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Application Design of Stock Inventory of Meatball Serving Ingredients for Anhel MSME Bakso

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ABSTRACT

Inventory management systems are a cornerstone of operational efficiency for MSMEs (Micro et al.). This study aims to develop and implement an inventory management information system for MSME Bakso ANHEL. The system, which enables real-time inventory tracking, order optimization, and improved supply chain efficiency, is a testament to the transformative power of information technology in enhancing the competitiveness of MSMEs. The findings of this study can provide valuable insights for MSME Bakso ANHEL and other similar businesses, equipping them with the tools to address inventory management challenges. The strategic use of information technology is a game-changer for micro, small, and medium enterprises (MSMEs).

Keywords: MSME, Information System, Inventory Management, Operational Efficiency, Information Technology

INTRODUCTION

MSMEs, which stands for Micro, Small, and Medium Enterprises, play a crucial role in the Indonesian economy. Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in generating employment opportunities and stimulating economic growth in specific regions. An example of a micro, small, and medium enterprise (MSME) commonly encountered is the culinary industry, precisely the meatball company. (Abdolazimi, Esfandarani & Shishebori, 2021; Gurumurthy, Nair & Vinodh, 2021; Ibrahim & Rinawati, 2023)

ANHEL Bakso is a micro, small, and medium enterprise (MSME) in the meatball culinary industry. As such, it requires high-quality raw materials that are consistently available. Adequate quantities of primary resources are essential for ensuring uninterrupted manufacturing processes and delivering optimal customer service. (Diekel, Bach & Finkbeiner, 2023; Pasaribu, 2021; Land, Thürer, Stevenson, Fredendall & Scholten, 2021)

Bakso ANHEL continues to rely on manual methods to monitor ingredient supplies in its commercial operations. The manual method frequently leads to various issues, including inaccuracies in stock calculations, challenges in tracking material availability, and difficulties in making informed judgments regarding the procurement of raw materials. (Rumetna, Renny & Lina, 2020; Pebriadi, Salman & Fattah, 2023; Setiawan, Anita Dewi, Akhmad, Faisal Yahya & Muhammad, 2023)

Thus, the author developed an information system for managing the stock inventory of meatball serving materials at ANHEL Meatball MSMEs. Implementing an integrated information system aims to enhance the efficiency and effectiveness of material inventory management. This condition would enhance Bakso ANHEL's ability to make well-informed decisions about the procurement of raw materials while expediting the production process and improving customer service. (Tong, DeCroix & Song, 2020; Ubaldo, Albines, Salazar, Andrade-Arenas & Cabanillas-Carbonell, 2022; Nasution, Matondang & Ishak, 2022)

A system is a collection of interconnected procedures designed to accomplish a specific purpose. Generally, an information system comprises three primary components: software, hardware, and brainwave. These three components are interconnected. (Boute, Gijsbrechts, Van Jaarsveld & Vanvuchelen, 2022; Saifudin & Kautsar, 2024; Sarafi, Nafisah & Muhsin, 2021)

A system is an assemblage of various sub-systems, parts, or components, whether tangible or intangible, that are interrelated and collaborate harmoniously to accomplish a specific objective.

METHOD

This study employs applied research techniques to build and execute a stock inventory information system for ANHEL Bakso MSMEs. This research employs a combined qualitative and quantitative methodology. A qualitative methodology was employed to gain insight into the requirements and challenges encountered by ANHEL Meatball MSMEs in inventory management. The initial research phase entailed doing a requirements analysis by directly observing MSME locations to document the current inventory management procedures. Furthermore, interviews were conducted with both owners and staff to pinpoint precise issues and requirements about the inventory management system.

According to the needs analysis, the subsequent step involves the creation of the information system. This is an iterative process that begins with the creation of a conceptual framework, followed by meticulous system design encompassing architecture, database, and user interface. To ensure user satisfaction, an initial version of the application was developed and subjected to testing. Once the design is accepted, the implementation step commences, constructing the application in accordance with the design, and testing it in the ANHEL Bakso MSME environment to verify its functioning.

Training is offered to users, including MSME owners and staff, to ensure their proper utilization of the technology. The evaluation of the system is conducted using a quantitative methodology to assess the effectiveness of the established system. Data on system utilization is gathered and examined over a specific timeframe to assess improvements in efficiency in inventory management, such as decreases in the time taken for recording and the occurrence of errors. In addition, questionnaires and interviews were employed to get user feedback on system performance and satisfaction. The assessment results are used to analyze user comments and identify areas for improvement. Based on this analysis, adjustments and enhancements are made to the system. This research technique aims to develop a highly effective and efficient inventory management information system for ANHEL Bakso MSMEs. Furthermore, it can be implemented in other comparable MSMEs to enhance their inventory management practices.

RESULTS and DISCUSSION

System Analysis and Design

1. Business Process Analysis

   The current business process flow for ANHEL meatball UMKM is as follows.

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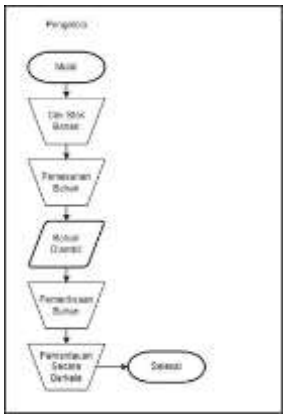

Figure 1. Business Process Analysis

2. Proposed New System

a. Use case diagrams

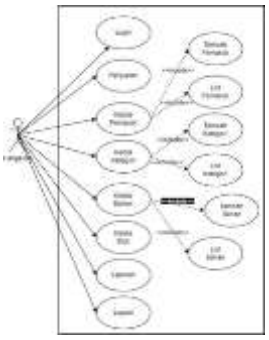

Figure 2. Use case diagram

b. Activity diagrams

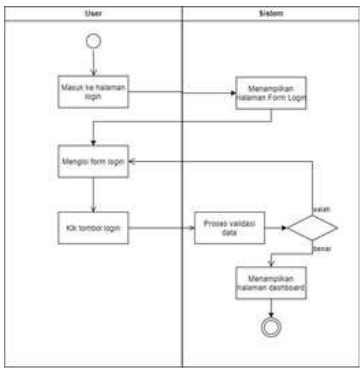

Figure 3. Activity diagram

3. System planning

a. Database Design

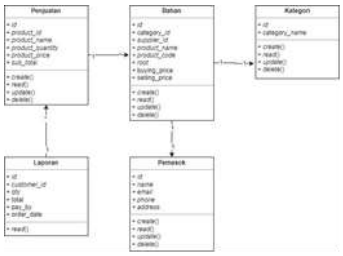

Figure 4. Database Design

b. Interface Design

Figure 5. Interface Design

System Implementation

1. Login Page Display

Figure 6. Login page display

2. Home Page/Dashboard Display

Figure 7. Home Page/Dashboard Display

3. Sales View

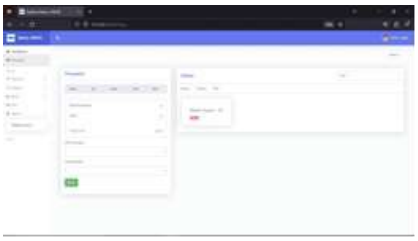

Figure 8. Sales View

CONCLUSION

After conducting an analysis, design, and trials, the author concludes that the Meatball Serving Material Stock Inventory Information System for ANHEL Meatball MSMEs has successfully improved operational efficiency and inventory management. The implementation of this system has demonstrated a favorable influence on the seamless daily operations of ANHEL Bakso MSMEs and has yielded tangible advantages in enhancing business efficiency.

According to this research, we also recommend numerous suggestions for further advancement. Specifically, we urge ANHEL Meatball MSMEs to consistently monitor and upgrade this system to align with evolving business requirements. Explore the possibility of integrating with other systems, such as accounting, to enhance the efficiency of overall operations. When planning for the future, it is crucial to contemplate business expansion and the implementation of more intricate inventory regulations.

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