

The Role of Audit Report Readability in Linking Management Characteristics to Corporate Sustainability Performance: A Study of Indonesian SOEs

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ABSTRACT: Corporate Sustainability Performance has become a primary focus in light of the growing demands for transparency and accountability. Subsequently, the role of management characteristics (MC) and Audit Report Readability (ARR) is becoming increasingly critical in generating sustainability value. This study aimed to examine the effect of management characteristics on Corporate Sustainability Performance (CSP) with ARR as a mediating variable. The research sample consisted of 120 observations on 20 non-financial State-Owned Enterprises (SOEs) listed in Indonesia Stock Exchange during the 2018–2023 period. Using a quantitative approach with the Partial Least Square-Structural Equation Modeling (PLS-SEM) method, this study found that management characteristics did not have a significant direct effect on CSP. However, the effect became significant through the full mediation of ARR. The test results showed that management characteristics had a positive and significant effect on ARR, and ARR had a significant positive effect on CSP. This indicates that the readability of audit reports is a key factor that bridges the relationship between management and sustainability performance. This research offers a new perspective in the context of corporate sustainability by highlighting the importance of financial reporting transparency and accountability in improving corporate sustainability performance. This research emphasizes the need for companies to improve the quality of information through the ARR reports to build stakeholder trust and support sustainability.

Keywords: audit report readability, management characteristics, corporate sustainability performance.

I. INTRODUCTION

Various allegations of environmental destruction, fraud, and mismanagement in State-Owned Enterprises (SOEs) have raised concerns among stakeholders regarding financial reporting practices. The Asia Pacific Sustainability Counts II report, released by PricewaterhouseCoopers (PwC) in 2022, indicates that only 54% of companies have disclosed strategies to address stakeholder concerns [1]. This condition certainly has an impact on the increasing demand for transparency and accountability [2]. Quality financial information is crucial to maintain the trust of stakeholders and serves as a basis for making right decisions. Information is said to be of quality if it is easy to read and understand [3, 4]. Management is always faced with two main challenges related to financial reporting: balancing transparency and avoiding over-presentation of information (avoiding misuse by rivals), as well as determining how much information to

convey, to whom, and when [5, 6]. Maintaining stakeholder trust through the presentation of quality information is an important step in reducing information asymmetry, which is a key concept in Agency Theory [7].

One of the reports that is highly trusted by stakeholders is the audit report, because it has been independently verified by a third party, namely the Public Accounting Firm that has been registered with the Financial Services Authority, which assesses the compliance and transparency of financial information presented by management [8]. The audited financial statements are prepared by the company and compiled by its management under the supervision of those responsible for governance. These reports provide information on the firm's performance to stakeholders making financial decisions. Although the audit process has been completed, the management remains responsible for the financial statements

Audit reports serve as a tool to evaluate the extent to which the information presented in a system or an organization meets information quality standards to support effective decision-making processes. therefore, the audit report must be readable so that it can function as a medium used by auditors to convey information to users of financial statements. An audit report that disregards the principles of clear writing may hinder the readers' ability to comprehend its content. The message conveyed must align with the auditor's intent to ensure effective communication. According to Pound, Readability describes the degree to which a text is easy to read and understand, usually depending on the writing principles, so the educational background and experience of a reader are the main factors that affect the ability to understand the information [9]. The Statement of Financial Accounting Standards emphasizes that financial information cannot be used as a basis for decision-making, if the information is difficult to understand even though it may be relevant. Reports that are difficult to read or overly technical can hinder comprehension and reduce the effectiveness of the information, even if the information is relevant, ARR is critical to ensuring that high quality information can be used effectively by stakeholders. Enhancing ARR is as important as maintaining the quality of the information delivered. The accuracy of decision-making is highly influenced by the quality of available information, which in turn contributes to the achievement of corporate performance.

Readability is a linguistic indicator used to assess the extent to which information is of good quality, as it influences how well stakeholders can understand the information presented [10]. Although audit reports are structured in a standardized format, variations in their readability levels are still observed. These different levels reflect variations in transparency and detail of presentation, which can help clarify or disguise significant financial information [11, 12]. The presentation and content of the audit report are influenced by the presentation and content of financial statements [13]. ARR refers to how well the report conveys information about the audit process and financial performance of the client business [4]. Previous research has shown that audit reports are often difficult to understand. highlighting the importance of identifying factors that affect their readability, including managerial characteristics that influence corporate performance reporting [4, 14].

Management characteristics are important in preparing reliable human resources (HR) to contribute to the firm. According to the Upper Echelons Theory (UET), The strategic direction of a company is significantly influenced by the characteristics of its top management [15]. CEOs have the power to influence investment decisions, while personality factors can influence these decisions [16, 17]. A CEO must have characteristics which describe his or her roles and responsibilities [18]. The characteristics of the CE O reflect the decisions taken in the company's operations [19]. Ahmad and & Soepriyanto stated that management characteristics can be seen from education, experience, age, ethnicity, nationality, power, narcissism, and length of office [20]. Salehi et al. mentioned that management characteristics include managerial entrenchment, and CEO Narcissism. Decisions made by a company's top executives can be used to assess its performance, requiring a succession planning strategy to ensure that the top executive position is filled by the most qualified individuals [14]. Shareholders may have inaccurate knowledge of management competencies and performance, which can weaken oversight of management. Companies should implement the right human capital strategies, including equalizing values and goals among stakeholders [21].

Sustainability is a crucial global issue and a major concern in international policy formulation [22–24]. It describes a long-term vision that includes a holistic approach, balancing environmental, social, and economic aspects in every action [25]. In this era, companies including SOEs are required by stakeholders to be able to

carry out sustainability activities [26, 27]. Indicators of the firm's sustainability activities can be seen through CSP. CSP is important for companies to improve their reputation, deliver added value, and act as a source of corporate value creation [28–30]. CSP can also influence investors' decisions in investing their capital, affect a company's competitive advantage in the market, and improve market performance [25, 31].

State-Owned Enterprises (SOEs) are business entities whose capital is mostly owned by the state (Law No. 19 of 2003), which plays a strategic role in the Indonesian economy [32]. SOEs are referred to as giants that contribute almost one-third of the Indonesian economy [33–35]. During 2011–2022, the contribution of SOEs to state revenues exceeded state capital participation which was only 7.5% of the total contribution [36, 37]. This contribution shows the importance of SOEs in integrating the three aspects of sustainability. As public companies, to remain competitive and relevant amidst increasing awareness of environmental protection, SOEs need to set a sustainability agenda as part of its main strategy [38]. However, various cases of environmental damage, fraud, and mismanagement show that there are gaps that need to be addressed. This indicates a close relationship between Corporate Sustainability Performance (CSP), management characteristics, and accountability. In this context, transparency and accountability are the main demands of stakeholders; one of the important instruments of which is audit reports [11, 14, 39].

Audit reports must be easily readable to be useful for decision-making [40]. ARR reflects the quality of financial data which refers to the assessment of the readability and ease of understanding of the audit report [10]. ARR can affect ability to make decisions [6, 41, 42]. ARR is a crucial element in reducing information asymmetry, ensuring that operational and financial reports are easy to understand, and increasing stakeholder trust. In this context, readability measures the extent to which the information presented in the audit report can be understood by management and stakeholders. Previous research has shown that audit reports are often difficult to understand, with readability levels varying across firms [6, 43, 44]. A good ARR can support more effective decision-making and increase stakeholders' understanding of the company's financial information [40, 41]. This suggests ARR is important as a strategic tool to meet the information demands of auditors and user of financial statement. SOEs are expected to demonstrate high transparency and accountability, but it is difficult to ensure that their financial and operational reports are clearly and easily to understood.

The relationship between management characteristics and CSP has been previously studied. However, there is a gap in the research findings. Research by Venugopal et al. found that CEO personality characteristics, such as extraversion and neuroticism, have a significant influence on CSP [45]. Uyar et al. also confirmed something similar [46]. Meanwhile, Waseem et al. found that MC proxied with managerial entrenchment, have the opposite effect [47]. Research by Kusiayah et al. and Muttiarni et al. demonstrated that the MC proxied with the Narcissistic CEO had no effect [48, 49]. Based on the Triple Bottom Line (TBL), developed by Elkington [50, 51], by incorporating environmental aspects into their management strategy, companies can take a step towards sustainable development [52]. Based on several studies, management characteristics are an important aspect of CSP achievement [45]. Readability of the audit report will increase its communicative value [53]. Audit reports are the main factor in the relationship between companies and users of financial statements as they greatly influence decisions [54]. However, there is a missing link between ARR and CSP. Therefore, the researchers estimate that the ARR may mediate the relationship between management characteristics and CSPs. A control variable was used in this study to obtain optimal results. The influence of other variables outside this study on dependent variables must be considered constant or the influence is determined using the control variable in the form of Leverage, Age, Size, ROA, GRW and Current ratio because these variables potentially affect MC, ARR, and CSP.

This research offers a new contribution by examining SOEs in Indonesia. SOEs should focus on achieving 3 aspects of sustainability. This strengthens public trust and supports sustainable development. Spillover effects, which can disrupt macroeconomic stability, are influenced by SOE performance on overall economic stability and productivity [55]. Given the strategic and important role of SOES, the Worldbank stated that many countries have made it a policy priority to improve performance and maintain resilience and sustainability as failure would negatively impact their economy and social welfare [55–57]. Various management characteristics are explored collectively affecting the sustainability performance. This study uses a comprehensive approach that combines several relevant theories to understand the relationship

between MC, ARR, and CSP. This study emphasizes that ARR as a mediating variable has not been widely discussed, particular in the context of BUMN. The aim is to provide a comprehensive theoretical view. Practically, the findings of this study are expected to serve as a foundation for the government in formulating specific regulations aimed at achieving sustainable development goals.

Previous studies have separately examined the influence of MC on CSP and ARR [4, 14, 45–49]. However, a significant research gap remains: there is a lack of comprehensive studies investigating the mediating role of ARR in the relationship between MC and CSP, particularly in the context of SOEs in Indonesia. Furthermore, although ARR is known to affect stakeholder comprehension and the quality of decision-making [6, 40–44], prior research has not explicitly positioned ARR as a strategic instrument that bridges the influence of management characteristics on corporate sustainability. In response to this gap, the present study explicitly aims to examine the mediating role of ARR in the relationship between MC and CSP, with a specific emphasis on SOEs, which hold a strategic role in the national economy [32–37]. Thus, this study contributes to both theoretical and practical advancement by adopting an integrative approach that combines leadership, audit communication, and sustainability performance into a unified conceptual model. In response to this gap, the present study explicitly aims to examine the mediating role of ARR in the MC–CSP relationship, with a specific focus on SOEs, which play a critical role in national economic development [32–37]. By doing so, this study offers an integrative framework that combines leadership traits, audit disclosure quality, and sustainability performance into a unified model.

This study differs from prior literature in several key aspects: First, while earlier research has focused on either MC–CSP or MC–ARR linkages independently, this study integrates all three variables in a single mediational framework. Second, this study places ARR not just as an outcome of management behavior, but as a central transmission mechanism through which management characteristics influence sustainability performance. Third, it is one of the few studies to operationalize ARR using an objective linguistic index and link it to sustainability in the context of government-owned enterprises, which face unique governance and public accountability challenges.

To the best of the authors' knowledge, this is the first study to empirically examine the full mediating effect of ARR on the MC–CSP relationship in SOEs, using a validated readability index (FOG Index), and mediation analysis through the PLS–SEM method with bootstrapping. Theoretically, this study extends UET by introducing ARR as a key mechanism linking MC with CSP. The findings of this study highlight the importance of quality information as a mechanism to foster greater transparency, accountability and stakeholder trust. Practically, this study provides actionable evidence that improving the quality of audit reports can strengthen the positive impact of management characteristics on sustainability performance.

This article consists of five main sections. The first section presents the introduction, which outlines the background, research problems, objectives, and both theoretical and practical contributions of the study. The second section provides a concise theoretical review, the development of hypotheses, and the formulation of the conceptual model that underpins the analysis. The third section explains the research methodology, including the study location, data sources, operational definitions of variables, and data analysis techniques employed. The fourth section presents the statistical results and discusses the findings in relation to relevant theories and prior studies. Finally, the fifth section offers the conclusion, summarizing the answers to the research questions, discussing the study's limitations, and providing suggestions for future research development.

II. RELATED WORKS

1. THEORETICAL FRAMEWORK

The research framework is based on several theories, including Sustainability Theory which was proposed by Meadows [58], which outlines society's efforts to prioritize social responses to sustainability issues. These social responses are expected to meet the needs of each generation [27]. This concept emphasizes the interests of stakeholders by balancing three aspects of company performance with the TBL [50, 51]. However, differences in interests between principals and agents can cause information asymmetry

that triggers agency conflicts, in line with Agency Theory [7]. According to Stakeholder Theory, a company should create value for all its stakeholders [59]. Managers should consider the interests of all their stakeholders for the long-term benefit of the company [60, 61]. The primary responsibility of a company is to present audited annual reports that deliver high-quality, easily comprehensible information to support decision-making. In this context, audit report readability plays a crucial role in enhancing accountability and reducing information asymmetry. However, the management, in this case the CEO, is significantly influenced by characteristics shaped by experience, values, and personality in every strategic decision-making [22, 62]. The UET explains that the Firm's performance is assessed from decision-making by the firm's top management so that efforts to achieve CSP are greatly influenced by the management characteristics [15].

This research incorporates several contextual factors from sustainability, agency, and stakeholder theories related to TBL and UET to create sustainable business performance in Indonesian SOEs. Previous researchers have emphasized the importance of three aspects of sustainability [63, 64], although some argue that firms tend to focus more on the economic aspect [65]. Efforts have also been made balance the economies-socials [66] and economic - environmental aspects [67]. For the success of business operations, all aspect plays a vital role in achieving Firm's performance [68]. Thus, performance measurement must be comprehensively encompassing all aspect of TBL.

This study synthesizes several studies, including [24, 27, 45, 69–72] which demonstrate that to measure CSP, three indicators can be used, namely economic, environmental, and social indicators. Meanwhile, the characteristics of management are synthesized from [14, 22, 73–76] and the ARR of the research [22, 40, 41, 77].

2. HYPOTHESES DEVELOPMENT

2.1 The effect of MC on ARR

High-quality audit reports play a crucial role in promoting transparency and accountability, with readability serving as one of the key benchmarks. The level of ARR can be influenced by managerial characteristics. UET emphasizes that top executives' decisions are instrumental in shaping corporate strategy and governance, including the quality of audit reporting [15]. Characteristics such as CEO narcissism, CEO overconfidence, board effort, and earnings management, have been shown to have a significant relationship with Audit Report Readability [14, 78]. Research also shows that *managerial entrenchment*, which includes *CEO duality*, term of office (*tenure*), and board compensation, may affect the audit report readability [14]. The audit reports readability is also closely related to profit management practices. Reports designed to demonstrate positive performance tend to be easier to understand. Instead, aggressive and complex profit management practices can result in hard-to-understand reports, reducing stakeholder trust [79, 80]. Based on theories and findings from various previous studies, the relationship between MC and ARR is a relevant strategic issue to ensure good corporate governance.

2.2 The effect of ARR on CSP

The TBL [50], Agency [7], and Stakeholder Theory [59] provide a theoretical foundation for understanding the relationship between ARR and CSP. TBL emphasizes a balance between the three main dimensions of Planet, Profit, and People [50]. In the context of ARR, the presentation of clear and easy-to-understand information in audit reports is important so that stakeholders can understand the company's efforts to achieve sustainability goals in a transparent manner.

Previous studies show that investor perceptions and decisions can be influenced by the accuracy of audit reports [54]. The readability of Key Audit Matters (KAM) enhances the quality of information in audit report for investors [53]. Information that is easier to understand in the audit report becomes a signal for transmitting financial information that can be the basis for assessing company performance on an ongoing basis in the three dimensions of TBL. Entities that are active in Corporate Social Responsibility (CSR) practices tend to produce reports with higher readability, as these reflect a commitment to transparency and ethics. [40, 81]. Conversely, poorly read reports can lead to information asymmetry, hindering stakeholder assessment of sustainability performance. The relationship between ARR and CSP can also be seen from their impact on investment

decisions. An easy-to-read audit report can increase communicative value for investors, assisting them in evaluating CSP [53].

2.3 The Effect of MC on CSP

CSP reflects a Firms's long-term competitive advantage by considering three aspects of TBL [50]. CSP is also a means for companies to show commitment to sustainability strategies that can provide benefits to stakeholders [59, 82]. In this context, *the UET* asserts that the characteristics of top management, such as personality including decision-making patterns, greatly affect a firm's direction, strategy, and sustainability performance [15]. Ghardallou's research demonstrates that companies that implement CSR practices tend to show better financial performance. CEO tenure and CEO education as positive moderators [22]. Venugopal et al. found that CEO personality characteristics, such as extraversion and neuroticism, have a significant effect on CSP [45]. Further, CEO power has a positive and significant effect on firm's performance [83]. There is a significant negative correlation between managerial entrenchment and financial performance [47]. Damayanti et al. showed that overconfidence, measured by YIELD and DER proxies, is higher in securities companies [16]. Wang et al. found that the CEO's academic was positively correlated with the company's continued growth [84]. Akter and Toha found that earning management has a significant effect with the three dimensions of sustainability [85]. Based on the theory and research results, management characteristics that support vision, innovation, adaptation, and resource efficiency are essential to improve CSP

2.4 The role of ARR as a mediator in the relationship between MC and CSP

Sustainability theory [58], Agency theory [7], and Stakeholder Theory [59] emphasize the importance of companies maintaining effective relationships with stakeholders and reducing information asymmetry. In this context, management characteristics that support stakeholder expectations can be reflected in the Audit Report Readability. The ARR is not only a communication channel to convey clear information, but it is also a reliable signal of financial statements that can help stakeholders evaluate a firm's sustainability performance from the three aspects of TBL. UET asserts that MC influence top executives' strategic decisions including in terms of audit report quality [15, 62]. ARR, as a linguistic metric, reflects the quality of information that a company presents [10, 86]. Previous research has shown that the ARR has a positive relationship with the CSP companies because it helps to increase transparency, reduce uncertainty, and facilitate better decision-making by stakeholders [40]. Thus, ARR has the potential to be a mediator between management and CSP characteristics, as effective ARR facilitates communication with stakeholders, strengthens trusting relationships, and supports companies in achieving better CSPs

3. RESEARCH HYPOTHESES

Based on the theoretical integration and empirical evidence discussed above, the following hypotheses are proposed:

- H1: Management Characteristics has an effect on Audit Report Readability
- H2: Audit Report Readability has an effect on CSP.
- H3: Management Characteristics has an effect on CSP.
- H4: Audit Report Readability mediates the relationship between Management Characteristics and CSP

4. CONCEPTUAL MODEL

The conceptual model below illustrates the hypothesized relationships. It positions Audit Report Readability (ARR) as a mediating mechanism between Management Characteristics (MC) and Corporate Sustainability Performance (CSP). This framework reflects the integration of multiple theoretical lenses to explain how management traits influence external sustainability performance through the audit reports readability.

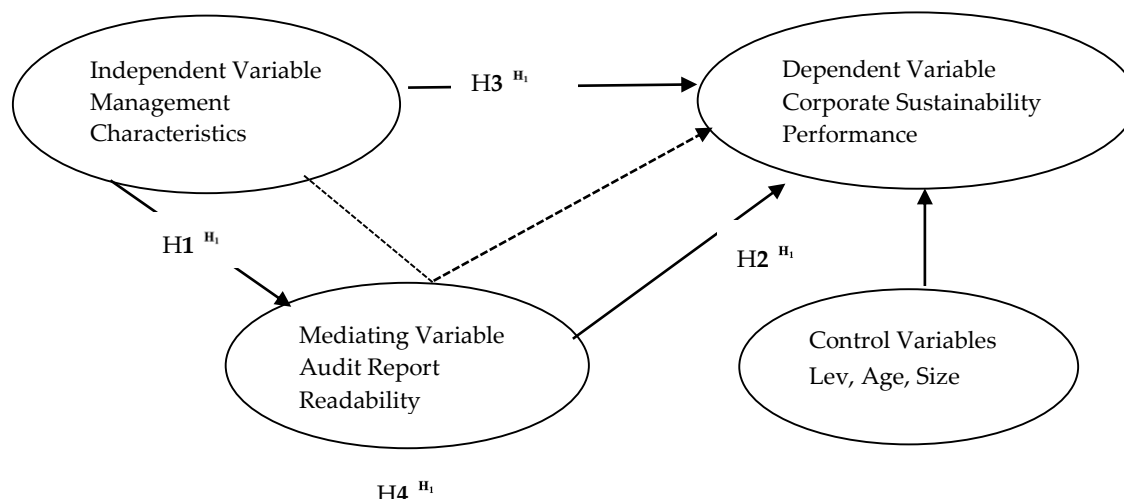


FIGURE 1. Research model.

III. MATERIAL AND METHOD

1. DATA, POPULATIONS AND SAMPLE

This research focuses on 20 non-financial SOEs listed on the Indonesia Stock Exchange [87]. Using secondary data sourced from the Annual Report, Sustainability Report, and Audit Report, obtained directly from the IDX website or the website of each SOE. The observation period spans from 2018 to 2023 (six years)

2. OPERATIONAL DEFINITION AND MEASUREMENT OF VARIABLE

2.1 Management Characteristics (MC)

Management Characteristics (MC) is a multidimensional latent construct, represented through several indicators adapted from previously validated studies [14, 20, 45]. The indicators used include Managerial Entrenchment, CEO Overconfidence, CEO Narcissism, Board Effort, and both Real and Accrual Earnings Management. Each indicator was standardized and subsequently reduced into a single composite MC index using Principal Component Analysis (PCA), which serves to simplify dimensionality, mitigate multicollinearity, and enhance construct validity.

2.2 Audit Report Readability

Audit Report Readability (ARR) is measured using the Gunning Fog Index (GFI), a widely accepted readability metric in financial reporting literature. GFI evaluates the complexity of text based on sentence length and the proportion of complex or polysyllabic words. This index was chosen due to its ability to capture lexical density and the degree of difficulty in text comprehension, which is highly relevant in the context of technical and formal audit reports [10, 40].

2.3 Corporate Sustainability Performance

Corporate Sustainability Performance (CSP) is assessed through a content analysis approach based on the Global Reporting Initiative (GRI) standards. The evaluation focuses on three core disclosure dimensions: Economic, Environmental, and Social. Each dimension is scored according to the presence and depth of information disclosed in the company's sustainability reports. The scores are weighted and combined into a single composite CSP index, in accordance with the methodology adopted by [28, 29, 81].

2.4 Control Variables

To ensure the robustness of the model and isolate the effects of the main constructs, several control variables are included: Firm Size, Leverage, Return on Assets (ROA), Growth, Firm Age and Current Ratio.

A detailed description of each construct, along with definitions and measurement methods, is presented in Table 1.

Table 1. Variable definition and measurement.

Variable	Dimension	Indicator	Scale
Independent Variable (X): Management Characteristics: Attributes that are inherent in the management process and are used to describe the key essence that shapes management practices by the company's top executives.	Managerial Entrenchment:	1. Managerial Ownership	Ratio
	Managerial entrenchment is related to the desire of the company's management to protect and maintain its position by taking advantage of various opportunities [88].	2. CEO's tenure	Ratio
		3. CEO Duality	Nominal
		4. Board Compensation	Ratio
		5. Change of CEO	Nominal
		6. CEO Independence	Ratio
	CEO Narcissism:	1. Number of skills added to LinkedIn profile	Ratio
	Narcissism is a psychological construct made up of personality traits such as self-esteem, a sense of self-importance, success, power, a belief in being unique, a desire to be appreciated and noticed, and an enhanced self-image derived from external praise and flattery [89].	2. Number of professionals connected with users on LinkedIn network	Ratio
		3. Number of previous positions listed	Ratio
		4. CEO Photo	Nominal
		5. Inclusion of profile summaries	Nominal
		6. Interests: The amount of interest displayed on the LinkedIn profile [90]	Ratio
	CEO Overconfidence:	Investment surplus index	Nominal
	CEO overconfidence as the tendency of CEOs to overestimate the company's future performance [91].	Debt to equity ratio (DER).	Nominal
		Dividend Yield (Yield). [14,16,92]	Nominal
Board Effort	Board effort refers to the intensity of the resources of board members directed to the role of governance [93].	The number of meeting sessions held by the council throughout the year [14]	Ratio
Real Earnings Management	Real profit management is a profit management technique carried out by	Abnormal cash flow operations.	Ratio

Variable	Dimension	Indicator	Scale
	management through the Firm's daily activities during the accounting period [94] Accrual-Based Earnings Management The practice of accrual profit management is carried out by regulating the accrual components in the financial statements [94].	The Modified Jones Model is proxied with discretionary accruals	Ratio
Mediating Variable (Z): Audit Report Readability refers to the readability level of a particular text to evaluate how easy or difficult the text is to understand and ensure that the information is well understood by the reader.	ARR is the quality of financial data. Readability is a linguistic metric that conveys how well written information functions. Its measurement is seen from the level of ease for readers to understand the information, in this case, the object is the audit report [95].	FOG Index [14]	Ratio
Dependent Variable (Y): Corporate Sustainability Performance Evaluation and measurement of the company's performance by paying attention to aspects of sustainability, both social, environmental, and economic, which include various actions and policies taken by the company to ensure that their operations contribute to the long-term well-being of society, the environment, and the economy.	CSP is a company's performance measured through an economic, social and environmental approach [96].	Three dimensions of the Sustainability Report based on GRI standards [24, 96].	Ratio
Control Variables			
Leverage	Debt ratio		
Age	Company life: the time interval between the date of incorporation of the company and the year of research		
Size firm	Company size (Ln Company assets)		
ROA	Return on Assets		
GRW	Sales Growth		
Current rasio	Current Ratio		

3. DATA ANALYSIS TECHNIQUE

This study used panel data comprising 20 non-financial SOEs in Indonesia over a six-year observation period from 2018 to 2023. Prior to hypothesis testing, variables with multiple dimensions and proxies were examined using the Principal Component Analysis (PCA) technique. PCA was applied to reduce data dimensionality and retain the most significant variance-capturing components, thereby improving the accuracy and efficiency of the subsequent regression and structural modeling analyses. This technique is particularly suitable for research involving multidimensional constructs, as it simplifies data structure without sacrificing the essential information contained within the original indicators.

To assess the relationships among constructs, the study employed Structural Equation Modeling–Partial Least Squares (SEM-PLS) using SmartPLS 4.0 software. SEM-PLS was selected due to its robustness in handling both formative and reflective measurement models, as well as its capacity to model linear and non-linear relationships between latent variables. Furthermore, the validity and reliability of each construct were evaluated through indicator loadings, composite reliability (CR), average variance extracted (AVE).

The purpose of this study is to examine the effect of management characteristics on the readability of audit reports and corporate sustainability performance, and to analyze the mediating role of audit report readability in the relationship between management characteristics and corporate sustainability performance. To assess the all hypotheses, a bootstrapping procedure with 5,000 resamples was conducted. This approach enables a rigorous estimation of the indirect effects of MC on CSP through ARR as a mediating variable. The results of the path analysis provide insight into both direct and mediated pathways, offering a comprehensive understanding of the structural relationships proposed in the study.

IV. DATA ANALYSIS

1. DESCRIPTIVE STATISTICS

Table 2 presents the descriptive statistical results of this study for each variable tested.

Table 2. Descriptive analysis.

Variables	Observation	Min	Max	Mean	Median	Std. Dev
Management characteristic	120	-4,706	1,869	-1,418.5	0.054	1.000
Audit Report Readability	120	-3,435	1,354	-1,040.5	0.036	1.000
Corporate Sustainability Performance	120	-2,797	1,182	-807.5	0.043	1.000
Control Variables						
Age	120	-1,775	1,928	76.5	0.085	0.858
GRW	120	-1.939	1,615	-162	0.044	0.659
Leverage	120	-2,225	1,707	-259	0.045	0.749
ROA	120	-2,483	1,486	-498.5	0.009	0.727
Size Firm	120	-2,713	1,708	-502.5	0.009	0.754
Current Ratio	120	-2.352	1.342	-505	0.058	0.642

Source: Output SmartPLS, 4.0, 2025.

the results showed that the variables mc, arr, and csp had varying minimum and maximum values. significant variations in management characteristics (-4,706 to 1,869) indicate a striking difference in management characteristics among the soes sampled in this study. varying levels of arr (-3,435 to 1,354) reflect diversity in the transparency and complexity of audit reports. meanwhile, the csp (-2,797 to 1,182) illustrates a different commitment to sustainability aspects, which is relevant to the strategic role of soes in supporting

Indonesia's economic and social development during the observation year, which is from 2018 to 2023 evaluation of measurement models and structural evaluation

convergent validity must be assessed to ensure that the constructs are highly correlated. to evaluate convergent validity, the following rules of thumb can be applied: a loading factor > 0.7, communality > 0.5, and average variance extracted > 0.5 [97]. the results of the convergent validity test are presented in table 3 below.

Table 3. Validity, reliability, multicollinearity tests result.

Variables & Indicators	Outer loading	P value	Composite reliability	Cronbach's alpha	AVE	VIF
Management characteristic			0.878	0.827	0.592	
• Managerial Entrenchment,	0.808	<0.001				1.900
• CEO Narcissism	0.086	<0.001				1.010
• CEO Overconfidence	0.686	<0.001				1.516
• Board Effort,	0.847	<0.001				2.015
• Accrual Earnings Management	0.718	<0.001				1.865
• Real Earnings Management	0.739	<0.001				1,804
Audit Report Readability	1.000	<0.001	1.000	1.000	1.000	1.000
Corporate Sustainability Performance			0.906	0.843	0.763	
• Economics Sustainability Performance (EC_SP)	0.852	<0.001				2.122
• Environment Sustainability Performance (EN_SP)	0.939	<0.001				3.310
• Social Sustainability Performance (SC_SP)	0.825	<0.001				2.050
Control Variable			0.868	0.822	0.574	
• Age	0.513	<0.001				1.254
• GRW	0.752	<0.001				1.990
• Leverage	0.662	<0.001				1.902
• ROA	0.686	<0.001				2.113
• Size Firm	0.657	<0.001				1.670
• Current Ratio	0.766	<0.001				1.919

Source: Output SmartPLS, 4.0, 2025.

This study employed a reflective and formative measurement model, evaluated using Partial Least Squares (PLS). The assessment of the measurement model indicates that two indicators, namely CEO Narcissism and Age, have outer loading values below the threshold, leading to their exclusion from this model. After retesting, it was found that the other indicators had an outer loading value of ≥ 0.6 . Convergent validity, composite reliability, and AVE all met the recommended criteria, indicating that each construct had high validity and reliability. The composite reliability and AVE values were above 0.70 and 0.50, respectively, while Cronbach's Alpha values were above 0.6, indicating a reliable construct. VIF of all indicators < 3.3, no significant multicollinearity.

In assessing the structural model using the PLS approach, the initial step involves evaluating the R-Squares values for each endogenous latent variable. According to Latan and Ghazali [98], R-squared values can be categorized as follows: 0.75 (strong), 0.50 (moderate), and 0.25 (weak). The following table displays the R-squared values that indicate the proportion of variance in the constructs explained by the model.

Table 4. R-squared-Value and Adjusted R-squared.

Variable	R Squared	Adjusted R-Squared Adjusted
Audit Report Readability	0.323	0.317
Corporate Sustainability Performance	0.525	0.504

Source: Output SmartPLS, 4.0, 2025.

The R-squared value indicates that management characteristics explain 32.3% of the variation in Audit Report Readability and 52.5% of the variation in Corporate Sustainability Performance, with the remainder influenced by factors outside the model. The Adjusted R-squared values of 0.317 and 0.504, respectively, provide a more conservative estimate, suggesting that the contribution of management characteristics to CSP is stronger than that to ARR.

2. HYPOTHESIS TESTING AND DISCUSSION

The test results show an interesting the relationship between MC, ARR, and CSP. Table 5 presents a summary of the hypothesis testing. The results indicate that not all hypotheses are supported in this study.

Tabel 5. Result of hypothesis testing.

Hypothesis	Variable relationships	Path Coefficient	T statistic	P Values	Information
H1	MC → ARR	0.568	7.370	0.000	Significant /Accepted
H2	ARR → CSP	0.638	7.575	0.000	Significant Accepted
H3	MC → CSP	0.048	0.343	0.732	Not Significant /Rejected
H4	MC → ARR → CSP	0.363	4.747	0.000	Significant /Accepted
Variable Control					
	GRW	0.753	13.842	0.000	
	Leverage	0.711	8.977	0.000	
	ROA	0.726	10.021	0.000	
	Size Firm	0.698	11.296	0.000	
	Current Ratio	0.741	15.536	0.000	

Source: Output SmartPLS, 4.0, 2025.

2.1 Management characteristics and ARR

The first hypothesis was accepted, with a path coefficient value of 0.568 and a significance level of $p < 0.000$, indicating that management characteristics (MC) have a positive and significant effect on ARR. This indicates that the management characteristics represented by *Managerial Entrenchment*, CEO Overconfidence, CEO Narcissism, Board Effort, and Real and Accrual Earnings Management significantly affect ARR, which can reflect the transparency and accountability of the company. In the context of SOEs in Indonesia, the results provide important insights into how management characteristics affect the readability of audit reports. SOEs

have unique characteristics compared to private companies, mainly due to the influence of the government as the main shareholder, bureaucratic complexity, and higher demands for public accountability. With a path coefficient of 0.568 and high statistical significance, these findings indicate that the MC factors used in this study play a significant role in influencing the readability of the audit report. This finding confirms the existing literature which states that strategic decisions are closely related to the characteristics of top executives and this affects the quality of financial information [99], with Audit Report Readability (ARR) serving as one of the indicators of information disclosure [77]

Based on Upper Echelons Theory (UET), the policy direction of a company is significantly influenced by management characteristics. CEO have a great influence in determining corporate strategy and governance, which ultimately impacts the transparency and quality of financial information. MC factors used in this study play a role in shaping the ARR [14, 78]. CEOs who have narcissistic traits, for example, tend to seek recognition and a positive image, which can be seen from the way financial information is presented, which of course also has an impact on the presentation of audit reports. In SOEs, leadership is often stable and subject to intervention from the majority shareholders (the government); thus, managerial entrenchment is a significant factor that can affect ARR [14]. Managerial entrenchment in SOEs can lead to low ARR if management uses the complexity of reports as a strategy to maintain their position and avoid strict supervision. Often caused by policy-based appointments, an overconfident CEO can also contribute to the presentation of financial information that tends to be closed and unclear, especially if the strategic decisions taken are aggressive and high risk. Conversely, high board effort can be a balancing factor that increases the readability of audit reports through stricter oversight mechanisms and efforts to increase transparency in financial reporting [14]. Audit reports in SOEs not only reflect the quality of financial communication, but are also an important indicator of transparency and accountability of governance. Stricter regulations for earnings management practices and the strengthening of the board of commissioner's role in supervision can increase stakeholder confidence in SOEs.

2.2 ARR and Corporate Sustainability Performance

The second hypothesis was also accepted with a path coefficient of 0.638 and $p < 0.000$, suggesting that ARR has a positive and significant effect on CSP. These findings reinforce the argument that ARR, as an indicator of reporting quality, plays a crucial role in supporting CSP. ARR has a crucial role in enhancing CSP, in line with TBL principle [50]. Easier-to-understand audit reports enable stakeholders to assess a company's sustainability strategy more transparently [100]. Previous research has shown that ARR can affect investor perceptions and decisions [54]. Easier-to-understand information in the audit report serves as a signal of the reliability of the financial information's, which supports the evaluation of CSP across the three dimensions of the TBL. In addition, in addition, the readability of information has the potential to increase the communicative value of the report. Ultimately, this will make the company more transparent and accountable [53]. The relationship between ARR and CSP shows the extent to which an easy-to-understand audit report can encourage or support companies in achieving better sustainable performance. A good ARR can affect stakeholder perceptions and responses. Stakeholders who understand the information will make a good effort to achieve CSP. Stakeholders who have a better understanding of the company's sustainability practices through ARR can contribute to improving Corporate Sustainability Performance.

Furthermore, to obtain a more detailed understanding of how Audit Report Readability affects each component of Corporate Sustainability Performance (CSP), an analysis was conducted on the three main dimensions of sustainability: economic (EC_SP), environmental (EN_SP), and social sustainability performance (SC_SP). The results of the intervariable relationship test are shown in Table 6 performance (SC_SP). The results of the intervariable relationship test are shown in the following table.

Table 6. Effect of ARR on the three CSP components.

Relationship	Path Coefficients	P Values	Information
ARR → EC_SP	0.381	0.000	+ Sign
ARR → EN_SP	0.522	0.000	+ Sign
ARR → SC_SP	0.631	0.000	+ Sign

Source: Output SmartPLS, 4.0, 2025.

ARR plays a crucial role in building and increasing investor confidence in the financial information submitted by the company[11]. In the economic aspect, high transparency is reflected in the ease of understanding audit reports, which can strengthen investors' perception of the company's credibility [12]. This ultimately drives sustainable economic performance. These Findings show that ARR has a positive and significant effect on EC_SP with a path coefficient of 0.381 and a p-value of 0.000. These findings indicate that the ARR not only supports financial stability but also improves the Firm's competitiveness in the long term. Consistent with the research of Bacha and Ajina [40], Organizations that implement sustainability practices tend to present easily to understand financial statements, demonstrating their commitment to transparency and ethics.

In addition to the economic aspect, the readability of audit reports also has a strategic role in environmental sustainability. Especially in the context of SOEs that operate in strategic sectors such as energy and mining, transparency in reporting is crucial to uncover commitment to environmentally friendly business practices. These finding show that ARR has a positive and significant impact on EN_SP with a path coefficient of 0.522 and p-value of 0.000. The higher the readability of the audit report, the more open the company is in communicating its environmental sustainability policies and initiatives.

From a social perspective, the readability of audit reports contributes greatly to strengthening Social Sustainability (SC_SP). The result confirms that ARR has a strong positive relationship with SC_SP, as shown by a path coefficient of 0.631 and a p-value of 0.000. Companies, especially SOEs, that present highly readable audit reports tend to be more committed to employee welfare, social responsibility, and community relations. This aligns with Stakeholder Theory, as clear and transparent reporting strengthens relationships with stakeholders and enhances the company's reputation. Amid increasing public awareness of social and sustainability issues, ARR serves as a strategic instrument in building public trust in corporate social policies. Overall, the results of this study confirm that ARR in Indonesian SOEs has a positive and significant impact on the three dimensions of sustainability. ARR serves as a communication tool that not only enhances transparency and accountability but also strengthens stakeholder trust, ultimately contributing to the achievement of CSP.

2.3 Management characteristics of CSP

The findings show that management characteristics do not have a significant direct influence on CSP in the context of Indonesian SOEs. With a value of $p = 0.732$, the hypothesis that tests this relationship is rejected, indicating that other factors may play a more dominant role in determining the sustainability of the company. Specifically, MC against EC_SP ($\beta = 0.343$; $p = 0.006$), MC against EN_SP ($\beta = 0.136$; $p = 0.282$), and MC against SC_SP ($\beta = 0.056$; $p = 0.664$) showed positive but insignificant directions. This indicates that while management characteristics can contribute to sustainability, the impact is not strong enough without additional factors that moderate or mediate the relationship.

Table 7. Effect of MC on the three components of CSP.

Relationship	Path Coefficients	P Values	Information
MC → EC_SP	0.343	0.006	+ Not Sign
MC → EN_SP	0.136	0.282	+ Not Sign
MC → SC_SP	0.056	0.664	+ Not Sign

Source: Output SmartPLS, 4.0, 2025.

From the perspective of UET, a company's strategic decisions are significantly influenced by managerial characteristics, including the leader's values, experience, and background. In the context of SOEs where the largest ownership is the government, decisions regarding sustainability are often more influenced by government regulations and national policies [101]. External factors such as regulatory pressures, mandated social responsibility, and stakeholder demands can limit management's room to make decisions related to sustainability. Therefore, while management characteristics have the potential to influence CSP, policy

interventions and stronger corporate governance can be an important foundation in the implementation of sustainability practices.

This phenomenon can also be attributed to the dynamics of leadership in Indonesian State-Owned Enterprises (SOEs), where managerial roles often must adapt to more bureaucratic organizational structures. In contrast to private companies that are more flexible in implementing leadership-based strategies, [102] SOEs have a more collective decision-making mechanism and are based on compliance with government policies. This reinforces the finding that the influence of management characteristics on sustainability is still relatively limited in the absence of clear policies and strong institutional support.

Thus, although management characteristics have a positive correlation with CSP, the impact is not significant in the context of Indonesian SOEs. Sustainability is more determined by regulations, strategic policies, and governance structures implemented. These findings indicate that improving sustainability performance in SOEs requires strengthening sustainability policies that are aligned with organizational structure support for the implementation of long-term strategies. Besides, transparency in reporting through the presentation of quality information can strengthen the relationship between MC and CSP

2.4 The mediating effect of ARR in the relationship between management characteristics and CSP

The fourth hypothesis was accepted, with results showing the presence of a mediated effect of ARR in the relationship between MC and CSP, with a path coefficient value of 0.363 and $p < 0.000$. The direct influence of management characteristics on Corporate Sustainability Performance (CSP) is not significant; however, the influence of MC on CSP through ARR is significant, indicating that ARR serves as a full mediating variable.

Tabel 8. Mediation testing.

Variable Relationship	Total Effect (β_1)	p-value	MC → ARR (α_1)	p-value	ARR → CSP (β_2)	p-value	Direct Effect MC → CSP (β'_1)	p-value	Indirect Effect ($\alpha_1 \beta_2$)	p-value
MC → CSP	0.411***	0.000	-	-	-	-	0.048*	0.732	0.363	0.000
MC → ARR	-	-	0.568***	0.000	0.638	0.000	-	-	-	-
ARR → CSP	-	-	-	-	0.638***	0.000	-	-	-	-

Note(s): * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

- Composite reliability > 0.7 , AVE > 0.5 , and VIF < 3.3 confirm construct validity.

- ARR, as a single-item construct, shows perfect reliability (1.000).

- Full mediation is supported as the direct effect of MC on CSP is not significant ($p = 0.732$), while the indirect effect through ARR is significant ($\beta = 0.363$; $p < 0.001$).

Source (s): Authors Elaboration

The proposed mediation model is grounded in both theoretical and empirical foundations. Based on the UET and the principle of information asymmetry, management characteristics (MC) are expected to influence corporate sustainability performance (CSP) not only directly, but also indirectly through audit report readability (ARR). ARR serves as a strategic communication channel through which management traits are conveyed to stakeholders, ultimately impacting sustainability-related decision-making and trust. Furthermore, Agency Theory reinforces this relationship by emphasizing the role of information disclosure in reducing asymmetry between management (agents) and stakeholders (principals). In this context, the clarity and accessibility of audit reports reflected in ARR serve as tools to mitigate agency conflicts by improving the quality of information available to stakeholders. This aligns with the agency perspective that higher transparency strengthens accountability and trust, which are critical to sustainability outcomes. The conceptual basis for this mediation is further supported by prior literature that has identified ARR as a key factor in enhancing transparency, investor perception, and stakeholder evaluation [10, 40, 53]

Mediation was tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) with bootstrapping resampling (5,000 iterations) to assess the significance of both direct and indirect paths. Complete result is presented in table 5. The following steps were conducted:

- Step 1: Test the direct effect of MC on CSP (path c)
Result: Not significant ($\beta = 0.048$, $p = 0.732$)
- Step 2: Test the effect of MC on ARR (path a)
Result: Significant ($\beta = 0.568$, $p = 0.000$)
- Step 3: Test the effect of ARR on CSP (path b)
Result: Significant ($\beta = 0.638$, $p = 0.000$)
- Step 4: Test the indirect effect of MC on CSP through ARR (path $a \times b$)
Result: Significant ($\beta = 0.363$, $p = 0.000$)

To strengthen the interpretation, the Variance Accounted For (VAF) was calculated as follows:

$$VAF = \frac{\text{Indirect Effect}}{\text{Indirect Effect} + \text{Direct Effect}} = \frac{0,363}{0,363 + 0,048} = 88.3\% \quad (1)$$

The mediation effect in this study is considered strong, with a VAF value of 88.3%, and a statistically significant indirect path ($\beta = 0.363$; $p < 0.001$), indicates that the majority of the effect of management characteristics (MC) on corporate sustainability performance (CSP) is explained through audit report readability (ARR). According to the criteria proposed by Hair et al. [103], this represents a strong full mediation. And based on these findings, since the direct path (MC $\rightarrow$ CSP) is non-significant, while the indirect path through ARR is highly significant. This confirms the role of ARR as a strategic communication tool that transforms managerial characteristics into a positive perception of sustainability [10, 40, 53]. These findings also highlight that, within the context of State-Owned Enterprises (SOEs), the quality of financial communication can mediate the strength of managerial attributes and enhance organizational credibility and accountability in the public eye [14, 38]. Additionally, the control variables Growth, Leverage, ROA, Firm Size, and Current Ratio show significant effects on the model, underscoring their relevance in sustainability outcomes. Their inclusion also functions as a critical safeguard against endogeneity and omitted variable bias, helping to isolate the true effect of management characteristics on sustainability by controlling for key financial and structural firm factors. This enhances the model's internal validity and robustness.

In the context of SOEs, the importance of improving reporting quality and good governance practices is becoming increasingly evident to support the sustainability agenda, in line with the mandate of the law which emphasizes that SOEs should make social, economic and environmental contributions. Based on sustainability and stakeholder theory, transparency and clarity in audit reports are crucial aspects for companies to maintaining long-term sustainability. By presenting easy-to-understand audit reports, companies can build stronger relationships with stakeholders and communicate sustainability policies more effectively

From the perspective of UET, the decisions made by top management are strongly influenced by their psychological characteristics and experiences. CEOs who are narcissistic or overconfident may tend to present less transparent reports, while more cautious management is likely to ensure better Audit Report Readability (ARR). In this study, ARR is a key factor that links management characteristics to sustainability performance, as high ARR can reduce information asymmetry and improve accountability.

In three aspects of economic (EC_SP), environmental (EN_SP), and social (SC_SP) CSP, ARR plays an important role as a communication medium that can increase corporate transparency. With a good ARR, information related to sustainability initiatives becomes easier to understand by investors, regulators, and the public, thereby increasing trust in SOEs. This better transparency can also assist companies in mitigating risks and improving their reputation in the market [2].

Table 9. ARR mediation of 3 CSP components.

Relationship	Path Coefficients	P Values	Information
MC → ARR → EC_SP	0.232	0.001	+ Sign
MC → ARR → EN_SP	0.317	0.000	+ Sign
MC → ARR → SC_SP	0.384	0.000	+ Sign

Source: Output SmartPLS, 4.0, 2025

Overall, this study confirms that ARR is a crucial factor in strengthening the linking between management characteristics and CSP. SOEs looking to improve their sustainability performance must ensure that their audit reports are not only financially accurate, but also clear and easy to understand by various stakeholders. Thus, ARR can be a strategic tool for management in achieving long-term sustainability. This indicates that in the context of SOEs in Indonesia, the readability of audit reports plays a key role as a tool to transform management characteristics into actions that support sustainability. In other words, the characteristics of management alone are not enough to improve CSP without transparency and good reporting quality. As entities that are majority-owned by the government, State-Owned Enterprises (SOEs) are significantly influenced by policies and regulations that can affect management actions in every decision-making process. As a result, the influence of management characteristics on CSPs can become indirect and more dependent on transparent reporting systems such as ARR. Overall, these results emphasize the importance of transparent governance and reporting mechanisms, such as ARR, as mediators that link management characteristics to sustainability. These results suggest that the influence of management characteristics on CSP is not universal and can be highly dependent on the institutional, regulatory, and cultural context of the organization.

The findings reveal a complex relationship between MC, ARR, and CSP SOEs in Indonesia. The analysis demonstrates the important role of ARR as a moderating variable between MC and CSP, highlighting the importance of transparency and accountability in supporting a company's sustainability practices. Auditors are required to adhere to the framework outlined in the audit report when providing their opinion. They generally express their opinions based on their knowledge and experience, sometimes with limitations and ambiguities. Since the quality of the audit report will impact users, auditors should ensure that the audit report is easy to read and understand. ARR can help stakeholders obtain information; therefore, we ensure that ARR mediates the relationship between MC and CSP [14].

Agency, sustainability, TBL, and stakeholder theory provide the conceptual framework for understanding the relationship between ARR and CSP. TBL emphasizes the importance of a balance between three aspects, namely Planet, Profit and People while Agency and Stakeholders Theory explains the importance of maintaining relationships between stakeholders through various good management practices so that information asymmetry does not occur. In the context of ARR, the quality of the information conveyed in the report can be considered a valuable resource. Clear and easily understandable information in the audit report enables stakeholders to comprehend the firm's efforts in achieving sustainable goals. This condition indicates that readability will affect investors and can help stakeholders measure and evaluate the CSP from the three aspects of TBL [39].

Practically, the findings of this study imply that companies particularly State-Owned Enterprises (SOEs) should prioritize audit report readability (ARR) as an integral part of their sustainability strategy. High ARR can enhance transparency, strengthen stakeholder trust, and promote institutional accountability [6, 40, 81]. Therefore, ARR should not be viewed merely as a technical aspect, but rather as a strategic governance tool in achieving corporate sustainability [40]. Efforts to improve ARR may include the use of plain language, avoidance of technical jargon, involvement of communication specialists, and the application of AI-based text analysis tools [13, 40]. In addition, internal training on the importance of readability in financial reporting should be reinforced [14].

However, it is important to acknowledge the limitations of ARR as a proxy readability does not necessarily equate to understanding. Readability indices such as the Gunning Fog Index, although widely used in financial literature, measure linguistic complexity based on sentence length and the frequency of difficult words, without accounting for context, readers' prior knowledge, or interpretive nuance [9, 10, 40, 53]. Thus, while ARR reflects the surface-level quality of communication, it does not fully capture the cognitive dimensions of stakeholder comprehension.

Internationally, these findings are relevant in both developed and developing countries, where challenges in financial literacy and sustainability reporting regulations persist. ARR may serve as a vital bridge to meet global expectations for transparency, particularly for SOEs or publicly accountable entities operating across jurisdictions [38, 52]. Hence, this study holds not only local significance but also offers strategic contributions to the broader discourse on corporate governance and global sustainability

The control variables in this research have a significant effect on the CSP of Non-Financial SOEs in Indonesia. These results show that financial factors remain the main elements influencing the implementation of sustainability in companies. High corporate growth (GRW) enables State-Owned Enterprises (SOEs) to be more flexible in allocating resources to sustainability initiatives, while maintained leverage indicates that companies with healthy capital structures are better positioned to fund sustainable projects. High levels of profitability (ROA) also offer greater financial capacity to incorporate sustainability practices into business strategies. This is also aligned with the interests of the government and shareholders as the majority owners of SOEs. A larger firm size indicates that companies with a broad operational scale have more access to green technology and sustainable business practices. On the other hand, a high Current Ratio indicates that good liquidity allows a company to invest in sustainability projects without disrupting its operational stability. Thus, these findings emphasize that in addition to managerial and government regulatory factors, financial stability is a fundamental factor that enables SOEs to carry out sustainability practices effectively and sustainably. Therefore, SOE management must maintain a balance between profitability and sustainability so that it can continue to provide optimal economic, social, and environmental benefits.

This study offers a novel contribution by demonstrating that ARR serves as a full mediating variable in the relationship between management characteristics and CSP. These findings suggest that management characteristics, which are often perceived to have a direct influence on sustainability, are actually more effective when mediated by ARR, which reflects the transparency and accountability of the company. SOEs in Indonesia need to enhance the quality of audit reporting to maximize the positive impact of management characteristics on CSP. Strategically, this also encourages management to prioritize the provision of accurate, clear, and accessible information to support long-term sustainability plans.

V. CONCLUSION

This study proves that management characteristics do not have a direct effect on CSP, but are fully mediated by Audit Report Readability (ARR). These findings make a theoretical contribution by enhancing the understanding of the role of Audit Report Readability (ARR) as a mediator between management characteristics and sustainability performance, particularly in the context of State-Owned Enterprises (SOEs) in Indonesia. This confirms the importance of reporting transparency as a key factor linking managerial aspects with corporate sustainability.

This study focuses on State-Owned Enterprises (SOEs) in Indonesia over a relatively short period; therefore, the results may not be fully generalizable to other sectors or countries. In addition, the quantitative approach used can be complemented by qualitative studies to provide deeper insights. Further research can test the model across different sectors or countries with different market characteristics to increase the generalizability of the findings. Additionally, the exploration of other relevant variables can enhance the body of research, particularly concerning Corporate Sustainability Performance (CSP).

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Author Contributions

Author (1) was responsible for writing the original draft, designing the methodology, data analysis, and validating the research findings. Author (1) also acted as the corresponding author, handling communication and revisions with the editor. Authors (2), (3), and (4) contributed to the original draft writing, supervision, and provided guidance in the development of the methodology and implementation of the research. Author (5) and (6) assisted in writing the original draft, supported the development of the methodology, and was involved in data collection and processing.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are available from the authors upon request.

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