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Beyond Digital Transparency: Do Digital and Risk Management Disclosures Improve Earnings Quality? Evidence from Indonesian Consumer Non-Cyclical Companies

Ulfa Puspa Wanti Widodo[1], Nanda Wahyu Indah Kirana[2], Rizdina Azmiyanti[3]
[123] Universitas Pembangunan Nasional "Veteran" Jawa Timur, Indonesia
* Correspondence e-mail: ulfa.ak@upnjatim.ac.id

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Abstract
This study examined whether digital disclosure and risk management disclosure were associated with earnings quality in Indonesian consumer non-cyclical firms. The sample consisted of 86 companies and 236 unbalanced firm-year observations from 2022 to 2024. Earnings quality was proxied by absolute discretionary accruals estimated using the Modified Jones Model. Digital Disclosure Index was measured using four indicators: information, timeliness, accessibility, and technology. Risk Management Disclosure was measured using a 20-item disclosure index based on annual reports. Panel data regression was analyzed using the Random Effect Model. The results showed that Digital Disclosure Index did not significantly affect earnings quality. In contrast, Risk Management Disclosure had a negative and significant effect on absolute discretionary accruals, indicating that broader risk management disclosure improved earnings quality. This study contributes to disclosure and earnings quality literature by showing that substantive risk transparency is more relevant than basic digital disclosure compliance in explaining accrual quality.

Keywords Digital Disclosure; Earnings Quality; Modified Jones Model; Risk Management Disclosure

INTRODUCTION

The Indonesian capital market has experienced strong growth in investor participation. Kustodian Sentral Efek Indonesia (2024) reported that the number of capital market investors increased from 10,311,152 in 2022 to 12,168,061 in 2023 and reached 14,871,639 in December 2024. Stock and securities investors also increased from 4,439,933 in 2022 to 6,381,444 in December 2024. This growth increased the need for corporate information that is timely, accessible, transparent, and useful for investment decisions. The demand for high-quality corporate disclosure is supported by the Indonesian capital market regulatory framework. Otoritas Jasa Keuangan (2021) stated that annual reports are important sources of information for investors and shareholders, and that they should provide quality, accurate, and accountable information. The regulation also requires public companies to provide annual reports in both printed and electronic formats. This regulatory context shows that disclosure quality is no longer limited to the availability of annual reports, but also includes the way companies provide information through digital channels.

Digital disclosure is relevant because information technology changes how investors obtain and process corporate reports. Al-Okaily, Alkayed, and Al-Okaily (2024) found that XBRL adoption increases financial information transparency in a digital disclosure environment. Al-Okaily (2024) also showed that digital disclosure language adoption can reduce information asymmetry and improve the quality of financial information. Tawiah and Borgi (2022) reported that XBRL adoption improves financial reporting quality, especially in developing countries. These studies imply that digital reporting may strengthen transparency, although the effectiveness of digital disclosure depends on whether the disclosed information is substantive or merely compliance-oriented.

The issue of information quality becomes more important when linked to earnings quality. Earnings are among the most widely used accounting numbers for assessing performance, risk, and firm value. However, reported earnings may contain managerial discretion through accrual estimates and accounting choices. Dechow, Ge, and Schrand (2010) emphasized that earnings quality depends on whether reported earnings provide decision-useful information. Therefore, a high level of discretionary accruals may indicate lower earnings quality. Recent Indonesian cases show that the reliability of financial reporting remains a critical issue. In 2024, Badan Pemeriksa Keuangan Republik Indonesia reported indications of irregularities related to the financial management of PT Indofarma Tbk and its subsidiaries, which indicated state losses of Rp371.83 billion (Badan Pemeriksa Keuangan Republik Indonesia, 2024). Such cases highlight the importance of transparency, internal control, risk governance, and earnings quality in public companies.

Previous studies have linked disclosure and earnings quality, but many focused on narrative disclosure, sustainability disclosure, or corporate sustainability performance. Makhlouf, Qatawneh, and Safi (2024) found that narrative disclosure is associated with earnings quality in emerging countries. Ningsih, Prasetyo, Puspitasari, Cahyono, and Kamarudin (2023) examined earnings management and sustainability reporting disclosure in Indonesia. Soeprajitno, Na'im, Kusuma, and Rakhman (2024) and Nguyen (2022) also provided evidence that sustainability-related practices are associated with earnings management. However, limited evidence explains how digital disclosure and risk management disclosure jointly relate to accrual-based earnings quality in Indonesian consumer non-cyclical firms. Risk Management Disclosure is also important because firms face financial, operational, regulatory, technology, sustainability, and cyber-related risks. Monjed, Ibrahim, and Jorgensen (2022) found that risk reporting is negatively related to earnings smoothing, suggesting that more transparent risk reporting may limit opportunistic reporting behavior. Musa, Abdul Latif, and Abdul Majid (2024) showed that risk management committee characteristics reduce accrual and real earnings management in an emerging market. Nevertheless, Prisadi and Firmansyah (2022) found that risk disclosure did not strengthen earnings quality in Indonesian banking industries. These mixed findings indicate a research gap regarding the role of risk disclosure in explaining earnings quality.

This study examined the effect of Digital Disclosure Index and Risk Management Disclosure on earnings quality in consumer non-cyclical companies listed on the Indonesia Stock Exchange from 2022 to 2024. The study contributes to the literature by integrating digital disclosure and risk management disclosure in one model and by using absolute discretionary accruals from the Modified Jones Model as an earnings quality proxy. Practically, the findings provide insight for companies and regulators regarding the importance of moving from basic digital disclosure compliance toward more substantive risk transparency

METHODS

This study used a quantitative explanatory design. The object of the study was consumer non-cyclical companies listed on the Indonesia Stock Exchange. The observation period was 2022-2024. The sample was selected using purposive sampling based on the availability of annual reports, financial statements, digital disclosure information, risk management disclosure information, and the data needed to calculate discretionary accruals. After data screening and cleaning, the final sample consisted of 86 companies and 236 unbalanced firm-year observations.

The dependent variable was earnings quality, proxied by absolute discretionary accruals (ABSDA). Discretionary accruals were estimated using the Modified Jones Model. Total accruals were calculated as net income minus cash flow from operating activities. Non-discretionary accruals were estimated using changes in revenue adjusted by changes in receivables and property, plant, and equipment scaled by lagged total assets. The absolute value of discretionary accruals was used because the study focused on the magnitude of accrual-based earnings management. A higher ABSDA indicates lower earnings quality.

Digital Disclosure Index was measured as an unweighted index based on four indicators: information, timeliness, accessibility, and technology. Each indicator was scored using a dummy approach, and the DDI index was calculated by dividing the total score by four. Risk Management Disclosure was measured using a 20-item index based on annual reports. The index captured the extent to which companies disclosed risk governance, risk identification, risk assessment, risk mitigation, monitoring, internal control, risk owner, risk appetite, business continuity, technology risk, cyber risk, and other relevant risk management information. Control variables included firm size, profitability, and leverage. Firm size was measured using the natural logarithm of total assets, profitability was measured using return on assets, and leverage was measured using total liabilities divided by total assets. The research framework is presented in Figure 1. Digital Disclosure Index and Risk Management Disclosure were expected to reduce ABSDA. Since ABSDA is an inverse proxy of earnings quality, a negative coefficient indicates improved earnings quality.

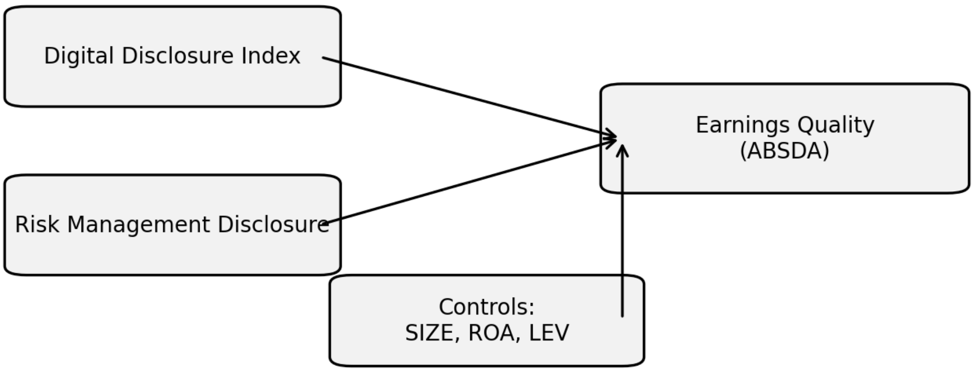

Figure 1. Research Framework

Table 1. Operational Definition and Measurement

Variable	Symbol	Measurement	Expected Effect on ABSDA
Earnings quality	ABSDA	Absolute discretionary accruals from the Modified Jones Model	-
Digital Disclosure Index	DDI_INDEX	(Information + timeliness + accessibility + technology) / 4	Negative
Risk Management Disclosure	RMD	Total disclosed risk management items / 20	Negative
Firm size	SIZE_FINAL	Natural logarithm of total assets	Control
Profitability	ROA_W	Net income / total assets	Control
Leverage	LEV_W	Total liabilities / total assets	Control

Source: Processed secondary data, 2026

The panel regression model used in this study is as follows:

ABSDAit = alpha + beta1DDI_INDEXit + beta2RMDit + beta3SIZE_FINALit + beta4ROA_Wit + beta5LEV_Wit + eit (1)

Panel data estimation was conducted using EViews. The model selection process used the Chow test and Lagrange Multiplier test. The Chow test did not support the period fixed effect model, while the Lagrange Multiplier test selected the Random Effect Model over the common effect model. Therefore, the final model was estimated using Panel EGLS with cross-section random effects.

FINDINGS AND DISCUSSION

The final dataset used in the regression consisted of 86 companies and 236 unbalanced firm-year observations for the 2022-2024 period. The dependent variable was ABSDA_FINAL, which measures the magnitude of discretionary accruals. Since a higher ABSDA indicates lower earnings quality, the interpretation of each coefficient should consider the inverse meaning of the dependent variable.

The model selection result is presented in Table 2. The Chow test showed that the period fixed effect was not required because the probability of Period F was 0.9532. The Lagrange Multiplier test showed that the Breusch-Pagan probability for cross-section random effects was below 0.05, indicating that the Random Effect Model was more appropriate than the common effect model. Therefore, the final regression used the Random Effect Model.

Table 2. Panel Data Model Selection

Test	Statistic / Component	Probability	Decision
Chow Test	Period F	0.9532	Period fixed effect was not selected
LM Test	Breusch-Pagan Cross-section	0.0000	Random effect was selected
Final Model	Panel EGLS	-	Cross-section Random Effect Model

Source: EViews output, 2026

Table 3. Random Effect Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.130579	0.066161	1.973662	0.0496
DDI_INDEX	-0.033001	0.037603	-0.877622	0.3811
RMD	-0.117547	0.059611	-1.971915	0.0498
SIZE_FINAL	0.002606	0.001106	2.355415	0.0193
ROA_W	3.01E-07	4.58E-08	6.582394	0.0000
LEV_W	5.55E-08	4.05E-08	1.369819	0.1721
R-squared	0.201271		Adjusted R-squared	0.183908
F-statistic	11.59153		Prob(F-statistic)	0.000000
Durbin-Watson stat	1.972843		Observations	236

Source: EViews output, 2026

The regression result in Table 3 shows that Digital Disclosure Index had a negative coefficient of -0.033001 with a probability of 0.3811. This result indicates that DDI did not significantly affect ABSDA. Although the coefficient direction was negative, the effect was statistically insignificant. Therefore, the study did not find sufficient evidence that digital disclosure improved earnings quality. Risk Management Disclosure had a negative coefficient of -0.117547 with a probability of 0.0498. Since ABSDA is an inverse proxy of earnings quality, this negative and significant coefficient indicates that broader risk management disclosure reduced discretionary accruals and improved earnings quality. Firm size and profitability were positively significant, while leverage was not significant. The probability of the F-statistic was 0.0000, which indicates that the model was jointly significant. The adjusted R-squared of 0.183908 indicates that 18.39 percent of ABSDA variation was explained by the model variables.

Digital Disclosure Index and Earnings Quality

The finding showed that Digital Disclosure Index did not significantly affect earnings quality. This result means that the availability of digital disclosure, measured through information, timeliness, accessibility, and technology indicators, was not sufficient to explain variations in absolute discretionary accruals. One possible explanation is that digital disclosure among the sample firms tended to be relatively homogeneous. Most companies had already provided annual reports and digital access to corporate information, so the DDI captured basic compliance rather than substantive differences in reporting quality.

This finding differs from Al-Okaily et al. (2024), Al-Okaily (2024), and Tawiah and Borgi (2022), who found that digital reporting and XBRL adoption improved transparency and financial reporting quality. The difference may occur because those studies examined more advanced digital reporting mechanisms such as XBRL and digital disclosure language, while this study measured digital disclosure using basic indicators related to information availability, timeliness, accessibility, and technology. Thus, digital disclosure may influence earnings quality only when it improves comparability, machine-readability, and analytical usefulness, not merely when information is available online.

The result is also consistent with the argument that disclosure quantity does not automatically reflect disclosure quality. Makhlouf et al. (2024) showed that narrative disclosure is associated with earnings quality, but the usefulness of disclosure depends on its substance. In this study, digital disclosure may have functioned primarily as a compliance instrument. Therefore, the non-significant result indicates that digital presence alone may not be enough to limit managerial discretion in accrual reporting.

Risk Management Disclosure and Earnings Quality

Risk Management Disclosure had a negative and significant effect on ABSDA. This finding supports the hypothesis that broader risk management disclosure improves earnings quality. Because ABSDA measures the magnitude of discretionary accruals, the negative coefficient indicates that companies with more extensive risk management disclosure tended to have lower accrual-based earnings management. The finding is consistent with agency theory. Risk management disclosure can reduce information asymmetry because management provides more information about the risks faced by the company, the risk mitigation process, internal control, and the role of governance mechanisms. The result also supports signaling theory because extensive RMD signals that the company has stronger risk awareness and governance commitment. This risk transparency may strengthen external monitoring and reduce opportunities for opportunistic earnings reporting.

This finding is in line with Monjed et al. (2022), who found that risk reporting is negatively associated with earnings smoothing. It also supports Musa et al. (2024), who showed that risk management committee characteristics reduce accrual and real earnings management in emerging markets. However, the result differs from Prisadi and Firmansyah (2022), who found that risk disclosure did not strengthen earnings quality in Indonesian banking companies. The difference may be caused by differences in industry characteristics, research samples, and measurement. This study used a non-financial consumer non-cyclical sample and measured RMD using a broader 20-item index, while the banking industry has stricter regulatory requirements and more homogeneous risk reporting practices.

Therefore, the significant RMD finding provides the main empirical contribution of this study. Risk management disclosure appears to be more relevant than basic digital disclosure in explaining earnings quality. This implies that substantive disclosure about risk governance, risk mitigation, and internal control is more useful for reducing accrual discretion than simply providing digital access to information.

Control Variables and Earnings Quality

Firm size had a positive and significant effect on ABSDA. This result indicates that larger companies in the sample tended to have higher discretionary accruals. Although larger firms are often expected to have stronger internal control and greater public monitoring, they also have more complex transactions, broader operations, and more accounting estimates. These characteristics may provide greater room for accrual discretion. This finding shows that the effect of firm size on earnings quality is not always linear or uniformly positive.

Profitability also had a positive and significant effect on ABSDA. This result suggests that more profitable companies tended to have higher discretionary accruals. One possible explanation is that profitable firms may face pressure to maintain performance trends or meet market expectations, creating incentives to use accrual discretion. Alqam et al. (2022) and Lestari and Khafid (2021) showed that financial characteristics such as profitability, leverage, liquidity, and size are relevant determinants of earnings quality. The finding of this study supports the idea that financial performance is associated with earnings reporting behavior.

Leverage did not significantly affect ABSDA. This result indicates that debt pressure did not necessarily explain accrual-based earnings management in the sample. The finding suggests that the monitoring role of creditors or the pressure from debt contracts may not be strong enough to influence earnings quality during the observation period. It may also reflect differences in debt structure, creditor monitoring, and company-specific financing conditions

CONCLUSION

This study examined the effect of Digital Disclosure Index and Risk Management Disclosure on earnings quality in consumer non-cyclical companies listed on the Indonesia Stock Exchange during 2022-2024. Earnings quality was measured using absolute discretionary accruals from the Modified Jones Model. The final estimation used a Random Effect Model with 86 companies and 236 unbalanced firm-year observations. The results showed that Digital Disclosure Index did not significantly affect earnings quality. This finding indicates that basic digital disclosure practices may be insufficient to reduce accrual-based earnings management when they mainly reflect compliance and have limited variation across firms. In contrast, Risk Management Disclosure had a negative and significant effect on absolute discretionary accruals, indicating that broader risk management disclosure improved earnings quality. The result suggests that substantive risk transparency is more relevant than basic digital disclosure in limiting managerial discretion in accrual reporting.

Theoretically, this study contributes to agency, signaling, and disclosure literature by showing that risk management disclosure can function as a monitoring and signaling mechanism that improves earnings quality. Practically, the findings imply that public companies should strengthen the substance of risk disclosure, not only the availability of digital information. Regulators may also encourage more detailed and comparable risk management disclosure to enhance the usefulness of annual reports. This study is limited to consumer non-cyclical companies and uses a three-year observation period. Future research may use a longer period, compare sectors, incorporate more advanced digital reporting indicators, or examine the quality of risk disclosure using textual analysis

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