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IMPLEMENTATION OF MICROSOFT ACCESS AS AN EFFECTIVE SOLUTION FOR FINANCIAL REPORTING IN GROCERY STORE SMEs

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Abstract

Small and Medium Enterprises (SMEs) play a strategic role in the Indonesian economy, yet many SMEs still face challenges in financial recording due to manual bookkeeping practices. This study aims to design, implement, and evaluate an accounting information system based on Microsoft Access to improve the efficiency, effectiveness, and accuracy of financial reporting at FMG Grocery Store SME. The research employs a descriptive qualitative approach using primary data obtained through interviews, observations, and documentation. System development follows the System Development Life Cycle (SDLC) method, including planning, design, development, testing, and implementation. The results indicate that the Microsoft Access-based system accelerates transaction recording, reduces human error, and automatically generates financial statements such as journals, ledgers, income statements, balance sheets, equity reports, and cash flow statements. The system also supports business decision-making by providing structured and real-time financial information. The findings suggest that Microsoft Access can serve as a practical, low-cost, and user-friendly solution for SME financial management and digital transformation.

Keywords: SMEs, Accounting Information System, Microsoft Access, Financial Reporting, Digitalization

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INTRODUCTION

Small and Medium Enterprises (SMEs) play a crucial role in Indonesia's economic development by contributing significantly to employment creation, income generation, and local economic resilience. In particular, grocery store SMEs represent an essential sector because they provide daily necessities, stabilize product availability, and support community-based economic activities. National statistics indicate that SMEs dominate the business landscape and contribute substantially to gross domestic product, demonstrating their strategic importance for sustainable economic growth.

Despite their economic significance, many SMEs face persistent challenges in financial management. One of the most critical issues is the lack of structured financial recording practices. A considerable number of SMEs still rely on manual bookkeeping using notebooks, receipts, or informal records, while some businesses do not record transactions systematically at all. This situation limits the ability of business owners to monitor financial performance, evaluate profitability, manage cash flow, and make informed strategic decisions.

Manual recording methods also present operational risks, including data loss, document damage, difficulties in retrieving historical information, and time-consuming reporting processes. As transaction volumes increase, these limitations become more evident and may hinder business sustainability. Moreover, research indicates that only a small proportion of SMEs prepare complete

financial statements, and many of those that do still rely on manual approaches rather than digital systems.

Accurate and structured financial reporting is essential for SMEs because it supports cost control, profit analysis, asset management, and business planning. Well-prepared financial information enables business owners to understand revenue sources, monitor expenses, and assess overall business performance. Furthermore, financial reports are often required when SMEs seek external financing, partnerships, or expansion opportunities.

The rapid development of digital technology provides opportunities for SMEs to adopt simple and affordable accounting solutions. Digital financial recording systems can improve efficiency, reduce human error, and provide real-time information for decision-making. However, many SMEs encounter barriers to adopting sophisticated accounting software due to cost, technical complexity, and limited digital literacy. Therefore, there is a need for practical and user-friendly technological solutions that align with SME characteristics.

Microsoft Access represents one potential solution because it functions as a relational database application that allows users to manage data systematically through tables, forms, queries, and automated reports. The software enables integration of daily transaction recording with financial statement preparation, making it suitable for small businesses that require a customizable and low-cost accounting system. Its flexibility allows system design to be tailored to specific operational needs, including transaction recording, inventory tracking, and financial reporting.

This study focuses on FMG Grocery Store, an SME located in Lampung Province that has operated since 2020. The business conducts routine activities such as purchasing goods from suppliers, selling products to customers, and managing operational expenses. Initial observations revealed that financial recording at the store was performed manually, resulting in delayed report preparation, increased risk of recording errors, and limited financial analysis capability. As the business grew, the need for a more systematic and reliable accounting system became increasingly urgent.

Based on these conditions, the implementation of a Microsoft Access-based financial reporting system is proposed as a practical solution to improve financial management at FMG SME. The system is designed to allow users to input transaction data into a general journal, which is automatically processed into various financial statements, including ledgers, income statements, balance sheets, statements of changes in equity, and cash flow statements. This approach is expected to simplify the recording process, enhance information accuracy, and support better business decision-making.

Therefore, this research aims to design, develop, implement, and evaluate a Microsoft Access-based accounting information system for FMG Grocery Store SME. The study also seeks to analyze how the implementation of this system improves efficiency, effectiveness, and accuracy in financial recording and contributes to the digital transformation of SMEs.

LITERATURE REVIEW

Contingency Theory

Contingency theory argues that there is no single best way to manage an organization or implement management systems because effectiveness depends on contextual factors such as organizational size, technological capability, environmental uncertainty, and operational complexity. This perspective suggests that managerial decisions and system designs must be flexible and aligned with situational conditions.

In the context of SMEs, contingency theory highlights the importance of developing accounting systems that match the characteristics of small businesses, including limited financial resources, simple organizational structures, and low technological literacy. Therefore, complex enterprise accounting software may not always be appropriate for SMEs. Instead, adaptable and user-friendly systems are more likely to improve financial management effectiveness. Applying contingency theory to this research implies that a Microsoft Access-based accounting system can be considered an

appropriate solution because it can be customized according to the operational needs and capabilities of the SME.

Accounting Information Systems (AIS)

Accounting Information Systems (AIS) refer to integrated systems that combine accounting processes with information technology to collect, process, store, and report financial data. AIS plays a critical role in improving data accuracy, enhancing efficiency, and supporting managerial decision-making. The main components of AIS include human resources, software, hardware, procedures, data, and technological infrastructure. When properly implemented, AIS enables real-time financial monitoring, reduces manual errors, and ensures compliance with reporting standards. For SMEs, AIS implementation is particularly important because it provides structured financial information that supports operational control, performance evaluation, and strategic planning. Digital AIS adoption also contributes to transparency and accountability in business management.

System Development Life Cycle (SDLC)

System Development Life Cycle (SDLC) is a widely used framework for designing and developing information systems. SDLC provides systematic stages that guide system development from initial planning to maintenance. The main stages relevant to this research include:

1. Planning: Identifying system objectives, scope, and required resources.
2. Feasibility Analysis: Evaluating technical and financial feasibility of the system.
3. Design: Creating database structures, forms, queries, and reporting formats.
4. Development: Building the system based on the design and integrating system components.
5. Testing: Ensuring system functionality, data accuracy, and reporting automation.
6. Deployment: Implementing the system and training users.
7. Maintenance: Updating, improving, and fixing system issues.

Using SDLC ensures that the Microsoft Access-based system is developed systematically and aligned with user needs.

Small and Medium Enterprises (SMEs)

SMEs represent a dominant sector in many economies and contribute significantly to employment, investment, and local economic development. However, SMEs often face structural challenges, including limited capital, restricted access to technology, and managerial constraints.

According to regulatory frameworks, SME classification is typically based on asset size and annual revenue. Small businesses often operate with informal management practices, which influences how financial information is recorded and utilized. These characteristics explain why SMEs require simple accounting systems that are practical, affordable, and easy to operate. Strengthening financial management through digital tools is essential to improve SME competitiveness and sustainability.

Financial Recording and Financial Statements

Financial recording is a fundamental activity that documents business transactions systematically. Proper financial recording enables the preparation of financial statements, including income statements, balance sheets, equity statements, and cash flow statements. Many SMEs still face difficulties in preparing financial statements due to limited accounting knowledge and reliance on manual recording methods. Poor financial recording can hinder cost control, profit analysis, and long-term planning.

Structured financial reporting provides several benefits:

1. Monitoring operational expenses
2. Evaluating profitability
3. Managing cash flow

4. Tracking assets and liabilities
5. Supporting business decision-making

Therefore, improving financial recording practices is critical for SME development.

Microsoft Access as an Accounting Tool

Microsoft Access is a relational database application designed to manage and process data efficiently. The software provides features such as tables, forms, queries, and reports that allow users to develop customized information systems.

For SMEs, Microsoft Access offers several advantages:

1. User-friendly interface
2. Low implementation cost
3. Flexibility and customization
4. Integration with other Microsoft applications
5. Adequate storage capacity for small businesses
6. Ability to automate financial reporting

Through these features, Microsoft Access can support transaction recording, data processing, and financial statement generation in an integrated manner.

Previous Studies

Previous research has explored the use of Microsoft Access and other digital systems in SME financial management. Studies show that Microsoft Access-based accounting applications help SMEs prepare financial statements aligned with accounting standards, reduce recording errors, and improve reporting efficiency. Other research highlights that digital accounting systems enable real-time transaction recording, faster reporting processes, and better decision-making support. Additionally, system design tailored to SME needs increases usability and adoption.

These findings indicate that simple database-based systems can significantly improve SME financial management. However, many SMEs still lack practical implementation models that demonstrate how such systems can be designed, implemented, and evaluated in real operational settings. Therefore, this study contributes by providing an applied case of Microsoft Access implementation in a grocery store SME and examining its impact on financial recording performance.

METHODS

This study employed a descriptive qualitative approach to examine financial recording practices in an SME and to evaluate the implementation of a Microsoft Access–based accounting information system. The research was conducted at FMG Grocery Store, a small retail business engaged in the sale of daily necessities. The SME was selected because it represents common conditions in small businesses that still rely on manual bookkeeping practices.

Data were collected from both primary and secondary sources. Primary data were obtained through in-depth interviews with the business owner, direct observation of operational activities, and documentation of transaction records. Secondary data included financial notes, inventory records, and supporting business documents. These data sources provided comprehensive insights into the existing recording system and the requirements for digital system development.

Data collection was carried out using three main techniques. First, in-depth interviews explored current financial recording procedures, challenges in manual bookkeeping, and expectations for digital solutions. Second, field observations were conducted to understand transaction flows, stock management, and reporting processes. Third, documentation analysis was used to review existing financial records and identify gaps in reporting practices.

The development of the accounting system followed the System Development Life Cycle (SDLC) framework, including planning, design, development, testing, and implementation. The

system was designed using Microsoft Access by creating database tables, input forms, queries, and automated reports. The system allows users to record transactions through a general journal interface, which is automatically processed into financial statements such as ledgers, income statements, balance sheets, statements of changes in equity, and cash flow statements.

System implementation involved testing the application using actual business data, providing user training, and refining system features based on feedback. This process ensured that the system aligned with operational needs and remained easy to use for users without advanced technical knowledge.

Data analysis was conducted using qualitative analytical procedures, including data reduction, data presentation, and conclusion drawing. Evaluation focused on efficiency, accuracy, usability, and user response after system implementation. This approach enabled the study to assess how the Microsoft Access–based system improves financial recording practices and supports decision-making within the SME.

RESULT AND DISCUSSION

SME Context and Existing Financial Recording Practices

FMG Grocery Store is a small retail SME operating in the daily necessities sector. Since its establishment, the business has experienced gradual growth in product variety, customer volume, and transaction frequency. Despite this growth, financial recording practices remained manual, relying on handwritten notes and transaction receipts.

Manual bookkeeping created several operational limitations. The business faced difficulties in retrieving historical transaction data, compiling periodic reports, and ensuring data accuracy. The absence of structured financial statements limited the owner's ability to monitor profitability, manage cash flow, and evaluate business performance. These findings are consistent with broader SME literature indicating that limited accounting capability and reliance on manual methods remain common challenges. The increasing volume of transactions highlighted the need for a more systematic financial recording approach that could support timely reporting and decision-making.

System Design and Implementation

The Microsoft Access–based accounting system was developed to address the limitations of manual recording. The system design emphasized simplicity, integration, and automation to ensure usability for non-technical users. The application allows users to record transactions through a general journal interface that serves as the central input point. Once transactions are entered, the system automatically processes the data into multiple financial reports, including the ledger, income statement, balance sheet, statement of changes in equity, and cash flow statement.

The system architecture consists of database tables for chart of accounts and transactions, user-friendly input forms, data processing queries, and automated reporting modules. This integrated structure eliminates repetitive data entry and reduces the risk of recording errors.

Implementation involved system testing using actual business transactions, user training, and system refinement based on feedback. The adoption process demonstrated that simple database applications can be effectively implemented in SME environments when designed according to user needs.

Impact on Efficiency, Effectiveness, and Accuracy

The implementation of the Microsoft Access system resulted in several improvements in financial management practices. First, recording efficiency increased because transactions could be entered quickly through structured forms rather than written manually. Report preparation time was significantly reduced since financial statements were generated automatically.

Second, data accuracy improved due to validation features and standardized account classifications. Automated processing minimized calculation errors that frequently occurred in manual bookkeeping.

Third, reporting effectiveness increased because the system produced structured financial statements that were previously unavailable. The availability of income statements and cash flow information enabled the business owner to better understand financial performance.

These findings support previous research indicating that digital accounting tools enhance SME operational efficiency and reporting quality.

User Evaluation and Practical Implications

User feedback indicated that the system was easy to operate, even without advanced accounting or technological knowledge. The simplified interface and automated reporting features were perceived as the most valuable aspects of the system. The implementation also improved financial monitoring. The business owner could track revenue, expenses, and financial position more consistently, which supported more informed decision-making regarding purchasing, pricing, and cost control. However, several challenges were identified, including initial adaptation to digital recording and the need for ongoing training. These barriers highlight the importance of digital literacy support in SME digital transformation initiatives. From a practical perspective, the study demonstrates that low-cost database applications can serve as an entry point for SME digitalization. Rather than adopting complex enterprise systems, SMEs may benefit from incremental technological solutions tailored to their operational capacity.

Theoretical Discussion

The findings reinforce contingency theory by showing that accounting system effectiveness depends on alignment with organizational characteristics. The Microsoft Access system proved suitable because it matched the SME's scale, resource limitations, and technological capability.

From an accounting information systems perspective, the study illustrates how database-driven solutions can enhance information quality, timeliness, and usability in small business contexts. The integration of transaction recording and reporting represents a key factor in improving financial management practices.

Overall, the study contributes to SME digitalization literature by providing empirical evidence that simple, customizable systems can significantly improve financial reporting performance without requiring high technological investment.

CONCLUSION

This study examined the design, implementation, and evaluation of a Microsoft Access–based accounting information system in FMG Grocery Store SME. The findings demonstrate that the transition from manual bookkeeping to a database-driven system significantly improved financial recording practices.

The implementation of the system enhanced efficiency by reducing the time required for transaction recording and financial report preparation. It also improved data accuracy through standardized input formats and automated processing, minimizing calculation and recording errors commonly associated with manual methods. Furthermore, the system increased reporting effectiveness by generating structured financial statements, enabling the business owner to monitor financial performance more consistently.

The study confirms that simple and customizable digital solutions can play an important role in supporting SME financial management. Microsoft Access proved to be a practical and cost-effective tool that aligns with SME characteristics, particularly limited resources and technological capacity. By integrating transaction recording with automated reporting, the system supported better operational control and informed decision-making.

From a theoretical perspective, the findings support contingency theory by demonstrating that accounting system effectiveness depends on alignment with organizational context. The study also contributes to accounting information systems literature by providing empirical evidence that database-based applications can improve financial information quality in small business environments.

Despite these contributions, the study is limited to a single SME context, which may affect generalizability. Future research is encouraged to apply similar systems across different SME sectors, integrate inventory management features, and explore cloud-based solutions to enhance scalability and accessibility.

Overall, the study highlights that incremental digital transformation through simple information systems can substantially strengthen SME financial reporting and support sustainable business development.

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