

THE ROLE OF MANAGEMENT INFORMATION SYSTEMS IN IMPROVING OPERATIONAL EFFICIENCY IN CAFE ATEKU BUSINESSES

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ABSTRACT

This study aims to identify the role of Management Information Systems in improving operational efficiency at Ateku Kopi Cafe, a micro-enterprise located in Medan City. Using a descriptive qualitative method through interviews and direct observation, this research examines the use of digital systems such as Luna/Mocapos for transaction recording and Google Calendar for employee scheduling. The results indicate that these systems help accelerate transaction processes, enhance the accuracy of financial reporting, and support better coordination among employees. However, several challenges remain, including manual stock management, limited system access, and insufficient digital training for staff. Overall, the implementation of Information Systems provides a positive impact on the operational efficiency of the business. Further development of an integrated system and continuous digital literacy training is recommended to improve UMKM performance amid ongoing digital transformation.

Keywords: Management Information Systems; Operational Efficiency; Digitalization of UMKM; Luna/Mocapos; Ateku Kopi Cafe.

INTRODUCTION

The rapid development of information technology in today's digital era has brought significant impacts on various sectors, including business and management. Management Information Systems have become an essential element in supporting decision-making processes, improving operational efficiency, and accelerating administrative activities within different types of organizations. Through management information systems, data can be processed into accurate and relevant information that can be utilized by management to enhance business performance.

In the sector of Micro, Small, and Medium Enterprises (MSMEs), the implementation of Management Information Systems presents both opportunities and challenges. Many MSMEs face limitations in human resources, financial capacity, and technological skills. However, the increasing availability of affordable digital applications, such as Point of Sales (POS) systems, accounting applications, and scheduling platforms, has opened significant opportunities for MSMEs to optimize their business processes. The use of digital systems enables MSMEs to accelerate workflow, reduce human error, and increase the accuracy of record-keeping.

Cafe Ateku Kopi is one of the MSMEs that has utilized information systems in its operational activities. The cafe uses the Luna/Mocapos application to record transactions and generate financial reports, as well as Google Calendar to manage employee scheduling and attendance. Although these information systems management have been implemented, interview results indicate that several challenges remain, such as manual inventory management, limited system access, and insufficient digital training for employees. This condition demonstrates that the effectiveness of Information System is highly dependent on system integration and the competence of human resources operating it.

Previous studies show that digital information systems can improve MSMEs efficiency, yet limitations still exist in areas such as inventory management, user skills, and system

integration. Therefore, a deeper analysis is needed to understand how Information system is applied in small-scale MSMEs, particularly in the culinary sector, which has high operational demands. The purpose of this study is to analyze the role of Management Information Systems in improving operational efficiency at Cafe Ateku Kopi and to identify the challenges and opportunities for further development of the system

LITERATURE REVIEW

Management Information Systems (MIS) serve as an essential component in enhancing organizational effectiveness through integrated data processing, streamlined information flow, and structured decision-making support. MIS enables businesses to obtain accurate and timely information, which is crucial for planning, evaluating, and controlling operational activities. In micro-enterprises, including small cafés, MIS can significantly improve transaction accuracy, financial reporting, and workflow management.

Digital tools such as Point-of-Sales (POS) applications, cloud-based accounting systems, and automated scheduling platforms are widely adopted to support operational efficiency. These tools minimize manual work, reduce the risk of human error, and provide real-time data access for decision-making. Studies on MSMEs indicate that the use of POS systems contributes to faster service delivery, better inventory tracking, and improved financial transparency—benefits that align with the operational needs of small culinary businesses.

For micro-scale businesses like Café Ateku Kopi, the implementation of MIS becomes especially relevant due to the high frequency of transactions, the need for accurate financial recording, and the importance of coordinated workforce scheduling. The literature highlights that successful MIS adoption requires not only the availability of digital tools but also user competence, system integration, and consistency in daily operations. These findings correspond with the conditions at Café Ateku Kopi, where digital systems such as Luna/Mocapos and Google Calendar are used, yet challenges remain in stock management, system access, and digital literacy. Therefore, the theoretical foundation of MIS is highly aligned with the practical issues observed in this case study, reinforcing the importance of analyzing how MIS enhances efficiency and what improvements are needed in small-scale culinary businesses.

RESEARCH METHODS

This study uses a **qualitative method with a descriptive approach**. This method was chosen because it allows the researcher to observe and describe the implementation of the Management Information System (MIS) at Ateku Kopi Café in a natural and realistic manner. The descriptive approach is used to present factual conditions in the field without manipulating any part of the research setting. Through this method, the researcher can obtain a clear picture of how the Luna/Mocapos application and Google Calendar support operational activities.

The study was conducted at **Ateku Kopi Café located in Medan, North Sumatra**. The research site was selected purposively because the café is one of the small businesses that has applied a digital information system in its daily operations. Data collection took place on **November 1, 2025**, during regular business activities. This timing was selected to ensure that the information collected truly reflects the actual operational conditions.

The primary data source in this research was obtained through an interview with **one key informant**, the café supervisor. The supervisor was selected because she is directly involved in operating the digital systems, managing transactions, preparing financial reports, and arranging employee schedules. Hence, she was able to provide complete and relevant information regarding the use of MIS at the café.

Several techniques were used to collect data:

1. **Semi-structured interviews**
Interviews were conducted to collect detailed information about the types of systems used, the benefits experienced, and the obstacles faced during the implementation. The interviews were conducted face-to-face at the café to maintain the natural context of the operational environment.
2. **Direct observation**
The researcher observed the operational activities, such as how Luna/Mocapos is used to record transactions, generate daily reports, and how Google Calendar is used for employee scheduling. These observations supported and validated the interview findings.
3. **Documentation**
Documentation involved examining screenshots of the system, digital sales reports, employee schedule records, and other materials related to the café's information system usage.

The collected data were analyzed using **qualitative descriptive analysis**, which involved three stages:

1. **Data reduction**, selecting important and relevant information related to MIS.
2. **Data presentation**, organizing findings into a structured narrative.
3. **Conclusion drawing**, summarizing the role of MIS, the benefits gained, and the challenges experienced by the café.

Through this process, the study provides a clear explanation of how MIS contributes to improving operational efficiency at Ateku Kopi Café.

RESULT AND DISCUSSION

1. Overview of Management Information System Implementation at Cafe Ateku Kopi

Based on interviews conducted with the café supervisor and direct field observations, it was found that Cafe Ateku Kopi has adopted two primary digital systems as part of its Management Information System (MIS), namely Luna/Mocapos as the Point-of-Sales (POS) platform, and Google Calendar as the employee scheduling and attendance system. These tools support essential daily operations such as transaction processing, financial reporting, staff coordination, shift management, and attendance monitoring (Gusty et al., 2025).

The Luna/Mocapos system serves as the backbone of the café's transaction workflow. Every sales transaction—whether dine-in, take-away, or online—is automatically recorded in real time. Data from these transactions is later processed into structured daily, weekly, and monthly reports. Previously, cashiers had to manually write each transaction in a notebook, which often

resulted in delays, inconsistencies, or miscalculations. With the POS system, transaction records become more accurate, organized, and easier to monitor. The supervisor also mentioned that digital records help reduce dependency on manual verification, making financial reporting simpler and faster.

Meanwhile, Google Calendar functions as a centralized platform for managing employee schedules and monitoring attendance. The supervisor can assign work shifts, make changes, provide notes, and update attendance information. These updates are immediately visible to all employees through their smartphone devices. Prior to digitalization, schedules were written manually on a whiteboard, causing frequent overlapping shifts, miscommunication, and confusion about work hours. The use of Google Calendar has significantly improved transparency and coordination within the staff team.

Overall, the adoption of Luna/Mocapos and Google Calendar demonstrates that digitalization offers practical solutions to administrative challenges commonly faced by micro and small businesses (UMKM). Even though the systems used are relatively simple, they provide strong operational support, reduce manual workload, and create a more structured workflow.

2. Impact of MIS Implementation on Operational Efficiency

a. Time Efficiency in Transaction Processing

Before Luna/Mocapos was implemented, cashiers needed between 30–45 minutes to manually calculate total sales. This process was time-consuming and exposed to human error.

After using the POS system:

1. Daily report preparation decreased to 5–10 minutes
2. Transaction data is automatically totaled and categorized
3. Daily, weekly, and monthly sales data can be accessed instantly
4. Cashiers no longer need to recount items physically

This improvement demonstrates a significant enhancement in operational speed. The supervisor stated that daily closing procedures, which once felt burdensome, became simple and manageable with automation.

b. Improved Accuracy of Financial Reports

Under the manual system, financial reports often contained inconsistencies and required frequent corrections. However, after implementing Luna/Mocapos:

1. Financial reports are generated automatically
2. Owners can monitor sales anytime without visiting the café
3. Transaction errors are minimized due to automatic calculations
4. Digital receipts help trace errors quickly if they occur

This improvement increases financial transparency and supports better managerial decisions, especially regarding procurement and inventory planning.

c. Efficiency in Scheduling and Attendance Management

Google Calendar has brought a major improvement in staff coordination. The system ensures that schedules are:

1. Clear and accessible to all employees
2. Updated in real time
3. Organized by day, week, and month
4. Linked to employee reminders

Before digital scheduling, employees often forgot their shifts or misread handwritten notes on the whiteboard. Now, shift reminders are sent directly to employee smartphones, reducing forgetfulness and confusion.

Attendance monitoring also becomes easier because the supervisor can record presence digitally and track consistency over time.

d. Increased Employee Productivity

By reducing administrative complexity, employees can focus more on customer service. The POS system also supports cashiers in processing orders faster, especially during high-traffic hours such as weekends and evenings.

Benefits observed include:

1. Faster order processing and checkout
2. Reduced cognitive load for cashiers
3. Smoother front-service operations
4. Improved customer satisfaction due to shorter waiting times

Digitalization also strengthens coordination between supervisors and staff because tasks are more organized and data-driven.

3. Comparison Before and After MIS Implementation

A comparison between manual and digital systems shows clear improvement:

Before MIS Implementation

1. Transaction records written manually in notebooks
2. Frequent miscalculations in daily cash totals
3. Reports often delayed 1–2 days
4. Schedules unclear and frequently overwritten
5. Stock shortages unnoticed until ingredients ran out
6. Owners had limited visibility into daily performance

After MIS Implementation

1. Transactions recorded automatically with time stamps
2. Daily reports generated instantly
3. Owners can monitor sales remotely
4. Schedules clearly structured and shared online

5. Improved staff coordination and shift consistency
6. Customer service becomes faster and more organized

Although the system is not yet fully integrated (especially inventory management), the improvements are substantial and measurable.

4. Challenges in MIS Implementation

Despite many advantages, several challenges still limit the optimal use of MIS at Cafe Ateku Kopi:

a. Manual Inventory Management

Inventory tracking remains fully manual, written on a board in the stockroom. This causes:

1. Frequent outdated stock information
2. Unnoticed shortages until the last minute
3. Difficulties in forecasting consumption

A digital inventory system is necessary for more accurate control.

b. Limited Access to the System

Only the owner, supervisor, and cashier have access to Luna/Mocapos. Other employees do not understand how the system works, leading to:

1. Dependency on the supervisor
2. Slow problem resolution
3. Low digital literacy among staff

c. Lack of Digital Training

There is no formal training for employees on how to use digital systems. As a result:

1. New staff rely solely on brief explanations
2. Employees struggle when the system is updated
3. Misunderstandings sometimes occur

d. Limited Features within the POS System

Luna/Mocapos lacks features such as:

1. Automatic stock alerts
2. Inventory integration
3. Sales forecasting
4. Performance dashboard

This makes decision-making slower because supervisors must check several components manually.

5. Implications for UMKM Development and Future Opportunities

Findings from this study indicate that MIS plays a significant role in improving the efficiency, transparency, and productivity of UMKM operations. The case of Café Ateku Kopi highlights that even simple digital tools can result in meaningful operational improvements.

Implications for Other UMKM

1. Digitalization reduces administrative burdens
2. Operational costs decrease due to fewer errors
3. Decision-making becomes data-driven
4. Customer service becomes more consistent

Other UMKM can adopt similar systems without large investments.

Future Opportunities for Cafe Ateku Kopi

Based on the findings, several improvements can be implemented:

1. Integrating POS with a digital inventory system
2. Using attendance systems with biometric or QR-based tracking
3. Providing regular staff training programs
4. Using dashboards to analyze sales trends and product performance

Through these improvements, Café Ateku Kopi can become a strong model of digital transformation for small culinary businesses.

CONCLUSIONS

The results of this study show that the implementation of Management Information Systems at Cafe Ateku Kopi has significantly contributed to improving operational efficiency, particularly in transaction processing, financial reporting, and employee scheduling. The use of systems such as Luna/Mocapos and Google Calendar has streamlined administrative workflows, reduced human error, and supported faster decision-making; however, the findings also indicate that limited system access, manual inventory management, and insufficient digital training remain major obstacles that hinder optimal system performance. These findings suggest that MIS can be further strengthened by integrating inventory features, expanding user access, and providing structured digital training to employees. In practical terms, the application of a more comprehensive and integrated MIS has the potential to enhance productivity, reduce operational costs, and serve as a scalable model for other micro and small businesses seeking to adopt digital solutions in their operations.

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