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Enhancing Operational Efficiency in Cooperative: A Case Study of Koperasi Usaha Jaya Mandiri

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ABSTRACT

Koperasi Usaha Jaya Mandiri is a financial institution engaged in savings and loans. In its operational activities, this cooperative still uses a manual system in recording transactions, managing member data, and preparing financial reports. This causes various problems such as the risk of recording errors, delays in the service process, and difficulties in tracking data and making reports. In addition, the manual system slows down the decision-making process due to the lack of real-time integrated data. This research aims to analyze the impact of using manual systems in cooperative operations and identify digital solutions that can improve work efficiency and effectiveness. The methods used in this research include direct observation of business processes, interviews with cooperative management and staff, and analysis of operational data. The results of this research are expected to produce an integrated information system design that is able to minimize errors, speed up the transaction process, and facilitate overall data management.

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INTRODUCTION

In the midst of accelerating digital transformation, the need for an integrated information system is becoming increasingly important, including in cooperative management. The development of information technology provides a great opportunity for cooperatives to improve administrative efficiency, financial transparency, and quality of service to members. One of the crucial tools in supporting this is the implementation of an Accounting Information System (AIS), which is designed to process financial data automatically and systematically.

Cooperatives are economic entities based on the principle of kinship and the spirit of togetherness in realizing the welfare of its members. In Indonesia, cooperatives play an important role in sustaining the community's economy, especially in the small and medium sectors. However, in the midst of the rapid development of information technology, many cooperatives are still lagging behind in terms of modernizing operational systems, especially related to financial management and accounting. The majority of cooperatives, especially small and medium-sized ones, still rely on manual recording systems in carrying out their financial activities. This reliance on manual systems causes various complex and recurring problems. Starting from delays in the financial reporting process, high risk of recording errors, limited access to information by members, to increased potential for human error due to weak internal control systems.

Research conducted by Mulyana et al, (2024). shows that a well-structured AIS is able to provide relevant and reliable information for managerial decision making, which cannot be easily obtained from manual recording systems. Manual systems are considered slow, error-prone, and unable to produce real-time reports, which are needed in making quick decisions in a modern business environment. Furthermore, Syafitri et al, (2020). Shows that AIS is able to reduce operational costs such as paper and excessive administrative labor, thus, this system can increase efficiency and reduce organizational operational costs.

This research aims to make a significant contribution to the literature and practice in the field of information technology, particularly in the context of cooperatives. While there have been a number of studies that discuss technology adoption in organizations, there are still few studies that specifically examine the implementation of information systems in cooperatives that still rely on manual methods. Thus, this research fills the existing gap, namely the lack of studies on the implementation of simple and affordable platform-based information systems for small and medium-sized cooperatives. In this research, the application of information systems based on Google Forms, spreadsheets, and cloud storage is the main focus, because these technologies are relatively easy to access, cost-effective, and flexible in use.

The main contribution of this research is to show that digitizing the recording and data management processes in cooperatives can not only reduce human error and improve efficiency but also drive cooperatives towards more professional and accountable governance. With the implementation of this information system, cooperatives can not only benefit in terms of better data management, but can also increase operational transparency which is crucial in maintaining the trust of members and other stakeholders, this research is expected to be a reference for academics, practitioners, as well as cooperative managers in seeing how technology can be a real solution to the problems faced by cooperatives in the digital era. Thus, in addition to contributing to theory development, this research also provides practical solutions that can be applied directly by cooperatives to improve their operational performance and sustainability.

LITERATURE REVIEW

This research review aims to examine the role of Accounting Information System (AIS) implementation in improving the efficiency of cooperative operations, especially in the context of transformation from manual systems to digital systems. This transformation becomes very relevant in the midst of technological developments that require organizations, including cooperatives, to increase speed, accuracy, and efficiency in recording and reporting finances. The implementation of AIS is not only expected to reduce the risk of recording errors, but also support more transparent and accountable cooperative governance.

Various previous studies have shown that the use of AIS has a significant impact on improving the quality of cooperative financial management. For example, research by Vicky and Septiana (2021) highlighted how manual recording processes often lead to delays in information, recording errors, and the difficulty of preparing timely financial reports. This is reinforced by Khairul et al. (2025), who state that AIS offers a systematic and efficient solution to overcome these obstacles. Furthermore, Putri (2023) explained that the digitalization of the accounting system allows the automation of various activities such as recording transactions, managing member data, and preparing periodic reports, which previously required a long and repetitive process in the manual system.

From a cost-efficiency perspective, AIS implementation also contributes to the reduction of cooperative operational expenses. Research by Banjarnahor et al. (2016) shows that manual systems lead to cost waste in various aspects, such as the need for stationery, paper, and archive space. AIS enables automation that eliminates the need for most of these elements. Budiningrum et al. (2023) also confirmed that the use of AIS can reduce administrative workload and accelerate the preparation of financial reports without the need for manual recapitulation processes, resulting in significant time and cost efficiencies.

Conceptually, this review is based on the theory of operational efficiency proposed by Farell (1957), which divides efficiency into two main components: technical efficiency and allocative efficiency. Technical efficiency refers to an organization's ability to maximize output with available resources, without waste. Allocative efficiency, on the other hand, concerns the ability to use resources economically, resulting in minimal costs for a given output. The implementation of a structured and automated AIS can strengthen both aspects of efficiency. In the context of cooperatives, technical efficiency can be achieved by reducing the time and effort required to manage transactions and reports, while allocative efficiency is obtained through the reduction of wasteful operational costs and optimal utilization of technological resources.

Based on the literature review and theoretical framework, this study proposes the hypothesis that the optimization of the Accounting Information System, especially through the digitization of operational management, will result in increased efficiency of cooperative operations through reduced manual processes and increased work speed and increased effectiveness of cooperative operations by improving data accuracy, reporting, and decision-making processes. Thus, the main hypothesis of this study is that the implementation of a digital AIS for cooperatives will improve the operational efficiency and effectiveness of Usaha Jaya Mandiri Cooperative.

METHODOLOGY

This research uses a qualitative approach with a case study method, which according to Creswell (2018) is very suitable for exploring phenomena in depth in a real-life context. This approach was chosen because the research focused on an in-depth analysis of the manual financial recording system in Usaha Jaya mandiri cooperative and its impact on the efficiency and effectiveness of cooperative operations. Case studies allow researchers to thoroughly explore the factors that influence cooperative accounting practices and the obstacles that arise in the operational process, especially in the context of the absence of an integrated digital system.

The population in this study includes all individuals involved in cooperative operations, including management, administrative staff and field officers. Sampling was done purposively, by selecting informants who have direct involvement in the financial recording and decision-making process in the cooperative. The main informants consisted of three categories: cooperative managers as strategic decision-makers, administrative staff responsible for manual recording of transactions, and field officers (PDLs) who interact directly with cooperative members in savings and loan activities. Selection of informants and challenges faced.

Data was collected using several techniques, namely semi-structured interviews, observation and documentation. Semi-structured interviews allowed the researcher to follow a flexible flow of conversation while maintaining focus on key issues, the interview guide was customized to explore aspects of manual record keeping, operational constraints, and perceptions of the possibility of implementing an accounting information system. All interviews were recorded with the respondents' permission and transcribed for analysis. In addition to interviews, direct observation was conducted in the cooperative's working environment to observe ongoing record-keeping practices, interactions between staff, and the use of documents in the financial reporting process. The documentation analyzed included financial statements, daily transaction records, cash books, and internal policies and procedures used by the cooperative.

For data analysis, this study used thematic analysis, which is a systematic method for identifying patterns and themes in qualitative data (sitassari, 2022). The stages of analysis included re-reading the transcripts to fully understand the context, initial coding of relevant parts of the text, and grouping the codes into main themes. The themes that emerged in this study include: the challenges of manual recording, the impact on financial transparency and accountability, and the need for system digitization, where informants expressed hope for an accounting information system that is more efficient, easy to use and able to speed up the reporting process.

This analysis provides an in-depth understanding of the actual conditions in the cooperative and becomes the basis for developing recommendations for implementing an accounting information system that suits the capacity and needs of the cooperative. Thus, this research method not only produces a comprehensive description of the problem but also offers relevant evidence-based directions for improvement.

Field findings from interviews and observations were analyzed using the operational efficiency and effectiveness approach developed by Farell (1953). This theory emphasizes the importance of optimal use of resources to achieve maximum organizational performance. The problems found in Koperasi Usaha Jaya Mandiri can be categorized into each of these aspects as shown in Table 1. The table summarizes the results of the interview data analysis classified into two main aspects of the Challenges of manual systems: human error and human error. It can be seen that the human error aspect is the most likely to occur because manual systems rely heavily on human accuracy and precision.

Table 1. Categories of challenges of Jaya Mandiri Cooperative's manual system based on the theory of operational efficiency and effectiveness

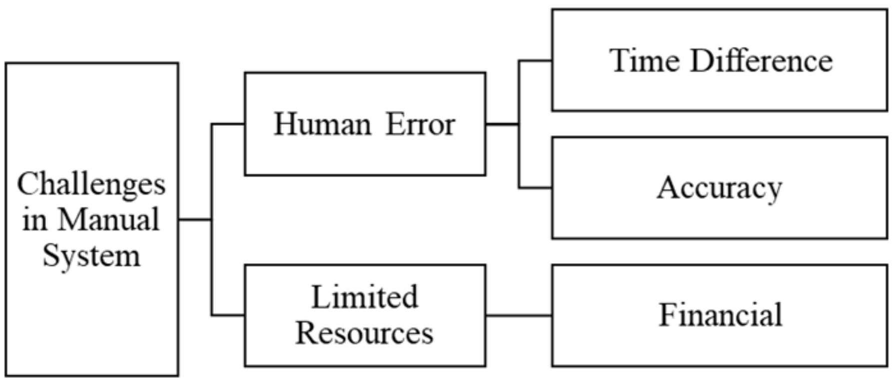

Figure 1 illustrates the legacy invoicing process from data collection to payment verification. The diagram highlights inefficiencies such as manual signing of documents before verification and the risk of pre-signed invoices.

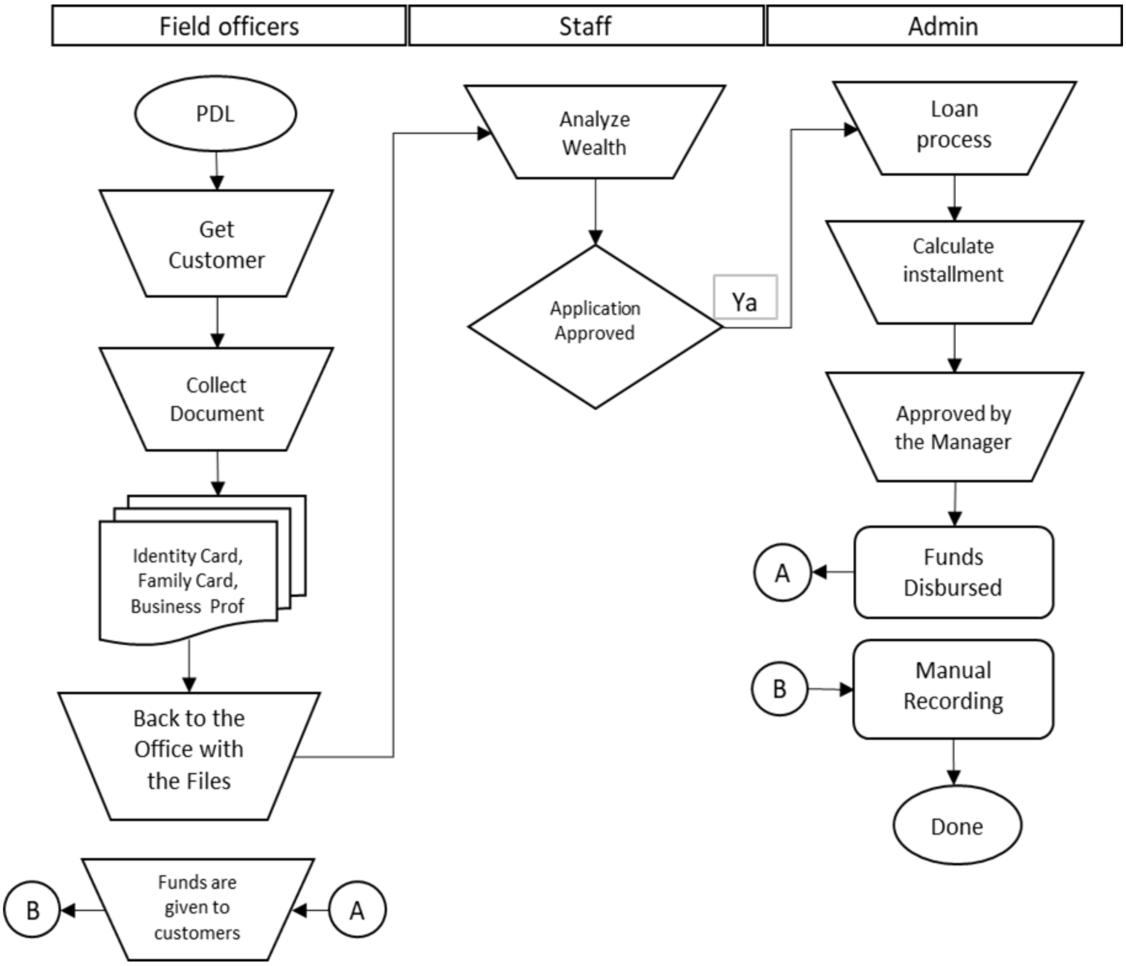

Figure 1. Flowchart before the implementation of digital system
Source: Processed from the results of interviews and observations

Figure 2 illustrates the new process of integrating digitized document input so as to speed up the decision-making process and the recording process that will be recorded directly through a form filled in through a spreadsheet.

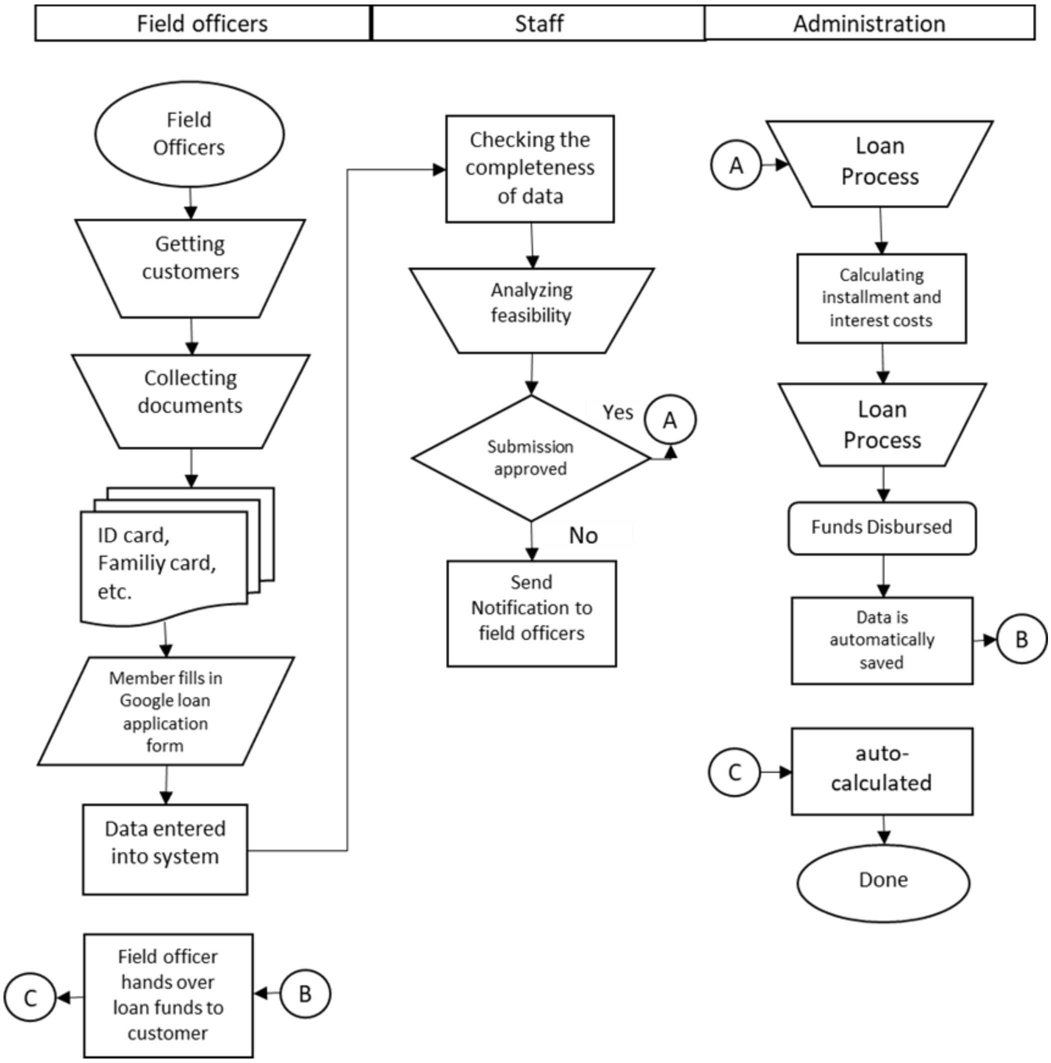

Figure 2. Flowchart after implementation of the digital system
Source: Designed from the proposed digital workflow, 2025

1. Field Officers looks for prospective customers and after getting a customer, Field Officers will collect files and field observations.
2. Field Officers will fill in the google form accompanied by customer. Documents
3. The first page of the google form contains the biodata of the prospective customer and proof of business or documents.
4. The second page contains the amount to be borrowed and the length of payment.
5. It's good that on the second page there is also a list of loans and payments along with interest, so that prospective customers can see it directly.
6. This google from can also be filled directly by the customer if possible, considering that the target customer is the middle to lower class.
7. The purpose of uploading documents via google form is so that they can be accessed in real time by staff so that staff do not need to wait for Field Officers to come to the office to process data eligibility which can take

time. they can be accessed in real time by staff so that staff do not need to wait for PDL to come to the office for the data eligibility process which can take time.

8. However, if physical documents are still required, Field Officers may bring the documents to the office.
9. Staff can immediately view uploaded documents in real time.
10. After analyzing the eligibility and authenticity of the prospective customer's data/documents and the loan application is approved, it will then be processed by the admin through Excel.
11. The data on page 2 will be sent to Admin or processed.
12. Admin will calculate the installment fee and interest based on excel template or spreadsheet.
13. It is better to have a list of loan amounts and interest, so that when there is a loan application, it can be done efficiently.
14. In the spreadsheet, there is a list of Member names along with the amount of loans and payments that have been made
15. The goal is to be more efficient and transparent.
16. The goal is to be more efficient and transparent, where managers can access the spreadsheet but cannot edit the data in it.
17. Manager will double check before funds are disbursed.
18. However, if there are any discrepancies or errors, the manager can directly contact the Admin.
19. After that, the funds can be disbursed with the manager's approval.
20. The field officer will hand over the funds to the borrower.
21. For the collection process, PDL should notify the customer H-3 before the due date so that the customer can prepare the money to pay.

RESULTS AND DISCUSSION

This study shows that the implementation of digital AIS in Jaya Mandiri Business Cooperative has shown significant results in improving operational efficiency and effectiveness. Due to capital constraints, the system was designed by utilizing a simple yet functional platform. Google forms for real-time document input, Google spreadsheets for processing and reports in the form of customer data and daily transactions, and cloud storage for document storage can successfully replace the manual recording method previously used. Based on this research, with the existence of the system, changes can occur as follows:

Area	Before	After digitalization
Recording time	1-2 days	< 1 day
Paper & Archive Costs	High	Low
Human Dependency	High	Low
Transparency	Low	High

Report	Limited	Real-time

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research on digital information systems based on Google Forms, spreadsheets, and cloud storage in the Jaya Mandiri Business Cooperative, it can be concluded that the digitization of the recording system has a positive impact on the efficiency and effectiveness of cooperative operations. The system succeeded in speeding up the financial input and reporting process, reducing the risk of data loss and recording errors, and reducing administrative workload. In addition, digitization supports safer data storage and makes supervision easier. These changes show that the designed information system is able to significantly replace manual methods and become a relevant solution for the operational needs of cooperatives in the digital era.

FURTHER STUDY

Future research should explore the scalability of similar digital systems in cooperatives of varying sizes and sectors, as well as assess long-term impacts on decision-making and member satisfaction. This can strengthen the development of more adaptive and user-friendly digital solutions in the cooperative sector.

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