

Digital Transformation and Financial Report Accountability: A Study of MSMEs Post-Pandemic in Indonesia

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ABSTRACT

Digital transformation has become inevitable for Micro, Small, and Medium Enterprises (MSMEs) in Indonesia following the COVID-19 pandemic. However, the adoption of digital technology by MSMEs has not been fully followed by increased accountability in financial reporting. This study aims to analyze the extent to which digital transformation has influenced MSME financial reporting practices and to identify inhibiting factors and strategies for improving technology-based financial accountability. This study used a qualitative approach with a case study design. Data were collected through in-depth interviews, field observations, and questionnaires distributed to MSME actors and administrative staff in DKI Jakarta, West Java, and Central Java. The results show that the majority of MSMEs have adopted digital technology for recording transactions and sales but have not yet integrated these systems into standardized financial reporting practices. The main obstacles include low digital accounting literacy, limited time and resources, and the absence of direct incentives from the government or financial institutions. The most effective strategies for improving accountability are through practice-based training, community mentoring, and integrating digital reporting with access to financing. This study concludes that digital transformation has the potential to strengthen MSME financial accountability if supported by policy interventions and human resource capacity building.

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1. INTRODUCTION

Digital transformation has become a central issue in business management post-COVID-19, especially for Micro, Small, and Medium Enterprises (MSMEs), which serve as the backbone of the Indonesian economy. Amid global economic pressures, changing consumer behavior, and technological disruption, MSMEs face both challenges and opportunities to adapt through the use of digital technology. In this context, financial reporting accountability emerges as a crucial aspect directly influenced by the digitalization capabilities of business actors.

According to data from the Indonesian Ministry of Cooperatives and SMEs (2023), there are more than 64.2 million MSMEs in Indonesia, contributing approximately 60.3% of the

national GDP and absorbing 97% of the domestic workforce. However, only around 25% of these MSMEs have adopted digital financial recording systems, and an even smaller percentage prepare financial reports with accountable standards. This gap highlights the disparity between the economic potential of MSMEs and the implementation of responsible, transparent financial governance practices.

In the post-pandemic landscape, the need for digitalization has intensified due to shifts in distribution channels, marketing strategies, and financial management systems. Many MSMEs have experienced declining revenues and reduced access to business capital as a result of weak financial accountability. Digital transformation offers potential solutions through cloud-based accounting systems, digital payment integration, and financial literacy training tailored to digital environments. However, there remains a shortage of comprehensive, empirical studies that systematically examine how digitalization directly impacts the accountability of MSME financial reporting in Indonesia.

Table 1. The following data on digital adoption and financial reporting practices of MSMEs in selected Indonesian regions

Region	Digital MSMEs (%)	Have Financial Report (%)	Standardized Report (%)
West Java	32%	40%	12%
Central Java	28%	38%	10%
DKI Jakarta	45%	55%	22%
North Sumatra	25%	34%	8%
South Sulawesi	20%	30%	5%

The table indicates that while digital technology adoption has occurred in certain MSMEs, the proportion capable of producing accountable and standardized financial reports remains low. This underscores the urgency of exploring the relationship between digital transformation and financial reporting accountability within the post-pandemic MSME context.

MSMEs encounter several recurring issues, such as irregular transaction recording, absence of standardized reporting procedures, and limited awareness of the importance of financial accountability. Manual recording systems-prone to error, poorly documented, and difficult to audit-are still widely used. Consequently, the resulting financial statements often lack credibility as a basis for decision-making by internal and external stakeholders.

Theoretical foundations relevant to this study include Accountability Theory, which posits that accountable financial reporting reflects an entity's responsibility toward stakeholders. In the MSME context, robust financial reporting is essential to build trust among investors, financial institutions, and government bodies. In addition, the Technology Acceptance Model (TAM) provides a framework to understand how perceived ease of use and perceived usefulness influence MSME actors' adoption of digital accounting technologies.

Novelty of the Study

While previous studies have tended to focus on operational efficiency, production processes, or marketing digitalization, this research specifically examines the direct causal

relationship between digital transformation and the accountability of MSME financial reports in a post-pandemic Indonesian setting.

Unlike earlier works, this study:

1. Combines quantitative and qualitative approaches to capture both measurable adoption levels and the underlying behavioral, structural, and social factors affecting financial reporting practices.
2. Incorporates the latest regional data (2022-2023) from BPS and the Ministry of Cooperatives, enabling a more current contextual analysis.
3. Adopts a governance-oriented perspective, linking digital adoption not just to efficiency but also to compliance with standardized, auditable financial reporting aligned with national and international standards.
4. Bridges policy and practice by providing a structured framework of recommendations for policymakers, industry associations, and MSME actors to improve digital-based financial governance.

The primary objectives of this study are to: (1) analyze the level of digital technology adoption in post-pandemic Indonesian MSMEs, (2) assess the relationship between digital transformation and financial reporting accountability, (3) identify both inhibiting and supporting factors in the digitalization process, and (4) propose strategic recommendations to strengthen digital-based financial governance in the MSME sector.

Through this approach, the research aims to contribute theoretically-by expanding the discourse on digital transformation in financial governance-and practically-by offering actionable insights to strengthen Indonesia's digital financial ecosystem for MSMEs, ultimately supporting national economic resilience in the post-pandemic era.

2. METHOD

This research uses a qualitative approach with a case study design. The case study method was chosen because it enables an in-depth exploration of the phenomenon of digital transformation and financial reporting accountability in MSMEs within a specific context-namely, post-COVID-19 Indonesia. This approach aims to capture the dynamics, perceptions, and practices of MSME financial reporting in an evolving digital environment, based on the direct experiences of the research participants.

Research Location and Sampling

The study was conducted in three main regions: DKI Jakarta, West Java, and Central Java. These locations were selected purposively to represent areas with high, medium, and low levels of digital adoption among MSMEs, thus allowing comparative analysis of varying levels of digitalization and financial reporting accountability.

The research participants comprised MSME owners or managers who had been operating their businesses for at least two years and had experienced the direct impact of the COVID-19 pandemic. Additional participants included MSME mentors from government or non-government institutions, as well as digital accounting service providers. A purposive sampling technique was employed to select 12-15 informants, ensuring variation in business sector, educational background, and digital technology usage experience. This sample size was determined based on the principle of thematic saturation, where data collection continues until no new themes or insights emerge, ensuring adequacy and depth in the qualitative analysis.

Research Instruments

The primary research instrument was the researcher herself, as is standard in qualitative inquiry. In addition, a semi-structured interview guide-developed from theoretical frameworks and preliminary findings from the literature review-was used. The guide included open-ended questions covering:

1. Understanding of MSME actors regarding financial report accountability.
2. Types and extent of digital technology use in business and accounting activities.
3. Barriers and opportunities in the process of digitizing financial reporting.
4. Impact of the pandemic on financial recording systems.
5. Internal and external factor influencing financial reporting practices.

Data Sources

1. Primary data: Results of in-depth interviews with MSME actors, MSME mentors, and digital accounting platform providers.
2. Secondary data: Simple financial report documents from MSMEs (if available), government policies on MSME digitalization, and statistical data from BPS, the Ministry of Cooperatives and SMEs, and research institution reports related to MSME digital transformation.

Data Collection Techniques

1. In-depth interviews: Conducted face-to-face or online, guided by the prepared interview protocol.
2. Limited participant observation: Direct observation of the digital financial recording and reporting processes in selected MSMEs.
3. Documentation: Collection of relevant supporting documents such as manual financial reports, screenshots of digital application usage, government policy documents, and digital literacy training reports.

All data collection activities were audio-recorded with the participants' permission, transcribed verbatim, and stored securely to maintain confidentiality.

Ethical Considerations

This study adhered to established ethical standards for qualitative research. Prior to participation, all informants were provided with clear information about the research objectives, procedures, potential risks, and benefits. Written informed consent was obtained from each participant. The anonymity of participants and confidentiality of data were strictly maintained. The research protocol was reviewed and approved by the Institutional Review Board (IRB) / Research Ethics Committee of [Name of Institution].

Data Analysis Techniques

Thematic analysis was applied in five stages:

1. Transcription of interview and observation data.
2. Initial coding to identify recurring patterns and potential themes.
3. Categorization of themes such as perceptions of accountability, technology adoption, barriers to digitalization, and adaptation strategies.
4. Contextual interpretation by linking findings to relevant theories and prior studies.
5. Source triangulation to validate data, by cross-checking interview results with observation and documentation evidence.

3. RESULTS AND DISCUSSION

General Description of Respondents

This study involved 15 MSMEs from three different regions: Jakarta, West Java, and Central Java. Most respondents came from the trade and food and beverage sectors-two sectors with relatively high rates of technology adoption. The general profile of respondents is as follows:

Table 2. Respondent Characteristics of MSMEs Based on Location, Scale, Education, Business Experience, and, Digitalization

Respondent Characteristics	Category	Number (n)	Percentage (%)
Business Location	Jakarta (5), West Java (5), Central Java (5)	15	100%
Business Scale	Micro (8), Small (5), Medium (2)	15	100%
Last education	High School (5), D3/S1 (8), S2 (2)	15	100%
Length of Business	<5 years (4), 5–10 years (7), >10 years (4)	15	100%
Digitalization Experience	Already (9), Not Yet (6)	15	100%

As many as 60% **of respondents** have begun digitizing business processes, particularly in transaction recording and payments. However, only a small proportion link the use of digital technology to **accountable financial reporting**. Key Findings from Interviews with MSME Management

Three main themes emerged:

1. Digitalization as a Crisis Response
Adoption of digital technology was largely a reactive measure to the pandemic crisis. Most respondents adopted apps for marketing and payments, while financial records were still kept manually.
2. Accountability Not Yet a Focus
Financial reports were prepared only for administrative purposes (e.g., loan applications), without adherence to accounting standards. Personal and business finances were often mixed.
3. Challenges in Technology Implementation
Time limitations, lack of technical knowledge, and absence of dedicated financial staff were cited as main obstacles. Many relied on family members without financial expertise.

Table 3. Digitalization accountability, and Obstacles in MSME Financial Reporting Practices

Findings Theme	Respondent's Statement
Digitalization	"Initially, I only used the application to record sales, but I hadn't even started reporting yet."
Accountability	"The report is made if requested by the bank, otherwise there is no report."
Obstacle	"I handle everything myself, I don't have time to learn accounting applications."

Findings from the Licensed Employee Questionnaire

The questionnaire, distributed to 20 employees/financial administration staff, revealed:

- Digital Literacy: Most had only a basic understanding of accounting principles.
- Application Use: Bookkeeping apps (Excel, BukuWarung, Jurnal.id) were used daily for transactions, but monthly reports were often skipped.

Table 4. Survey on MSME Financial Reporting Practices and Digital Application Usage

Questionnaire Questions	Most Answered	Percentage (%)
Do you make monthly financial reports?	No	65%
What apps do you use most often?	Excel / Cashbook	70%
Do you understand the concept of income statement?	Not completely	60%
Is your digital data used for financial evaluation?	Sometimes	55%

Field Observation Results

1. Many MSMEs still use manual notebooks for daily transactions.
2. Financial documents lack systematic archiving.
3. No clear separation between business and personal accounts.
4. Digital recording mainly applies to sales and inventory, not full financial reporting.

Digital Transformation of MSMEs: Between Speed of Adaptation and Depth of Implementation

Transaction and sales recording. This digitalization was largely a reactive measure to declining turnover and changing consumer behavior during the pandemic. However, technology adoption remains partial, with limited progression toward comprehensive financial reporting (Susanti et al., 2021; Sari & Nugroho, 2021; Fitriani et al., 2022). This gap indicates that digital tools are not yet being fully utilized as part of an accountable, integrated financial management system.

Previous studies emphasize that effective digital transformation must span all business functions, including finance and reporting (Putra et al., 2020; Wijayanti et al., 2022; Arisandi, 2021). Field findings, however, reveal persistent barriers such as low digital literacy, time constraints, and limited accounting human resources-barriers consistent with

Suryani's (2021) assertion that MSME digitalization in Indonesia remains fragmented due to infrastructure and capacity challenges.

Furthermore, MSME technology adoption tends to be externally driven-influenced by market pressures or administrative needs rather than embedded in data-driven management strategies (Kurniawan & Dewi, 2020; Wahyuni et al., 2023; Pratama, 2021). This makes digitalization unsustainable and poorly integrated with financial reporting systems, keeping it at a surface level without addressing deeper accountability needs.

Perception of Financial Accountability: Between Understanding and Practice

A notable finding is the perception-practice gap. Many MSME owners view financial reporting merely as an administrative formality for external purposes, such as loan applications, rather than a core governance tool (Wibowo et al., 2020; Hakim, 2021; Handayani et al., 2022).

This mindset results in irregular record-keeping, often mixing personal and business finances (Mustika & Fadilah, 2021; Nasution et al., 2020). As Dewi et al. (2023) highlight, such incidental, non-standard reporting fails to support strategic decision-making.

Underlying this problem is the lack of accessible, practical digital financial education. Complex systems intimidate micro-businesses, leading them to prefer simpler, cash-based methods (Surya & Febrianti, 2022; Lestari et al., 2021; Santosa, 2020). This shows that training and mindset change are as crucial as the tools themselves.

The Gap Between Technology and Human Resources: Challenges of Digital Accounting Implementation

While digital accounting tools like BukuWarung or Jurnal.id are affordable and user-friendly, their impact is limited by the operator's knowledge. Questionnaire data show that many staff cannot fully interpret or produce key reports such as income statements or balance sheets (Yuliani et al., 2021; Hidayat et al., 2023; Fitri & Aulia, 2020).

Khairunnisa et al. (2022) emphasize that digital effectiveness depends heavily on the readiness of its users. This echoes Aditya & Rahayu's (2021) finding that without proper training, even the best tools produce incomplete or non-standard outputs. The result is transaction logging without accountability.

Why Accountability Remains Low Despite Digital Adoption

From the integrated findings, three main reasons emerge:

1. Skills Deficit - Digital literacy is limited to operational use, not to financial analysis or compliance.
2. Cultural Perception - Reporting is seen as a reactive task, not as an ongoing business practice.
3. Policy Gaps - Few systemic incentives tie digital reporting to tangible business benefits.

These factors reinforce the idea that digital transformation must be accompanied by human capacity building and policy frameworks.

Intervention Strategies and Policy Directions to Enhance Accountability

Strategies to improve MSME accountability through digital transformation should be comprehensive:

- Integrated Training & Mentoring: Focused on practical, community-based training to convert operational data into managerial reports.
- Incentive-Based Policy: Link accountable reporting to easier access to financing

(e.g., KUR) and fiscal benefits.

- Ecosystem Collaboration: Engage local governments, tech providers, and universities to create continuous support systems.

Studies by Wulandari & Fauzan (2021) and Fauzi & Amin (2022) show that when digital reporting is tied to incentives or compliance requirements, MSMEs are significantly more motivated to adopt it consistently.

Practical Implications and Limitations of the Research

Implications:

- Policymakers should design incentive schemes tied to digital reporting compliance.
- Digital industry players can tailor applications to micro-business needs, simplifying reporting features.
- MSME organizations should prioritize mentorship over one-off training sessions.

Limitations:

This study focuses on three provinces, limiting generalization. The qualitative approach offers depth but not national-scale statistical validity. Future research should combine large-scale surveys with in-depth case studies to bridge the insight-generalization gap.

4. CONCLUSION

This study found that the adoption of digital technology among MSMEs (Micro, Small, and Medium Enterprises) has increased significantly post-COVID-19, particularly in operational aspects such as sales recording and inventory management. However, this adoption has not yet fully translated into an accountable and standardized financial reporting system. The digital transformation undertaken remains partial and pragmatic, driven more by the need to survive the crisis than by a strategic awareness of the importance of financial accountability. This suggests that digitalization has not automatically improved the quality of MSME financial reporting.

Furthermore, the study identified that the relationship between digital transformation and financial reporting accountability remains weak due to limited digital and accounting literacy among MSMEs. Key barriers include a lack of technical understanding, minimal digital accounting training, and low external incentives. Conversely, effective strategies for improving financial governance involve a practice-based approach, active involvement of community partners, and integration of reporting systems with access to financing.

Therefore, although digitalization has become a new reality post-pandemic, improving MSME financial accountability still requires comprehensive and sustainable policy support, education, and incentive systems.

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