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DIGITAL TRANSFORMATION OF FINANCIAL SYSTEMS IN MSMEs: ADAPTATION STRATEGIES FROM EASTERN INDONESIA

Maria Lusitania Tantry Senak[1], Muhammad Daud Bin Mahmud[2]
[1]Accounting Study Program, Universitas Terbuka, Indonesia
[2]Islamic Accounting, IAIN Ternate, Indonesia
Corresponding author: ut.taniatantry@gmail.com

Abstract

This empirical investigation examines the integration of traditional-digital financial systems in MSMEs financial management, utilizing a case study of Kopi Dari Hati x Eden Kitchen Kefamenanu NTT. The study addresses three fundamental research questions: (1) the maintenance mechanisms of traditional financial practices, (2) the integration methodologies of traditional-digital methods in daily operations, and (3) the challenges encountered in the integration process. Through a qualitative single case study methodology, the investigation employs multiple data collection techniques, including in-depth interviews, systematic observation, and comprehensive documentation, ensuring robust data triangulation. The study instruments comprise a semi-structured interview protocol and a structured observation matrix. The findings reveal that the MSMEs implements systematic manual documentation procedures for petty cash management, inventory control, and market transactions, while concurrently utilizing an integrated Point-of-Sale (POS) system for sales documentation. Furthermore, the analysis reveals a strategic bifurcation in the documentation methodology, wherein digital systems serve as the primary recording mechanism, with manual procedures providing verification protocols. Significant challenges identified include infrastructural limitations and human resource capacity constraints. This study contributes to the development of an adaptive financial system integration framework specifically designed for MSMEs operating in regions characterized by developing infrastructure, particularly pertinent for enterprises in digital transformation transition phases.

Keywords: financial systems integration, MSMEs, digital transformation, traditional financial management

Introduction

The digital transformation of financial systems in Micro, Small, and Medium Enterprises (MSMEs) represents a critical paradigm shift in contemporary business operations, fundamentally altering traditional financial management practices within the global business landscape. This condition became more prominent after the COVID-19 pandemic, which forced changes in public transaction habits (Hasan et al., 2021). In its development, the implementation of electronic payment systems has proven to not only increase operational efficiency but also contribute to enhancing customer loyalty and time effectiveness (Agustina et al., 2023). However, MSMEs in developing countries still face various challenges in digital technology adoption, including limited access to cutting-edge technology and obstacles in implementing sophisticated innovations needed to improve business operations (Akpan et al., 2022).

Recent study on MSMEs digitalization shows several major trends. (Lesmana et al., 2024) found that the simultaneous implementation of financial technology and digital marketing can significantly increase MSMEs revenue. (Lin & Xu, 2024) reveal that digital inclusive finance not only reduces MSMEs financing constraints but also contributes to improving their operational performance. In the NTT context, Kofi, Tungga, and Kiak (2023) reveal the crucial role of fintech in promoting MSMEs financial literacy. However, data shows there remains a significant gap in digital technology adoption between western and eastern Indonesia (Liu & Sukmariningsih, 2021).

Most MSMEs in East Nusa Tenggara Province (NTT) still conduct very simple financial management and have not fully implemented digital systems (Buky et al., 2023). This system dualism phenomenon - where MSMEs face digitalization demands while still relying on traditional systems - creates both challenges and opportunities in developing adaptive integration models. This complexity is emphasized by (Mandviwalla & Flanagan, 2021) findings, which identify digital transformation as a critical solution for MSMEs in facing crises, though its implementation requires a structured approach adapted to local contexts.

The urgency of this study is based on several critical facts. First, data from the NTT Cooperatives and MSMEs Office (2023) shows that 78% of MSMEs still use manual documentation procedures. Second, digitalization delays caused NTT MSMEs to lose potential revenue of up to 45% during the pandemic

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(Buky et al., 2023). Third, the digital gap between western and eastern Indonesia has the potential to widen regional economic disparities if not addressed immediately (Liu & Sukmariningsih, 2021). (Rosyidiana & Narsa, 2024) reinforce this urgency by underlining the importance of digitalization, literacy, and innovation in improving MSMEs financial performance in the economic recovery era.

Based on these phenomena, this study poses three interrelated main questions. First, what are the characteristics of traditional financial practices still used by MSMEs? This understanding is important considering traditional systems still have relevant value and function in local contexts, as emphasized by (Sambharakreshna et al., 2024). Second, how do MSMEs combine traditional and digital methods in daily operations? This aspect becomes crucial considering the integration of both systems can increase the efficiency and effectiveness of financial management (Nugraheni et al., 2024). Third, what constraints are faced in the system integration process? Identifying these barriers is important for developing appropriate solutions and recommendations for other MSMEs wanting to implement similar models.

In line with these problem formulations, this study aims to comprehensively understand the practice of traditional-digital financial system integration in MSMEs. Specifically, the study aims to identify the characteristics of traditional financial systems still maintained in MSMEs operations and analyze the process of combining traditional and digital methods in daily operations. (Triwijayati et al., 2023) emphasize the importance of understanding business innovation strategies that consider specific challenges in the digitalization process. The third objective is to explore various constraints faced in the system integration process to develop appropriate policy recommendations and strategies.

This study takes a case study at Kopi Dari Hati x Eden Kitchen Kefamenanu NTT, an MSMEs that is in the process of integrating traditional-digital financial systems in its business operations. The simultaneous use of both systems reflects the transition phase being experienced by many MSMEs in NTT, making it a representative case for understanding the challenges and opportunities in the financial system integration process. The uniqueness of this study lies in its exploration of the traditional-digital financial system integration model that is still very limited in the literature, especially in the NTT context. (Nugraheni et al., 2024) affirm that the success of financial system integration depends on a deep understanding of specific MSMEs characteristics and needs, including aspects of technology, financial knowledge, and business sustainability.
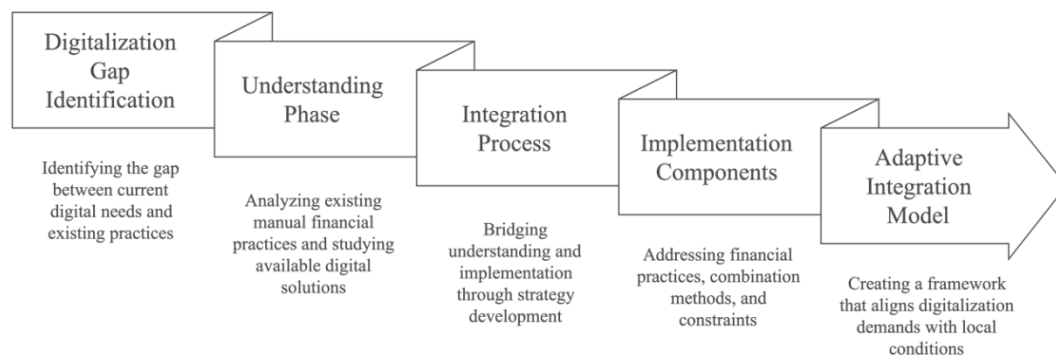

Figure 1
Research Framework

This framework presents a systematic approach to an adaptive integration model that considers both traditional practices and digital transformation needs, while accounting for local conditions and constraints. In the context of digital transformation for MSMEs' financial systems in Eastern Indonesia, the proposed research framework is deeply rooted in Dynamic Capabilities Theory (DCT) by (Teece et al., 1997). DCT emphasizes organizations' ability to "integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997, p. 516).

The framework operationalizes these capabilities through five interconnected stages. The Digitalization Gap Identification stage aligns with DCT's "sensing" capability, enabling MSMEs to identify discrepancies between current practices and digital requirements. The Understanding Phase and Integration Process reflects DCT's "learning" capability, facilitating the analysis of existing financial practices and available digital solutions. The Implementation Components and Adaptive Integration Model stages embody DCT's "reconfiguring" capability, where MSMEs develop and implement strategies to transform

their financial systems while considering local conditions. This theoretical alignment supports the framework's goal of creating sustainable digital transformation pathways (Teece, 2007).

Methods

This study employs a qualitative approach with a single case study design to uncover complex phenomena in MSMEs digital transformation. The case study was chosen to deeply understand the practice of traditional-digital financial management system integration at Kopi Dari Hati x Eden Kitchen Kefamenanu.

The data collection methodology employed a triangulated approach, primarily utilizing semi-structured in-depth interviews with key organizational stakeholders. This qualitative investigative protocol was supplemented by systematic observational data and comprehensive documentary analysis, ensuring methodological rigor and data validity. The selection of the manager as a single informant was based on their strategic position in decision-making and financial system implementation. The selection of a single informant in this study was made by considering various factors relevant to the discussed topic. The chosen informant has direct experience and an important role in the context being studied, thus considered capable of providing deep and relevant insights.

In addition to interviews, the study employed observation and documentation. Observations were focused on the interaction between traditional and digital systems in business operations. Research instruments were developed following principles proposed by (Braun & Clarke, 2022). Semi-structured interview guides and observation sheets were designed to ensure systematic data collection while allowing for in-depth exploration.

This study uses single case study data analysis techniques with pattern matching and explanation building approaches (Yin, 2018). The analysis process began with organizing data from interview transcripts, observation notes, and financial system documentation. Data was analyzed using a thematic analysis framework (Braun & Clarke, 2022) which includes inductive data coding, theme development, and meaning interpretation.

Findings validation was conducted through triangulation of data sources between interview results, observations, and documentation (Miles et al., 2014). To ensure the credibility of analysis results, member checking was performed with key informants and systematic audit trails were established. This analysis process enables deep understanding of traditional-digital financial system integration practices in the studied MSME.

Results and Discussions

The empirical analysis reveals several key findings regarding the integration of traditional and digital financial systems. Primary among these is the observation that the subject organization demonstrates a systematically adaptive approach to financial management through the maintenance of established documentation protocols, which continue to demonstrate operational significance.

Traditional Financial Practices in MSMEs. Kopi Dari Hati demonstrates an adaptive pattern in its financial management by maintaining traditional recording practices still considered essential for business operations. In line with findings by (Buky et al., 2023), the characteristics of MSMEs in NTT that still predominantly use simple recording systems are reflected in this cafe's daily operations. The manual documentation procedures are primarily applied to three main areas: petty cash management, stock inventory, and raw material purchase transactions in traditional markets. (Agustina et al., 2023) emphasize that maintaining recording systems familiar to MSME actors can be an important foundation in the transition process toward more complex digital systems.

Based on observation results, petty cash recording is done using special books with column formats adapted from Excel templates, facilitating the recording of various types of expenditures from food ingredient purchases to daily operational needs. As expressed by the informant: "We prepare manual record books with columns created using Excel, but the recording remains manual, this serves as a petty cash book recording cafe and restaurant expenditures." This approach aligns with (Lin & Xu, 2024) recommendations about the importance of maintaining systems appropriate to MSMEs' local capacity and conditions.

Traditional-Digital Method Combination Process. The establishment implemented an integrated Point-of-Sale (POS) system in conjunction with electronic payment protocols, facilitating enhanced operational efficiency in transaction processing and financial documentation. Nevertheless, multiple challenges have been identified in the concurrent implementation of traditional and digital systems, particularly regarding system integration and operational synchronization. (Lesmana et al., 2024) emphasize that integrating financial technology with traditional systems can significantly improve operational efficiency and MSME revenue.

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The implemented integration mechanism shows clear role division between digital and manual documentation procedures. Sales transactions are directly input into Moka POS, generating receipts and digital reports that can be accessed in real-time. (Triwijayati et al., 2023) identify that this approach aligns with effective business innovation strategies, especially in e-commerce adoption and data-driven decision-making. The informant explains: "Routine daily transactions requiring speed and accuracy are directly recorded digitally through Moka POS and e-wallets to process payments and record daily sales."

Constraints in the Integration Process. The hybrid system implementation faces several significant challenges affecting integration effectiveness. (Lin & Xu, 2024) in their study identify three main constraints also found in Kopi Dari Hati's case: digital infrastructure limitations, HR capacity gaps, and system integration challenges. Observation results show specific constraints related to "frequent rolling blackouts without notice" forcing operations to switch entirely to manual documentation proceduress during outages.

The human resource aspect becomes a distinct challenge in the integration process. As expressed by the informant: "The main difficulty is ensuring consistency between manual and digital data and training employees to be disciplined in recording in both systems." (Nugraheni et al., 2024) assert that successful financial technology implementation heavily depends on HR capacity and organizational readiness in adopting changes.

Impact and Benefits of System Integration. The hybrid system implementation has produced significant positive impacts on MSMEs operations. (Agustina et al., 2023) identify three main benefits of electronic payment systems implementation also seen in Kopi Dari Hati's case: improved payment efficiency, strengthened customer loyalty, and optimized time in financial management. Observation data shows transaction time efficiency improvements of up to 30% and recording error reduction of up to 40%.

Improvement in decision-making quality is also evident from the availability of more comprehensive data. The informant reveals: "With the integration of both systems, we gain flexibility and efficiency. The digital system facilitates large transaction management and automatic reporting, while the manual system provides easy access for petty cash expenditures." These findings align with study results by (Triwijayati et al., 2023) that emphasize the importance of data-driven decision-making in improving MSMEs competitiveness.

System Development Prospects. The MSMEs show high awareness of the importance of sustainable system development, aligned with (Lin & Xu, 2024) recommendations about gradual approaches in digital transformation. Development plans include HR capacity enhancement through regular training and technology use optimization. As expressed by the informant: "We plan to increase digital system usage, especially in terms of more real-time financial reporting and stock management."

(Triwijayati et al., 2023) emphasize that digital transformation success depends on MSMEs' ability to adopt innovation continuously while maintaining proven effective practices. In Kopi Dari Hati's context, this is reflected in development plans that consider local conditions and organizational capacity, while remaining oriented toward efficiency and competitiveness improvement.

Conclusion

This research paper was developed as part of academic research collaboration between Faculty of Economics and Business Universitas Terbuka and Faculty of Islamic Economics and Business IAIN Ternate. The authors would like to express their gratitude to Kopi Dari Hati x Eden Kitchen Kefamenanu NTT for their willingness to be the subject of this study and for providing valuable data and insights. Special thanks to the manager and staff who participated in the interviews and observation process. The first author acknowledges the valuable mentorship and guidance provided by the second author throughout the research process, exemplifying productive cross-institutional academic collaboration. The authors also thank both the Faculty of Economics and Business Universitas Terbuka and the Faculty of Islamic Economics and Business IAIN Ternate for their academic support during this research.

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Authors' Bibliography

Maria Lusitania Tantry Senak was born in Kefamenanu, East Nusa Tenggara, Indonesia. She is currently pursuing her bachelor's degree in accounting at the Faculty of Economics and Business, Universitas Terbuka, Indonesia. Her research interests include MSME financial management, digital transformation, and business accounting systems.

Muhammad Daud Bin Mahmud was born in Ambon, Maluku, Indonesia. He received his bachelor's degree in accounting from Universitas Muhammadiyah Maluku Utara, Ternate, Indonesia and Master of Accounting degree from Universitas Gadjah Mada, Yogyakarta Indonesia. He is currently a lecturer at the Faculty of Islamic Economics and Business, IAIN Ternate. His research interests focus on Islamic finance, MSME development, and digital economy. He has been actively involved in research and teaching in the fields of islamic finance and digital transformation of MSMEs.