"Implementation of Inventory Management Information System at SME Sinar Mutiara"

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Abstract
The effective management of inventory is critical for Small and Medium-sized Enterprises (SMEs) to improve operational efficiency and reduce costs. This research focuses on the implementation of an Inventory Management Information System (IMIS) at SME Sinar Mutiara, which produces and distributes various products. The system is designed to automate inventory tracking, improve stock accuracy, and streamline the reordering process. Through the implementation of IMIS, the SME experienced enhanced visibility into stock levels, reduced manual errors, and minimized instances of overstocking or stockouts. Data was collected from system usage logs, interviews with SME staff, and comparative analysis of inventory performance before and after implementation. Findings show a significant improvement in inventory accuracy and order fulfillment rates. This study demonstrates the value of implementing an Inventory Management Information System in optimizing inventory practices for SMEs. Further developments are recommended to integrate additional functionalities, such as supplier management and automated reorder alerts, to enhance the system's overall effectiveness.

Keywords: Inventory Management Information System, SME, inventory accuracy, stock control, system implementation

INTRODUCTION

Small and Medium-sized Enterprises (SMEs) play a crucial role in economic growth, often driving employment and contributing to regional development. However, these enterprises frequently face unique operational challenges, especially in managing inventory. Effective inventory management is essential for maintaining optimal stock levels, reducing storage costs, and improving order fulfillment. For SMEs like Sinar Mutiara, an efficient inventory management system can be transformative, enabling streamlined operations, improved accuracy in tracking, and better overall performance.

SME Sinar Mutiara is engaged in the production and distribution of various products, which requires precise and timely stock management. Prior to implementing a digital solution, Sinar Mutiara faced several challenges related to manual inventory tracking, such as discrepancies in

stock levels, inefficient reordering processes, and limited visibility over inventory turnover. These issues often led to overstocking, stockouts, and increased holding costs, which hindered the business's growth and profitability.

This study addresses these challenges by implementing an Inventory Management Information System (IMIS) tailored to the needs of SME Sinar Mutiara. The system automates inventory control processes, provides real-time stock updates, and reduces the dependency on manual record-keeping. Through this implementation, the study aims to evaluate the impact of IMIS on inventory accuracy, stock control, and order fulfillment rates.

The objective of this study is threefold: (1) to identify and analyze the current challenges faced by SME Sinar Mutiara in managing inventory, (2) to implement an Inventory Management Information System suited to the operational needs of the enterprise, and (3) to assess the effectiveness of the system in addressing the identified challenges and improving overall inventory management.

The following sections of this paper detail the literature review on inventory management for SMEs, the methodology for system implementation, results and analysis of the impact on Sinar Mutiara's inventory processes, and suggestions for further enhancements. This research contributes to the understanding of how digital systems can support SMEs in overcoming operational limitations and achieving sustainable business growth through effective inventory management.

RESEARCH METHODS

This study employs a mixed-methods approach, integrating qualitative and quantitative data to evaluate the impact of the Inventory Management Information System (IMIS) at SME Sinar Mutiara. Data collection included interviews with management and staff to understand pre-implementation challenges and system expectations. Observations documented changes in inventory workflow before and after implementation. System usage logs provided quantitative data on stock levels, reorder rates, and fulfillment, allowing for a comparison with baseline performance. Additionally, employee questionnaires gathered feedback on usability and satisfaction. Together, these methods offer a comprehensive assessment of IMIS's effectiveness in enhancing inventory management.

Discussion

The implementation of the Inventory Management Information System (IMIS) at SME Sinar Mutiara brought notable improvements to inventory management efficiency, stock accuracy, and operational control. This discussion analyzes the effects of IMIS implementation based on the qualitative and quantitative data collected, examining its impact on workflow, inventory accuracy, and user satisfaction.

Before IMIS, SME Sinar Mutiara faced frequent challenges such as inventory discrepancies, stockouts, and overstocking. Manual tracking methods led to errors and delays, resulting in inefficiencies in order fulfillment and increased operational costs. As stated by Waller and Fawcett (2013), inventory inaccuracies are common among SMEs that rely on manual processes due to human error and lack of real-time tracking capabilities.

With IMIS, stock data is now updated in real-time, allowing for more accurate inventory tracking and improved decision-making. System logs over the six-month implementation period revealed a significant reduction in inventory discrepancies and a smoother reorder process. The findings align with DeLone and McLean's (2003) model, which suggests that system quality positively influences operational performance and decision accuracy.

Observational data also indicate enhanced workflow efficiency as employees can now access inventory levels and stock movements directly through IMIS. This automation has streamlined the process of inventory tracking and reordering, resulting in fewer instances of stockouts or overstock situations. Additionally, the system enabled improved forecasting based on historical sales and stock data, addressing one of the SME’s main challenges in inventory planning.

Employee feedback from questionnaires highlighted high levels of user satisfaction and ease of use with IMIS, which supports Creswell’s (2014) findings that user buy-in is critical for successful system adoption. Staff noted the convenience of the system’s automated alerts for low stock and reordering recommendations, which helped reduce the workload previously associated with manual inventory monitoring.

However, the data also revealed some initial challenges in system adoption. Employees experienced a learning curve during the transition phase, especially those less familiar with digital platforms. Providing additional training and support during implementation might have alleviated these issues and further improved adoption rates.

In conclusion, the IMIS implementation at SME Sinar Mutiara has addressed many of the previous limitations associated with manual inventory management, leading to enhanced inventory accuracy, efficient order processing, and increased employee satisfaction. This study

suggests that IMIS is a viable solution for SMEs seeking to optimize inventory management through digital means. Further recommendations include expanding IMIS functionalities, such as automated supplier management and integrating the system with sales data to enable more advanced forecasting.

CONCLUSION

The implementation of the Inventory Management Information System (IMIS) at SME Sinar Mutiara has significantly enhanced the company's inventory management practices, leading to improved accuracy, efficiency, and overall operational performance. This study has demonstrated that the transition from manual inventory tracking to a digital system effectively addressed many of the challenges faced by the SME, including inventory discrepancies, stockouts, and overstocking.

The mixed-methods approach employed in this research provided a comprehensive assessment of IMIS's impact. Qualitative insights from stakeholder interviews revealed an increased understanding of inventory processes and a greater ability to manage stock levels effectively. Quantitative data from system usage logs illustrated a marked reduction in inventory errors and streamlined reorder processes, affirming the benefits of real-time data access and automation.

Furthermore, employee feedback indicated high levels of satisfaction with the new system, underscoring the importance of user-friendly interfaces and adequate training for successful technology adoption. While there were initial challenges during the transition period, the overall positive response from staff highlighted the system’s value in reducing manual workloads and enhancing operational efficiency.

Moving forward, it is recommended that SME Sinar Mutiara continues to optimize its inventory management practices by exploring additional functionalities within IMIS, such as supplier management integration and advanced forecasting capabilities. These enhancements could further improve inventory accuracy and reduce costs, supporting the company's growth and competitiveness in the market. In conclusion, the successful implementation of IMIS serves as a valuable case study for other SMEs looking to modernize their inventory management systems. This research reinforces the notion that adopting technology can lead to significant improvements in operational effectiveness, ultimately contributing to the sustainability and success of small and medium-sized enterprises.

THANK-YOU NOTE

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