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The Impact of Digital Transformation on the Financial Performance of Traditional Karasa Cake MSMEs in Cempa District, Pinrang Regency

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ABSTRACT

Digital transformation has become increasingly important for micro, small, and medium enterprises (MSMEs) seeking to improve competitiveness and financial performance. However, traditional Karasa cake businesses in Cempa District, Pinrang Regency, have generally adopted digital technology for marketing and transactions, while digital financial management remains limited. This study aims to examine MSME owners' perceptions of digital transformation, identify its implementation in business activities, and analyze its contribution to financial performance. A qualitative research approach was employed through observation, in-depth interviews, and documentation. The study involved 22 active Karasa cake business owners, with the analysis of digital transformation practices focusing on nine owners who had actively adopted digital technologies. The findings show that MSME owners generally have a positive perception of digital transformation and recognize its importance for business development. Digital practices are primarily implemented through social media promotion, digital payment systems, and online ordering. These practices have contributed to increased sales, wider market reach, higher business income, more efficient transactions, and stronger production partnerships among members of the Karasa Industrial Center. Nevertheless, the adoption of digital bookkeeping and technology-based financial management remains relatively limited. The study concludes that digital transformation can support improved financial performance when integrated into broader business management practices. Strengthening digital literacy, financial technology skills, and technology-based business assistance is therefore essential to maximize the benefits of digital transformation for traditional MSMEs.

1. Introduction

The rapid development of information and communication technology has accelerated digital transformation across various economic sectors, including micro, small, and medium enterprises (MSMEs). In an increasingly digital business environment, the ability to adapt to technological developments has become essential for maintaining competitiveness and business sustainability. Agit (2024) emphasizes that businesses across sectors must be capable of responding to these challenges, as companies that fail to keep pace with technological developments risk being marginalized and losing market share. In Indonesia, this challenge has received particular attention from the Coordinating Minister for Economic Affairs, as stated in Press Release Number HM.4.6/553/SET.M.EKON.3/10/2022, which highlights the need for MSMEs to accelerate business transformation, particularly through digitalization, to remain competitive amid intensifying market competition.

The importance of digital transformation in the MSME sector is closely associated with its contribution to the Indonesian economy. Arifa et al. (2025) report that, as of August 2024, MSMEs contributed 60.34% of Indonesia's gross domestic product (GDP). Furthermore, MSMEs were reported to absorb approximately 88.8% to 99.9% of businesses and between 51.7% and 97.2% of the workforce. These figures underscore the strategic role of MSMEs in supporting economic growth and employment. Consequently, improving their capacity to adapt to digital developments is

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important not only for individual business performance but also for broader economic development.

Digital transformation, however, extends beyond the adoption of technological tools. Arfianty et al. (2025) explain that it is often interpreted as the conversion of conventional business practices into fully digital operations. Although technology adoption is an important component, digital transformation also involves changes in business mindsets, strategies, operational processes, and interactions between business actors and consumers. Similarly, Idrus et al. (2024) define digital transformation as a comprehensive process through which individuals, organizations, and businesses utilize digital technologies to improve efficiency, effectiveness, added value, and competitiveness. Nevertheless, conventional mindsets among MSME actors can hinder this process. Sulastri and Fatimah (2025) identify conventional thinking as one of the factors underlying differences in perceptions of digital transformation, indicating the need for greater openness to technological opportunities. In this regard, Arodhiskara and Rosadi (2023) suggest that the increasing level of digital literacy in society provides opportunities for the development of a more digitally literate population.

The development of internet access and improvements in digital and financial literacy provide a broader context for examining the readiness of Indonesian MSMEs to embrace digital transformation. Data from surveys conducted by the Financial Services Authority (OJK), the Ministry of Communication and Informatics through the Indonesia Digital Society Index (IMDI), and the Indonesian Internet Service Providers Association (APJII) indicate an upward trend between 2022 and 2024.

Table 1. Digital Literacy, Internet Users, and Financial Literacy Levels in Indonesia, 2022–2024

Year	OJK Survey: Financial Literacy Level	Ministry of Communication and Informatics Survey (IMDI): Digital Literacy	Internet Users (APJII)
2022	38.03%	37,80	77,01%
2023	49.68%	43,18	78,19%
2024	65,43%	43,34	79,50%

Source: Survey data from OJK, the Ministry of Communication and Informatics (IMDI), and APJII, as presented in the original research background.

Despite these developments, improvements in digital literacy, financial literacy, and internet access do not necessarily translate into optimal digital transformation at the business level. Kartika Rahmawati et al. (2025) found that digital literacy, financial digitalization, and sales digitalization affected the business revenue cycle, whereas digital skills did not have a statistically significant effect on business income. Ar and Nurwani (2024) further emphasize the importance of digital media utilization and digital marketing strategies in improving sales and financial performance. These findings suggest that the availability of digital technologies and general improvements in literacy may be insufficient unless MSME actors can translate these resources into effective business practices.

From a financial perspective, Zahari et al. (2025) explain that MSME performance encompasses the ability to generate and manage revenue, control costs, improve operational efficiency, maintain profitability, and support business growth and sustainability. Faturrahman et al. (2025) identify a significant relationship between digital transformation and MSME financial performance, particularly through improvements in business efficiency, market reach, innovation, and financial management. Similarly, Wardana and Fauziah (2025) and Faturrahman et al. (2025) highlight the potential of digital technology to increase productivity, expand market access, and improve access to financial resources. Collectively, these studies indicate that digital transformation can support financial performance, although its benefits depend on how effectively digital technologies are integrated into business operations.

This issue is particularly relevant to traditional *Karasa* cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency, which constitute the research setting of

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this study. Some business actors have adopted digital media for promotion, sales, and product ordering, while others have begun using bank transfers for financial transactions. Nevertheless, several challenges remain, particularly the limited use of social media for business development and the inadequacy of financial record-keeping practices. These conditions indicate a potential gap between the adoption of digital tools and their effective utilization for improving business financial performance.

The consequences of limited digital adaptation are also reflected in previous research. Saputra et al. (2025) explain that inadequate digital literacy and the inability to adapt to technological developments may threaten business sustainability through the potential loss of market share and declining financial performance. Similarly, Fatima et al. (2025) highlight that difficulties in utilizing digital systems can constrain business development and financial performance, particularly when MSMEs continue to rely on conventional business models. These findings reinforce the importance of investigating not merely whether digital technologies are adopted, but also how they are utilized to support financial management and business development.

Although digital transformation among MSMEs has been examined in various research contexts, further investigation is needed into its relationship with financial performance at the local business level. In particular, the utilization of social media platforms such as TikTok, Shopee, and WhatsApp presents an important issue because their use does not necessarily reflect a deliberate strategy for business development and expansion. Moreover, the challenges experienced by traditional *Karasa* cake MSMEs in Pinrang Regency, particularly regarding digital business utilization and financial record-keeping, provide a specific context for examining this issue.

Accordingly, this study aims to examine digital transformation and its implications for the financial performance of traditional *Karasa* cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency. The study focuses on understanding how digital technology is utilized in business activities and how existing implementation challenges relate to financial performance. The research is expected to contribute theoretically by extending the discussion of digital transformation and MSME financial performance to a specific traditional food-business context. Practically, the findings are expected to provide insights for MSME actors and relevant stakeholders in developing more effective digital utilization strategies, strengthening financial record-keeping practices, and improving business sustainability. The novelty of this study lies in its contextual examination of digital transformation among traditional *Karasa* cake MSMEs, particularly the distinction between adopting digital platforms and utilizing them strategically to support business development and financial performance.

2. Literature Review

2.1 Conceptual and Theoretical Foundations

2.1.1. MSME Digitalization

MSME digitalization, according to Faturrahman et al. (2025), can be defined as an effort to accelerate MSME development amid the rapid advancement of digital technology. Digitalization programs currently being widely promoted among MSMEs include e-commerce, which involves strengthening MSME capacity in digital marketing through various social media platforms.

Bachtiar et al. (2024) explain that MSME digitalization represents a transition from conventional systems to digital-based practices aimed at improving the effectiveness and efficiency of MSME business and operational processes. Through digitalization, MSME actors can transform their business management practices from conventional approaches into more modern ones.

Meanwhile, according Kartika Rahmawati et al. (2025), MSME digitalization is the process of utilizing digital technology across various operational and managerial aspects of a business. This includes the use of the internet, software,

The digitalization model currently widely promoted for MSME management, according to Arifah et al. (2025), consists of Digital Marketing and Digital Payment. The explanation of these two components can be described as follows:

a. Digital Marketing

Understanding digital marketing first requires an understanding of the meaning of marketing itself. In a literal sense, marketing can be defined as

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the process of planning and executing activities related to concept development, pricing, promotional strategies, and distribution strategies for ideas, products, and services offered by a company, with the objective of creating mutually satisfying exchanges for both customers and the company.

b. Digital Payment

Digital Payment, a payment system developed to facilitate electronic payments for goods and services through the internet. *Digital Payment*, also known as digital payment, can also be defined as a form of payment that utilizes electronic media such as *SMS Banking*, *Internet Banking*, *Mobile Banking*, and electronic wallets (*e-wallets*). These transactions can be carried out using electronic devices.

2.1.2. Digital Transformation of MSMEs

Digital transformation is a form of strategic integration of digital technology across all areas of a business or organization, fundamentally changing how it operates, interacts with customers, and creates new value. This process involves modernizing applications, automating manual processes, and utilizing data to improve efficiency and organizational culture.

That digital transformation should not be viewed merely from the perspective of technology utilization. Instead, it encompasses several important aspects that require more in-depth consideration. Digital transformation is therefore viewed as a process rather than merely the adoption of technology, as it also involves cultural changes that require business actors to continuously innovate, adapt, and restructure conventional work practices to align with the dynamics of the digital era

a. Relationship Pattern between Digitalization and Digital Transformation

In their book, explain that digitalization and digital transformation have a hierarchical and sequential relationship pattern (linear-ecosystem). Digitalization represents a process-oriented element involving automation and is based on digitization (data). Both digitization and digitalization serve as essential prerequisites for achieving a more strategic form of digital transformation that involves deeper changes in organizational practices and social culture.

Meanwhile, that digitalization and digital transformation are two closely related concepts, but they differ in terms of the degree of change and their implications for organizational and MSME management. Their relationship is hierarchical and continuous, with digitalization serving as an initial stage toward more comprehensive digital transformation.

b. Differences Between Digitalization and Digital Transformation

In their book, explain that digitalization and digital transformation are two distinct concepts, although they are complementary to one another. One of the main differences between the two can be examined in terms of their meaning, as follows:

1) Digitalization can be defined as the use of digital-based technology to automate, improve, or simplify business and operational processes. It focuses on improving existing processes.
2) Digital Transformation refers to a profound and comprehensive change in organizational culture, strategies, and business models through the utilization of digital technology to improve business performance, both in terms of financial performance and other aspects of organizational performance

2.1.3. Scope of Digital Transformation in MSMEs

According to Saputra et al. (2025), the scope of digital transformation, particularly among MSMEs, encompasses the modernization of conventional operations into technology-based business practices aimed at improving efficiency, market reach, and competitiveness. In general, the scope of digital transformation consists of the following:

1) Digital-Based Marketing and Sales (Digital Marketing & E-Commerce)
   The use of e-commerce includes social media and other digital marketing techniques, such as Search Engine Optimization (SEO) and content marketing. These approaches are intended to enable MSMEs to expand their market reach.
2) Digital-Based Finance and Payments (Financial Technology & Digital Payment)
   Implementation includes digital-based cashier systems (Point of Sale/POS), digital wallets, and financial record-keeping applications to monitor

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cash flows in real time, thereby supporting the preparation of financial reports.

3) Operations and Management (Internal Tools)
   This involves the use of software for inventory management, logistics, and production automation, with the aim of increasing business productivity.
4) Human Resources and Digital Literacy
   This refers to efforts to improve the capacity of MSME human resources so that they are able to operate digital technologies effectively, including developing awareness of cybersecurity.

2.1.4. Financial Performance of Micro, Small, and Medium Enterprises (MSMEs)

Performance, in general, can be defined as the achievement or success of an organization in managing and conducting its business activities. When related to the financial performance of MSMEs, that MSME performance can also be understood as the achievement or level of success attained by MSME actors based on several factors, including skills, experience, commitment, and the capabilities of those involved in managing an MSME. These factors enable MSME actors to utilize all available resources as effectively and efficiently as possible, thereby increasing business income and improving financial management.

Meanwhile, within the context of digital marketing, the financial performance of MSMEs can be defined as the result of evaluating the activities carried out by an organization by comparing them with predetermined criteria. These criteria are based on specific objectives or targets to be achieved, such as increasing income, managing financial resources effectively and efficiently, and implementing digital-based financial management.

Another perspective on MSME financial performance is provided by Wardana and Fauziah (2025), who state that MSME performance can be measured from both financial and non-financial perspectives. The financial perspective is based on the results of actions undertaken in the past, while the non-financial perspective includes customer satisfaction, productivity and cost-effectiveness of internal business processes, as well as the commitment of personnel or business managers. These factors can influence and determine the financial performance of a business in the future.

2.2. Review of Empirical Studies

Previous studies have examined the relationship between digital transformation, MSME development, and business performance, although their findings vary according to the research context and the dimensions investigated.

Saputra et al. (2025), in their study of MSMEs in Bandar Lampung, examined digital transformation threats and digital disruption in relation to business sustainability. Their findings indicated that the threat of digital transformation did not have a significant effect on MSME sustainability. The study also highlighted the importance of adaptive capabilities, digital literacy, and access to technological resources in responding to digital disruption. These findings suggest that the implications of digital transformation depend partly on the preparedness of individual businesses.

Kuswinardi et al. (2024) investigated the influence of a digital transformation mindset on MSME business improvement. Their findings indicated that technological understanding, adaptability, innovation, and willingness to take risks were associated with a positive and significant effect on business improvement. This evidence highlights the importance of managerial mindsets in determining how MSMEs respond to technological change.

Kartika Rahmawati et al. (2025) examined digital transformation and income growth among women-owned MSMEs in Jabodetabek. Their findings showed that digital literacy had a positive and significant relationship with digital transformation, while digital skills did not have a significant effect on digital transformation. The study also found that digital transformation had a positive and significant effect on income. These results demonstrate the importance of distinguishing between different dimensions of digital capability and their respective relationships with business outcomes.

Faturrahman et al. (2025) examined digital transformation as a means of developing MSMEs and promoting local economic growth. Their findings emphasized the contribution of digital transformation to market expansion, communication effectiveness, and competitiveness. Nevertheless, limitations in digital literacy, infrastructure, and business readiness remained important barriers to implementation.

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Pratamansyah (2024) investigated digital transformation and MSME growth in Indonesia. The findings indicated that digital transformation positively affected MSME performance through increased income, broader market reach, and improved operational efficiency. The study also highlighted the role of internet access in strengthening the relationship between digital transformation and business performance, while limited connectivity and high internet costs remained barriers to adoption.

Taken together, these studies indicate that digital transformation can support MSME development and financial performance, but its implementation and outcomes depend on business readiness, managerial mindsets, digital capabilities, and access to technological infrastructure. However, the cited studies differ in their research settings, analytical approaches, and emphasis on business outcomes. Their findings do not fully explain how digital technologies are actually used by traditional food-business operators, how those operators understand the distinction between digitalization and digital transformation, or how their everyday practices relate to financial administration and business sustainability.

2.3. Identification of the Research Gap

The reviewed literature establishes the relevance of digitalization and digital transformation to MSME development. Previous studies have addressed business improvement and managerial mindsets (Kuswinardi et al., 2024), digital transformation and income growth (Kartika Rahmawati et al., 2025), local economic development (Faturrahman et al., 2025), business performance in Indonesia (Pratamansyah, 2024), and the threats associated with digital disruption (Saputra et al., 2025).

Nevertheless, several contextual and analytical gaps remain relevant to the present study. First, the existing studies cited in this review address MSMEs across different sectors and geographical settings, leaving the specific experiences of traditional Karasa cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency, insufficiently explained within the reviewed literature.

Second, the distinction between adopting digital tools and undertaking broader digital transformation requires further contextual examination. The use of social media, digital ordering, and electronic payments may indicate digitalization, but it does not necessarily demonstrate changes in business strategy, financial management, or decision-making. Understanding this distinction requires examining actual business practices alongside the perceptions and experiences of MSME actors.

Third, the relationship between digital transformation practices and financial performance requires further exploration at the level of everyday business management. Although previous research has associated digital transformation with income, operational efficiency, and business development, the experiences of traditional Karasa cake sellers regarding financial record-keeping, operational costs, business income, and sustainability remain the focus of this study.

To address these gaps, the present study adopts a qualitative approach to examine digital media utilization, MSME actors' perceptions of digital transformation, the practices implemented in business management, and their perceived implications for financial performance. Its contribution lies in providing a context-specific understanding of digital transformation among traditional food MSMEs rather than assuming that the adoption of digital technologies automatically produces comprehensive business transformation.

2.4. Development of the Conceptual Framework

The conceptual framework of this study, entitled "The Impact of Digital Transformation on Improving the Financial Performance of Traditional Karasa Cake MSMEs in Cempa District, Pinrang Regency," is presented in the following figure:

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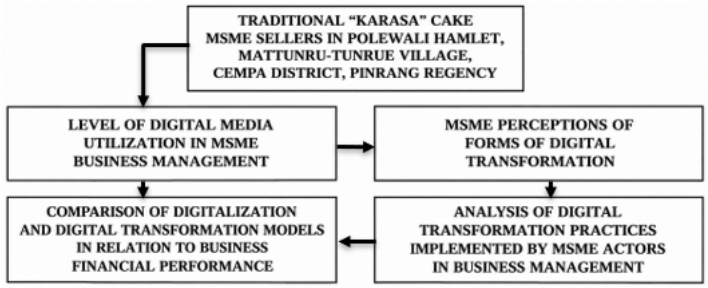


Fig. 1. Conceptual Framework

Stage 1: Traditional "Karasa" Cake MSMEs in Cempa District, Pinrang Regency

This conceptual framework places traditional "Karasa" cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency, as the social context and primary unit of analysis of the study. The conceptual framework emphasizes that this study is contextual and grounded in local realities, where business characteristics, the backgrounds of MSME actors, and the local socio-economic environment are integral parts of the digital transformation process being investigated.

Stage 2: Level of Digital Media Utilization in Business Management

This stage focuses on describing the factual conditions regarding the extent to which MSME actors utilize digital media in managing their businesses. At this stage, the study does not aim to determine whether the practices are right or wrong, but rather to explore the actual practices carried out by MSME actors.

Stage 3: MSME Perceptions of Digital Transformation Practices

This stage directs the analysis toward the subjective aspects of MSME actors, particularly how they understand and interpret the concept of digital transformation. The main focus includes:

MSME actors' perceptions of digital technology; Their understanding of the differences between digitalization and digital transformation; and Their attitudes toward changes in work patterns from conventional to digital-based practices.

In accordance with the qualitative approach adopted in this study, MSME actors' perceptions are highly important because their understanding and mindset determine the direction and quality of digital transformation implementation.

Stage 4: Analysis of Digital Transformation Practices Implemented by MSME Actors in Business Management

This stage represents the analytical phase that connects perceptions with actual practices. At this stage, the researcher analyzes in depth: The forms of digital transformation actually implemented; How digital technology changes work practices, marketing strategies, and financial management; and The extent to which these changes remain partial forms of digitalization or have progressed toward changes in mindset and decision-making. This stage emphasizes that digital transformation is understood as a process rather than merely the use of technological tools.

Stage 5: Comparison of Digitalization and Digital Transformation Models in Relation to Business Financial Performance

The final stage involves a qualitative comparative analysis between practices that remain at the level of digitalization, where technology is primarily used as a supporting tool, and practices that have progressed toward digital transformation, involving changes in the way the business is managed. This comparison is then related to its impact on the financial performance of MSMEs, assessed through: Changes in business income; Operational cost efficiency; The level of regularity and organization of financial record-keeping; and Business sustainability.

This stage provides a holistic understanding of the extent to which digital transformation affects the financial performance of MSMEs, while also identifying the **supporting and inhibiting factors** involved in the process.

2.5. Research Propositions

Because this study adopts a qualitative approach, the conceptual framework is used to guide the investigation rather than to establish statistical hypotheses. The research focuses on

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understanding actual practices, subjective perceptions, and the perceived implications of digital transformation for the financial performance of traditional Karasa cake MSMEs.

The investigation is guided by the following research propositions:

Proposition 1: Digital media utilization in MSME business management. The study examines how traditional Karasa cake MSME actors utilize digital media for promotion, sales, product ordering, and payment, as well as the limitations they encounter in implementing these practices.

Proposition 2: MSME actors' perceptions of digitalization and digital transformation. The study explores how MSME actors understand digital technology, distinguish digitalization from digital transformation, and interpret the implications of technological change for conventional business practices.

Proposition 3: Digital transformation practices in business management. The study investigates the extent to which digital technology is used as a supporting tool or incorporated into broader changes in marketing strategies, financial administration, business management, and decision-making.

Proposition 4: Digital transformation and MSME financial performance. The study explores how MSME actors perceive and experience the relationship between digital transformation practices and business income, operational cost efficiency, financial record-keeping, and business sustainability.

These propositions are consistent with the five-stage conceptual framework and the qualitative orientation of the study. They guide data collection and interpretation without presupposing a causal relationship or a statistically significant effect. The findings are expected to clarify how digitalization and digital transformation are practiced and understood in the specific context of traditional Karasa cake MSMEs in Pinrang Regency.

3. Research Methods

3.1 Research Design

This study employs a qualitative research approach using a case study method to examine digital transformation and its implications for the financial performance of traditional Karasa cake micro, small, and medium enterprises (MSMEs) in Cempa District, Pinrang Regency. Sugiyono (2023) explains that qualitative research seeks to explore and understand the meanings individuals or groups attribute to social problems. The case study method enables an in-depth investigation of a particular case through multiple data collection procedures within a defined period.

This design is appropriate for examining the actual use of digital media, MSME actors' perceptions of digital transformation, and the implementation of digital technologies in business management. Rather than testing predetermined statistical relationships, the study seeks to understand how digital practices are implemented and how MSME actors perceive their implications for business income, operational cost efficiency, financial record-keeping, and business sustainability.

3.2. Research Context and Setting

The study focuses on traditional Karasa cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency, South Sulawesi, Indonesia. This setting was selected to examine digital transformation in the context of traditional food businesses whose operational practices, marketing activities, and financial management may vary in their use of digital technology.

The research context allows the study to investigate the extent to which MSME actors use digital media for promotion, sales, product ordering, and payment transactions. It also provides an opportunity to explore differences in digital utilization and perceptions of digital transformation among business actors with varying levels of technological adoption.

3.3. Research Participants and Informant Selection

The study uses informants who are considered capable of providing information relevant to the research objectives. That a social situation in qualitative research encompasses actors, places, and activities, which provide the context for identifying relevant informants. Similarly, Fenny Moniaga (2024) describes informants as individuals who possess relevant knowledge, competence, or experience and can provide information that helps researchers understand the phenomenon under investigation.

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The main informants in this study are traditional Karasa cake MSME actors classified according to their levels of digital media utilization: high, moderate, and low. A village government official is also identified as a supporting informant to provide information concerning government policies supporting MSME development.

Table 2. Research Informants

Informant Category	Number	Description
Main informants: MSME actors with high digital utilization	4 MSMEs	MSMEs with high levels of digital utilization
Main informants: MSME actors with moderate digital utilization	3 MSMEs	MSMEs with moderate levels of digital utilization
Main informants: MSME actors with low digital utilization	2 MSMEs	MSMEs with low levels of digital utilization
Supporting informant	1 person	Village government official, particularly concerning government policies supporting MSME development
Supporting informants	10 people	Roles and characteristics not specified in the original research description

Source: Original research design.

The selection criteria for the main informants are based on their actual use of digital media, payment practices, financial record-keeping, and integration of digital technology into business management.

Table 3. Criteria for Selecting Main Informants

Informant Category	Number	Selection Criteria
MSMEs with high digital utilization	4 people	1. Actively use social media, including WhatsApp, Facebook, TikTok, and other platforms. 2. Have implemented digital payments or transactions, such as QRIS, bank transfers, or electronic wallets. 3. Have begun maintaining financial records, either manually or digitally. 4. Use digital media to support business decision-making.
MSMEs with moderate digital utilization	3 people	1. Use digital media on a limited basis, for example, only WhatsApp. 2. Do not yet use digital payments consistently. 3. Maintain only simple financial records. 4. Have not yet integrated digital media into business strategies.
MSMEs with low digital utilization	2 people	1. Rarely use digital media and demonstrate resistance to technology. 2. Rely primarily on cash transactions. 3. Do not maintain financial records.

Source: Original research design.

The classification provides a basis for comparing differences in digital practices and examining how these differences relate to MSME actors' perceptions of digital transformation and financial management.

3.4. Data Sources and Data Collection

The study relies on qualitative information obtained from research informants and observations of business practices. The original research design identifies observation, interviews, and documentation as data collection techniques.

Observation is intended to identify the actual use of digital media in business activities, including promotion, sales, product ordering, and payment transactions. Interviews provide information about informants' experiences, perceptions, and understanding of digitalization and digital transformation. Documentation serves as a complementary source of information relevant to the research focus.

These techniques support the examination of digital practices from multiple perspectives. However, the original methodological description

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does not specify the interview protocol, duration of data collection, or particular documents collected. Such details should be included in the final manuscript if they are available from the actual research process.

3.5. Research Focus and Instruments

As a qualitative case study, this research focuses on understanding digital transformation practices and their perceived implications for MSME financial performance. The main analytical concepts are organized as follows.

Table 4. Research Focus and Analytical Dimensions

Research Focus	Analytical Dimensions
Digital media utilization	Use of social media for promotion and sales, product ordering, and digital payment transactions
MSME actors' perceptions of digital transformation	Understanding of digital technology, distinctions between digitalization and digital transformation, and attitudes toward changes in conventional business practices
Digital transformation practices	Integration of digital technology into marketing, business management, financial administration, and decision-making
MSME financial performance	Business income, operational cost efficiency, regularity and organization of financial records, and business sustainability

Source: Synthesized from the original research framework.

Data collection is based on qualitative techniques, particularly observation, interviews, and documentation. The original research description does not identify a standardized measurement scale or provide a detailed research instrument. Therefore, no quantitative measurement scale is specified in this study.

3.6. Data Analysis Techniques

Qualitative data analysis involves organizing and classifying information according to relevant categories to produce findings consistent with the research objectives. Sugiyono (2023) describes qualitative data analysis as a process of organizing information, identifying relevant categories, interpreting findings, and drawing conclusions.

This study adopts the interactive data analysis model developed by Matthew B. Miles and A. Michael Huberman. This model treats qualitative analysis as an ongoing process conducted throughout data collection and interpretation. The model comprises three principal analytical components: data reduction, data display, and conclusion drawing or verification. The research process also includes data collection as the initial and continuing component of the analytical cycle.

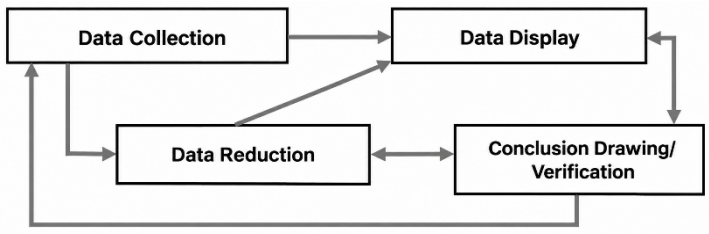


Fig. 2. Qualitative Data Analysis Model Based on Miles and Huberman

The analytical procedures, as cited by Fenny Moniaga (2024), are described below.

a. Data Collection

Data collection involves gathering information at the research site through observation, interviews, and documentation. The process includes identifying relevant information, maintaining a focus on the research objectives, and collecting additional data as the investigation progresses.

b. Data Reduction

Data reduction involves selecting, summarizing, simplifying, and organizing information obtained from the field. The researcher identifies relevant information, recurring themes, and patterns associated with digital media utilization,

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perceptions of digital transformation, business management practices, and financial performance. Information that falls outside the research focus may be excluded from the analytical process to facilitate a clearer understanding of the phenomenon.

c. **Data Display**
Data display involves organizing and presenting the reduced data in a structured form. The information may be presented through descriptive narratives, categories, diagrams, relationships among themes, or flowcharts. This process facilitates the comparison of informants' experiences and the identification of patterns in digital transformation practices.

d. **Conclusion Drawing and Verification**
Conclusion drawing involves interpreting the analyzed information to formulate findings relevant to the research objectives. Initial conclusions are examined against the available evidence and revised when necessary as additional information becomes available. The conclusions are considered credible when they are supported by consistent and relevant evidence.

These analytical components are interconnected and may be revisited throughout the research process. The approach enables the researcher to compare the practices of MSMEs with different levels of digital utilization and examine their perceived implications for financial performance.

3.7. Validity, Reliability, and Trustworthiness

The qualitative design requires attention to the credibility and consistency of the findings. The use of observation, interviews, and documentation provides multiple forms of information that can support the interpretation of the research phenomenon.

However, the original methodological description does not explicitly specify the procedures used to establish credibility, dependability, confirmability, or triangulation. Although triangulation is mentioned in the general discussion of qualitative data analysis by Sugiyono (2023), the specific triangulation procedure implemented in this study is not described. The final manuscript should therefore report the actual procedures used, if applicable, rather than assume that a particular validation technique was conducted.

3.8. Ethical Considerations

The research involves information obtained from MSME actors and a village government official. The original methodological description does not provide specific details concerning informed consent, participant anonymity, confidentiality, data protection, or ethical approval.

For the final manuscript, the researcher should document the ethical procedures actually followed during data collection, including how participants were informed about the research and how their information was handled. No claim of ethical approval or formal consent procedure is made here because these details were not provided in the original research description.

3.9. Research Procedure

The research procedure follows the qualitative case study design and the interactive data analysis model. The principal stages are as follows:

a. Research focus identification: Establish the research focus on digital media utilization, perceptions of digital transformation, business management practices, and financial performance among traditional Karasa cake MSMEs.
b. Informant identification: Identify relevant MSME actors according to their levels of digital utilization and identify supporting informants who can provide contextual information.
c. Data collection: Gather qualitative information through observation, interviews, and documentation.
d. Data reduction: Select and organize information relevant to the research objectives and identify emerging themes and patterns.
e. Data display: Present the organized information through descriptive narratives, categories, and other appropriate analytical formats.
f. Conclusion drawing and verification: Interpret the findings, examine their consistency with the collected evidence, and formulate conclusions addressing the research objectives.

These stages are iterative rather than strictly linear. Data collection and analysis may proceed concurrently, allowing the researcher to refine the analytical focus as the study develops.

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3.10. Methodological Limitations

The findings of this qualitative case study are situated within the context of traditional Karasa cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency. Consequently, the findings are intended to provide contextual understanding rather than statistical generalizations to all MSMEs.

The study also relies on qualitative evidence concerning digital practices, perceptions, and financial management. Its analytical focus is therefore on understanding experiences and perceived relationships rather than estimating statistically significant causal effects. Further methodological details, including the duration of data collection, the procedures for establishing trustworthiness, and the roles of all supporting informants, should be reported where available to strengthen transparency and facilitate assessment of the study's scope.

4. Results and Discussion

4.1. Research Results

4.1.1. Sample Description and Descriptive Overview

a. Development of the Traditional Karasa Cake Business

Traditional Karasa cake production represents an important economic activity in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency. Karasa is a traditional Bugis food produced primarily through home-based businesses and passed down across generations, providing a source of livelihood for local communities, particularly women and housewives.

According to information provided by the village head, eight active Karasa business groups operate in the area: Raihan Mandiri, Mawar, Finalis Mamminasae, Tunas Harapan, Melati, Al Multazam, Gemilang, and Teratai. In 2024, the Karasa Industrial Center was established to strengthen coordination among business groups, facilitate collective marketing, and support agreements on product selling prices.

Despite these institutional initiatives, field observations and interviews indicated a decline in business activity, particularly in sales and the number of producers who remained active. Mrs. Tanti, owner of Sinar Mutiara Store, explained that the decline had affected both production and marketing activities. She stated:

"The Karasa business in Polewali Hamlet can currently be considered to be experiencing a decline, particularly in terms of sales. This condition has resulted in a decrease in the number of business actors who remain active in producing and marketing Karasa."

Similarly, Mrs. Hj. Liati emphasized the importance of collective marketing efforts to increase sales and encourage inactive business members to resume production.

These findings indicate that the principal challenge is not limited to production capacity but also concerns market access, sales development, and the sustainability of business activities.

b. Characteristics of Business Actors and Digital Technology Utilization

Observations of approximately 22 active business actors across several groups indicated that digital technology adoption was uneven. Nine business actors were identified in the original research as having implemented digital transformation practices. Their activities included bank transfers, digital media for promotion and marketing, online ordering, and, in some cases, cashless payments through QRIS or electronic wallets.

Table 5. Digital Practices among Identified Karasa Business Actors

No.	Business Actor	Business Group	Transfer		Non-Cash	Media Digital	
			Payment Collection	Raw Material Payment	QRIS/E-Wallet Payment	Promotion/Marketing	Ordering
1	Ibu Tanti	Raihan Mandiri	✓	✓	✓	✓	✓
2	Ibu Darmawati	Mawar	✓	✓	–	✓	✓
3	Selviani	Raihan	✓	–	–	✓	✓

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		Mandiri					
4	Erna	Raihan Mandiri	✓	–	–	✓	✓
5	Hj. Nani	Raihan Mandiri	✓	✓	–	✓	✓
6	Syarifuddin	Raihan Mandiri	✓	✓	✓	✓	✓
7	Hj. Liati	Melati	✓	✓	✓	✓	✓
8	Hj. Suhartina	Tunas Harapan	✓	✓	–	✓	✓
9	Rita Hakim	Al-Multazam	✓	–	–	✓	✓

Source: Original field identification data.

As presented in Table 5, all nine identified business actors used bank transfers, digital media for promotion and marketing, and online ordering. Four business actors used QRIS or electronic wallets, while five did not use these cashless payment methods. The table also indicates differences in the use of bank transfers for raw material payments.

These findings describe digital technology adoption as a combination of marketing, ordering, and transaction practices rather than a uniform transformation of all business management activities.

4.1.2. Data Quality and Preliminary Analysis

As a qualitative case study, this research does not rely on statistical tests of normality, multicollinearity, reliability coefficients, or model fit. The preliminary analysis instead focuses on organizing field observations, interview information, and business records relevant to digital technology utilization and financial performance. The analysis compares the practices of identified business actors, their marketing reach, sales methods, average sales volumes, and reported financial record-keeping practices. The data are examined descriptively to identify differences in digital utilization and their implications for business activities. The available research materials do not report a formal data-quality assessment or a documented triangulation procedure. Accordingly, no statistical diagnostic results or formal validation coefficients are presented.

4.1.3. Main Analytical Results

a. Digital Transformation Practices and Sales Performance

The identification results show that digital media has become part of the marketing and ordering activities of the nine business actors. However, the use of digital technology varies in financial transactions and does not extend equally to financial administration.

The sales data indicate that the identified business actors serve different market segments, including retail customers, local markets, and customers outside Pinrang Regency. Their average sales volumes also vary considerably across these segments.

Table 6. Average Karasa Sales Volume among Identified Business Actors

No	Business Actor	Business Group	Marketing Scope	Sales Method	Average Sales Volume (Packages)	
					Per Week	Per Month
1	Ibu Tanti	Raihan Mandiri	Within and outside Pinrang Regency	Retail	30	120
				Local	60	240
				Outside the City	200	800
2	Ibu Darmawati	Mawar	Pinrang Regency	Retail	15	60
				Local	75	300

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				Outside the City	0	0
3	Selviani	Raihan Mandiri	Pinrang Regency	Retail	22	88
				Local	117	468
				Outside the City	0	0
4	Erna	Raihan Mandiri	Pinrang Regency	Retail	33	132
				Local	82	328
				Outside the City	0	0
5	Hj. Nani	Raihan Mandiri	Within and outside Pinrang Regency	Retail	25	100
				Local	76	304
				Outside the City	90	360
6	Syarifuddin	Raihan Mandiri	Within and outside Pinrang Regency	Retail	23	92
				Local	80	320
				Outside the City	137	548
7	Hj. Liati	Melati	Within and outside Pinrang Regency	Retail	44	176
				Local	55	220
				Outside the City	115	460
8	Hj. Suhartina	Tunas Harapan	Within and outside Pinrang Regency	Retail	21	84
				Local	77	308
				Outside the City	97	388
9	Rita Hakim	Al-Multazam	Kabupaten Pinrang dan Pontren	Retail	25	100
				Local	45	180
				Outside the City	90	360

Source: Original sales data from in-depth interviews.

Table 6 indicates that the scale and geographical reach of sales differ among business actors. Ibu Tanti recorded the highest reported weekly sales outside the city, at 200 packages, followed by Syarifuddin at 137 packages and Hj. Liati at 115 packages. By contrast, Ibu Darmawati, Selviani, and Erna reported no sales in the outside-the-city category.

The differences indicate that the identified business actors have varying capacities to reach markets beyond their immediate geographical areas. These differences provide a basis for examining the role of digital marketing and business partnerships in supporting sales activities.

b. Business Income from Karasa Sales

Business income was examined using sales volume and the selling prices established through collective agreements within the Karasa Industrial Center. The original research used three selling-price categories: IDR 11,000 for retail sales, IDR 10,000 for local sales, and IDR 9,300 for sales outside the city.

Table 7. Reported Monthly Income from Karasa Product Sales

No	Business Actor	Marketing Scope	Sales Method	Price	Average Sales Volume (Packages)			
					Per Week		Per Month	
1	Ibu Tanti	Within and outside Pinrang Regency	Retail	11.000	30	330.000	1.320.000	11.160.000
			Local	10.000	60	600.000	2.400.000	
			Outside the City	9.300	200	1.860.000	7.440.000	
2	Ibu	Pinrang Regency	Retail	11.000	15	165.000	660.000	3.660.000

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	Darmawati		Local	10.000	75	750.000	3.000.000	
			Outside the City	9.300	0	0	0	
3	Selviani	Pinrang Regency	Retail	11.000	22	242.000	968.000	5.648.000
			Local	10.000	117	1.170.000	4.680.000	
			Outside the City	9.300	0	0	0	
4	Erna	Pinrang Regency	Retail	11.000	33	363.000	1.452.000	4.732.000
			Local	10.000	82	820.000	3.280.000	
			Outside the City	9.300	0	0	0	
5	Hj. Nani	Within and outside Pinrang Regency	Retail	11.000	25	275.000	1.100.000	7.488.000
			Local	10.000	76	760.000	3.040.000	
			Outside the City	9.300	90	837.000	3.348.000	
6	Syarifuddin	Within and outside Pinrang Regency	Retail	11.000	23	253.000	1.012.000	9.308.400
			Local	10.000	80	800.000	3.200.000	
			Outside the City	9.300	137	1.274.100	5.096.400	
7	Hj. Liati	Within and outside Pinrang Regency	Retail	11.000	44	484.000	1.936.000	8.414.000
			Local	10.000	55	550.000	2.200.000	
			Outside the City	9.300	115	1.069.500	4.278.000	
8	Hj. Suhartina	Within and outside Pinrang Regency	Retail	11.000	21	231.000	924.000	7.612.400
			Local	10.000	77	770.000	3.080.000	
			Outside the City	9.300	97	902.100	3.608.400	
9	Rita Hakim	Kabupaten Pinrang dan Pontren	Retail	11.000	25	275.000	1.100.000	6.248.000
			Local	10.000	45	450.000	1.800.000	
			Outside the City	9.300	90	837.000	3.348.000	

Source: Original income calculations presented in the research data.

Table 3 shows variation in reported monthly revenue among the nine business actors. Ibu Tanti recorded the highest reported monthly revenue of IDR 11,160,000, followed by Syarifuddin at IDR 9,308,400 and Hj. Liati at IDR 8,414,000. Ibu Darmawati recorded the lowest reported monthly revenue, at IDR 3,660,000.

These figures represent reported sales revenue rather than net profit. The original data do not provide a complete calculation of production costs, operating expenses, or net income for each business actor. Therefore, the figures are used to describe sales performance and should not be interpreted as direct measurements of profitability.

c. Production Capacity and Inter-Business Distribution

The research also identified a partnership mechanism through which business actors with broader market access purchased products from other producers whose sales or production capacity differed. This arrangement was facilitated by the Karasa Industrial Center.

The original research reported total sales volume of 1,544 packages per week and production capacity of 949 packages per week in its subsidy table. Additional production requirements were reported at 595 packages per week, with a total purchase value of IDR 5,533,500.

Table 8. Sales Volume, Production Capacity, and Subsidy Values

No	Business Actor	Sales	Production Capacity	Additional Production	Purchase Price	Total Purchase Value	Subsidy Value	
							Per Week	Per Month
1	Ibu Tanti	290	150	140	9.300	1.302.000	100.154	400.615
2	Selviani	139	97	42	9.300	390.600	30.046	120.185

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3	Erna	115	98	17	9.300	158.100	12.162	48.646
4	Hj. Nani	191	125	66	9.300	613.800	47.215	188.862
5	Syarifuddin	240	135	105	9.300	976.500	75.115	300.462
6	Hj. Liati	214	124	90	9.300	837.000	64.385	257.538
7	Hj. Suhartina	195	120	75	9.300	697.500	53.654	214.615
8	Rita Hakim	160	100	60	9.300	558.000	42.923	171.692
	Total	1.544	949	595		5.533.500	425.654	1.702.615

Source: Original research calculations.

Table 8 illustrates the distribution mechanism through which business actors with greater market access purchase products from other producers to fulfill demand. The original research reports a total additional income of IDR 425,654 per week, equivalent to IDR 1,702,615 per month, associated with the subsidy mechanism.

The findings indicate that the partnership extends the economic benefits of digital marketing beyond the business actors who directly reach broader markets. Other producers may also benefit by supplying products to meet additional demand.

However, the original figures require verification before publication because the reported total production capacity of 949 packages differs from the 1,039 packages stated in the accompanying narrative. The figures are retained as presented in the source table.

d. Digital Financial Record-Keeping

Although digital media was used for marketing and ordering, digital adoption in financial record-keeping remained limited. Most business actors continued to record transactions manually in simple notebooks, while some did not maintain systematic financial records.

The interviews indicated that business actors generally recognized the importance of recording sales, expenses, and income. Nevertheless, many had limited experience using digital applications for financial administration. The reported constraints included limited digital financial literacy, insufficient ability to operate financial applications, and the perception that manual records were adequate for their business needs.

These findings indicate that the adoption of digital marketing and payment practices had not necessarily been accompanied by the digitalization of financial administration.

4.1.4. Key Findings

The principal empirical findings can be summarized as follows. First, the development of the Karasa business was supported by eight business groups and the establishment of the Karasa Industrial Center in 2024. Nevertheless, the field findings indicated declining sales and a reduction in the number of active producers. Second, digital technology utilization among the identified business actors was uneven. Nine business actors were identified as implementing digital practices, all of whom used digital media for promotion and marketing, accepted bank transfers, and provided online ordering. Four used QRIS or electronic wallets, while five did not. Third, sales volumes and reported monthly revenues varied across business actors and market segments. The reported monthly revenue ranged from IDR 3,660,000 for Ibu Darmawati to IDR 11,160,000 for Ibu Tanti. Fourth, the inter-business distribution mechanism enabled business actors with broader market access to purchase additional products from other producers. The original research reported an additional income of IDR 425,654 per week and IDR 1,702,615 per month associated with the mechanism. Fifth, the adoption of digital technology remained limited in financial record-keeping. Manual notebooks continued to be the principal method used by most business actors, while digital financial applications were not yet widely adopted.

Taken together, these findings address the study's focus on digital media utilization, MSME perceptions of digital transformation, the practices implemented in business management, and their perceived implications for financial performance.

4.1.5. Visual Presentation of Results

The findings are presented through four tables covering digital practices, sales volumes, reported monthly revenue, and the inter-business distribution mechanism. These tables are intended to provide a structured overview of the main empirical evidence.

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Table 5 identifies the digital practices adopted by the nine business actors. Table 6 compares sales volumes across different market segments. Table 7 summarizes reported monthly revenue based on the original calculations. Table 8 presents the reported sales, production capacity, additional production, purchase values, and subsidy amounts.

The visual presentation highlights differences in technology utilization and business outcomes without implying that the observed differences establish a statistically tested causal effect.

4.2. Research Discussion

4.2.1. Interpretation of Key Findings

a. Understanding and Perceptions of Karasa Business Actors in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency Regarding the Benefits of Digital Transformation

Findings indicate that Karasa traditional cake MSME sellers in Polewali Hamlet generally understand digital transformation as the utilization of technology to support business activities, particularly through the use of social media for promotion, smartphones as a means of communicating with customers, and bank transfers as an alternative payment method. However, some business actors still perceive digital transformation merely as the use of digital media for selling their products.

Confirms that MSME actors' perceptions of digital transformation are still predominantly focused on marketing and transactions. In fact, digital transformation is not limited to technology utilization but also encompasses changes in mindset, business models, operational processes, and decision-making in business management. The level of understanding is therefore an important factor determining the ability of business actors to adopt digital innovation sustainably.

Study is consistent with the view of Arfianty et al. (2025), who explain that digital transformation is not merely the conversion of business activities from conventional to digital systems but rather a comprehensive process of change encompassing business strategies, operational processes, service models, and the ways in which business actors establish relationships with consumers.

Perspective is further supported by Idrus et al. (2024), who state that digital transformation is a process of changing the way business activities are conducted through the utilization of digital technology to improve efficiency, effectiveness, added value, and competitiveness. Accordingly, the use of social media and digital transactions by Karasa business actors can be viewed as an initial stage of digital transformation, although its implementation in broader business management remains suboptimal.

Furthermore, the findings support the view of Sulastri and Fatimah (2025), who argue that one of the major obstacles to digital transformation among MSMEs is not necessarily technological limitations but rather the conventional mindset of business actors. This is also reinforced by Arodhiskara and Rosadi (2023), who explain that improvements in digital literacy are an important factor in strengthening business actors' ability to utilize digital technology as part of their business activities. This condition is reflected among Karasa traditional cake business actors, who generally have positive perceptions of digital transformation, although their levels of understanding and implementation capabilities vary

Findings of this study are consistent with Kuswinardi et al. (2024), who found that MSME actors' understanding of digital transformation is generally focused on the use of digital media as a marketing tool. In addition, Saputra et al. (2025) demonstrate that digital literacy is a factor influencing the successful adoption of technology in business management. However, this study differs from the findings of Faturrahman et al. (2025) in that Karasa business actors not only utilize digital transformation to expand marketing activities but have also begun to develop digital transactions as part of their efforts to improve financial performance, although digitalization in financial record-keeping remains relatively limited.

Relationship between business actors' perceptions of digital transformation and financial performance can be observed in their increasing willingness to utilize digital technology as part of their business activities. Business actors who understand the benefits of digital transformation tend to use social media more actively for promotion, accept digital payments, and expand their marketing reach to consumers outside their immediate area. These practices have the potential

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to increase sales volume, accelerate cash flow through non-cash payments, reduce conventional promotional costs, and create opportunities for increased business profits.

Conversely, business actors who continue to perceive digital transformation merely as a promotional medium have not yet been able to utilize digital technology as an instrument for financial management and business decision-making. Consequently, its contribution to financial performance remains suboptimal.

The perceptions of business actors regarding digital transformation identified in this study are closely related to improvements in financial performance. The better business actors understand the benefits of digital transformation, the greater their opportunity to optimize marketing, expand market share, increase income, maintain healthy cash flow, and improve operational efficiency.
Thus, a positive perception of digital transformation not only influences business actors' willingness to adopt technology but also serves as a fundamental foundation for improving the financial performance of MSMEs sustainably.

b. Forms of Digital Transformation Implementation among Karasa Business Actors in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency

Implementation of digital transformation among Karasa business actors in Mattunru-Tunrue Village has begun, although the level of implementation varies among business actors. This implementation is reflected in the use of digital media for promotion and marketing, the use of bank transfers as a payment method, online ordering services, and, among some business actors, the use of cashless payments (QRIS or e-wallets) and digital transactions for purchasing raw materials. These findings indicate that digital transformation has begun to be integrated into business activities.

Implementation demonstrates changes in the way business actors conduct their business activities through the utilization of digital technology to expand marketing reach, improve communication with consumers, accelerate the ordering process, and facilitate payment mechanisms. However, digital transformation has not yet been implemented comprehensively because digitalization in business management aspects, such as financial record-keeping, business administration, and customer data management, remains relatively limited.

Findings are consistent with Idrus et al. (2024), who explain that the implementation of digital transformation is a process of changing business activities through the utilization of digital technology, including changes in operational processes, business management systems, and improvements in efficiency and competitiveness. This condition can be observed among Karasa business actors, who have experienced changes in marketing and transaction practices, although digitalization in business management has not yet developed optimally.

Also support Fatima et al. (2025), who state that the successful implementation of digital transformation is influenced by human resource readiness, digital literacy, and the ability of business actors to adapt to technological developments. Business actors with stronger digital capabilities tend to be able to integrate technology into a wider range of business activities than those with more limited capabilities.

Research findings of Andi Ar Yusran Bachtiar et al. (2026), Faturrahman et al. (2025), Pratamansyah (2024), and Kartika Rahmawati et al. (2025) also indicate that the implementation of digital transformation can improve marketing effectiveness, expand market access, facilitate transactions, increase operational efficiency, and strengthen MSME competitiveness. The present findings are consistent with these studies because Karasa business actors have utilized digital media for promotion, accepted digital payments, and provided online ordering services. However, the difference lies in the fact that digital transformation among Karasa business actors remains predominantly focused on activities directly related to marketing and transactions, while digitalization in business management has not yet developed optimally.

Compared with previous studies, the implementation of digital transformation among Karasa business actors remains at an early adoption stage. Most previous studies have demonstrated implementation encompassing digital marketing, digital payment, customer management, and digital-based financial record-keeping. In contrast, this

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study shows that the utilization of digital technology remains primarily focused on improving marketing and transaction activities, while integration into the overall business management system has not yet been fully achieved.

Overall, the implementation of digital transformation among Karasa business actors demonstrates a shift toward more modern business processes but still requires strengthening in the area of business management. Improvements in digital literacy, mastery of business applications, and assistance in digital-based business management are needed to ensure that digital transformation does not merely support marketing and transactions but also improves operational efficiency, management quality, and MSME sustainability.

c. The Impact of Digital Transformation on the Financial Performance of Karasa Business Actors in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency

Digital transformation in this study has had a positive impact on the financial performance of Karasa business actors in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency. This impact is reflected in increased sales volume, higher business income, greater convenience in financial transactions, and broader marketing reach through the utilization of digital media. Business actors who actively use social media for promotion, accept payments through bank transfers and cashless payment methods, and provide online ordering services tend to experience higher transaction frequency than those who continue to rely on conventional marketing methods.

Increase in sales activity contributes directly to higher business income. The broader market access obtained through digital media provides greater opportunities for business actors to acquire new customers while retaining existing ones. This condition contributes to increased business cash receipts and smoother cash flow, as some transactions are conducted through digital payment systems that are faster, more secure, and better documented.

Perspective of Idrus et al. (2024) helps explain the conditions identified in this study. They state that digital transformation is not merely the utilization of technology but also a process of changing business activities that can improve operational efficiency, business management effectiveness, and added value, ultimately strengthening competitiveness and business performance. In this study, such changes are beginning to emerge through increased sales activities, which subsequently contribute to higher income among Karasa business actors.

Condition also reflects the argument of Sulastri and Fatimah (2025) that the success of digital transformation is strongly influenced by human resource readiness, digital literacy, and the ability of business actors to utilize technology. Business actors with stronger digital literacy tend to be better able to optimize digital media for marketing and transactions, resulting in a greater impact on business income. Conversely, business actors with limited digital literacy tend to obtain relatively lower benefits because technology has not yet been utilized optimally, which ultimately affects their financial performance.

Importance of digital literacy in improving business performance, as emphasized by Arodhiskara and Rosadi (2023), is also reflected in this study. They explain that improvements in digital literacy are an important factor in strengthening business actors' ability to utilize digital technology to improve productivity and business sustainability. In the context of this study, the ability to use digital media and electronic payment systems not only facilitates transactions but also improves the efficiency of managing business receipts, thereby contributing to improved financial performance.

Relationship between digital transformation and improved financial performance is also evident in the study, which concludes that the implementation of digital marketing and digital payment has a positive effect on improving MSME sales performance. Increased sales ultimately contribute to higher income and improved financial conditions. A similar phenomenon can be observed among Karasa business actors, where the utilization of digital media increases transaction volumes and expands market reach, contributing to higher business turnover and, consequently, improved financial performance.

Findings of Kartika Rahmawati et al. (2025) provide further support for the results of this study.

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Their research demonstrates that digital transformation has a positive and significant effect on increasing MSME income. The utilization of digital technology enables business actors to reach wider markets, improve promotional effectiveness, and increase opportunities for sales transactions. These impacts have also begun to be experienced by Karasa business actors through increased product demand following the use of digital media for promotion and communication with consumers.

Study is also consistent with the findings of Pratamansyah (2024), who explains that digital transformation can improve MSME performance through increased income, operational efficiency, and expanded market access. The present study further demonstrates that these benefits are not limited to business actors who directly implement digital marketing but also extend to other business actors through the production partnership mechanism within the Karasa Industrial Center when market demand increases.

Meanwhile, Faturrahman et al. (2025) state that digital transformation plays an important role in expanding markets, improving communication effectiveness with consumers, and strengthening MSME competitiveness. This study identifies a similar condition. However, the impact of digital transformation on the financial performance of Karasa business actors has not yet been fully optimized because digitalization remains concentrated on marketing and transactions. The utilization of technology for financial record-keeping, financial reporting, cost control, and business performance evaluation remains relatively limited. Consequently, the benefits of digital transformation for financial management have not yet been fully realized.

Findings of this study demonstrate a distinctive characteristic compared with most previous studies. Previous research has generally assessed the impact of digital transformation through increases in sales and business income. In contrast, this study finds that digital transformation also strengthens financial performance through the development of a production partnership network among members of the Karasa Industrial Center. When demand increases as a result of digital marketing, business actors with limited production capacity purchase products from other business actors. Therefore, the economic benefits are not concentrated in a single business actor but contribute to increased income among group members collectively.

Overall, the implementation of digital transformation among Karasa business actors has had a positive impact on financial performance, as reflected in increased sales, higher business income, smoother financial transactions, and more efficient cash receipts. Nevertheless, the improvement in financial performance remains more strongly influenced by the success of digital marketing than by the optimization of digital financial management.

Therefore, strengthening digital literacy, the utilization of digital financial-recording applications, and technology-based financial management assistance should continue to be pursued. These efforts are necessary to ensure that digital transformation does not merely increase business turnover but also improves the quality of financial management and supports the long-term sustainability of Karasa MSMEs.

4.2.2. Comparison with Previous Studies

The findings concerning MSME actors' understanding of digital transformation are consistent with Arfianty et al. (2025), who explain that digital transformation involves comprehensive changes in business strategies, operational processes, service models, and customer relationships rather than simply converting conventional activities into digital formats. Similarly, Idrus et al. (2024) emphasize the role of digital technology in improving efficiency, effectiveness, added value, and competitiveness. The present study supports these perspectives by showing that Karasa business actors have adopted digital tools but have not yet integrated them comprehensively into business management.

The findings also align with Sulastri and Fatimah (2025), who identify conventional mindsets as an obstacle to digital transformation, and Arodhiskara and Rosadi (2023), who emphasize the importance of digital literacy in strengthening technology utilization. Among the Karasa business actors, differences in understanding and implementation are reflected in variations in marketing practices, payment methods, and financial administration.

The findings are further consistent with Kuswinardi et al. (2024), whose research indicates

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that MSME actors' understanding of digital transformation often centers on digital media as a marketing tool. Saputra et al. (2025) likewise emphasize the relevance of digital literacy to technology adoption in business management. However, the present study provides a context-specific perspective by showing that digital practices among traditional food MSMEs include not only promotional activities but also bank transfers, online ordering, and selected cashless payment methods.

Regarding implementation, the findings support Idrus et al. (2024) and Fatima et al. (2025), who emphasize the importance of digital technology, human resource readiness, digital literacy, and adaptability in the transformation process. They are also consistent with Andi Ar Yusran Bachtiar et al. (2026), Faturrahman et al. (2025), Pratamansyah (2024), and Kartika Rahmawati et al. (2025), whose studies associate digital transformation with improved marketing effectiveness, expanded market access, transaction convenience, operational efficiency, or MSME performance.

Nevertheless, the present study identifies an important contextual distinction. Digital transformation among the Karasa business actors remains concentrated in marketing and transaction activities, while digital financial record-keeping and broader managerial integration remain limited. This finding highlights the uneven development of digital transformation across different business functions.

The relationship between digital transformation and financial performance is also consistent with Idrus et al. (2024), Sulastri and Fatimah (2025), and Arodhiskara and Rosadi (2023), whose discussions emphasize efficiency, technological readiness, and digital literacy. Furthermore, Andi Ar Yusran Bachtiar et al. (2026) associate digital marketing and digital payment with improved MSME sales performance, while Kartika Rahmawati et al. (2025) report a positive relationship between digital transformation and MSME income. Pratamansyah (2024) and Faturrahman et al. (2025) similarly highlight the potential contributions of digital transformation to income, market expansion, and competitiveness.

Beyond these similarities, the present study identifies a potentially important mechanism through the Karasa Industrial Center: business actors with broader market access may purchase additional products from other producers. This arrangement suggests that the benefits of digital marketing can extend through inter-business distribution relationships. The finding adds contextual detail to the existing literature by illustrating how collective marketing and production partnerships may distribute opportunities associated with digital market access among traditional food MSMEs.

4.2.3. Theoretical Contributions

This study contributes to the understanding of digital transformation by distinguishing the adoption of digital tools from their integration into broader business management practices. The use of social media, bank transfers, online ordering, and cashless payments demonstrates practical digital adoption. However, the continued reliance on manual financial records indicates that these practices do not necessarily represent comprehensive transformation.

The findings therefore extend the contextual application of digital transformation concepts to traditional food MSMEs operating within a local production and distribution network. They show that transformation can develop unevenly across business functions, with customer-facing activities advancing while financial administration and managerial processes remain relatively conventional.

A second theoretical contribution concerns the distribution of benefits associated with digital market access. The Karasa Industrial Center provides a context in which business actors with broader market reach can support other producers through additional product purchases. This suggests that the implications of digital transformation may extend beyond individual business performance when collective marketing and distribution mechanisms connect businesses with different levels of digital utilization and production capacity.

These contributions should be understood as contextual insights rather than formal validation of a causal theory. The qualitative case study provides an explanation of practices and relationships observed in a particular setting; it does not establish a universally applicable model of digital transformation or statistically verify its effects on financial performance.

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4.2.4. Practical and Policy Implications

The findings suggest several practical priorities for Karasa MSME actors, the Karasa Industrial Center, and relevant government institutions. First, MSME actors should strengthen the strategic use of digital media for promotion, customer communication, product ordering, and market expansion. Digital tools should be selected and utilized in accordance with business needs rather than treated solely as supplementary promotional channels. Second, the Karasa Industrial Center can strengthen collective marketing and distribution arrangements. By connecting producers with different levels of market access and production capacity, the center can help distribute additional demand and create opportunities for broader participation in the local Karasa business network. The arrangements should also be supported by transparent purchasing records and clear agreements among participating producers. Third, digital financial literacy should be strengthened through practical training and mentoring. MSME actors need support in recording income and expenses, monitoring cash flow, organizing transaction records, and using appropriate digital financial applications. These practices could help business actors evaluate business performance more systematically and improve the information available for managerial decision-making. Fourth, local government and relevant institutions can support these efforts through accessible digital skills training, business mentoring, and assistance in selecting appropriate applications. Training should address both customer-facing digital activities and internal business management so that digital transformation develops across multiple business functions.

These recommendations follow directly from the observed differences in digital utilization and the limited adoption of digital financial record-keeping. They should be implemented in ways that reflect the technological capabilities, resources, and operational circumstances of local MSMEs.

4.2.5. Integration with the Research Gap

The literature review identified a need for a context-specific understanding of digital transformation among traditional food MSMEs, particularly the distinction between digital tool adoption and broader changes in business management. It also identified the need to examine how digital practices relate to financial administration and business sustainability in a local business setting.

The findings address this gap in three ways. First, they document the actual digital practices of traditional Karasa cake business actors, including digital promotion, bank transfers, online ordering, and selected cashless payment methods. Second, they demonstrate that these practices coexist with limited digitalization of financial record-keeping and business administration. Third, they identify the Karasa Industrial Center's distribution mechanism as a contextual feature through which expanded market access may generate opportunities for other producers.

The study therefore adds a localized perspective to the existing literature on MSME digital transformation. Rather than assuming that digital adoption automatically produces comprehensive transformation, it shows how adoption can remain concentrated in marketing and transactions while other managerial functions lag behind.

The findings also highlight the importance of examining collective business arrangements when studying the financial implications of digital transformation. The potential distribution of demand through inter-business purchasing offers a context-specific insight that complements research focused primarily on individual business outcomes.

4.2.6. Acknowledgement of Study Limitations

The findings are based on traditional Karasa cake MSMEs in a specific geographical and business context. Consequently, the practices identified in this study may not represent the experiences of MSMEs operating in other sectors or regions. Furthermore, the financial analysis relies primarily on reported sales volumes, selling prices, and revenue calculations. Because comprehensive cost information and net profit figures were not provided, the findings cannot establish the precise profitability attributable to digital transformation. The analysis also identifies differences in digital utilization but does not isolate the influence of other factors, such as business experience, production capacity, customer demand, and individual managerial capabilities. These factors may also contribute to differences in business outcomes.

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Finally, some figures in the original research require reconciliation, particularly the reported production capacity and the calculations associated with the inter-business purchasing mechanism. These inconsistencies limit the precision with which the financial effects can be quantified and should be resolved before the results are used to support numerical claims about additional income.

5. Conclusion

5.1. Summary of Key Findings

This study examined digital transformation among traditional Karasa cake MSMEs in Polewali Hamlet, Mattunru-Tunrue Village, Cempa District, Pinrang Regency, focusing on business actors' understanding, implementation practices, and financial performance. The findings indicate that MSME actors generally recognize the benefits of digital technology for promotion, customer communication, online ordering, and payment transactions. However, their understanding of digital transformation remains concentrated on marketing and sales activities, while the integration of digital technology into financial record-keeping and broader business management remains limited. The identified business actors demonstrated varying levels of market reach and reported sales revenue. The Karasa Industrial Center also facilitated a distribution mechanism through which business actors with broader market access could purchase products from other producers. This arrangement illustrates the potential for digital market opportunities to benefit multiple participants in the local business network.

Overall, the study concludes that digital transformation practices provide opportunities to expand market access and support sales activities among traditional Karasa cake MSMEs. However, the available evidence does not establish a precise causal effect on profitability, and more comprehensive financial management practices are needed to support the sustainability of business performance.

5.2. Theoretical Contributions

The study contributes to the literature by demonstrating that digital transformation among traditional food MSMEs may develop unevenly across business functions. The adoption of digital marketing, ordering, and payment tools does not necessarily mean that digital technology has been integrated into financial administration, managerial decision-making, and other internal processes. The study also highlights the potential role of collective distribution arrangements in extending the benefits of digital market access beyond individual businesses. The Karasa Industrial Center provides a contextual example of how cooperation among producers may connect expanded demand with additional production opportunities. These findings enrich the contextual understanding of digital transformation in traditional MSMEs. Their contribution lies in explaining the distinction between digital adoption and broader organizational change and in identifying an inter-business mechanism that may distribute the economic opportunities associated with digital marketing.

5.3. Practical and Policy Implications

The findings suggest three principal priorities for improving the digital transformation of traditional Karasa cake MSMEs. First, business actors should expand the strategic use of digital media for promotion, customer engagement, and market development. Second, the Karasa Industrial Center and relevant stakeholders should strengthen collective marketing and distribution arrangements to facilitate cooperation among producers with different levels of market access and production capacity. Third, local government and relevant institutions should provide practical training and mentoring in digital literacy, digital payment systems, and digital financial record-keeping.

Particular attention should be given to financial administration. The adoption of suitable digital recording applications, combined with training in income and expense monitoring, could help business actors assess financial performance more systematically and make better-informed decisions.

5.4. Limitations of the Study

The study is limited to traditional Karasa cake MSMEs in one local setting, which restricts the transferability of the findings to other business sectors and geographical contexts. Its qualitative design provides contextual explanations rather than statistically generalizable estimates. The financial analysis is also limited by the availability and consistency of the underlying data. Sales revenue

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does not represent net profit, and the absence of comprehensive cost information prevents a complete assessment of profitability. In addition, the reported figures concerning production capacity and inter-business purchasing require verification.

These limitations mean that the findings should be interpreted as evidence of observed digital practices and potential relationships with business outcomes, rather than definitive estimates of the causal impact of digital transformation on financial performance.

5.5. Directions for Future Research

Future research could examine traditional food MSMEs in other geographical settings and compare businesses with different levels of digital utilization. Such comparisons would help establish whether the patterns identified in the Karasa business network also occur in other local industries. Further studies could also employ quantitative or mixed-method approaches to investigate the relationships between specific dimensions of digitalization and financial performance. Relevant dimensions include digital marketing, digital payment adoption, digital financial record-keeping, digital literacy, and the integration of technology into business management.

Finally, future research could investigate inter-business partnerships and collective distribution mechanisms as potential channels through which digital market access benefits multiple producers. More detailed financial records, including production costs, operating expenses, and net profit, would enable a more comprehensive assessment of financial outcomes and provide a stronger basis for evaluating the sustainability of digital transformation among MSMEs.

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