESG score taken from Thomas Reuters (0 is more than the mean ESG score of 200 firms, otherwise 1)². The ESG-Score ranges from 0 to 100, from the lowest level of environmental protection/support social norms/ quality of corporate governance actions to the highest.

$$IdeolIndex = Age + Tenure + Polit + ESG + SocialM \quad (4)$$

Age = CEO age (0 is the age less than the median age for each year of the 200 CEOs, otherwise 1);¹

Tenure = CEO tenure (0 is the CEO tenure less than the median for each year of the 200 CEOs, otherwise 1);

Polit = political belief (0 is democrat and 1 is republican);

ESG = ESG score (0 is more than the mean ESG score for each year of 200 firms, otherwise, 1);

SocialM = Twitter account activity (0 is active and 1 otherwise);

The Ideology index ranges from 0 to 5, from the new school management mentality being less conservative and modern to the old school management ideology being conservative and traditional. The dependent variable is discretionary accruals from the Kothari et al. (2005) model, which measures the accounting quality. The ideology is an independent variable of the second linear regression model. This paper hypothesizes that the second regression model consists of variables that might be hidden behind the age; thus, the second model includes many other significant factors and patterns that the paper claims to appear in the independent variable of interest, the IdeolIndex.

3.3 Control Variables

Both linear regression models include the same control variables, such as the TotalCompensation (Total Compensation of CEO); the ROA (Return on Assets of the firm guided by the CEO); the BM (book to market equity value ratio); the TotalFees (Total Fees paid to the audit firm, these fees are the sum of audit and non-audit fees); and the Assets (Total Assets). This research controls for these factors because previous studies suggest an association between earnings management and the above control variables.

According to Liu et al. (2016), the gender variable is significantly associated with earnings management. Female CFOs tend to experience lower discretionary accruals along with total accruals than male CFOs. Researchers also investigated that male departing CFOs are more aggressive than departing female CFOs in manipulating the earnings upwards, and the new male CFOs are more aggressive than newly appointed female CFOs in managing earnings

¹ The median age and CEO Tenure were used because of the skewed distributions to receive a more centralistic values.

downwards. The Chief Financial Officer is also a top executive position at the firm that has power and control under certain financial functions; therefore, the study about the CFOs' genders applies to this research. The presence of female directors mitigates the manager's willingness to employ earnings management (Gull, Nekhili, Nagati & Chtioui, 2018). Gull et al. (2018) assert that the existence of female CFOs and CEOs are prone to a decrease in earnings management practices. Additionally, Thiruvadi et al. (2011) found that the existence of a female director in the audit committee tends to restrain earnings management by increasing negative discretionary accruals. Hence, extant accounting and auditing literature examined the behavior of executive gender around earnings management, specifically the impact of gender on discretionary accruals; consequently, this paper's regression models include CEO gender as a control variable.

Assenso-Okofu et al. (2021) claim that there is a positive relationship between CEO compensation and earnings management measured through discretionary accruals. As a result, the managers might be involved in earnings management practices to increase their potential bonus payments. Another study concentrates on the CEO and CFO cash compensation and natural earnings management, in which researchers examine whether CFO or CEO compensation has a higher impact on earnings management (Alkebsee, Alhebry & Tian, 2021). Finally, Almadi et al. (2016) compare the relationship between CEO incentive-based compensation and earnings management from countries with different models, such as the Anglo-American model and Model-Continental model. A lot of academic studies on the relationship between CEO compensation and earnings management. Consequently, this paper includes CEO compensation as a control variable in both regression models.

Humeedat et al. (2018) study the role of earnings management in avoiding financial distress and upgrading the profitability; specifically, the paper leverages the Kothari (2005) discretionary accruals model. According to Firnanti & Pirzada (2019), the research probed the companies' characteristics influence the discretionary accruals. The results specifically revealed the influence of the return on assets on earnings management. Hence, both regression models include the ROA and the return on assets as a profitability measure to control for that dimension.

Frankel et al. (2002) observed the positive association between non-audit fees and small earnings surprises along with the magnitude of the discretionary accruals. Another research investigated the relationship between audit fees and earnings management, the Greiner, Kohlbeck & Smith (2017) found a positive association between earnings management and

current and future audit fees. Gupta, Krishnan & Yu (2012) claimed to be the first study to find a negative association between abnormal audit fees and earnings management.

Prior research demonstrated the relationships between discretionary accruals and audit fees as well as discretionary accruals and non-audit fees. Thus, this study includes the sum of audit and non-audit fees as a control variable, because including only one of the variable fees might lose the power or a potential connection, and including them both may encounter the multicollinearity issue.

According to Bergstresser & Philippon, (2006), the research investigates the association between CEO incentives and earnings management with controlling for the market to book ratio. This paper also considers that there might be a connection between discretionary accruals and the market-to-book ratio. The book value of equity is the origin of a firm's equity, and the market value is the decision of market participants, consequently, this study believes in observing a potential connection between these variables. The research applies the book-to-market value ratio instead of the market to book ratio, owing to the database preference. The variable Assets are used to control firms' size (Miah, M. S,2019).

4. EMPIRICAL RESULTS

4.1 Descriptive Statistics and Correlations

Table.1 presents the means, standard deviations, medians, minimum, and maximum values, and 25th and 75th percentiles of the variables. **Table.1** also demonstrates some exciting insights from the data, which may or may still need explanations from academia. The youngest CEO is 37 years old, and the most senior CEO is 89. The mean CEO age is 57.58 years old. The shortest CEO tenure is 0 years, and the longest is 49 years. The mean of the CEO tenure is 9.9. The lowest value of the ESG-Score is 1.28 out of 100, and the highest is 92.93 out of 100. The mean ESG-Score is 40.462 out of 100. The mean of Total Compensation is 6,641.015, and the minimum and maximum are 52.338 and 70,615.760, respectively. The smallest value of ROA is -6.53, and the most significant matter is 0.903. The mean ROA is relatively low, 0.033. BM mean is 0.563. The minimum value of BM is 0.001, and the maximum is 6.923. The mean of Total Fees is 5,474,713, and the minimum and maximum are 170,980 and 93,500,000, respectively. The mean of Total Assets is 32,189.770, and the minimum and maximum are 3.491 and 2,354,507.000, respectively.

Table.2 illustrates the Pearson correlations for the variables used in this research. There is a positive correlation between Total Fees and the ESG-Score published. Additionally, there is a positive correlation between the Total Compensation paid to the CEO and the ESG-Score of a firm. A strong negative correlation between Total Compensation, Total Assets, and the ideology index, as well as total fees paid to audit firms and the ideology index. A strong negative correlation is observed between Polit, SocialM, and ESG-Score, which is consistent with the philosophy of democrats, and the ideology index theory. The significant positive correlation between SocialM and Polit is consistent with the ideology index theory. The strong positive correlation between SocialM and Age is also compatible with the ideology index theory. Other correlations that are shown in the **Table.2** are the logical relationships between variables capturing the size of the firms or influencing the firms' size, such as total assets, total compensation, and the total audit fees. The correlations between the ideology and ideology index components are expected and not worth mentioning.

Table 1: Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	25 th Pct.	Median	75 th Pct.	Max
<i>Age</i>	1,000	57.580	7.155	37	53	57	60	89
<i>IdeolIndex</i>	1,000	3.180	1.160	0	2	3	4	5
<i>Tenure</i>	1,000	9.915	8.281	0	4	7	13	49
<i>Polit</i>	1,000	0.686	0.464	0	0	1	1	1
<i>SocialM</i>	1,000	0.920	0.271	0	1	1	1	1
<i>ESG</i>	1,000	40.462	17.387	1.280	27.659	36.290	52.223	92.930
<i>total compensation</i>	1,000	6,641.015	6,149.302	52.338	2,534.034	4,872.380	8,874.124	70,615.760
<i>ROA</i>	1,000	0.033	0.243	-6.534	0.011	0.036	0.079	0.903
<i>BM</i>	1,000	0.563	0.557	0.002	0.287	0.559	0.651	6.923
<i>TotalFees</i>	1,000	5,474,713	8,074,435	170,980	1,563,198	5,130,384	5,474,713	93,500,000
<i>Assets</i>	1,000	32,189.770	174,119.300	3.491	1,076.094	2,812.749	9,209.986	2,354,507.000

This table shows the number of observations (N), mean (Mean), standard deviation (SD), minimum (Min), 25th percentile (25th Pctl), median (Median), 75th percentile (75th Pctl), and maximum (Max) of the variables used in this study. *Age* is the actual CEO age. Age in the ideology score becomes 1 if the CEO's age exceeds the sample median. The *IdeolIndex* is then computed as *Age* + *Tenure* + *Polit* + *ESG* + *SocialM*, where *tenure* is the CEO's tenure in years, *Polit* takes the value 1 if the CEO is a Republican; and 0 if they are Democrat, *ESG* is a dummy that takes the value 1 if the ESG score (as provided by hand collection, Capital IQ, Compustat ExecuComp and Thomas Reuters) is above the sample mean; and 0 otherwise, and *SocialM* is an indicator variable that becomes 1 if the CEO's Twitter activity is high; and 0 otherwise. *TotalCompensation* is defined as the CEO's total compensation (cash + non-cash) in USD thousands. *ROA* is the net income divided by total assets. *BM* is the book value of equity divided by the market capitalization. *TotalFees* are the total amount of fees paid to the auditor. *Assets* are the total assets in USD thousands.

Table 2: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>Age</i>	1										
<i>IdeolIndex</i>	0.455***	1									
<i>Tenure</i>	0.592***	0.453***	1								
<i>Polit</i>	-0.086**	0.402***	-0.134***	1							
<i>SocialM</i>	0.165***	0.424***	0.015	0.142***	1						
<i>ESG</i>	-0.067*	-0.515***	-0.133***	-0.096**	-0.076*	1					
<i>total compensation</i>	-0.011	-0.275***	-0.117***	-0.012	-0.158***	0.436***	1				
<i>ROA</i>	0.096**	-0.007	0.043	-0.006	-0.016	0.051	0.039	1			
<i>BM</i>	0.011	0.008	-0.086**	0.043	0.123***	0.035	-0.006	-0.060	1		
<i>TotalFees</i>	0.025	-0.202***	-0.068*	-0.070*	-0.048	0.375***	0.490***	0.020	0.105***	1	
<i>Assets</i>	0.087**	-0.099**	0.042	-0.113***	-0.009	0.217***	0.286***	-0.008	0.121***	0.819***	1

* p<0.1; **p<0.05; ***p<0.01

This table shows the Pearson correlations between the variables used in this study. *Age* is the real CEO age. *Age* in the ideology score becomes 1 if the CEO's age is above the sample median. The *IdeolIndex* is then computed as *Age* + *Tenure* + *Polit* + *ESG* + *SocialM*, where *tenure* is the CEO's tenure in years, *Polit* takes the value 1 if the CEO is a Republican; and 0 if they are Democrat, *ESG* is a dummy that takes the value 1 if the ESG score (as provided by hand collection, Capital IQ, Compustat ExecuComp and Thomas Reuters) is above the sample mean, and 0 otherwise, and *SocialM* is an indicator variable that becomes 1 if the CEO's Twitter activity is high, and 0 otherwise. *TotalCompensation* is defined as the CEO's total compensation (cash + non-cash) in USD thousands. *ROA* is the net income divided by total assets. *BM* is the book value of equity divided by the market capitalization. *TotalFees* are the total amount of fees paid to the auditor. *Assets* are the total assets in USD thousands.

4.2 Multivariate regression analysis

The (OLS) Ordinary Least Squares method was utilized to estimate the relationships between age and earnings management denoted by discretionary accruals model as Models an ideology/mentality proxy and earnings management. The empirical findings of this research assist in comparing the models and discovering new significant associations. **Table.4** demonstrates the results of the multivariate regression analysis of the model thaModele the same control variables but consists of different independent variables.⁸ Model.1 includes the CEO Age as a primary independent variable with the corresponding control variables, and the model.2 cModelns the Ideology-index as a central independent variable with the same control variables. Other models contain each one of the ideology index components to check whether the elements individually are essential.

The results in the model.1 iModelte show a significant positive association between the dependent variable, the discretionary accruals, and the primary independent variable, the CEO Age (p < 0.05). Therefore, the first hypothesis is rejected. The older CEOs are likely to use more income-increasing manipulations, or younger aged CEOs tend to employ more income-decreasing practices. The outcome is inconsistent with the prior research (Huang, Rose-Green

& Lee (2012), in which the financial reporting quality was measured by meeting and beating analysts' forecasts and accounting restatements. Huang, Rose-Green & Lee (2012) claimed that older CEOs possess greater financial reporting quality by discovering a significant association, but the results are provided in the **Table.4** do not support that assertion. Model.1 has also discovered an interesting negative association between the discretionary accruals and total fees paid to audit companies ($p < 0.05$). The idea is that the auditors allow having higher discretionary accruals when the fees paid to them are lower, or auditors are to be stricter and concentrate on the work while the fees are higher. Again, the outcome differs from the prior research, Greiner, Kohlbeck & Smith (2017), as the study aimed to discover the positive association between earnings management and current and future audit fees.

The results in Model.2, by mischance, represent no significant association between earnings management and the ideology index explicitly created by this research. The second hypothesis is also rejected, considering that previously no other studies have examined the relationship between old/new school mentality and earnings management. The significant negative association between earnings management and total fees paid to audit firms has been revealed in model.1 (Model.05). Following the results in **Table.4**, the Model.1, including the independent variable CEO age, is a better predicting model than Model.2, which contains the independent variable, the self-made ideology index ($R^2_1 > R^2_2$). The R^2 of both multivariate regression models is very low, but the relationship between the independent and dependent variables was observed under statistically significant terms.

The Model.3, Model.4, Model.5, Model.6 each includes one of the ideology index's components, specifically CEO tenure, political belief, social media status, and ESG-Score. The paper estimated four individual multivariate regressions to avoid multicollinearity issues while hypothesizing that these variables might be correlated. Since the ideology index does not have any association with the earnings management itself, the paper investigates relationships between earnings management and individual ideology index components as the combination of elements may have masked the distinct power.

According to Model.3, the independent variable, CEO tenure, has a significant positive association with the earnings management denoted in the discretionary accruals. ($p < 0.05$). The CEO tenure is a direct instrument of the CEO's age because, logically older the top executive, it is likely that more years the CEO has worked; thus, this research expects CEO tenure to be in a significant relationship with earnings management. The meaningful negative relationship between total fees and discretionary accruals is still observed in the previous regressions.

Model.4, including the political belief feature, has no significant relationship with earnings management and the Model.5, consisting of the social media status component, also has no significant association with earnings management, demonstrating the already discovered strong relationship between total fees and discretionary accruals ($p < 0.05$). Model.6, containing the ESG-Score, shows a significant positive association with earnings management ($p < 0.1$). Notwithstanding, it was hypothesized to observe a negative relationship as old-school CEOs do not focus on the ecological and social/corporate governance manners. The observed significant positive relationship between ESG-Score and earnings management is appealing, as it may sign a strategy for covering the actual financial performance with higher ESG activities. CEO tenure and ESG-Score are associated with earnings management, while the ideology index is not. The paper might not claim that the self-made ideology index is an insufficient proxy of the CEO's old/new school mentality; nevertheless, the ideology index cannot explain the dependent variable, the discretionary accruals. The CEO age and the blunt instrument, the CEO tenure, are the better factors in elucidating the earnings management theory estimated by the discretionary accruals model. The visualizations of the linear relationships are in the Appendix.

4.3 Robustness Tests

The first robustness check is the test on the heteroscedasticity prepared by the Breusch-Pagan test. It monitors whether the residuals of the dependent variable have a relationship with the independent variables. The presence of heteroskedasticity provides the results with biased estimators. The Model.1, Model.2, Model.3, Model.4, Model.5, and Model.6 do not have any heteroscedasticity issues as the p -value = 0.98, p -value = 0.86, p -value = 0.93, p -value = 0.99, p -value = 0.55, and p -value = 0.99, respectively. The p -values are far from being less than 0.05; consequently, the estimators are ensured to be correct according to the Breusch-Pagan test. The second robustness check done by the study is the Hausman specification test. The research used a fixed effects model instead of random effects as the random effects model was revealed to be inconsistent under the Hausman specification test. The fixed effects models consistently follow the Durbin–Wu–Hausman test. The last robustness test includes the CEO tenure instead of the CEO age in the regression model. CEO tenure is a direct instrument of CEO age; therefore, investigating a significant association between CEO tenure and discretionary accruals also provides the study with an understanding that CEO age is a robust variable affecting earnings management.

Table 3: Regression Output

	<i>Dependent variable:</i>					
	DA					
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.004** (0.002)					
Ideol_index		-0.008 (0.007)				
CEO_Tenure			0.004** (0.002)			
Political_dummy				0.012 (0.010)		
SocialM_dummy					-0.029 (0.018)	
ESG_Score						0.001* (0.000)
Total_Compensation	-0.002 (0.008)	0.000 (0.008)	-0.002 (0.008)	0.000 (0.008)	0.000 (0.008)	0.000 (0.008)
ROA	0.001 (0.012)	0.004 (0.012)	0.001 (0.012)	0.003 (0.012)	0.004 (0.012)	0.003 (0.012)
BM	-0.009 (0.012)	-0.009 (0.012)	-0.009 (0.012)	-0.010 (0.012)	-0.008 (0.012)	-0.010 (0.012)
Total_Fees	-0.000** (0.000)	-0.000** (0.000)	-0.000** (0.000)	-0.000** (0.000)	-0.000** (0.000)	-0.000** (0.000)
Assets	-0.002 (0.003)	-0.001 (0.002)	-0.002 (0.003)	-0.001 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Observations	1,000	1,000	1,000	1,000	1,000	1,000
R ²	0.012	0.008	0.012	0.009	0.010	0.011
Adjusted R ²	0.244	-0.243	-0.248	-0.243	-0.247	-0.246
F Statistic (df = 6; 794)	1.567	1.099	1.567	1.136	1.339	1.458

* p<0.1; ** p<0.05; *** p<0.01

This table shows the multivariate regression analysis. The dependent variable is discretionary accruals, and the independent variables are on the left part of the regression output. All variables are as defined in Table 2 and Table 3. The numbers in the brackets above are the numbers of the multivariate regression models.

5. CONCLUSION

This research analyzes the empirical relationship between CEO new/old school mentality, captured by the introduced self-made score, the ideology index, and earnings management, measured by the discretionary accruals model, and the previously discovered empirical association between CEO age and earnings management practices. This study compares the CEO age and the old/new school mentality as independent variables in explaining discretionary accruals. Using a panel sample of 200 S&P firms during the 2015-2019 period, the empirical results indicate no significant association between CEO new/old school mentality and earnings management. However, this research observes a significant positive relationship between CEO age and earnings management. The older CEOs tend to manipulate earnings upwards compared to the younger ones; thus, the older CEOs possess lower accounting quality. It can also be inferred that younger CEOs are likely to use more income-decreasing practices than older CEOs. Younger CEOs are more of the proponents of conservative accounting in comparison to older CEOs. These results differ from the prior research by [Huang, Rose-Green & Lee \(2012\)](#), in which the accounting quality was measured by the meet-and-beat analysts' forecasts and restatements. The preceding study claimed that older CEOs keep a higher accounting quality than younger CEOs because of the risks that older CEOs are not ready to encounter. Additionally, this research has detected a significant negative relationship between total fees paid to audit companies and discretionary accruals—consequently, the more expensive the auditors' service, the lower level of income-increasing practices.

According to the Breusch-Pagan test, no heteroscedasticity is present in the multivariate regression models; hence the estimators are not biased. This research has made additional regression models to check whether the components of the ideology index have a relationship with the discretionary accruals since it was revealed that the ideology index has no association with discretionary accruals. The CEO tenure has the same strong positive association with earnings management as the CEO age. Therefore, CEO age is a robust explanatory variable towards discretionary accruals. From the tests of the ideology index components, neither political belief nor social media status is associated with earnings management. Notwithstanding, the study examines the significant positive relationship between the ESG-Score and earnings management. Hence, the firms with higher ESG-Score tend to manipulate earnings more upwards. It can be inferred that firms tend to hide their actual financial performance with more enrolment in the trending ESG activities. Large ESG-Score helps

companies to be popular among other peers as being ecologically and socially correct while impairing the reliability of financial statements with income-increasing manipulations.

To conclude, this study considers the ideology index a sufficient proxy for the CEO's old/new school mentality, although no significant relationship with earnings management was found. Following the Pearson correlations, the ideology index components were correlated as hypothesized by the study. Therefore, the CEO age is a better estimator of earnings management than the self-made ideology index, as the 200 S&P firms indicated during 2015-2019.

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APPENDIX A

Variable	Variable description	Data source
<i>Age</i>	CEO Age	Capital IQ
<i>IdeolIndex</i>	Self-made Ideology index	Self-made
<i>Tenure</i>	CEO Tenure	Compustat Execucomp
<i>Polit</i>	CEO Political Belief	FEC US
<i>SocialM</i>	CEO Social Media Status	Twitter
<i>ESG</i>	ESG-Score	Thomas Reuters
<i>total compensation</i>	Total Compensation	Compustat Execucomp
<i>ROA</i>	Return on Assets ratio	Compustat Tools
<i>BM</i>	Book-to-Market ratio	Compustat Tools
<i>TotalFees</i>	Total Audit Fees	Audit Analytics
<i>Assets</i>	Total Assets	Compustat Tools
