

## Analysis of the Role of Digital Transformation in Increasing the Efficiency and Competitiveness of MSMEs at Mr. Sukadi's Super Tempe Factory

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**Abstract:** Digital transformation is a strategic step for Micro, Small, and Medium Enterprises (MSMEs) in improving operational efficiency and competitiveness in the information technology era. This study aims to examine the process, issues, and implementation of digital transformation at Mr. Sukadi Super Tempe Factory, an MSME located in Magelang City. The research approach used is qualitative descriptive with a case study method, through activities such as observation, business document analysis, and finally, interviews. The research findings indicate that the processes of financial recording, production, and marketing are still carried out manually, which can lead to potential errors in record-keeping. Nevertheless, the business owner has shown readiness to shift to a digital system and understands the importance of implementing a Management Information System.

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## Introduction

Micro, Small, and Medium Enterprises (MSMEs) are a crucial pillar of the Indonesian economy, particularly in the traditional food sector, which is closely linked to people's daily needs. One prominent MSME is Mr. Sukadi's Super Tempe Factory, which has been operating for generations and contributes to preserving the archipelago's culinary heritage while also serving as the family's primary source of income. However, the main obstacle facing this Tempe Factory is the business's manual and traditional management, lacking optimal use of information technology. (Yazid et al., 2022); (Anjarsari et al., 2021) This condition hinders operational efficiency, financial recording, and data-based decision making. Along with the rapid advancement of digital technology, digital transformation through the implementation of Management Information Systems (MIS) has become a strategic necessity so that MSMEs

such as Mr. Sukadi's Super Tempe Factory can increase productivity, competitiveness, and business sustainability in the digital economy era.(Gofar et al., 2024).

Digital transformation offers strategic solutions to address these problems through the implementation of Management Information Systems (MIS).(Hasan et al., 2021)Micro, small, and medium enterprises such as Mr. Sukadi's Super Tempe Factory can gain many benefits by implementing a Management Information System (MIS). Some of these benefits include improved transaction recording.moreAccurate data, more organized inventory management, more accurate financial reports, and more data-driven decision-making. Digitalization also allows Mr. Sukadi's Super Tempe Factory MSME to further expand its marketing reach by promoting its tempe products through marketplaces and social media, eliminating its reliance on traditional markets.(Putri et al., 2023).

The still-traditional and manual business management at Mr. Sukadi's Super Tempe Factory reflects a common phenomenon across many MSMEs in Indonesia. Unstructured transaction and operational recording and the use of manual systems lead to the risk of data loss and difficulties in business evaluation. Furthermore, the implementation of information technology in MSMEs is still hampered by low digital literacy, tight operating hours, and limited resources.sourceHowever, the growing awareness among business owners to utilize digital technology is a crucial driver for business transformation. This phenomenon opens up space to analyze the opportunities and challenges in the digitalization of traditional MSMEs and its impact on business sustainability.

This research is important because digital transformation is a key factor in strengthening the competitiveness of MSMEs amidst increasingly fierce and dynamic market competition. By adopting a Management Information System, Mr. Sukadi's Super Tempe Factory MSME can overcome the limitations of manual management that result in inefficiency and the risk of data loss. Furthermore, digitalization opens up opportunities to expand its business.networkMarketing through online platforms, which is crucial in the digital economy era. This research also provides a strategic overview of how information technology can be effectively applied to MSMEs with limited resources, thereby supporting business sustainability and development.

The novelty of this research lies in its comprehensive analysis of digital transformation, which not only focuses on the technical aspects of implementing a Management Information System but also considers the real conditions of traditional MSMEs, such as digital literacy levels, human resource readiness, and operational barriers. This research integrates approaches thatholisticby assessing the internal aspects of business management and external factors influencing the sustainability of Mr. Sukadi's Super Tempe Factory. This provides a new contribution to the literature on digital transformation of MSMEs in Indonesia's traditional food sector, which has received minimal in-depth research.

## Research Methods

This research uses a qualitative descriptive method with a case study approach. This approach was chosen to gain an in-depth understanding of the digital transformation process occurring at Mr. Sukadi's Super Tempe Factory in Magelang, within its specific context and environment. The data sources for this study include:

1. Primary sources in the form of a key informant, namely the owner of the Super Tempe Factory, Mr. Sukadi, who provided direct information regarding the process and implementation of digital transformation.
2. Secondary sources namely internal factory documents such as operational reports, digital recording system records, and other supporting documentation relevant to the case study.

Data was collected through the following techniques:

- a. In-depth interview directly with business owners to uncover the processes, motivations, and challenges of digital transformation.
- b. Participatory observation in operational activities and the use of digital recording systems running in tempeh factories.
- c. Document review in the form of internal document analysis to verify and complete data from interviews and observations.

Data analysis was carried out in three stages according to the Miles and Huberman (1994) model:

1. Data reduction

Selecting and summarizing critical information related to the digital transformation process in a tempeh factory. Data deemed irrelevant was separated to maintain focus on the core issues.

2. Data presentation

Organize and present data from observations and interviews systematically in the form of narrative descriptions to facilitate understanding of patterns and relationships between phenomena.

3. Conclusion drawing and verification

Interpret the results of data presentation based on real context and relevant supporting theories, while verifying with triangulation of sources and techniques to increase the validity of the findings.

## **Results and Discussion**

### **Business Management Conditions**

Mr. Sukadi's Super Tempe Factory is still managed traditionally, including in record-keeping, workflow, and production management. The tempe business is passed down through generations and relies on experience, not structured data. Furthermore, the operational system lacks a clear division of tasks, as the business is run by two people (a mother and a daughter), whose roles often overlap.

There is no fixed daily production quantity due to the piecework system. This situation makes wage calculations, production scheduling, and workforce management highly dependent on day-to-day circumstances without any formal regulations. In other words, business management still relies on memory, habit, and irregular manual record-keeping, which can significantly increase the risk of operational errors.

A significant impact of conventional and unstructured business management is that the owner cannot predict market demand and production needs due to a lack of previous sales data. Consequently, business planning becomes difficult, and disorganized financial reporting

hinders business growth, as the owner of the Super Tempe Factory, Mr. Sukadi, lacks relevant information to assess business performance. Disorganized record-keeping often results in undetected losses, leading to business decisions being made without valid data.

This situation can also lead to missed business opportunities, especially in cases where factories are not prepared to handle large orders regularly. The lack of standardized work systems and technological support will make it difficult for businesses to compete in the digital age in the long term. Overall, the situation indicates that Mr. Sukadi's Super Tempe Factory desperately needs a simple management information system to help record, mitigate risks, and manage production more professionally.

#### Awareness of Digital Transformation

Despite limited knowledge and resources, Mr. Sukadi's Super Tempe Factory, a small and medium-sized enterprise (SME), has a growing awareness of the need to try a digital system. This awareness is primarily driven by pressing circumstances, such as increasingly fierce business competition and efficiency pressures. The business owner recognizes that manual systems are prone to errors and are unprepared to support business development. This awareness is a valuable asset and a valuable entry point for promoting training and mentoring programs for technology adoption.

The future sustainability and growth of Mr. Sukadi's Super Tempe Factory MSME depends heavily on its adaptation to technology. The use of technology goes beyond neat record-keeping to become the backbone of more efficient decision-making. With digital systems, businesses can analyze soybean price fluctuations, predict market demand, and optimize production.

#### Implementation Barriers

The main obstacles include:

1. Limitations of digital literacy

Owners and employees are not yet accustomed to using digital devices. They still consider digital systems complicated and require specialized skills.

2. Time constraints

Production activities are carried out daily from early morning until noon, so the owner does not have time to learn and understand new technology.

3. Infrastructure and capital limitations

This business is still managed independently by the owner without the assistance of computer technology or electronic record-keeping equipment. Procuring laptops or computers has not been a priority.

#### The Potential of Digital Transformation

Implementing a simple Management Information System can improve efficiency and transparency. With digitalization:

1. Better efficiency and administrative management

Implementing accounting applications such as Accurate Online can make it easier for owners to record transactions automatically and present financial reports in real-time.

2. Monitoring of stock and raw materials

The digital system allows owners to monitor soybean stock levels, yeast requirements, and daily production output. This minimizes the risk of raw material shortages.

3. Digital marketing

By utilizing social media and marketplaces, tempeh products can be sold or marketed to a wider market. Platforms like ShopeeFood, GrabFood, or Tokopedia create opportunities for online sales.

4. Transparency and data-driven decision making

Digital systems allow for the production of precise reports, allowing owners to quantitatively evaluate sales performance, cash flow, and profits.

**Digitalization Implementation Strategy**

For MSMEs like Mr. Sukadi's Super Tempe Factory, digitalization must be implemented gradually. This will depend on resource availability, digital literacy levels, and operational needs. Possible strategies include:

1. Improving Digital Literacy

To help them adapt to the new system and reduce reliance on manual record-keeping, owners and employees should be trained to use digital devices, accounting applications, and social media.

2. Implementation of Management Information Systems

Mr. Sukadi's Super Tempe Factory can use simple applications like BukuKas and Accurate Online to automatically generate financial reports, monitor raw material inventory, and record transactions. SIM makes administration faster and more effective.

3. Digital Product Marketing

This strategy helps expand market reach and increase sales because promotions and sales can be done through social media (such as Instagram, Facebook, and TikTok) as well as marketplaces such as ShopeeFood, GrabFood, and Tokopedia.

4. Cooperation and Mentoring

Small and medium-sized businesses (MSMEs) can collaborate with government agencies, schools, or digital communities to get help with implementing digital systems and online marketing strategies.

5. Data Security Enhancement

To protect business information, regular backups, use of strong passwords, and restricting access to certain users are necessary.

**The Impact of Digital Transformation on Business Sustainability**

The sustainability of Mr. Sukadi's Super Tempe Factory has greatly benefited from digital transformation, including:

1. Operational Efficiency

Digitalization makes it easier to monitor stock and production processes, speeds up administrative processes, and reduces recording errors.

2. Financial Accuracy and Transparency

By producing accurate and easy-to-monitor financial reports, digital systems help owners make informed decisions about their businesses.

3. Market Expansion and Competitiveness

Digital marketing can help tempeh become known to a wider consumer base and compete in the market with similar products.

4. Data-Driven Decision Making

Digital systems help business owners make decisions based on data, not just guesswork.

## 5. Business Sustainability

Efficient work systems, wider markets, and the ability to adapt to technology enable MSMEs to survive and thrive in the digital era.

## Conclusion and Recommendation

The research results show that Mr. Sukadi's Super Tempe Factory MSME is still in the early stages of digital transformation. For financial recording, production management, and marketing strategies, the business management system is still manual. This causes several problems, such as errors in recording, information delays, and a lack of data needed for informed decision-making. Business owners are aware of the benefits of technology and are eager to learn, so there is great potential for implementing digital systems. Businesses can improve administrative efficiency, financial transparency, and market expansion through the implementation of digital marketing and Management Information Systems (MIS). Through data-driven decision-making and work process automation, digital transformation can also improve business competitiveness and sustainability.

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