

SUPPLY CHAIN MANAGEMENT INFORMATION SYSTEM IN RESTAURANT BUSINESS: ANALYSIS AND CASE STUDY IN PANGKEP REGENCY SOUTH SULAWESI

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Abstract

Supply Chain Management (SCM) has evolved into a fundamental element of modern business strategy, extending beyond the manufacturing sector to encompass the service and retail industries. SCM involves the application of management science and practice throughout the supply chain, aimed at achieving competitive advantage amid intense industry competition. In an increasingly digitalized business landscape, SCM is no longer focused solely on the physical movement of products and financial flows. This study aims to analyze and understand the life experiences of owners and managers of micro, small, and medium enterprises (MSMEs) restaurants in Pangkep Regency related to supply chain management and adopting supply chain management information systems (SCMIS). The background of the study reveals a gap between the 'Sollen' of efficient SCMIS and the 'Sein' of MSME restaurants, which still face various operational and financial challenges due to limited technology and manual processes. This study identifies the need for an in-depth understanding of the challenges and opportunities for adopting SCMIS from the subjective perspective of MSME actors. This study used a qualitative approach, descriptive phenomenological design, and Interpretative Phenomenological Analysis (IPA) data analysis with Saldana coding techniques supported by NVivo software; this study involved 20 informants from MSME restaurants in Pangkep Regency. The research findings present themes that emerge from the informants' experiences and are visualized in a flow relationship framework. The main contribution of this study lies in providing a rich and nuanced understanding of the dynamics of technology adoption in the context of MSME restaurants, which can be the basis for practical recommendations and the development of more relevant policies.

Keywords: SCM Digitalization, Adoption of SCMIS, MSME, Business, Technology

1. Introduction

Effective SCM is the backbone of operational success for any business, including restaurants. In an ideal world known as “Das Sollen,” a restaurant’s SCMIS should be seamlessly integrated, connecting the kitchen with suppliers, farmers, and delivery teams to ensure efficient purchasing, storage, and use of ingredients. This ideal world includes achieving cost efficiencies through volume purchasing agreements and reducing waste, maintaining food quality through high-standard ingredient procurement, and ensuring supply stability through reliable vendors and accurate demand forecasting. Technology integration is crucial to this “Das Sollen,” enabling real-time visibility into inventory and orders, smarter demand forecasting based on sales data, centralized procurement, and automated communication with vendors to streamline operations and reduce human error. An optimal SCM is about adopting technology and the optimized coordination of internal and external resources to achieve sustainable competitive advantage and financial

stability (R. A. Komakech et al., 2025). The culinary industry, especially restaurants, faces unique challenges in managing its supply chain. These challenges include raw material price fluctuations, potential distribution delays, and supply uncertainty (D. A. P. D. A. Himawan N.E, 2024). Operational efficiency and the ability to consistently meet customer expectations depend mainly on how effectively the supply chain is managed.

However, reality shows that MSMEs in the restaurant sector, especially in areas such as Pangkep Regency, face complex challenges in their SCM (A. Ramadhani et al., 2024). Common issues found include dependence on a single supplier, limited access to digital technology, minimal transparency in the supply chain, and reliance on manual processes such as handwritten order recording or communication via instant messaging. This reliance on manual methods often leads to confusion, a lack of clear records, and difficulty tracking orders. The consequences of these challenges are hidden costs, wasted staff time, vulnerability to raw material price fluctuations, delivery delays, and market uncertainty, which ultimately threaten the financial stability of MSMEs. Data shows that many MSMEs still struggle with digital adoption, and some managers even feel overwhelmed by “technology overload” and fragmented data from various unintegrated systems. This reality illustrates the systemic vulnerability of MSMEs in restaurants, where the lack of an integrated SCMS exacerbates operational inefficiencies and financial risks, highlighting the critical need for targeted interventions.

Pangkep Regency, South Sulawesi, shows significant economic potential, with the culinary sector making a substantial contribution to the local economy. This is reflected in the increase in Gross Regional Domestic Product (GRDP) and the positive contribution of the food and beverage processing industry (Ernawati, 2021). However, it should be noted that most culinary businesses in Pangkep are MSMEs. These MSMEs often have a limited understanding of SCM and face difficulties efficiently managing stock (D. A. P. D. A. Himawan N.E, 2024). This condition illustrates a clear gap between the enormous economic potential and the operational capacity of culinary MSMEs in Pangkep. Data shows that Pangkep experienced stable GRDP growth from 2015 to 2019, with the food and beverage processing sector being the primary contributor to GRDP in 2017 (Ernawati, 2021). This indicates a dynamic market and increasing demand in the culinary sector. However, most businesses in Pangkep are MSMEs, which tend to have inefficient stock management weaknesses and minimal SCM knowledge (D. A. P. D. A. Himawan N.E, 2024). This gap implies that the abundant economic potential has not been fully utilized due to limited operational and managerial capacity at the micro and small business levels. Therefore, implementing SCMS is a crucial solution to bridge this gap, increase efficiency, and enable culinary MSMEs in Pangkep to develop and optimally utilize market growth.

Although the existing literature has addressed supply chain management and information systems adoption in MSMEs, there is a significant gap in in-depth qualitative understanding, particularly from the lived experiences of MSME restaurant owners regarding the challenges and adoption of SCMS. Previous studies often use quantitative methods, such as SmartPLS analysis⁶, or focus on broader aspects, such as supply chain innovation or general determinants of information systems adoption (Thong, 1999). These studies lack a deep dive into the subjective realities and nuances experienced by a specific sector, such as MSME restaurants in a particular regional context. The unique operational dynamics and resource constraints of MSME restaurants, especially in developing areas such as Pangkep, are often overlooked in macro-level analyses. This research gap centers on the absence of a rich phenomenological exploration of how and

why adoption or non-adoption of SCMIS occurs in MSME restaurants, moving beyond statistical correlations to understand the underlying perceptions, motivations, and barriers from the business owners' perspective.

This study makes a significant contribution to the literature by presenting an in-depth phenomenological analysis of the lived experiences of MSME restaurant owners in Pangkep Regency related to the adoption and challenges of SCMIS. By applying IPA and Saldana coding techniques, this study offers a rich and nuanced understanding of the subjective perceptions, practical realities, and emerging themes that influence SCMIS implementation in this specific, underexplored context. The resulting “Research Outcome Flow Relationship Framework” will uniquely illustrate the interrelated dynamics of these experiences, presenting a new conceptualization derived directly from a field perspective. This uniqueness directly results from the research effort addressing the identified gaps through a specific and rigorous qualitative methodology designed to uncover in-depth understanding based on experience.

2. Theoretical Background

This study uses several relevant theories to analyze the phenomenon of SCMIS adoption in MSME restaurants. These theories provide a conceptual lens to understand various aspects of informants' experiences, from internal resources to technology perceptions and transactional dynamics.

2.1 Resource-Based View (RBV)

RBV is a theory in strategic management that states that a company's sustainable competitive advantage is driven by its unique internal resources and capabilities, which must have the characteristics of Valuable, Rare, Inimitable, and Non-substitutable or known by the acronym VRIN (R. A. Komakech et al., 2025). In the context of SCM, resources such as sophisticated IT systems, efficient logistics infrastructure, and strong supplier relationships are significant (R. A. Komakech et al., 2025). These resources and capabilities, including the managerial skills, processes, and knowledge needed to adapt to changing market conditions, improve operational efficiency, responsiveness, and ultimately competitive advantage. An effectively implemented SCMIS can be seen as a crucial VRIN resource for MSME restaurants. This system allows MSMEs to differentiate themselves and achieve sustainable success in a competitive market. The RBV's focus on core strengths and long-term profitability through the maintenance of valuable and rare resources suggests that for SMEs, where resources are often limited, an effective SCMIS can be a rare and valuable asset that is difficult for competitors to imitate, thereby providing a sustainable advantage.

2.2 Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI)

TAM is an information systems theory that models how users accept and use technology. TAM focuses on perceived usefulness and ease of use as the primary determinants of attitudes and behavioral intentions to use technology. External variables such as social influence also play a role in this model (Rogers, 2024). Meanwhile, DOI explains how new ideas and technologies spread through a social system, influenced by the characteristics of the innovation itself (relative advantage, compatibility, complexity, trialability, observability), communication channels, time, and adopter categories. These two theories are constructive in understanding the factors that influence the willingness of MSME owners to adopt SCMIS. Perceptions about how sound the system is in reducing waste, increasing cost control, or improving supplier relationships, as well as

how easy the system is to use in terms of user-friendly interface or minimal training requirements, will significantly influence adoption. SCMIS diffusion among MSMEs can also be influenced by observations of successful implementation by peers (observability) or the ability to try out the solution (trialability). SCMIS adoption by MSMEs is not simply a rational economic decision but is heavily mediated by subjective perceptions (TAM) and social dynamics (DOI) (Rogers, 2024). This suggests successful diffusion requires addressing functional utility and psychological and social barriers.

2.3 Transaction Cost Economics (TCE) and Agency Theory

TCE focuses on organizing business transactions most efficiently, considering the "transaction costs" that arise in economic exchanges. This theory assumes that actors can exhibit "opportunistic behavior" (seeking self-interest with deception) (Sanderson et al., 2015). Meanwhile, Agency Theory applies to situations where a principal delegates responsibility to an agent (e.g., buyer-supplier), and the principal needs to ensure that the agent acts in its interests. This theory discusses contractual mechanisms to reduce "behavioral hazards" and "supplier opportunism" (Sanderson et al., 2015). Manual processes and poor communication in the MSME supply chain result in high transaction costs, such as confusion, delays, overpayments, and lack of accountability. SCMIS can reduce these costs by formalizing transactions, increasing transparency, and facilitating monitoring, thereby reducing opportunistic behavior and ensuring more efficient supplier relationships. The manual processes and lack of transparency prevalent in MSME supply chains are significant transaction costs that SCMIS can directly address. These systems can transform high-risk, informal relationships into more efficient, transparent, and accountable ones.

2.4. Supply Chain Management Information Systems (SCMIS)

SCSCM) encompass purchasing, storing, and using the raw materials and supplies needed in kitchen and service area operations (Anonymous, 2025). It fundamentally links raw material suppliers, wholesale distributors, specialty providers, and internal staff into one coordinated system (Anonymous, 2025). SCM involves planning, controlling, and executing the flow of materials, information, and finances from suppliers to customers (Samaranayak, 2005). The strategic integration of processes, relationships, and technologies creates a value chain that benefits all parties by increasing efficiency, responsiveness, and competitive advantage. Key components of SCMIS include procurement management, which involves planning and controlling purchases to obtain the best value, reduce waste, avoid surprise stockouts, and systematically track orders, prices, and delivery times. In addition, efficient inventory management is critical to identifying and resolving costly inventory issues, such as excess stock or vendor errors, by leveraging automated data entry and reorder alerts when stock reaches certain thresholds. Optimized logistics and distribution are also integral, including managing shipments, tracking, and establishing standard operating procedures for reliable vendor selection. The role of technology in SCMIS is significant. Technology enhances supply chain management by providing real-time visibility, more intelligent forecasting based on sales data, centralized procurement, and automated vendor communication (Anonymous, 2025). It facilitates integration across systems such as Point of Sale (POS) systems and Customer Relationship Management (CRM) software for more efficient operations. Thus, SCMIS is not just about software but the strategic integration of processes, relationships, and technologies to create a value chain that benefits all

members by increasing efficiency, responsiveness, and competitive advantage (Samaranayak, 2005).

2.5. Restaurants and MSMEs

The restaurant supply chain has unique characteristics that vary depending on the concept and format, from single-unit casual dining restaurants to multi-brand Quick Service Restaurant (QSR) chains (Anonymous, 2025). However, regardless of the format, all restaurants prioritize cost efficiency, food quality, and supply stability. The process involves sourcing, purchasing, storing, and delivering food, beverages, and supplies for daily operations. For MSMEs, the challenges in supply chain management are compounded by the complex dynamics of globalization and digitization. Key issues include dependence on a single supplier, limited access to digital technology, lack of transparency in the supply chain, and rapidly changing global market dynamics (A. Ramadhani et al., 2024). MSMEs often still rely on manual methods for inventory management, transaction recording, and raw material planning, which are time-consuming and increase the risk of human error. This reliance on manual processes and lack of transparency can lead to hidden costs and wasted staff time. The impact of supply chain disruptions is significant for MSMEs. They can lead to exponential increases in production costs. This shows that even though MSMEs are smaller in scale, the impact of supply chain issues is magnified due to their limited resources and often manual processes. Limited access to digital technology and the often prohibitive cost of SCMIS systems create significant barriers. This underscores the importance of understanding MSMEs' specific struggles in managing their supply chains and how effective SCMIS is to their survival and growth.

3. Methods

3.1 Research Approach and Design

This study adopted a qualitative approach. This approach was chosen to gain an in-depth understanding of the complex phenomenon of SCMIS adoption from the perspective of MSME restaurant owners. Qualitative research is well suited to exploring “lived experiences” and how individuals “make sense of those experiences” (McLeod, 2024).

The research design used was descriptive phenomenology. This method aims to understand “subjective experiences” and gain an “understanding of individual actions and motivations” by interpreting what is essential to the phenomenon being studied (Giorgi, 2025). Descriptive phenomenology allows researchers to break through long-standing assumptions and challenge conventional wisdom by focusing on the “what” of an experience rather than the “why” or “how” in a causal sense. The choice of descriptive phenomenology was deliberate to ensure that the study captures the rich, nuanced, and authentic voices of MSME owners, providing a basis for understanding the practical realities of SCMIS adoption beyond merely observable behavior.

3.2 Research Location and Informants

This research will be conducted in Pangkep Regency, Indonesia. This specific geographic focus allows for a case study approach that considers the local socio-economic and business context. The research informants are 20 owners or managers of MSME restaurants in Pangkep Regency.

3.3 Justification for the Number of Informants

The number of 20 informants was selected based on accepted guidelines in phenomenological research. For phenomenological studies, sample sizes typically range from 3-25 participants or 6-20 individuals (Anonymous, 2025). The selection of 20 informants is within the recommended range. A sample size of 20 informants allows for intensive, in-depth interviews necessary to capture rich and detailed descriptions of lived experiences (Ellis, 2016). This size balances the need for sufficient data to identify patterns and variations in experiences with the practical constraints of time, resources, and the intensive nature of IPA data analysis (Bekele and Ago, 2022). As such, this sample size is not a random choice but a strategic one that aligns with the methodological demands of IPA, ensuring depth and richness of data rather than statistical generalizations, which are characteristics of robust qualitative inquiry.

3.4 Data Collection Techniques

Primary data will be collected through in-depth semi-structured interviews with 20 informants. This technique allows for detailed exploration of participants' lived experiences while maintaining a flexible structure to uncover emerging themes (McLeod, 2024). In addition to interviews, limited non-participant observation of the restaurant's operations will be conducted to provide contextual understanding. Relevant documents such as internal records, business permits, and others will also be collected to triangulate data and provide a comprehensive background.

3.5 Data Analysis Techniques

Data analysis will be conducted using IPA supported by Saldana coding techniques and NVivo software.

4. Results and Discussion

Restaurant businesses in Pangkep Regency have unique characteristics, reflecting the richness of culture and natural resources of the region:

- 1) The uniqueness of Local Culinary: Pangkep is famous for its various seafood dishes, considering its region consists of many islands. Typical South Sulawesi menus with strong spices are very popular, such as palumara, kapurung, parape grilled fish, Sop Saudara, Boneless Milkfish (Baduri), Cao (fermented fish/shrimp), Vaname Shrimp, Milkfish Abon, and Dange Cake.
- 2) Local Sources of Raw Materials: Many raw materials come directly from local seafood and agriculture. Examples include vaname shrimp cultivated in ponds, large oranges from plantations, and peanuts.
- 3) Operational Type: Several restaurants adopt the floating lesehan concept, offering a unique culinary experience for visitors. Operating hours are generally flexible, from 07.00 to 22.00 WITA.
- 4) Social Aspect: Several restaurant businesses in Pangkep also demonstrate a commitment to social responsibility. For example, the Marannu Floating Lesehan Restaurant employs single mothers and school dropouts and has a monthly turnover of IDR 70 million.

Pangkep's culinary characteristics, rich in seafood and local products, show that its supply chain highly depends on locally available resources. This dependence is a strength that can be utilized for market differentiation and building a strong brand identity (NVIVO, 2025). If managed with the right MIS, optimizing local resources can create a

more sustainable SCM model focusing on "local sourcing" and "ethical sourcing." This also aligns with social responsibility practices in several restaurants (Business School, 2025). Thus, MIS will improve operational efficiency and enable restaurants in Pangkep to build unique brand value, improve supply chain resilience, and contribute to the local economy more deeply (NVIVO, 2025). Meanwhile, the figure below presents the key demographic and business characteristics of 20 restaurant MSME owners or managers who were informants in this study. Understanding the characteristics of respondents helps provide context to the research findings and their experiences regarding SCM.



Based on the analysis that has been conducted, several key results related to the SCMIS in restaurant businesses in Pangkep Regency can be identified:

- 1) The dominance of MSMEs and Culinary Economic Potential: Data shows that Pangkep Regency has significant economic potential, with the processing industry sector (including food and beverages) being the most significant contributor to the regional GRDP (Arief, 2021). However, most businesses in Pangkep are MSMEs, especially micro businesses (46,688 units out of a total of 56,493 MSMEs), indicating that most restaurants operate on a small scale (Arief, 2021).
- 2) Conventional Supply Chain Practices: The dominant supply chain management practices in Pangkep culinary MSMEs are still conventional and manual. Procurement of raw materials is based on intuition or sales estimates from the previous month, which is prone to inaccuracy and can lead to an excess or shortage of stock (D. A. P. D. A. Himawan N.E, 2024). Stock monitoring is also done manually, for example, by telephone to each branch, which makes it difficult to determine accurate and real-time stock (Samaranayak, 2005).
- 3) Identified Operational Inefficiencies: Key inefficiencies identified include:
 - a. Excess Stock and Waste: Inaccurate procurement often leads to excess stock of certain raw materials, leading to waste.
 - b. Distribution Delays: The distribution of products to branches or consumers may be delayed due to insufficient vehicle capacity or demand that cannot be met quickly.
 - c. Lack of Accurate Data for Decision Making: Manual stock monitoring methods hinder managers' ability to obtain accurate and timely data, which impacts effective decision-making.
- 4) Unique Characteristics of Local Cuisine: Restaurant businesses in Pangkep have a competitive advantage through intense local flavors, such as seafood and traditional South Sulawesi menus. The availability of abundant local raw materials, such as vaname shrimp, large oranges, and others, is also a strength that can be utilized. Several businesses also show a commitment to social responsibility, such as empowering local communities (NVIVO, 2025).
- 5) Multidimensional Challenges in MIS Adoption: The main challenges in implementing the SCMIS are not only limited to high initial investment costs but also

include the lack of SCM knowledge among the Pangkep community, resistance to change, and data fragmentation from existing IT systems (Thong, 1999).

The research findings are presented as emerging and superordinate themes derived from the IPA analysis process. Each theme will be explained in detail, supported by verbatim quotes from informants to describe their life experiences. This approach allows researchers to uncover the deep meaning and connections of informants' experiences. Themes that emerged from the data included:

- 1) Perceptions of Current Supply Chain Challenges: Informants expressed issues such as raw material shortages, inconsistent material quality, supplier price volatility, and unexpected delivery issues. These experiences demonstrate how inefficient supply chain issues impact their daily operations and profitability.
- 2) Existing Manual Processes and Inefficiencies: Many informants still rely on manual record-keeping and informal communication, such as instant messaging, to manage orders and inventory.¹ These experiences are accompanied by frustrations due to the lack of clear records, tracking difficulties, and high risk of human error, which directly increase transaction costs and reduce transparency.
- 3) Awareness and Understanding of SCMIS: Informants' levels of awareness about SCMIS's existence and potential varied. Some had a basic understanding, while others did not fully grasp the concept or its benefits. This knowledge gap became an initial barrier to technology adoption.
- 4) Perceived Usefulness of SCMIS: Informants with a better understanding saw great potential for Supply Chain MIS in improving cost efficiency, inventory control, and supplier relationships. These perceptions greatly influenced their intention to adopt the system.
- 5) Perceived Ease of Use of SCMIS: This aspect encompasses informants' perceptions about the software's complexity, the need for training, and the system's compatibility with their current work processes. Concerns about difficulty of use can be a significant barrier, especially for MSMEs with limited digital literacy.
- 6) Barriers to Adoption: Common barriers expressed included high initial costs for system implementation⁵, lack of technical knowledge, resistance to change from staff or suppliers, and trust issues in new technologies or service providers. Dependence on a single supplier also exacerbated vulnerability.
- 7) Drivers of Adoption: On the other hand, factors such as government support (subsidies or training programs), influence from fellow MSMEs who have successfully adopted the technology, and perceived competitive pressures may have encouraged informants to consider adopting a SCMIS.
- 8) Hopes and Aspirations: Informants had hopes for the future, such as increased profitability, reduced food waste, and the ability to compete more effectively in an increasingly digital marketplace.

This analysis confirms that although the culinary sector in Pangkep Regency has great economic potential and is supported by the richness of local culinary and raw materials, the operational efficiency of MSMEs is still a significant obstacle. Supply chain practices that tend to be manual and fragmented, as illustrated by intuition-based procurement and telephone stock monitoring⁶, correlate directly with the "operational inefficiency and ineffectiveness" mentioned in the SCM literature. This creates a gap between the dynamic market potential (indicated by the growth of GRDP and the contribution of the culinary sector) and the capacity of MSMEs to utilize it optimally.

Implementing a SCMIS is a crucial solution to overcome these inefficiencies. MIS can transform inventory management from manual estimates to historical data-based predictions, reducing excess stock and waste. The ability of MIS to integrate data from multiple sources will also address the issue of data fragmentation and enable faster and more accurate decision-making, moving from descriptive to diagnostic, predictive, and even prescriptive analysis. Dashboards can provide real-time visibility into inventory levels, transportation costs, and delivery performance, which are currently difficult to achieve with manual methods. Furthermore, MIS offers internal efficiencies and strategic opportunities that align with Pangkep's unique characteristics. With the ability to trace the origin of food ingredients and facilitate partnerships with local suppliers, MIS can support sustainable and ethical sourcing practices. This is particularly relevant given the abundance of local seafood and agricultural products in Pangkep. Building a "farm-to-table" or "sea-to-table" narrative supported by MIS transparency can enhance restaurants' brand value and competitiveness while strengthening the local economy and social responsibility that already exist in some businesses.

The following diagram visually represents the causal or interplay between key themes from the research findings. It illustrates how one aspect of MSME owners' experiences of limited digital literacy impacts another, such as "difficulty in perceiving ease of use," ultimately impacting their approach to the SCMIS. The diagram is valuable because it synthesizes complex qualitative findings into an easy-to-understand visual model. The diagram lists the themes and shows the interactions and causal relationships between different aspects of MSME owners' experiences. This provides a deeper understanding of the phenomenon, making the findings more actionable and impactful for stakeholders. The following is a visualization of MSMEs' problems with manual supply chains and how MIS works.

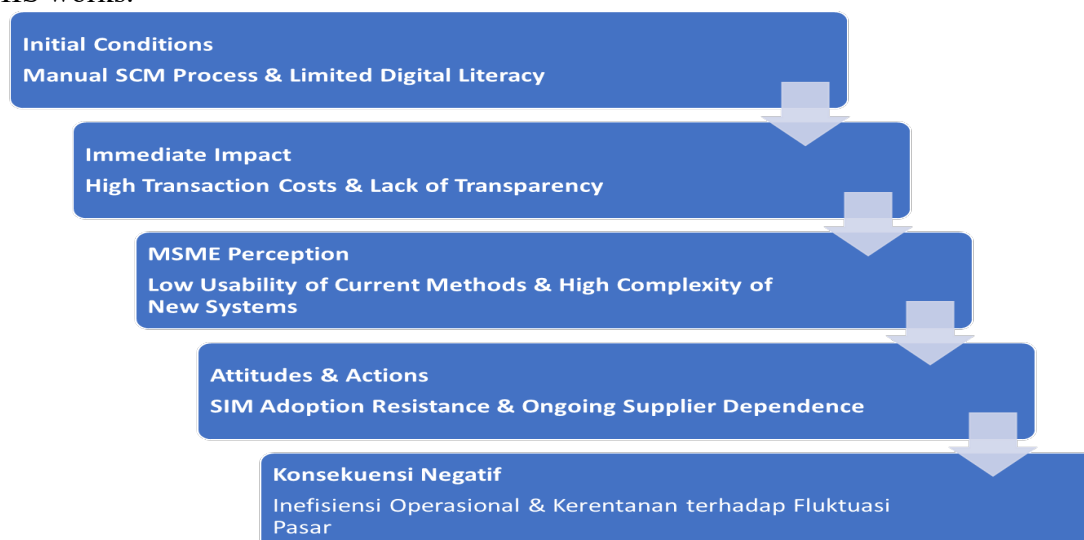


Figure 1. SCSIM Problem Flow

This flow illustrates how suboptimal initial conditions can lead to a series of problems. However, by adopting the right SCMIS and adequate support, MSMEs can move towards more efficient and stable operations. So, the potential solutions opportunities for Effective SCMIS are reducing transaction costs, increasing transparency, optimizing processes and external support: government programs in the form of subsidies and training, as well as the positive influence of MSME colleagues.

Existing manual processes and their inefficiencies directly illustrate the reliance on manual methods such as handwritten note-taking or informal communication via

WhatsApp, leading to confusion and a lack of clear records. This wastes staff time and creates “hidden costs” and vulnerability to uncertainty. From a TCE perspective, these manual processes inherently increase transaction costs due to the lack of transparency and difficulty monitoring supplier behavior. SC MIS, with its ability to provide real-time visibility and centralized procurement, directly addresses the problem of transaction costs by reducing information asymmetries and facilitating accountability.

Perceptions of “usefulness” and “ease of use” of SC MIS, which are at the heart of the TAM, are key determinants of adoption intentions. If MSME owners cannot see how SC MIS will reduce waste, increase cost control, or improve supplier relationships, they will be reluctant to adopt it. Similarly, if the system is perceived as too complex or requires significant training, barriers to adoption will increase, especially given the limited digital literacy among MSMEs. This suggests that technology adoption is not a purely rational decision but is heavily mediated by subjective perceptions and social dynamics.

The themes of “adoption barriers,” such as high initial costs and lack of technical knowledge, and “adoption enablers,” such as government support and peer influence, align with the principles of DOI (Rogers, 2024). Innovations are more likely to spread if they are perceived as an improvement over the status quo, compatible with existing lifestyles, easy to adopt, and have positive consequences that are observable to others (Rogers, 2024). For MSMEs, diffusion will be hampered if SC MIS is perceived as too expensive or incompatible with their current processes. However, if there is external support or examples of success from peers, this can help overcome initial resistance. Meanwhile, the RBV concept explains that an effective SC MIS can be a valuable, rare, difficult to imitate, and non-substitutable (VRIN) resource for MSMEs (R. A. Komakech et al., 2025). When MSMEs can integrate advanced IT systems and build strong supplier relationships through SC MIS, they can improve operational efficiency and responsiveness, ultimately providing a sustainable competitive advantage. This suggests that investing in SC MIS, although challenging at the outset, can be a strategic foundation for long-term success. MSME restaurants in Pangkep face various operational constraints. The following graph illustrates some of the main challenges that often arise based on the findings.



Figure 2. Key Challenges of MSME Supply Chain

Thus, the challenges in implementing MIS in Pangkep are multidimensional. In addition to the financial constraints typical to MSMEs, “lack of knowledge about SCM”

and “resistance to change” are significant barriers that need to be addressed through effective training programs and change management (Thong, 1999). The proposed MIS solution should be user-friendly, affordable, and modular, allowing MSMEs to adopt the technology gradually without feeling burdened. Collaboration between stakeholders, including local governments, MSME support institutions, and technology solution providers, will be key to successfully creating an ecosystem conducive to adopting SCMIS in Pangkep Regency.

The study results indicate a significant gap between the ideal potential of SCSIM and the reality faced by MSME restaurants in Pangkep Regency. Limited digital literacy, financial constraints, perceived technological complexity, and strong dependence on informal networks are the main obstacles. However, with the right approach, this gap can be bridged. The solution needed is adaptive, affordable, easy to use, and able to accommodate aspects of personal relationships that are important to MSMEs. Collaboration between MSMEs, government, and technology providers is key to unlocking the full potential of SCMIS, driving efficiency, and increasing the competitiveness of MSME restaurants in Pangkep and Indonesia more broadly.

5. Conclusion

An in-depth analysis of the SCMIS in the restaurant business, especially in Pangkep Regency, revealed several key points:

- 1) Importance of SCM and MIS: Supply chain management is a crucial strategy for achieving a competitive advantage in the manufacturing and culinary industry. MIS is the backbone that integrates the flow of products, finances, and information, transforming SCM from an operational function into a strategic advantage that enables data-driven and proactive decision-making.
- 2) Culinary Economic Potential of Pangkep: Pangkep Regency shows stable economic growth, with the food and beverage processing industry sector as the primary contributor to GRDP. This indicates a dynamic and rapidly growing culinary market, offering excellent opportunities for restaurant businesses.
- 3) Operational Gaps of MSMEs: Despite having significant market potential, most restaurants in Pangkep are MSMEs that often face weaknesses in inefficient stock management and minimal knowledge of SCM. Existing practices tend to be manual and fragmented, causing waste and delays.
- 4) Significant Benefits of Supply Chain MIS: ISCMIS can bring substantial benefits, including optimizing stock management, increasing operational efficiency, better decision-making through data analysis (descriptive, diagnostic, predictive, prescriptive), improving supplier relationships, increasing competitiveness, and supporting sustainable and ethical sourcing practices.
- 5) Multidimensional Challenges: Implementation of SCMIS in Pangkep is not only faced with financial constraints (high investment costs) but also significant challenges related to human resource capacity (lack of SCM knowledge), resistance to change, data fragmentation from existing systems, price fluctuations, supply uncertainty, and regulatory complexity.
- 6) Locality-Based Differentiation Opportunities: Pangkep's unique culinary characteristics, a wealth of local raw materials, and the practice of social responsibility offer opportunities to build a more resilient and sustainable business model through MIS. MIS can support tracking raw material origins, strengthen local supply chains, and create distinctive brand value.

Overall, although the culinary sector in Pangkep Regency has a strong economic foundation and excellent growth potential, operational limitations and information fragmentation still hamper MSMEs' efficiency and scalability. Implementing SCMIS is a necessary catalyst to overcome these obstacles, enabling culinary MSMEs in Pangkep to improve internal efficiency and build more resilient, sustainable, and competitive business models in an ever-evolving market.

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