

Effects Of Information Digitalization And Social Media Adoption On Financial Performance In Indonesia State Owned Enterprises

Paul Usmany ^{1*}, Hartina Husein ², Trisye Natalia Kilay ³, Ribka Shintia Febriarti Bonara ⁴,
Amelia Josefin Viotty Radianto⁵

^{1,2,3,4,5} Fakultas Ekonomi dan Bisnis, Universitas Pattimura, Indonesia

*Email: paulusmany@gmail.com

Abstract

Keywords:

Digital transformation, State-Owned Enterprises (BUMN), use of social media, financial performance

In the era of digital transformation, State-Owned Enterprises (SOEs) face pressure to improve transparency, stakeholder engagement, and financial performance through information digitization and the use of social media. However, the effectiveness of these digital initiatives in increasing company value remains unclear. This study aims to empirically examine the effect of information digitization and social media use on the financial performance of SOEs in Indonesia. This study uses a quantitative approach with secondary data from annual financial reports and companies, and is analyzed using the MANOVA test. The analysis of 32 SOEs in Indonesia shows that information digitization has no significant effect on financial performance. Conversely, social media use has a positive and significant effect, indicating that active engagement through digital platforms can improve interaction with stakeholders and public perception, ultimately contributing to improved financial performance. These findings emphasize the importance of strategic social media adoption as a driver of company performance, while information digitization alone is not capable of delivering a tangible financial impact.

INTRODUCTION

Advances in information technology have transformed the global business landscape, including in Indonesia. As the backbone of the national economy, State-Owned Enterprises (SOEs) are required to adapt to the digital era to improve efficiency, complexity, and financial performance. The Indonesian government has encouraged digital transformation through various initiatives, such as Making Indonesia 4.0 and the SOE Digital Transformation Roadmap 2021-2025, which aim to accelerate the adoption of digital technology in the public and business sectors.

Several state-owned enterprises, such as PT Telkom Indonesia, PT Bank Mandiri, and PT Pertamina, have pioneered the adoption of digital technology. These enterprises have developed e-commerce platforms for their partners (Bahagiana and Yusuf, 2024); mobile applications (Fachrizal et al., 2023); and (Febryanto et al., 2024); IoT systems and big data analytics to improve services and operations. Furthermore, two key digital channels play a key role. Significant channels for signaling to investors about a company's business growth. Two such channels are websites (Santosa et al., 2023), Salvi et al. (2021), and social media (Uyar et al., 2012). A company's website serves as an official information center, providing details about products, services, financial performance, and other important information. Social media, on the other hand, offers an interactive platform for direct interaction with consumers, building brand image, and disseminating information quickly and widely.

Indeed, in practice, not all SOEs have the same level of digital maturity. Challenges remain, such as limited infrastructure, HR skills gaps, and cybersecurity risks that need to be addressed, as well as changes in organizational culture, such as resistance to change from employees accustomed to manual systems (Salmah and Murti, 2020), (Harahap, 2020), (Putri et al., 2022), and (Azhari et al., 2023). This could be the reason why studies (Santosa and Salma, 2023) and (Safitri, 2023) have not yet found any effect of information digitization through websites or social media (Kilay and Radianto, 2024) on company value. However, Salvi et al. (2021), Uyar et al. (2018), and Miqdad & Oktavani (2021) found that information digitization through websites and social media can increase company value. Effective and transparent information dissemination through digital platforms such as websites and social media has the potential to increase company value.

These inconsistent research results prompted researchers to re-examine the impact of digitalization on company value. This research is crucial to understand the extent to which digitalization, both through websites and social media, has impacted the financial performance of state-owned enterprises (SOEs). Furthermore, this study can provide strategic recommendations for other SOEs in the early stages of digital transformation.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Resource Based View Theory

Based on the resource-based view theory, a company's competitive advantage stems from the management and optimization of valuable, rare, inimitable, and non-substitutable internal resources (Barney et al., 1991; Lubis, 2022). Digitizing information and social media are strategic resources that can improve a company's competitiveness and financial performance (Martin Pena et al., 2019; Salvi et al., 2021). Digital platforms such as websites and social media can be strategic resources for companies because they facilitate interactions between companies and stakeholders such as investors, suppliers, and customers. By providing information on websites, consumers gain a smoother shopping experience and obtain a wider product range (Willie, 2024). Providing information on social media enables companies to interact two-way with customers, expand marketing reach, increase customer satisfaction, and improve business performance (Emmanuel et al., 2022).

Disruption Theory of Innovation

Based on disruption theory, innovation can fundamentally change the industrial landscape and company performance, especially in ways that are difficult for established industry leaders to predict (Christensen, 2006). The digitalization of information and social media can be considered disruptive innovations that change the way companies operate and interact with stakeholders. When companies use websites and social media as a form of disruptive innovation, they will be able to reach a wider audience and penetrate new markets. Through the use of websites and social media, companies' capabilities in data collection and analysis, as well as in the decision-making process, are enhanced. Data-driven. By leveraging advanced data analytics, companies gain valuable insights into customer behavior, market trends, and operational performance. This data-driven approach enables SMEs to make informed decisions, optimize strategies, and refine their offerings, ultimately resulting in improved overall performance (Prihandono et al., 2024).

Digitalization of Information and Corporate Financial Performance

Based on RBV theory, a company's competitive advantage stems from strategic resources with valuable, rare, difficult-to-imitate, and non-substitutable characteristics. Information digitization is a strategic resource with valuable and difficult-to-imitate characteristics that can improve operational efficiency and provide competitive advantage (Lubis, 2022; Moro-Visconti, 2025). Information digitization enables companies to improve internal capabilities in managing business processes efficiently and effectively, as well as improving accurate data-driven decision-making. Thus, information digitization is a strategic resource that directly improves a company's financial performance.

Furthermore, from the perspective of innovation disruption theory, information digitalization acts as a disruptive innovation that changes traditional business paradigms and opens up opportunities for the development of new business models that are more adaptive to market dynamics and customer needs (Christensen, 2006). Digitizing information through websites is included as a disruptive innovation that facilitates operational transformation of companies to become more flexible, efficient, and improve decision-making (Hidayat, 2025; Samsiyah, 2024).

When a company uses a website as a form of strategic resource and disruptive innovation, the company can expand its customer reach, enter new market segments, and improve the company's ability to collect and analyze data. Relevant information for decision-making. Utilizing a website as a digital channel allows companies to obtain real-time data from stakeholders, analyze behavior, identify market trends, and monitor operational performance more accurately through advanced analytics. This data-driven approach enables companies to precisely adjust strategies, optimize business decisions, and refine products or services, thus driving overall performance improvements.

Research by Salvi et al. (2021) and Martin Pena et al. (2020) shows that company websites, mobile apps, and other digital platforms can improve operational efficiency while strengthening market perceptions that a company is innovative and adaptable to change. Utilizing this technology is not just a communication tool, but also an instrument for safeguarding consumer data, optimizing e-commerce-based business models, and reducing non-value-added operational costs.

Martin Pena et al. (2022) further demonstrated that information digitization increases a company's strategic value by providing a new channel, namely a website, for communication, trading, and business operations, thus directly impacting financial performance. Furthermore, research by Mohapatra and Giri (2022) emphasized that the implementation of digitalization, particularly ERP systems and big data analytics, significantly contributes to increased efficiency and effectiveness of business processes, which correlate with improved financial performance. Therefore, the following hypothesis is formulated.

H1. Information digitalization has a positive impact on financial performance.

Social Media Adoption and Corporate Financial Performance

Social media includes knowledge resources and networks that can provide competitive advantages according to the resource-based view theory if companies use social media as a strategic resource. Social media adoption can be a valuable strategic resource because it enables companies to innovate to expand markets, reduce costs, and build differentiation. Through social media, companies can reach a wider customer base, targeting customers more specifically and effectively in both local and global markets in real time through various digital features, such as chat, direct messages, comment columns, or live streaming at a relatively affordable cost. Content creation on social media also fulfills a resource that is not easily imitated because it prioritizes authenticity in

the production process through storytelling that builds brand awareness and emotional connections, which can increase sales (Hartojo and Sulaiman, 2025). In addition to being a strategic resource, social media adoption is a form of disruptive innovation that urges companies to change the way they interact with stakeholders to remain relevant and improve company performance. Social media adoption enables companies to learn and gain knowledge to generate innovation in their operational activities (Zhang and Zhu, 2021).

Uyar et al. (2018) and Miqdad & Oktaviani (2021) demonstrated that engagement rates and active social media strategies increase a company's value and financial performance. Uyar et al. (2018) found social media as a communication tool to reach consumers, shareholders, employees, and the wider community, ultimately improving a company's financial performance. This finding is reinforced by research by Miqdad & Oktaviani (2021), who found that a higher social media ranking indicates a company's increasing public recognition and a potential market for selling its products through its social media accounts. This, in turn, will further increase the company's sales and ultimately increase profits. company. Thus the hypothesis is formulated as follows.

H2. Social media adoption has a positive effect on financial performance

METHODS

This research employs a quantitative approach using secondary data sourced from the financial reports of state-owned enterprises (SOEs) listed on the capital market in 2024. This research focuses on SOEs to investigate the extent of digital technology implementation in improving company performance metrics. The data used in this study are secondary data obtained from SOE websites, annual reports, and social media platforms. The research population is all State-Owned Enterprises with legal status of PT, Persero, and Perum at the corporate level in Indonesia, totaling 64 companies divided into several categories including Construction, Financial Services and Insurance, Information and Telecommunications, Transportation and Warehousing, and others. The sampling technique used in this study is non-probability sampling with the criteria shown in Table 1.

Table 1. Sample Criteria

| Criteria | Number of Samples |
|-------------------------------------|-------------------|
| Number of samples listed on the IDX | 64 |
| Incomplete data | 34 |
| Total Observations | 30 |

The data analysis technique in this study used MANOVA.

Corporate Financial Performance Metrics

A financial performance matrix is a quantitative measurement tool for assessing a company's financial health, efficiency, and profitability. This metric is crucial for users of financial information, such as investors, managers, and other stakeholders, to aid decision-making regarding operations, investments, and other strategic decisions. A financial performance matrix is crucial for identifying resource inefficiencies, reducing non-priority expenses, and improving profitability.

Table 2. Measurement of Financial Performance Metrics Variables

| No | Activity | Financial Metrics | Formula |
|----|--------------------|-------------------------|---|
| 1 | Profitability | NPM | $(\text{Net Income}/\text{Revenue}) \times 100\%$ |
| | | ROA | $(\text{Net Income}/\text{Total Assets}) \times 100\%$ |
| | | Return on Equity | $\text{Net Income}/\text{Shareholders Equity}) \times 100\%$ |
| 2 | Liquidity | Current Ratio | $\text{Current Assets}/\text{Current Liabilities}$ |
| | | Quick Ratio | $(\text{Current Assets}-\text{inventory})/\text{Current Liabilities}$ |
| 3 | Efficiency Metrics | Asset Turnover Ratio | Inventory Turnover Ratio |
| 4 | Solvency | Interest Coverage Ratio | $\text{EBIT}/\text{Interest Expense}$ |
| 5 | Market Performance | EPS | $\text{Net Income}/\text{Number Of Outstanding Shares}$ |
| | | PE Ratio | $\text{Market Value per Share}/\text{EPS}$ |

Digitalization of Information

The level of information digitalization based on research by Salvi et al. (2020) consists of five categories as shown in Table 3.

Table 3. Measurement of Information Digitalization Variables

| No | Category | Item |
|----|---|--|
| 1 | <i>Instruments of Digital Communication</i> | <ol style="list-style-type: none"> 1. Email address 2. Restricted access area 3. Web Applications 4. Documents sharing and cloud applications 5. Positioning on search engines 6. Mobile versions of the website |

| | | |
|---|---|---|
| 2 | <i>E-Commerce</i> | <ol style="list-style-type: none"> 1. <i>Online product catalogs</i> 2. <i>Online shop</i> 3. <i>Online payments</i> |
| 3 | <i>Data Management</i> | <ol style="list-style-type: none"> 1. <i>Data Protection Policy</i> 2. <i>Privacy Policy</i> |
| 4 | <i>Information about digitalisation</i> | <ol style="list-style-type: none"> 1. <i>Inbound logistics</i> 2. <i>Operations</i> 3. <i>Outbound Logistics</i> 4. <i>Administration</i> 5. <i>Marketing and sales</i> 6. <i>Post Sales Services</i> |
| 5 | <i>Investment in digitalization and relevant activities</i> | <ol style="list-style-type: none"> 1. <i>Inbound logistics</i> 2. <i>Operations</i> 3. <i>Outbound Logistics</i> 4. <i>Administration</i> 5. <i>Marketing and sales</i> 6. <i>Post Sales Services</i> |

A score of 1 is given if the sign or symbol is present on the company website and 0 if no one knows about it. The maximum score is 23, with 0 if it is absent (Salvi et al., 2021).

Social Media Adoption

This study uses the proxy Presence of Social Media Account as a dichotomous variable with a value of 1 if the company has a social media account, otherwise 0 if the company does not have a social media account. Breadth of social media engagement is the number of social media accounts owned by the company (Uyar et al., 2018).

RESULTS AND DISCUSSION

Based on the normality test, the p-value > 0.05 indicates that the data is normally distributed, otherwise it is not. The following table shows that other data, apart from firm size, are normally distributed. Because the data is <30, the Shapiro-Wilk is more appropriate to explain the normality of the data in a minimal amount of data.

Table 3. Normality Test Results
Tests of Normality

| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|-------------------|---------------------------------|----|------|--------------|----|------|
| | Statistics | df | Sig. | Statistics | df | Sig. |
| Residual for NPM | ,394 | 30 | ,000 | ,420 | 30 | ,000 |
| Residual for ROA | ,304 | 30 | ,000 | ,718 | 30 | ,000 |
| Residual for ROE | ,271 | 30 | ,000 | ,639 | 30 | ,000 |
| Residual for CR | ,255 | 30 | ,000 | ,576 | 30 | ,000 |
| Residual for QR | ,304 | 30 | ,000 | ,513 | 30 | ,000 |
| Residual for EBIT | ,266 | 30 | ,000 | ,704 | 30 | ,000 |
| Residual for EPS | ,180 | 30 | ,014 | ,894 | 30 | ,006 |

| | | | | | | |
|----------------------------------|------|----|-------|------|----|------|
| Residual for PE_Ratio | ,318 | 30 | ,000 | ,513 | 30 | ,000 |
| Residual for FIRM_SIZE | ,101 | 30 | ,200* | ,981 | 30 | ,850 |
| Residual for Product_Orientation | ,286 | 30 | ,000 | ,818 | 30 | ,000 |
| Residual for Kons_Indus | ,281 | 30 | ,000 | ,733 | 30 | ,000 |

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The MANOVA results in table 4 show that Social Media Adoption has a significant effect on the combination of company performance variables and company characteristics (Pillai's Trace = 1.479, F = 4.391, p , 0.001; Wilks' Lambda = 0.042, F = 5.658, p , 0.001) whereas Digital Information does not show a significant effect (Pillai's Trace = 0.514, F = 1.540, p = 0.210). These findings indicate that social media strategy has a significant impact on company performance compared to information technology investment in general.

Table 4. MANOVA Test Results

| Multivariate Tests ^a | | | | | | |
|---------------------------------|--------------------|--------|---------------------|---------------|----------|------|
| Effect | | Value | F | Hypothesis df | Error df | Sig. |
| Intercept | Pillai's Trace | ,874 | 10,056 ^b | 11,000 | 16,000 | ,000 |
| | Wilks' Lambda | ,126 | 10,056 ^b | 11,000 | 16,000 | ,000 |
| | Hotelling's Trace | 6,914 | 10,056 ^b | 11,000 | 16,000 | ,000 |
| | Roy's Largest Root | 6,914 | 10,056 ^b | 11,000 | 16,000 | ,000 |
| Digital_Information | Pillai's Trace | ,514 | 1,540 ^b | 11,000 | 16,000 | ,210 |
| | Wilks' Lambda | ,486 | 1,540 ^b | 11,000 | 16,000 | ,210 |
| | Hotelling's Trace | 1,059 | 1,540 ^b | 11,000 | 16,000 | ,210 |
| | Roy's Largest Root | 1,059 | 1,540 ^b | 11,000 | 16,000 | ,210 |
| SENIOR HIGH SCHOOL | Pillai's Trace | 1,479 | 4,391 | 22,000 | 34,000 | ,000 |
| | Wilks' Lambda | ,042 | 5,658 ^b | 22,000 | 32,000 | ,000 |
| | Hotelling's Trace | 10,451 | 7,126 | 22,000 | 30,000 | ,000 |
| | Roy's Largest Root | 9,079 | 14,031 ^c | 11,000 | 17,000 | ,000 |

a. Design: Intercept + Digital Information + SMA

b. Exact statistics

The Impact of Information Digitalization on Company Financial Performance

The results of this study indicate that information digitalization has not yet significantly impacted a company's financial performance. This aligns with the literature stating that the benefits of digitalization tend to be indirect and require a period of organizational adaptation (16,17). Information technology investments do not always result in increased productivity or

profitability due to *time lag* and the need for organizational restructuring. (16) found that IT investments in companies listed on the Indonesia Stock Exchange require a minimum of one year lag to impact financial performance, because it requires an organizational learning process, structural effects, and complementary effects. In the organizational learning process, digital resources and competencies are needed (17).

(18) found that technology, data analytics, digital skills, and transformation strategies directly and collectively improve company performance. Furthermore, information digitalization can impact financial performance if mediated by the organization's innovation capabilities. Digitalization that is not accompanied by the development of product and process innovation tends to only improve administrative efficiency without significantly impacting company profitability or liquidity. (19) also emphasized that the impact of digitalization on financial performance occurs through servitization, namely the transformation of the business model towards services. high value added customer oriented.

Similar results were reported by (5) who found that company value increased when companies openly informed the public and investors about the digitalization process. Thus, transparency and external communication are important factors in translating information digitalization into increased economic value. In Indonesia, research (11) confirmed that information digitalization has a positive impact on company value only when accompanied by the implementation of Corporate Social Responsibility, indicating that the social and governance dimensions are important mediators between digitalization and financial performance. Other research in Indonesia also supports these findings. (7) found that digitalization in the banking sector changed the structure of front office work and increased service efficiency, but has not had a direct impact on profitability. This is due to the ongoing technological transition and human resource adaptation phase.

(8) added that the digitalization of Islamic banking carries operational and data security risks that can depress financial indicators such as the Current Ratio and Quick Ratio due to increased risk management costs. The security aspect is also an important concern in the effectiveness of digitalization. (10) shows that digital transformation at PT Pertamina requires the support of cybersecurity and a file protection system so that digitalization does not create data vulnerabilities that can negatively impact financial performance. In line with this, (9) emphasizes the importance of implementing a cybersecurity framework in electronic-based government systems to maintain data integrity and the reliability of digitalization systems. Thus, a company's failure to anticipate security risks can reduce the potential financial benefits from information digitalization. This finding is also supported by (20) which shows that the influence of digitalization on performance

Financial performance only becomes significant in companies with high digital intensity, namely when business processes, information systems, and value chains are fully integrated. Therefore, partial information digitalization tends not to significantly impact key financial ratios such as ROA, ROE, and NPM.

The Impact of Social Media Adoption on Company Financial Performance

The results of this study reinforce previous findings that social media plays a crucial role in improving financial performance by strengthening customer relationships, brand image, and digital communication-based competitive advantage (Uyar et al., 2018). Uyar et al. (2018) found that intensive social media use contributes to increased company value by improving investor perceptions and strengthening market engagement. Similarly, research by Tajvidi et al. (2021) shows that social media use in the hospitality industry can improve company performance by mediating marketing capabilities and digital strategy alignment.

Cao et al. (2023) added that strategic use of social media in a B2B context can strengthen market learning and improve marketing capabilities, ultimately positively impacting a company's profitability and financial ratios. Findings by Miqdad and Oktaviani (2021) in Indonesia also

indicate that social media significantly contributes to financial performance. Social media offers advantages by facilitating rapid communication, reducing promotional costs, and increasing customer loyalty.

CONCLUSION

Social media adoption has a positive and direct impact on financial performance, while information digitization has not yet been able to positively impact company financial performance. For information digitization to provide significant financial benefits for Companies need strategic readiness, innovation, and systemic integration. Therefore, companies need to balance their digital strategies by focusing not only on technology but also on strengthening organizational structures, human resource capabilities, and information security governance to achieve sustainable financial performance in the era of digital transformation.

This study is limited by its measurement of information digitalization variables, which are still general in nature and do not consider digital maturity levels. Furthermore, this study does not include mediating variables such as innovation, CSR, or organizational capabilities, which have been shown in many studies to be a link between digitalization and financial performance. Further research is recommended to test mediation and moderation models, as well as to employ a longitudinal approach to capture the long-term effects of digitalization on financial performance

REFERENCE

- Bagina B, Yusuf Y. The Use of E-Commerce by the Meranti Islands State-Owned Enterprises as Sociopreneurs to Optimize the Utilization of Sago Potential. *J Educational Sciences* [Internet]. 2024;7(7):6632–8. Available from: <http://jiip.stkipyapisdompu.ac.id>
- Fachrizal MR, Wibawa CJ, Fauzan R, Radliya NR. Service Support Application Mobile-Based Public Services in Supporting the Implementation of E-Government in Malls Public Services of Cimahi City. *Maj Ilm Unikom*. 2023;21:21–8.
- Febryanto YA, Adiwati MR. Livin' Merchant App User Acquisition Procedure At Pt Bank Mandiri (Persero) Surabaya Gentengkali Area. *J Ekon and Manaj*. 2024;3(3):20–30.
- Santosa YE, Salma DK. The Effect of Corporate Digitalization on the Value of Firms. *J Bus Bank*. 2023;12(2):277–89.
- Salvi A, Vitolla F, Rubino M, Giakoumelou A, Raimo N. Online information on digitalisation processes and its impact on firm value. *J Bus Res*. 2021;124:437–44.
- Uyar A, Boyar E, Kuzey C. Does Social Media Enhance Firm Value? Evidence. From Turkish Firms Using Three Social Media Metrics. *Electron J Inf Syst Eval*. 2018;21(2):131–42.
- Salmah S, Murti A. The Impact of Digitalization on the Role of the Front Office in Business Banking. *JIMFE (Journal of Economics, Faculty of Economics, Management Science)*. 2020;6(2):145–56.
- Harahap Maulana A. Risk Analysis in the Digitalization of Islamic Banking: Challenges and Solutions. *J Masharif Al-Syariah J Ekon and Islamic Banking*.

2022;10(1):686–705.

Putri Susiana, Meylia D, Gultom RAG, Wadjdi AF. The Concept of an Electronic-Based Government System and the Six-Ware Cyber Security Framework in Supporting the Digitization of the Indonesian Government. *United Int J Res Technol.* 2022;4(2):67–70.

Azhari R, Salsabila AN. Transforming PT Pertamina with Cybersecurity, File Security, and Essential Items. *Int J Cyber IT Serv Manag.* 2023;3(2):160–7.

Safitri S. Information Digitalization, Corporate Social Responsibility And Its Effect On Firm Value. *Indonesian Accounting and Finance Periodical.* 2023;8(1):38–62.

Kilay TN, Radianto AJV. The Role of Social Media Engagement Rate on Engagement Intensity Social Media Input and Firm Value. *J Accounting Balance [Internet].* 2024;2(3):1– 10. Available from:
<https://ejournal.amirulbangunbangsapublishing.com/index.php/JAN/index>

Miqdad M, Oktaviani SA. The Contribution of Social Media Value to Company's Financial Performance: Empirical Evidence from Indonesia. *J Asian Finance Econ Bus.* 2021;8(1):305–15.

Tajvidi R, Karami A. The effect of social media on firm performance. *Comput Human Behav.* 2021;115.

Cao G, Weerawardena J. Strategic use of social media in marketing and finance performance: The B2B SME context. *Ind Mark Manage.* 2023;111:41–54.