“The effect of intellectual capital on investment decisions: The mediating role of annual and audit report readability in Indonesian state-owned enterprises”

AUTHORS	Julita Julita Desmiyawati Desmiyawati Deby Kurnia Rio Jonnes Marpaung Muhammad Luthfi Iznillah Ria Nelly Sari

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Julita Julita (Indonesia), **Desmiyawati Desmiyawati** (Indonesia), **Deby Kurnia** (Indonesia), **Rio Jonnes Marpaung** (Indonesia), **Muhammad Luthfi Iznillah** (Indonesia), **Ria Nelly Sari** (Indonesia)

THE EFFECT OF INTELLECTUAL CAPITAL ON INVESTMENT DECISIONS: THE MEDIATING ROLE OF ANNUAL AND AUDIT REPORT READABILITY IN INDONESIAN STATE-OWNED ENTERPRISES

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Julita Julita, Associate Professor Faculty of Economics and Business, Universitas Riau [University of Riau], Indonesia. (Corresponding author)

Desmiyawati Desmiyawati, Associate Professor Faculty of Economics and Business, Universitas Riau [University of Riau], Indonesia.

Deby Kurnia, Associate Professor Faculty of Agriculture, Universitas Riau [University of Riau], Indonesia.

Rio Jonnes Marpaung, Associate Professor Faculty of Economics and Business, Universitas Riau [University of Riau], Indonesia.

Muhammad Luthfi Iznillah, Associate Professor, Departement of Public Financial Accounting, Politeknik Negeri Bengkalis [State Polytechnic of Bengkalis], Indonesia.

Ria Nelly Sari, Professor, Faculty of Economics and Business, Universitas Riau [University of Riau], Indonesia.

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Abstract

The increasing importance of intangible resources and narrative disclosure in a knowledge-based economy has raised critical questions regarding their role in shaping corporate investment behavior, particularly within state-owned enterprises operating under complex institutional constraints. This study examined the direct effect of intellectual capital on investment decisions and evaluated the mediating roles of annual and audit report readability in this context. The empirical analysis is based on a balanced pooled data set of 20 non-financial Indonesian State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange for the period 2018–2023, totaling 120 firm-year observations. These firms, representing strategic sectors such as infrastructure, energy, and telecommunications, were selected due to their high asset intensity and pivotal role in national development under bureaucratic oversight. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the results reveal that intellectual capital has a significant positive effect on investment decisions ($\beta = 0.401$; $t = 7.075$), explaining 18.7% of the variance, which increases to 53.6% when incorporating firm-level control variables. Conversely, intellectual capital does not significantly influence report readability, and neither readability measure affects investment decisions, indicating an absence of mediation effects. Firm size emerges as the primary determinant, while profitability and leverage remain insignificant. In conclusion, investment decisions in Indonesian SOEs are driven by internal resource efficiency and organizational scale rather than narrative clarity. These findings suggest that in bureaucratic environments, report readability reflects compliance-oriented disclosure rather than effective informational signaling, highlighting a transparency paradox.

Keywords intellectual capital, readability, annual reports, audit reports, investment decisions, state-owned enterprises

JEL Classification M41, O34, D25

INTRODUCTION

The rapid transition toward a knowledge-based economy has shifted the paradigm of corporate value from physical assets to intellectual capital (Farooq et al., 2022). In the context of State-Owned Enterprises (SOEs), which serve as both commercial entities and instruments of national policy, the efficient management of intangible resources is particularly important for sustaining investment and long-term performance. However, a key issue arises when the accumulation of intellectual capital is not accompanied by transparent and accessible corporate communication. From a theoretical perspective, signaling theory suggests that firms with higher-quality resources should provide clearer and more readable disclosures to reduce information asymme-

try and signal their superior performance to investors (Li, 2008; Spence, 1978). In practice, however, many SOEs exhibit what is often described as a "transparency paradox," where increasing organizational complexity is associated with more technical and less accessible reporting, potentially hindering rather than facilitating investment decision-making.

This issue is closely related to the role of internal resources in shaping firm behavior. According to the resource-based view, firm-specific intangible assets such as intellectual capital constitute a fundamental source of competitive advantage and influence strategic decision-making, including investment allocation (Barney, 1991). In Indonesian non-financial SOEs, however, the effectiveness of these resources may be constrained by institutional factors. Report readability, particularly in annual and audit reports, often functions less as a strategic communication tool and more as an instrument of regulatory compliance (Bradbury et al., 2020; Noh, 2021). When reporting becomes primarily compliance-driven, linguistic clarity may be compromised, weakening the link between a firm's internal resource efficiency and its external investment signals. This situation raises an important research problem, as intellectual capital may continue to develop while report readability does not improve or even deteriorates, thereby weakening the effectiveness of disclosure as a signaling mechanism. Consequently, it remains unclear whether the limited influence of corporate reports on investment decisions is driven by their linguistic complexity or by the dominance of structural factors, such as firm size and state mandates, that may override narrative signals. Addressing this issue is essential for understanding the conditions under which signaling theory holds in institutionally constrained emerging market settings.

1. LITERATURE REVIEW AND HYPOTHESES

The rapid rise of intangible assets as the primary source of firm value has redefined how companies create and communicate economic value. The global transition toward a knowledge-centric economy has fundamentally shifted the focus of corporate valuation from tangible assets to the strategic management of intellectual capital (Julita et al., 2025). This literature review establishes the conceptual framework for examining how these intangible resources influence corporate communication clarity and subsequent investment behavior, particularly within the institutional complexity of SOEs. By synthesizing the Resource-Based View (RBV) and Signaling Theory, the following analysis explores the direct and indirect pathways through which intellectual capital, manifested in human, structural, and relational dimensions, shapes the readability of annual and audit reports to mitigate information asymmetry.

As firms increasingly compete on knowledge rather than physical assets, intellectual capital has become central to organizational value creation. Intellectual capital is widely recognized as the primary engine for value creation and sustainable competitive advantage in modern organizations (Ali et al., 2022; Todericiu & Stăniț, 2015). From the perspective of the resource-based view, this intangible asset is strategic as it is valuable, rare, inimitable, and non-substitutable (Barney, 1991; Muharam, 2017). The integration of human expertise, structural systems, and relational networks allows firms to optimize operational effectiveness and achieve superior financial outcomes (Labally et al., 2023; Salehi & Zimon, 2021). Empirical applications of the Value-Added Intellectual Coefficient (VAIC) model consistently demonstrate that intellectual capital efficiency is a robust predictor of innovation and corporate growth across diverse sectors (Alrowwad et al., 2020; Qurashi et al., 2020; Xu et al., 2019). In essence, intellectual capital functions as the foundational resource that dictates a firm's internal capacity for expansion. Its effective management provides the essential strength required for strategic resource allocation and long-term viability.

The influence of these intangible resources extends beyond internal performance to the quality of external corporate narratives. Signaling theory suggests that high-quality firms use narrative disclosures, such as annual reports, to communicate their underlying value and reduce information asymmetry (Moghadam et al., 2023; Spence, 1978). Recent scholarship indicates that intellectual capi-

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tal efficiency facilitates the production of more readable and transparent financial statements, although this relationship can be moderated by managerial traits or earnings management practices (Dalwai et al., 2021; Moghadam et al., 2023; Salehi et al., 2023). Furthermore, specific dimensions of intellectual capital, particularly structural and customer capital, have been shown to enhance the clarity and tone of audit reports, thereby improving the overall transparency of the firm's communication (Moghadam et al., 2025; Saeedi et al., 2023). The ability of a firm to manage its knowledge assets effectively translates into a superior capacity for digital reporting and sophisticated disclosure practices (Roiston & Harymawan, 2022; Vitolla et al., 2020). Thus, clear communication acts as a linguistic signal of internal organizational health (Saidi et al., 2025). When intellectual capital is high, firms possess the structural capability to translate complex operations into accessible and informative narrative reports.

Clear financial communication is essential for reducing information asymmetry between firms and investors. Readability, as a linguistic construct, determines the effectiveness of a report in conveying strategic information to its intended audience (DuBay, 2004; Pound, 1981). The concept of "Dual Report Readability" encompassing both Annual Report Readability (AnRR) and Audit Report Readability (AuRR) is vital because these documents complement each other in fostering investor confidence (Ertugrul et al., 2017; Fakhfakh, 2013, 2015). While regulators like the IASB advocate for linguistic simplification to ensure transparency, many reports in emerging markets remain technically dense, creating barriers to effective performance evaluation (Li, 2008; Shauki & Oktavini, 2022; You & Zhang, 2009).

Investment decisions are inherently shaped by the quality of information available to market participants. Clear narratives have been shown to enhance information processing and strengthen the reliability of financial signals, whereas opaque reports generate ambiguity and hinder decision-making (Barnett & Leoffler, 1979; Cazier & Pfeiffer, 2016, 2017; Lim et al., 2018; Loughran & McDonald, 2014; Yu & Miller, 2010). The clarity of these reports serves as a vital transmission mechanism for corporate quality. Ensuring that both annual and audit narratives are readable is essential for maintaining the credibility of the information provided to the capital market. The ultimate impact of these informational signals is observed in the efficiency and scale of corporate investment decisions. Strategic capital allocation is a core function through which firms pursue competitiveness and long-term value maximization (Mangesti Rahayu, 2019; Ridwan et al., 2025). Evidence suggests that firms with more readable annual reports successfully attract higher investment levels, while poor readability increases perceived risk and constrains capital inflows (Aldoseri, 2024; Huong Dau et al., 2024; Zhang et al., 2024). Intellectual capital supports these decisions directly by providing the "absorptive capacity" needed for technological innovation and operational expansion (Farooq et al., 2022; Li et al., 2024; Thi Nhat Minh & Dinh Nguyen, 2024). When internal knowledge strength is coupled with clear external signals, the accuracy and sustainability of investment decisions are significantly enhanced (Abernathy et al., 2019; Asay et al., 2017; Farooq & Subhani, 2021; Indriani, 2024; Lathief et al., 2024; Rennekamp, 2012). Investment outcomes are thus the final product of a firm's resource efficiency and its communication transparency. The synergy between high intellectual capital and readable disclosures creates an optimal environment for strategic and effective capital allocation.

Despite the extensive literature on intellectual capital and firm performance, a significant research gap persists regarding the "signaling failure" in institutionally complex environments such as SOEs. Most existing studies on report readability focus on market-driven private firms in developed economies, leaving the specific bureaucratic and regulatory pressures of Indonesian SOEs largely unexamined. There is a profound lack of empirical evidence regarding the dual mediation role of annual and audit report readability in connecting intangible assets to actual capital expenditure. Furthermore, the divergence between internal resource quality and external linguistic clarity in entities where compliance often outweighs informative transparency remains an unresolved paradox in current strategic management literature. This highlights a critical disconnect in understanding how narrative signals function when organizational goals are split between commercial

efficiency and public service. Addressing this void is essential for determining whether traditional signaling theory remains valid in the presence of strong bureaucratic rigidity.

In summary, prior studies demonstrate that intellectual capital plays a crucial role in shaping firm performance and investment behavior, while narrative disclosure is expected to enhance transparency and reduce information asymmetry. However, empirical evidence remains mixed regarding whether the readability of corporate reports effectively translates internal resource quality into investment-relevant signals. Moreover, existing research has largely focused on market-oriented firms in developed economies, leaving the institutional context of state-owned enterprises in emerging markets underexplored.

Therefore, this study aims to examine the direct effect of intellectual capital on investment decisions and to evaluate the mediating roles of annual report readability and audit report readability in Indonesian SOEs. Based on the theoretical arguments regarding intellectual capital, narrative disclosure, and investment behavior, this study formulates hypotheses that capture both direct and indirect relationships.

H1: *Intellectual Capital has a significant effect on Annual Report Readability.*

H2: *Intellectual Capital has a significant effect on Audit Report Readability.*

H3: *Intellectual Capital has a significant effect on Investment Decisions.*

H4: *Annual Report Readability has a significant effect on Investment Decisions.*

H5: *Audit Report Readability has a significant effect on Investment Decisions.*

H6: *Annual Report Readability has a significant effect on Audit Report Readability.*

H7: *Annual Report Readability mediates the relationship between Intellectual Capital and Investment Decisions.*

H8: *Audit Report Readability mediates the relationship between Intellectual Capital and Investment Decisions.*

H9: *Annual Report Readability and Audit Report Readability jointly mediate the relationship between Intellectual Capital and Investment Decisions.*

2. METHOD

This study employs a quantitative research design to examine the relationships between intellectual capital, report readability, and investment decisions in Indonesian SOEs. The research procedure is structured into three sequential stages: data collection, variable measurement, and structural model estimation. The research population consists of all non-financial SOEs listed on the Indonesia Stock Exchange, representing five strategic sectors: basic materials, infrastructure and construction, energy, transportation and logistics, and healthcare/pharmaceuticals. A census approach was applied, resulting in a final sample of 20 firms that consistently published complete annual reports and independent audit reports throughout the observation period.

The observation period covers six consecutive years, from 2018 to 2023, yielding a balanced pooled dataset of 120 firm-year observations. This timeframe was selected to capture a consistent reporting environment following the adoption of mandatory integrated reporting guidelines for Indonesian SOEs. Furthermore, this period ensures the availability of complete, audited annual reports necessary for calculating both the VAIC and the textual readability indices, providing a longitudinal perspective on how institutional constraints influence the relationship between intellectual capital, disclosure quality, and investment decisions. The complete list of firms, along with their sectoral classification and key characteristics, is provided in the Appendix. All data were obtained from publicly available sources, including official annual reports, independent audit reports, and financial disclosures published by the Indonesia Stock Exchange and the respective company websites.

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Intellectual capital was measured using the VAIC approach, capturing the efficiency of human capital, structural capital, and customer capital. AnRR and AuRR were measured using established textual readability indices, namely the Flesch Reading Ease Index and the Gunning Fog Index, to assess the linguistic complexity of narrative disclosures. Investment decisions were proxied by the natural logarithm of capital expenditure. Firm size, profitability, and leverage were included as control variables to account for structural and financial heterogeneity across firms. Detailed operational definitions and measurement procedures for all variables are provided in Table 1.

To test the proposed relationships, this study applied Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS software. This analytical technique is selected due to its suitability for models with multiple latent constructs and mediating relationships, as well as its robustness when applied to relatively small sample sizes without strict distributional assumptions. The analysis followed a two-stage procedure. First, the measurement model was evaluated to assess indicator validity and reliability. Second, the structural model was estimated to examine path coefficients, coefficients of determination (R2), effect sizes (f2), and mediation effects using bootstrapping procedures. This methodological framework ensures a transparent and systematic assessment of the relationships between intellectual capital, narrative disclosure readability, and investment decisions within the institutional context of Indonesian SOEs.

3. RESULTS

The empirical analysis confirms that intellectual capital significantly influences investment decisions in Indonesian SOEs, while report readability does not show a statistically significant effect. The following sections detail the descriptive statistics, measurement model validity, and structural path coefficients derived from the PLS-SEM analysis.

3.1. Descriptive statistics

Table 2 presents the descriptive statistics of the variables used in this study, including measures of central tendency and dispersion. IC components, represented by human capital efficiency, structural capital efficiency, and customer capital efficiency, exhibit relatively low average values with considerable variation across firms. Negative minimum values observed for structural and customer capital efficiency indicate inefficiencies in certain SOEs during the observation period.

Table 1. Operational definition and measurement of variables

Variables	Definition	Measurement	Symbol
Intellectual Capital (X)	Knowledge-based resources comprising human capital, structural capital, and customer/relational capital (Saeedi et al., 2023)	Human Capital Efficiency (HCE)	IC
		Structural Capital Efficiency (SCE)	
		Customer Capital Efficiency (CCE)	
Dual Report Readability			
Annual Report Readability (M1)	The degree to which the annual report can be easily understood by its users (Huong Dau et al., 2024)	FOG Index Flesch Index	AnRR Fog AnRR Flesch
Audit Report Readability (M2)	The degree to which the audit report can be easily understood by its users (Saeedi et al., 2023)	FOG Index Flesch Index	AuRR Fog AuRR Flesch
Investment Decision (Y)	Managerial decisions concerning the allocation of corporate resources into assets or projects expected to generate future returns (Huong Dau et al., 2024)	ID = Ln (Capital Expenditure)	ID
Control Variables			
ROA	A profitability ratio measuring a firm's ability to generate net income from its total assets (Saeedi et al., 2023)	ROA = Net Income / Total Assets	ROA
Leverage	A financial ratio that indicates the extent to which a firm uses debt in its capital structure compared to equity or total assets (Saeedi et al., 2023)	Leverage = Total Debt / Total Assets	Leverage
Size	An indicator that reflects the scale or capacity of a company (Huong Dau et al., 2024)	Size = Ln (Total Assets)	Size

Table 2. Descriptive statistics

Variables	Obs	Mean	Std. Dev	Min	Max	Median
HCE	120	0.728	0.552	0.119	2.927	0.574
SCE	120	0.272	0.552	–1.927	0.881	0.450
CCE	120	0.146	0.641	–2.436	0.848	0.349
LN-CAPEX	120	7.063	1.331	4.382	10.391	6.947
AnRR Flesch	120	36.258	15.096	10.000	60.000	35.000
AnRR Fog	120	18.550	3.786	12.000	25.000	19.000
AuRR Flesch	120	36.375	14.554	11.000	60.000	37.000
AuRR Fog	120	17.692	4.417	12.000	25.000	18.000
ROA	120	–0.037	0.187	–1.476	0.309	0.005
Leverage	120	1.801	0.700	0.578	2.992	1.824
Size	120	4.125	2.561	–7.594	8.625	4.618

Investment decisions, measured by the natural logarithm of capital expenditure, show a relatively high mean accompanied by substantial dispersion, suggesting heterogeneity in investment capacity among non-financial state-owned enterprises. Readability measures for both annual and audit reports indicate generally low readability levels, as reflected by moderate Flesch Reading Ease scores and relatively high Gunning Fog Index values, implying that corporate disclosures tend to be linguistically complex. Regarding control variables, profitability displays a negative average value, while leverage levels are relatively high, indicating a strong reliance on debt financing among the sampled firms. Firm size shows considerable variation, reflecting differences in asset scale across state-owned enterprises. Overall, the descriptive statistics highlight substantial cross-firm heterogeneity in intellectual capital efficiency, disclosure readability, and financial characteristics within Indonesian non-financial SOEs.

3.2. Measurement model results

Table 3 presents the results of the measurement model evaluation, including indicator loadings, average variance extracted (AVE), Cronbach's alpha, and composite reliability values. All indicators used in the analysis exhibit factor loadings exceeding the minimum threshold of 0.50, indicating that the observed measures adequately represent their respective constructs.

The AVE values for the latent constructs are above 0.50, confirming an acceptable level of convergent validity. This indicates that a sufficient proportion of variance in the indicators is captured by the corresponding constructs. With respect to internal consistency, composite reliability values vary across constructs, with AnRR meeting the recommended minimum threshold, while other constructs display lower reliability values. Cronbach's alpha values for several constructs fall below the conventional cutoff level. However, this outcome reflects the formative nature of the indicators employed in the model rather than measurement deficiency. Overall, the measurement model satisfies the minimum validity and reliability criteria required for subsequent structural model evaluation.

Table 3. Convergent validity and reliability

Variable	Item	Loading	AVE	Cronbach's Alpha	Composite Reliability
IC	HCE	1.000	0.898	0.760	0.844
	SCE	1.000			
	CCE	0.998			
AnRR	Flesch	0.680	0.593	0.730	0.876
	Fog	0.723			
AuRR	Flesch	0.783	0.600	0.798	0.892
	Fog	0.765			
ID	Ln CAPEX	1.000	–	–	–
Control Variable	ROA	1.000	–	–	–
	Leverage	1.000	–	–	–
	Size	1.000	–	–	–

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3.3. Structural model results

The structural model results are presented in Tables 4 to 6. The evaluation includes effect size analysis (f^2), coefficients of determination (R^2), overall model fit indices, and hypothesis testing results based on bootstrapping procedures.

Table 4 reports the effect size (f2) of each exogenous construct on the endogenous variables. Intellectual capital shows a medium effect size on investment decisions, while its effect on AnRR and AuRR is negligible. AnRR exhibits a moderate effect on AuRR, whereas the effects of both annual and audit report readability on investment decisions are minimal. Among the control variables, firm size demonstrates a large effect size on investment decisions, while profitability and leverage display small to negligible effect sizes.

Table 5 presents the coefficients of determination (R2). The results indicate that intellectual capital explains a very small proportion of variance in annual report readability and a limited proportion in AuRR. For investment decisions, the explanatory power of the model is relatively low without control variables, but increases substantially after the inclusion of firm size, profitability, and leverage. The adjusted R2 values follow a similar pattern.

Table 6. Fit summary

Index	Saturated model	Estimated model
SRMR	0.084	0.092
d_ULS	0.464	0.553
d_G	84.013	84.032

Table 4. Effect size (f2)

Model	Annual Report Readability	Audit Report Readability	Investment Decision
IC	0.006 (no effect)	0.000 (no effect)	0.237 (medium effect)
AnRR		0.122 (moderate effect)	0.010 (no effect)
AuRR			0.000 (no effect)
ROA			0.019 (no effect)
Leverage			0.022 (small effect)
Size			0.734 (large effect)

Table 5. Coefficient of determination result

Model	Without Control		With Control	
	R-square	R-square adjusted	R-square	R-square adjusted
AnRR	0.005	–0.003	–	–
AuRR	0.109	0.093	–	–
ID	0.187	0.166	0.536	0.512

Table 7. Summary of the structural model testing

Variable Effect	Without Control			With Control			Decisions
	Coef.	T stat.	P value	Coef.	T stat.	P value	
IC → AnRR	–0.074	0.783	0.434	–0.074	0.783	0.434	Not supported
IC → AuR	0.017	0.171	0.864	0.017	0.171	0.864	Not supported
IC → ID	0.401	7.075	< 0.001*	0.473	5.497	< 0.001*	Supported
AnRR → ID	–0.016	0.177	0.860	–0.071	0.914	0.361	Not supported
AuRR → ID	–0.016	0.177	0.860	–0.071	0.914	0.361	Not supported
AnRR → AuRR	0.330	0.937	0.349	0.330	0.937	0.349	Not supported
IC → AnRR → ID	0.001	0.107	0.914	0.005	0.463	0.643	Not supported
IC → AuRR → ID	–0.003	0.156	0.876	0.000	0.028	0.978	Not supported
IC → AnRR → AuRR → ID	0.004	0.589	0.556	0.000	0.095	0.924	Not supported
ROA → ID				0.134	1.455	0.146	
Leverage → ID				0.102	1.415	0.157	
Firm Size → ID				0.625	10.09	0.00*	

Note: * Confidence interval 5%.

Table 6 reports the model fit indices. The SRMR value of the estimated model falls below the recommended threshold, indicating an acceptable model fit. The values of d_ULS and d_G for the estimated model are comparable to those of the saturated model, suggesting limited discrepancy between the empirical and estimated covariance matrices.

Table 7 summarizes the hypothesis testing results of the structural model. The path from intellectual capital to investment decisions is statistically significant both in models with (β= 0.401, T = 7.075, $p < 0.001$ and without control variables (β= 0.473, T = 5.497, $p < 0.001$), thus H_3 is supported. In contrast, the paths from intellectual capital to annual report readability (p=0.434) and audit report readability (p=0.864) are not statistically significant, leading to the rejection of H_1 and H_2. Similarly, the effects of AnRR and AuRR on investment decisions are not significant (p=0.361), meaning H_4 and H_5 are not supported. The path from AnRR to AuRR is also not statistically significant (p=0.349), thus H_6 is rejected. All tested mediation effects involving AnRR and AuRR are statistically insignificant ($p>0.05$), thus H_7, H_8, H_9 are not supported. Regarding the control variables, only firm size shows a statistically significant effect on investment decisions ($p<0.001$), while profitability and leverage do not exhibit significant effects.

4. DISCUSSION

The statistical results show that intellectual capital (IC) has a significant and positive effect on investment decisions, indicating that Indonesian SOEs rely heavily on the efficiency of their intangible resources to expand their investment capacity. This finding is consistent with the resource-based view (RBV), which emphasizes that internal knowledge and structural assets are key drivers of corporate growth. It also aligns with prior studies by Todericiu & Stăniț (2015) and Xu et al. (2019), which identify intellectual capital as a fundamental determinant for capital allocation. However, this study extends previous findings by showing that, unlike in private sector settings where the relationship is often mediated by innovation (Xu et al., 2019), the effect of intellectual capital in SOEs appears to be more direct. This difference may be explained by the institutional characteristics of SOEs, where investment decisions are less dependent on market-driven innovation processes and more influenced by internal resource capacity and strategic mandates. The strength of this relationship further suggests that firms with higher levels of intellectual capital are better positioned to undertake large-scale investments, regardless of the readability or transparency of their disclosures.

These findings provide important implications for understanding how intellectual capital and disclosure mechanisms interact in institutionally constrained environments. While prior studies generally assume that internal resources are reflected in disclosure quality and subsequently influence investment decisions, the results of this study suggest a different pattern in the context of SOEs. Specifically, intellectual capital appears to influence investment decisions independently of disclosure readability, indicating that internal resource efficiency may operate as a more dominant driver than external informational signals. This finding highlights a potential divergence from conventional expectations derived from market-oriented settings, where disclosure plays a more central role in shaping investment behavior.

The significant positive effect of intellectual capital on investment decisions provides strong empirical support for the RBV, which posits that firm-specific intangible resources constitute the foundation of sustainable competitive advantage and strategic decision-making. This finding is consistent with prior studies documenting the role of intellectual capital in enhancing investment capacity and long-term growth (Farooq, Tabash, Anagreh, et al., 2022; Thi Nhat Minh & Dinh Nguyen, 2024). It also aligns with evidence showing that intellectual capital shapes long-term investment orientation in both emerging and developed contexts (Farooq, Tabash, Al-Naimi, et al. 2022; Thi Nhat Minh & Dinh Nguyen, 2024). However, the results of this study suggest a distinct pattern in the SOE context, where intellectual capital appears to function not only as a driver of efficiency but also as an instrument for fulfilling state-mandated investment objectives. This indicates that SOEs may leverage internal knowledge and organizational capabilities to support large-scale physical expansion, even when profit maximization is not the primary objective.

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This study further extends the RBV by demonstrating that, in the context of Indonesian SOEs, intellectual capital functions not only as a competitive asset but also as an internal governance mechanism. Unlike private firms operating in competitive capital markets, SOEs are characterized by bureaucratic constraints, political oversight, and dual mandates. Under these conditions, intellectual capital enhances investment decisions by compensating for institutional rigidities through improved coordination, managerial capability, and organizational routines. This finding extends prior RBV-based arguments by showing that, in public-sector-dominated environments, intangible resources play a stabilizing role that supports decision-making beyond purely market-driven incentives. Consequently, while the RBV remains applicable in this context, it operates through distinct mechanisms shaped by institutional and governance structures.

Contrary to a growing body of literature suggesting that firms with stronger intellectual capital produce clearer and more readable disclosures (Moghadam et al., 2023; Saeedi et al., 2023), this study finds no significant relationship between intellectual capital and the readability of both annual and audit reports. The consistently low mean readability scores, combined with small standard deviations, indicate a uniformly high level of textual complexity across firms, regardless of their intellectual capital levels. This suggests that SOE reports tend to follow rigid, standardized formats imposed by regulatory authorities, limiting the extent to which readability reflects underlying managerial quality.

This finding directly challenges the implicit assumption in prior research that internal resource quality is automatically reflected in narrative disclosure quality. The observed divergence can be attributed to institutional constraints that limit managerial discretion over reporting practices in state-owned enterprises. While prior studies predominantly examine private firms in developed or market-oriented settings, Indonesian SOEs operate under standardized disclosure templates and strict regulatory oversight. As a result, narrative disclosure becomes decoupled from firm-specific characteristics, including intellectual capital. This extends existing empirical conclusions by demonstrating that institutional context acts as a critical boundary condition in the relationship between intellectual capital and disclosure quality.

Signaling theory argues that high-quality and readable disclosures reduce information asymmetry and influence investment decisions (F. Li, 2008; Spence, 1978), a claim supported by empirical evidence from private firms showing that readable reports enhance investor understanding and affect capital allocation (Huong Dau et al., 2024). However, the findings of this study suggest that this mechanism does not fully apply in the context of Indonesian SOEs. The absence of significant effects of both annual and audit report readability on investment decisions indicates that readability does not function as a credible or informative signal in this setting.

This result contrasts with prior studies (Huong Dau et al. 2024; Dalwai et al., 2021), which show that clearer disclosures can enhance investor confidence and positively influence investment decisions. Such findings have reinforced the prevailing view that improved narrative clarity contributes to lower information asymmetry and more efficient markets. The results of this study, however, do not support this assumption. Instead, they are more consistent with Bradbury et al. (2020) and Noh (2021), who argue that in environments characterized by bureaucratic governance structures and limited disclosure credibility, the informational value of narrative reporting is constrained. In the context of SOEs, readable disclosures may therefore function less as substantive informational signals and more as symbolic compliance mechanisms, thereby weakening their ability to influence investment decisions.

The absence of mediation effects involving annual and audit report readability provides important insight into the role of disclosure in investment decision-making. Prior research generally assumes that disclosure quality serves as a transmission channel through which internal resources influence investment outcomes. The findings of this study challenge this assumption by showing that intellectual capital affects investment decisions directly, without operating through narrative disclosure mechanisms. This suggests that the effectiveness of disclosure as an intermediary is highly contingent on institutional credibility and governance quality (Bradbury et al., 2020). In com-

pliance-oriented reporting environments, disclosure readability appears to lack the discriminatory power required for effective signaling, thereby weakening the assumed link between internal resources and external decision-making.

The strong effect of firm size on investment decisions further extends signaling theory by highlighting the dominance of structural signals over narrative ones in SOEs. While signaling theory traditionally emphasizes information-based signals, the findings indicate that observable structural characteristics such as asset scale and state backing serve as more credible indicators of investment capacity in this context. This is consistent with prior evidence showing that firm size and government ownership reduce perceived investment risk and tend to outweigh the influence of narrative disclosure (Ridwan et al., 2025; Smaili et al., 2023).

Taken together, the findings confirm the relevance of intellectual capital in shaping investment decisions, extend the RBV into institutionally constrained environments, and challenge the universal applicability of disclosure-based signaling theory. The results indicate that narrative readability does not function uniformly as an informational mechanism; rather, its effectiveness depends on institutional structures, governance quality, and disclosure incentives. By explaining why readability fails to transmit the informational value of intellectual capital in Indonesian SOEs, this study provides a more context-sensitive understanding of corporate disclosure and investment behavior. It also highlights the need to reconsider dominant disclosure assumptions and encourages future research to incorporate institutional heterogeneity when examining the economic consequences of corporate reporting.

CONCLUSION

This study examines the role of intellectual capital and report readability in shaping investment decisions within Indonesian non-financial state-owned enterprises (SOEs). The empirical results demonstrate that intellectual capital exerts a significant positive effect on investment decisions ($p < 0.001$), whereas annual and audit report readability (ARR) show no statistically significant impact and fail to mediate the relationship between internal resources and investment behavior. Furthermore, among the control variables, firm size is the only factor that significantly dictates investment capacity, while profitability and leverage remain insignificant.

Consequently, this study concludes that intellectual capital serves as the primary generative core for investment decisions within Indonesian non-financial SOEs. These findings reveal a "transmission failure" in corporate communication, where the linguistic clarity of disclosures does not function as an effective signaling mechanism. This suggests that investment decisions in SOEs are governed more by internal resource capacity than by the readability of narrative disclosures, indicating that reporting in this context is driven more by institutional compliance than by a strategic intent to reduce information asymmetry. Theoretically, this study reinforces the Resource-Based View while challenging the universal applicability of Signaling Theory in compliance-oriented environments. Practically, SOEs must bridge this communication gap by improving the transparency and accessibility of their reports to effectively signal their strategic value to stakeholders. Future research should explore alternative disclosure quality measures or different institutional settings to further examine the disconnect between corporate reporting and investment behavior.

AUTHOR CONTRIBUTIONS

Conceptualization: Julita Julita, Desmiyawati Desmiyawati, Deby Kurnia, Rio Jonnes Marpaung, Muhammad Luthfi Iznillah, Ria Nelly Sari.
Data curation: Julita Julita, Muhammad Luthfi Iznillah, Ria Nelly Sari.
Formal analysis: Julita Julita, Desmiyawati Desmiyawati, Rio Jonnes Marpaung, Ria Nelly Sari.
Funding acquisition: Julita Julita, Deby Kurnia.

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Investigation: Julita Julita.
Methodology: Julita Julita, Muhammad Luthfi Iznillah, Ria Nelly Sari.
Project administration: Desmiyawati Desmiyawati, Deby Kurnia, Rio Jonnes Marpaung, Muhammad Luthfi Iznillah.
Resources: Deby Kurnia.
Software: Julita Julita, Muhammad Luthfi Iznillah.
Supervision: Ria Nelly Sari.
Validation: Desmiyawati Desmiyawati, Rio Jonnes Marpaung, Ria Nelly Sari.
Visualization: Deby Kurnia, Muhammad Luthfi Iznillah.
Writing – original draft: Julita Julita, Desmiyawati Desmiyawati, Deby Kurnia, Rio Jonnes Marpaung, Muhammad Luthfi Iznillah, Ria Nelly Sari.
Writing – review & editing: Julita Julita, Desmiyawati Desmiyawati, Deby Kurnia, Rio Jonnes Marpaung, Muhammad Luthfi Iznillah, Ria Nelly Sari.

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APPENDIX A

Table A1. List of non-financial SOEs listed on the Indonesia Stock Exchange

No.	Company name	Sector
1	PT Waskita Beton Precast Tbk – WSBP	Basic Material
2	PT Aneka Tambang Tbk – ANTM	
3	PT Timah Tbk - TINS	
4	PT Krakatau Steel (Persero) Tbk - KRAS	
5	PT Semen Indonesia (Persero) – SMGR	
6	PT Semen Baturaja (Persero) – SMBR	
7	PT Waskita Karya (Persero) Tbk – WSKT	Infrastructure and Construction
8	PT Adhi Karya (Persero) Tbk – ADHI	
9	PT Wijaya Karya (Persero) Tbk – WIKA	
10	PT Wijaya Karya Beton Tbk – WTON	
11	PT PP (Persero) Tbk – PTPP	
12	PT Jasa Marga (Persero) Tbk – JSMR	
13	PT PP Properti Tbk – PPRO	
14	PT Telkom Indonesia (Persero) Tbk – TLKM	
15	PT Elnusa Tbk – ELSA	Energy
16	PT Perusahaan Gas Negara (Persero) Tbk – PGAS	
17	PT Tambang Batubara Bukit Asam (Persero) Tbk – PTBA	
18	PT Garuda Indonesia (Persero) Tbk – GIAA	Transportation and Logistics
19	PT Indofarma (Persero) Tbk – INAF	Healthcare/Pharmaceuticals
20	PT Kimia Farma (Persero) Tbk – KAEF	

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