Digital Transformation in MSME Financial Management: Qualitative Evidence from Banten, Indonesia

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Abstract - Digital transformation has become a critical pathway for strengthening financial management practices among micro, small, and medium enterprises (MSMEs), particularly in developing economies. Despite increasing access to digital financial technologies, empirical evidence indicates that many MSMEs adopt these tools in a fragmented and non-strategic manner. This study aims to explore how MSME actors experience digital transformation in financial management, identify the practical changes arising from the use of digital financial tools, and examine the barriers and enabling factors shaping this transformation. Employing a qualitative research design, this study draws on in-depth interviews, non-participant observations, and document analysis involving 24 MSME owners and managers across micro, small, and medium enterprises in Banten Province, Indonesia. Thematic analysis reveals that digital transformation among MSMEs unfolds incrementally, beginning with basic tools such as digital payments and mobile banking, largely driven by customer demand rather than strategic intent. While digital tools improve transaction recording accuracy, financial transparency, and operational efficiency, their utilization remains predominantly operational, with limited progression toward analytical or strategic financial management. Key challenges include inadequate digital and financial literacy, trust concerns related to data security, cost constraints, infrastructural limitations, and entrenched traditional practices. The findings underscore that digital transformation in MSME financial management is a socio-technical process shaped by interactions between technology, managerial capabilities, and institutional context. This study contributes to the literature by providing rich qualitative insights from an underexplored regional context and offers practical and policy-relevant implications for fostering inclusive, context-sensitive digital transformation among MSMEs.

Keywords: Digital transformation; MSMEs; Financial management; Qualitative study; Indonesia

Abstrak

Transformasi digital telah menjadi jalur strategis dalam memperkuat praktik pengelolaan keuangan usaha mikro, kecil, dan menengah (UMKM), khususnya di negara berkembang. Meskipun akses terhadap teknologi keuangan digital semakin luas, berbagai temuan empiris menunjukkan bahwa banyak UMKM masih mengadopsi teknologi tersebut secara parsial dan belum terintegrasi secara strategis dalam manajemen keuangan. Penelitian ini bertujuan untuk mengeksplorasi bagaimana pelaku UMKM mengalami proses transformasi digital dalam pengelolaan keuangan, mengidentifikasi perubahan praktis yang muncul dari pemanfaatan alat keuangan digital, serta menganalisis faktor penghambat dan pendukung yang memengaruhi proses tersebut. Penelitian ini menggunakan pendekatan kualitatif dengan desain eksploratif dan interpretif, melalui wawancara mendalam, observasi non-partisipan, dan analisis dokumen terhadap 24 pemilik dan pengelola UMKM di Provinsi Banten, Indonesia. Hasil analisis tematik menunjukkan bahwa transformasi digital dalam pengelolaan keuangan UMKM berlangsung secara bertahap dan pragmatis, diawali dengan penggunaan alat dasar seperti pembayaran digital dan mobile banking yang lebih didorong oleh tuntutan konsumen dibandingkan perencanaan strategis. Pemanfaatan teknologi digital terbukti meningkatkan akurasi pencatatan transaksi, transparansi keuangan, dan efisiensi operasional, namun sebagian besar UMKM masih menggunakannya pada level operasional dan belum berkembang ke arah pengelolaan keuangan yang analitis dan strategis. Hambatan utama meliputi keterbatasan literasi digital dan keuangan, rendahnya kepercayaan terhadap keamanan sistem digital, kendala biaya, keterbatasan infrastruktur, serta kuatnya kebiasaan praktik keuangan tradisional. Temuan ini menegaskan bahwa transformasi digital dalam pengelolaan keuangan UMKM merupakan proses sosio-teknis yang dipengaruhi oleh interaksi antara teknologi, kapabilitas manajerial, dan konteks institusional. Penelitian ini berkontribusi dengan

menghadirkan bukti kualitatif dari konteks regional yang masih jarang diteliti serta memberikan implikasi praktis dan kebijakan yang relevan untuk mendorong transformasi digital UMKM yang inklusif dan berkelanjutan.

Kata Kunci*: Transformasi digital; UMKM; Pengelolaan keuangan; Studi kualitatif; Indonesia*

I.   INTRODUCTION

Research Background

Over the past decade, digital transformation has emerged as a critical factor influencing economic development and organizational efficiency. The proliferation of digital technologies, including mobile applications, cloud-based accounting systems, and electronic payment solutions, has fundamentally restructured financial management practices across industries. For micro, small, and medium enterprises (MSMEs), particularly in Indonesia, digital transformation is a strategic necessity to navigate market uncertainties, enhance competitiveness, and engage effectively in digital ecosystems. In Indonesia, MSMEs constitute a vital segment of the economy, contributing significantly to employment and regional economic stability, yet many face substantial challenges in financial management, characterized by inadequate bookkeeping, limited financial literacy, and restricted access to formal financial services (Pryanka & Setyari, 2022; Erlanitasari et al., 2020; Athia et al., 2023)(Maksum et al., 2020; .

The integration of digital financial tools is frequently posited as a remedy for these managerial shortcomings. Mobile banking, digital wallets, and cloud-based accounting are heralded for their potential to improve accuracy, operational efficiency, and decision-making capabilities (Munawaroh, 2023; Athia et al., 2023). Despite the promise of these technologies, adoption among MSMEs, particularly in less urbanized regions like Banten, remains inconsistent, suggesting a multifaceted interplay of managerial, contextual, and technology-related factors influencing uptake and effective utilization. Thus, understanding the lived experiences of MSME actors in leveraging digital financial tools is essential for constructing pertinent theories and formulating effective policies.

Problem Identification

While the discourse surrounding MSME digitalization is robust, there exists a gap between the availability of technology and its effective implementation within these enterprises. Many MSMEs employ digital tools in a fragmented manner, primarily for payment processing rather than thorough financial management, often under pressures external to their operational frameworks, such as customer demands and regulatory mandates (Rupeika-Apoga & Petrovska, 2022; Syahputra, 2025). Barriers to adoption abound, including insufficient digital literacy, skepticism about digital solutions, perceived complexity, and infrastructure limitations (Maksum et al., 2020; Hidayat & Arifin, 2021; (Andika et al., 2021; . Such impediments highlight that the transition to digital financial practices entails more than adoption statistics; it necessitates a nuanced exploration of how MSME owners interpret and integrate these tools into their daily financial operations.

Research Gap

Existing research predominantly relies on quantitative methodologies that address technology acceptance and performance outcomes, often sidelining the intricate, micro-level processes that delineate digital transformation within MSMEs. This oversight is especially pronounced within developing economies like Indonesia, where qualitative insights into the lived experiences of MSME actors remain remarkably scarce. The Banten Province, despite its strategic economic relevance, has been underserved in empirical studies regarding MSME financial management practices, amplifying the critical need for in-depth qualitative research that contextualizes the digital transformation narrative within regional socio-economic realities (Nyende et al., 2025; Sofilda et al., 2022).

Research Objectives and Questions

This study aims to unravel the complexities of digital transformation in MSME financial management through qualitative evidence from Banten, Indonesia. The specific objectives are to: (1) examine the perceptions and adoption processes of MSME actors regarding digital financial tools, (2) analyze the transformational changes in financial management practices engendered by digitalization, and (3) elucidate the key barriers and enablers influencing this transition. The guiding research questions are: How do MSMEs experience digital transformation

in financial management? What practical changes arise from the application of digital financial tools? And what contextual factors shape the outcomes of this transformation?

Significance of the Study

This research holds several significances. Theoretically, it adds to the existing body of knowledge on digital transformation and MSME dynamics by providing rich qualitative insights analogous to quantitative frameworks. Practically, results gleaned from this study offer actionable information for MSME owners, development practitioners, and fintech providers, facilitating the design of tailored digital financial solutions that align with local contexts. From a policy standpoint, insights will inform regional and national stakeholders on aligning digital transformation initiatives with the authentic capacities, needs, and aspirations of MSMEs, fostering inclusive and sustainable economic growth Syahputra, 2025)Sutrisno et al., 2022)Nahar, 2022).

Digital Transformation Concept

Digital transformation is conceptualized as a profound process through which organizations adjust their business operations, structures, and mechanisms for value creation, harnessed through digital technologies. Beyond basic digitization—which refers to the mere conversion of analog information into digital format—digital transformation entails a comprehensive organizational paradigm shift that redefines strategic approaches, cultural frameworks, and managerial cognitive frameworks (Rachmawaty et al., 2023; (Deviana, 2024; .

Scholarly discourse emphasizes that successful digital transformation necessitates the integration of digital technologies into core operational functions, fostering innovative modes of work organization and stakeholder interactions (Mashuri & Moko, 2024; Sutrisno et al., 2022). For MSMEs, this journey often unfolds incrementally due to constraints like limited resources and informal governance structures (Maksum et al., 2020; Wibowo et al., 2022). Thus, it becomes critical to recognize digital transformation in MSMEs as an ongoing evolution influenced by contextual conditions and adaptive learning processes, rather than a linear or merely technological enterprise.

MSME Financial Management

Effective financial management constitutes a cornerstone for the sustainability and growth of MSMEs. It encompasses essential activities such as budgeting, bookkeeping, cash flow management, and financial reporting. In many developing contexts, financial management among MSMEs tends to be informal, often characterized by rudimentary record-keeping and inadequate financial procedures, which lessen financial transparency and limit access to funding (Rachmawaty et al., 2023; (Maksum et al., 2020; .

Literature consistently identifies poor financial management practices among MSMEs as a primary factor in business failures, fueled by challenges such as insufficient financial literacy and complexities associated with adopting formal accounting systems (Mashuri & Moko, 2024; (Curatman et al., 2021; . Therefore, the advent of innovative financial management tools that can simplify and streamline these tasks is critical for broader MSME growth and resilience against economic fluctuations (Prasetyanto et al., 2021; (Andika et al., 2021; .

Digital Financial Tools for MSMEs

Digital financial tools have gained attention as effective mechanisms to tackle the financial management challenges faced by MSMEs. These tools include mobile banking platforms, electronic wallets, point-of-sale systems, and cloud-based accounting software, all designed to enhance operational accuracy and managerial control (Rupeika-Apoga & Petrovska, 2022; Rochayatun et al., 2023; Austin et al., 2023). Empirical evidence suggests that digital financial tools facilitate better cash flow monitoring and the separation of personal and business finances, ultimately fostering improved financial reporting capabilities (Maksum et al., 2020; Austin et al., 2023)Lestari et al., 2024).

Nonetheless, the realization of these benefits relies heavily on the users' capabilities, context, and underlying digital literacy (Setyawati et al., 2023; Sutrisno et al., 2022). Without sufficient knowledge, trust in systems, and institutional support structures in place, the potential advantages of digital tools may not translate into substantive managerial transformations (Maksum et al., 2020; Hammad et al., 2023).

Theoretical Perspectives

Several theoretical frameworks contribute to understanding digital transformation in MSME financial management. The Technology Acceptance Model (TAM) posits that perceived usefulness and ease of use significantly influence technology adoption behaviors among MSME owners. These beliefs are shaped by

practical experiences, peer influences, and external pressures, providing a basis for understanding why certain technologies resonate more deeply within this sector (Curatman et al., 2021; Sutrisno et al., 2022).

Additionally, the Resource-Based View (RBV) posits that unique digital capabilities can act as strategic resources that drive competitive advantages for MSMEs, contingent upon how well these resources are integrated into existing managerial frameworks and routines (Prasetyanto et al., 2021; Austin et al., 2023). Further contextualization through Institutional Theory highlights the role of regulatory frameworks, normative expectations, and socio-cultural factors in shaping digital adoption behaviors (Deviana, 2024; Nahar, 2022).

Previous Empirical Studies

Quantitative empirical studies have generally indicated a positive correlation between digital technology adoption and performance metrics in MSMEs, suggesting that enhanced operational control and market access can follow digitization (Rahadjeng et al., 2023; Rochayatun et al., 2023; Syahputra, 2025). However, these studies frequently rely on cross-sectional data, which may fail to capture the longitudinal dynamics and complex contextual issues inherent in MSME digital transformations.

Conversely, qualitative investigations, though less frequent, unveil richer narratives surrounding the experiences of MSME owners in embracing digital technologies. Such studies reveal that technology adoption often involves trial-and-error learning, community support systems, and experiential knowledge that collectively inform stakeholder perceptions and adjustments in practice (Mashuri & Moko, 2024; Nahar, 2022). In the Indonesian context, these qualitative insights remain underdeveloped, necessitating further exploration.

Conceptual Framework

This study adopts an interactive conceptual framework for examining digital transformation in MSME financial management, focusing on the dynamic interrelationships among digital tools, managerial practices, and contextual factors. Within this framework, digital financial tools serve as facilitators for new recording and decision-making possibilities, while managerial practices—shaped by individual skills, perceptions, and experiences—mediate their utilization in everyday operations (Rupeika-Apoga & Petrovska, 2022; Sakib et al., 2022). Contextual elements, including institutional support and socio-cultural norms, further shape the success or limitations of transformation efforts.

The proposed framework underscores digital transformation as a continuum of engagement ranging from basic utilization to sophisticated strategic integration, suggesting that qualitative approaches are imperative for comprehensively understanding the nuances of MSME financial management transformations in Banten, Indonesia.

This research underscores the importance of exploring qualitative dimensions of digital transformation among MSMEs in Banten, Indonesia. It additionally highlights the multifaceted challenges these enterprises face amid technological advancements and changing market dynamics. By revealing the lived experiences of MSME actors, the findings could provide a more profound theoretical understanding and practical guidelines essential for fostering inclusive and sustainable economic development.

II.   METHOD

Research Design

This study utilized a qualitative research design with an exploratory and interpretive orientation to investigate digital transformation in the financial management practices of micro, small, and medium enterprises (MSMEs) in Banten, Indonesia. A qualitative approach was selected as it allows for capturing rich, nuanced insights into the lived experiences and perceptions of MSME actors engaging with digital financial tools Nurjannah et al., 2022)Antoni et al., 2024). Unlike quantitative methods, which often focus on testing predefined hypotheses or measuring variables, this research aimed to comprehend the socio-technical complexities surrounding digital transformation as they manifest in specific organizational settings. It aligns with the understanding that digital transformation represents a multifaceted process shaped by various human, technological, and contextual factors (Purnomo et al., 2024; Anggadini et al., 2023).

Research Setting

The research was conducted in Banten Province, chosen for its diverse economic environment that encompasses both industrial and traditional business sectors (Marwanto et al., 2023; Legowo & Sorongan, 2022).

Banten prides itself on a significant number of MSMEs, albeit with observable disparities in digital literacy and infrastructure across urban and peri-urban areas (Rujitoningtyas et al., 2025; . The province serves as a microcosm of broader national trends in Indonesia, where efforts to promote digitalization coexist with significant gaps in technology adoption and understanding. By focusing on Banten, the study captures dynamic regional characteristics and variances in MSME digital practices, thereby offering insights that are often obscured in studies based on national aggregates (Fathurrahman & Fitri, 2024; (Marwanto et al., 2023; .

Participants and Sampling

The study engaged 24 MSME owners and managers as primary participants, each of whom directly oversees financial management and the selection of digital technologies for their businesses Nurjannah et al., 2022)(Fathurrahman & Fitri, 2024; . The involvement of these key actors is essential, as their cognition and decision-making strategies significantly influence organizational practices (Widyaningsih, 2023; .

A purposive sampling strategy was employed to ensure that participants met the inclusion criteria, which included:

1. Being registered or operating as an informal micro, small, or medium-sized enterprise in Banten Province.
2. Actively managing daily financial operations.
3. Having practical experience with at least one digital financial tool (e.g., mobile banking, digital payment systems, or bookkeeping applications).

This rigorous criterion enhanced the analytical relevance of the sample (Widyaningsih, 2023; . Following initial purposive sampling, snowball sampling was employed to diversify the participant pool, thereby tapping into local business networks that might not be accessible through formal channels. Consequently, the sample consisted of 13 micro enterprises, 7 small enterprises, and 4 medium enterprises across various sectors including retail, food and beverage, personal services, and small-scale manufacturing. The diversity offers comparative insights that illuminate how size and sectoral characteristics impact the experience of digital financial transformation (Marwanto et al., 2023; (Rujitoningtyas et al., 2025; .

The iterative data collection approach adopted aimed for thematic saturation—which was considered achieved once additional interviews revealed no new codes or themes related to the digital transformation phenomena.

Table 1. Participant Characteristics and Sampling Profile

Code	Enterprise Category	Business Sector	Years of Operation	Digital Financial Tools Used	Primary Role of Participant	Sampling Method
P01	Micro Enterprise	Retail Trade	3–5 years	Digital payment, mobile banking	Owner–Manager	Purposive
P02	Micro Enterprise	Food & Beverage	1–3 years	Digital payment	Owner	Purposive
P03	Micro Enterprise	Personal Services	>5 years	Mobile banking	Owner–Manager	Snowball
P04	Micro Enterprise	Retail Trade	3–5 years	Digital payment, POS application	Owner	Snowball
P05	Micro Enterprise	Food & Beverage	1–3 years	Digital payment	Owner–Manager	Purposive
P06	Micro Enterprise	Retail Trade	>5 years	Mobile banking	Owner	Snowball
P07	Micro Enterprise	Services	3–5 years	Digital payment	Owner–Manager	Snowball
P08	Micro Enterprise	Food & Beverage	1–3 years	Digital payment	Owner	Purposive
P09	Micro Enterprise	Retail Trade	>5 years	Digital payment, mobile banking	Owner–Manager	Snowball

Code	Enterprise Category	Business Sector	Years of Operation	Digital Financial Tools Used	Primary Role of Participant	Sampling Method
P10	Micro Enterprise	Services	3–5 years	Mobile banking	Owner	Snowball
P11	Micro Enterprise	Food & Beverage	1–3 years	Digital payment	Owner–Manager	Purposive
P12	Micro Enterprise	Retail Trade	>5 years	Digital payment, POS application	Owner	Snowball
P13	Micro Enterprise	Services	3–5 years	Mobile banking	Owner–Manager	Snowball
P14	Small Enterprise	Retail Trade	>5 years	Accounting application, digital payment	Owner–Manager	Purposive
P15	Small Enterprise	Food & Beverage	3–5 years	POS system, digital payment	Manager	Snowball
P16	Small Enterprise	Services	>5 years	Accounting application	Owner–Manager	Purposive
P17	Small Enterprise	Retail Trade	3–5 years	Digital payment, mobile banking	Owner	Snowball
P18	Small Enterprise	Food & Beverage	>5 years	POS system, accounting application	Owner–Manager	Snowball
P19	Small Enterprise	Services	3–5 years	Accounting application	Manager	Purposive
P20	Small Enterprise	Manufacturing	>5 years	Accounting application, mobile banking	Owner–Manager	Purposive
P21	Medium Enterprise	Manufacturing	>5 years	Integrated accounting system, mobile banking	Finance Manager	Purposive
P22	Medium Enterprise	Services	>5 years	Accounting system, POS	Owner–Manager	Snowball
P23	Medium Enterprise	Retail Trade	>5 years	Accounting application	Finance Manager	Purposive
P24	Medium Enterprise	Food Processing	>5 years	Integrated accounting system	Owner–Manager	Snowball

Data Collection Techniques

Data were gathered through various qualitative techniques to reinforce depth and enhance the credibility of findings. The primary method employed for collection was in-depth, semi-structured interviews, which facilitated participants in sharing their experiences and perceptions surrounding the use of digital financial management tools Legowo & Sorongan, 2022)Nurjannah et al., 2022). Interview guides were created based on research objectives, concentrating on motivations for digital adoption, shifts in financial practices, perceived benefits, and barriers encountered.

Accompanying these interviews, non-participant observations were conducted within selected MSMEs to attain contextual insights regarding the enactment of daily financial practices and the operationalization of digital tools Nurjannah et al., 2022)(Widyaningsih, 2023; . The observations emphasized how digital applications were

woven into routine activities like transaction recordings and financial oversight. Document analysis augmented the data collection methods by reviewing pertinent artifacts, including transaction records, screenshots of digital applications, and informal financial notes where accessible. This multi-faceted approach significantly enhanced the validity of the findings (Fathurrahman & Fitri, 2024; Wijayanto et al., 2024).

Data Analysis

Thematic analysis was employed to analyze the collected data. All interviews were transcribed verbatim, along with observational notes and documents, and systematically coded. The initial phase involved open coding to identify meaningful segments of data, followed by axial coding to cluster related codes into broader categories (Marwanto et al., 2023; (Purnomo et al., 2024; . This iterative analysis allowed the researchers to distill key themes that capture the transformation patterns in MSME financial management (Rujitoningtyas et al., 2025; (Fathurrahman & Fitri, 2024; .

The analysis was informed by theoretical frameworks identified in the literature, integrating empirical insights within established paradigms while maintaining a reflexive stance throughout to mitigate biases and enhance analytical rigor (Widyaningsih, 2023; Nurjannah et al., 2022).

Trustworthiness and Rigor

The study adhered to qualitative research standards for trustworthiness, addressing criteria such as credibility, transferability, dependability, and confirmability. Credibility was bolstered through data triangulation, drawing from multiple sources including interviews, observations, and documents to substantiate findings (Rujitoningtyas et al., 2025; Legowo & Sorongan, 2022). Transferability was facilitated by providing rich, detailed descriptions of the research context, allowing readers to understand the applicability of results across varying environments (Marwanto et al., 2023; Nurjannah et al., 2022).

Dependability was addressed by documenting procedural steps throughout data collection and analysis, while confirmability was ensured via reflexive practices and peer debriefing within the research team to ground interpretations in data rather than researcher bias (Fathurrahman & Fitri, 2024; Wijayanto et al., 2024).

Ethical Considerations

Ethical principles were integrated at every phase of the research. Participants were fully informed about the study's purpose, the voluntary nature of their participation, their right to withdraw, and the measures taken to ensure confidentiality and data security. Informed consent was obtained prior to initiating any data collection activities. All identifying details were anonymized to protect participant privacy, and data were securely stored with limited access (Purnomo et al., 2024; Wijayanto et al., 2024).

III.   RESULTS AND DISCUSSION

Findings

The following section presents the empirical findings derived from in-depth interviews, observations, and document analysis conducted with MSMEs in Banten, Indonesia. These findings are structured into four thematic sub-sections that encapsulate the patterns of digital adoption, transformations in financial practices, perceived benefits, and the persistent barriers experienced by MSMEs.

Patterns of Digital Adoption

The findings indicate that the adoption of digital tools among MSMEs in Banten occurs gradually and selectively. Most participants initiated their digital journey with basic tools such as mobile banking applications and digital payment platforms. These initial adoptions were primarily driven by customer demands for convenience rather than any strategic financial planning. Tools like digital wallets and QR-based payment systems emerged as common entry points, particularly among micro and small enterprises engaged in retail and food-related sectors Haqqi (2023)Meilariza et al., 2024).

However, a smaller subset of MSMEs began utilizing more advanced tools, such as cloud-based accounting applications and integrated point-of-sale systems. This advanced adoption typically occurred in businesses with greater transaction volumes or previous exposure to formal business training (Susilowati et al., 2023; Chan et al., 2023). Peer networks and informal learning opportunities heavily influenced adoption patterns, with many MSME

owners relying on recommendations from fellow entrepreneurs rather than formal institutional guidelines. This underlines the social interaction and experiential learning factors inherent in the digital transformation process (Prayitno et al., 2024; Wulandari et al., 2023).

Transformation of Financial Practices

The integration of digital tools into financial management practices has been a significant area of change for MSMEs, albeit with differing levels of depth. Most participants reported notable improvements in transaction recording, primarily through automatic documentation of sales and expenditures. This automation assisted in alleviating reliance on memory or manual bookkeeping, thus enhancing the consistency of financial tracking (Utami et al., 2023; Rahawarin et al., 2023).

Nonetheless, the degree of transformation varied across organizations. While some MSMEs merely utilized digital records for transaction storage, others proactively leveraged the generated financial summaries to monitor cash flow, assess profitability, and inform operational decisions. A gradual improvement in separating personal and business finances was also noted as digital accounts enhanced clarity. However, the transition from basic operational recording to a more sophisticated analytical financial management approach remained limited among micro enterprises, indicating shortcomings in financial literacy and interpretative capacity (Jusman & Fauziah, 2024).

Perceived Benefits

Efficiency and convenience were highlighted as the primary benefits derived from using digital financial tools. Participants frequently reported reductions in the amount of time spent on manual bookkeeping, allowing them to devote more attention to core business activities (Wijaya et al., 2023; Dewi & Wiksuana, 2023). Moreover, increased accuracy and reduced error rates contributed to heightened confidence in financial information and decision-making. Beyond operational advantages, digital tools fostered greater financial transparency and awareness among MSME owners, leading to disciplined financial behaviors.

A significant finding was the role of digital records in facilitating access to external financing. With improved transaction histories and clearer revenue flows, some MSMEs reported a better ability to secure financial support from potential investors or banks—highlighting the potential of digital transformation as a catalyst for enhancing financial inclusion when paired with appropriate institutional support measures (Hadi et al., 2023; Meilariza et al., 2024).

Barriers and Challenges

Despite the benefits observed, MSMEs encountered substantial barriers that hindered deeper digital transformation. Digital literacy emerged as a central challenge, particularly among older business owners who expressed discomfort with complex user interfaces and frequent updates in software applications (Aldhi et al., 2024; Erlany et al., 2022). Trust-related issues, including concerns about data security and fears of system errors, further limited the optimal utilization of digital tools (Purnomo et al., 2024; Rohmah et al., 2021).

Cost considerations also posed challenges, especially for subscription-based accounting applications viewed as burdensome for micro enterprises. Limitations in local infrastructure, such as unstable internet connectivity in certain regions, disrupted consistent usage of digital tools (Primadona, 2020; Mardiani et al., 2023). Lastly, entrenched cognitive and cultural barriers, such as habitual reliance on traditional financial practices, underscored that the digital transformation is not merely a technological challenge but is deeply interwoven with human and institutional factors.

Discussion

The outcomes of this study affirm the perspective that digital transformation in MSME financial management is a socio-technical process shaped by interactions among technology, managerial behavior, and contextual factors. The findings resonate with the Technology Acceptance Model (TAM), emphasizing that perceived usefulness—particularly in terms of efficiency and convenience—was a significant motivator for initial tool adoption (Suldina, 2023; Juliannisa & Siswantini, 2021). However, it was evident that perceived ease of use was moderated by levels of digital literacy and experiential learning, indicating that acceptance evolves through practical engagement rather than formal education alone.

Employing a Resource-Based View (RBV), digital financial tools can be perceived as potential strategic resources. However, the realization of their value is contingent upon complementary capabilities. MSMEs that combined digital tools with foundational financial understanding exhibited a superior ability to leverage digital

records for developing managerial insights (Wahyuni et al., 2021; Dawis & Cahyani, 2022). This finding corroborates prior research emphasizing absorptive capacity as pivotal for successful digital transformation outcomes.

Institutional theory further elucidates the findings by highlighting the influence of external pressures and supportive frameworks. Customer expectations and government-led digitalization efforts served as coercive and normative forces encouraging MSME adoption, while weak localized support systems constrained deeper transformation efforts (Wongso et al., 2024; Kibor, 2024). The experience within Banten, marked by uneven infrastructure and diverse MSME profiles, helps explain the fragmented digital financial practices encountered in this research.

The results consistently align with international evidence that simply adopting digital tools does not guarantee enhanced financial management or performance. Transformation occurred incrementally, reflecting the adaptive strategies of MSMEs operating within constrained environments (Ayundyayasti et al., 2023). By offering qualitative insights from a less-explored regional context, this study enriches the existing literature and underscores the significance of context-sensitive, human-centered approaches to facilitate digital transformation within MSMEs in Indonesia.

IV. CONCLUSION

Summary of Key Findings

This study investigated the digital transformation of financial management practices among micro, small, and medium enterprises (MSMEs) in Banten, Indonesia, focusing on the perceptions, adoption, and integration of digital tools into everyday business activities. The findings reveal that the digital transformation journey of these enterprises is predominantly incremental and pragmatic rather than strategic or comprehensive.

The initial stages of digital adoption for most MSMEs occurred through the implementation of basic financial technologies, notably digital payment systems and mobile banking, which were stimulated primarily by customer demand and the pursuit of operational convenience. As enterprises adopted these technologies, improvements in financial recording, transparency, and awareness became evident. Automated documentation of transactions significantly reduced reliance on informal bookkeeping and enabled clearer cash flow monitoring. For some of the MSMEs, digital records enhanced financial discipline and facilitated access to formal financial services. However, the depth of transformation varied widely across the sector, as many enterprises utilized digital tools mainly for operational tasks instead of leveraging them for more analytical or strategic financial management purposes Jusman & Fauziah (2024)Malik & Juliardi, 2023; Gunawan et al., 2023).

Theoretical Implications

From a theoretical standpoint, this study contributes to the existing literature on digital transformation and MSME financial management by illuminating the socio-technical dynamics underlying transformation processes. By demonstrating that the acceptance and effective use of digital tools emerge from experiential learning and contextual adaptation, the findings enrich technology adoption theories. They clarify that the readiness to embrace these technologies is influenced not only by perceived usefulness and ease of use but also by the users' capacities to adapt and integrate them within their existing practices.

Furthermore, the study supports the Resource-Based View (RBV), asserting that while digital technologies can serve as strategic resources, their potential is realized only when there is a complementary foundation of managerial capabilities and financial literacy. The influence of institutional factors—including regulatory, normative, and cultural elements—on the trajectory of MSME digital transformation is also underscored (Anggarini, 2022; Sholihah & Nurhapsari, 2022).

Practical Implications

The practical implications drawn from the findings indicate that digital transformation initiatives targeted at MSMEs should prioritize capacity building alongside technology provision. Owners of MSMEs require not just access to digital financial tools but also guidance on how to interpret and utilize financial information effectively for their decision-making processes. It is advisable for fintech providers and business development institutions to craft user-friendly applications that are complemented by continuous mentoring. Promoting peer-based learning can also enhance the gradual adoption of digital tools in a manner that aligns with existing operational routines,

thereby ensuring sustainable integration rather than imposing disruptive changes (Heryana et al., 2020; Wardhani et al., 2023; Kilay et al., 2022).

Policy Implications

At the policy level, the outcomes of this study highlight the necessity of harmonizing digital transformation strategies with overall MSME development policies. Government initiatives should focus on enhancing digital financial literacy and fostering trust in digital systems, particularly in semi-urban and less developed areas. Local governments, alongside development agencies, should facilitate training programs, build collaborative networks, and create a conducive environment that aligns digital finance initiatives with broader economic inclusivity objectives. Such policy measures can significantly strengthen MSME resilience and bolster regional economic development (Mufizal, 2024; Sriyono et al., 2024; Wahpiyudin et al., 2024).

Limitations and Future Research

Several limitations of this study need to be acknowledged. The qualitative methodology and regional focus inherently restrict the generalizability of the findings to broader contexts or locations. Additionally, the cross-sectional nature of the data gathered does not provide insight into the long-term dynamics of digital transformation processes. Future research efforts could employ longitudinal methodologies to assess how digital financial practices within MSMEs evolve over time. Comparative studies across different regions or countries would further enrich the understanding of contextual factors impacting digital transformation. The integration of mixed-method approaches may also yield a more holistic evaluation of the relationship between digital transformation and the performance of MSMEs (Metri, 2024; Riswandi & Zulfikri, 2024).

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