Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve Financial Literacy of Mulia Prasama Danarta Cooperative Members

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Abstract

Mulia Prasama Danarta Savings and Loan Cooperative is committed to improving the economic welfare of its members through financial literacy programs, one of which is the Budget Card (KARA) and Daily Card (KARI) methods. However, the implementation of these methods was still done manually using paper, making it inefficient, vulnerable to data loss, and unable to provide automatic financial analysis. This community service activity aimed to design and implement a web-based financial recording system to digitize the KARI and KARA methods, making it easier for members to plan budgets and record daily transactions. The implementation method for this activity utilized a participatory approach that included four stages: (1) survey and needs analysis, (2) website platform development, (3) dissemination and training attended by 50 members on July 28, 2025, and (4) impact evaluation attended by 27 members on September 11, 2025. Feedback data collection was carried out through an online questionnaire. The results of the activity show that the digital platform was successfully developed according to needs and was very positively received by members. Evaluation data shows that 92.6% of users intend to continue using this system because it is considered easy and useful. In addition, constructive feedback was obtained for future feature development, such as budgeting period flexibility. It was concluded that digitizing the KARI and KARA systems through a website platform is an effective solution with significant potential to increase the effectiveness of cooperative financial literacy programs and encourage better financial management practices for MSME members and individuals.

Keywords: cooperatives, digitalization, financial applications, financial literacy, KARI KARA

Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve
Financial Literacy of Mulia Prasama Danarta Cooperative Members | Pamudji et al.

15

Introduction

Personal financial management is a crucial skill that forms the foundation for individual economic well-being and the sustainability of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. The ability to manage finances effectively not only impacts economic stability but also strategic decision-making for the future. Research shows that financial knowledge and financial attitudes have a significant positive impact on an individual's financial management behavior (Nguyen & Thao, 2015). This underscores the importance of structured financial education and literacy programs to foster healthy financial habits within the community.

Cooperatives, as a pillar of the people economy, have a strategic role in the economic empowerment of their members. More than just savings and loan institutions, cooperatives serve as ideal educational platforms due to their collaborative and cooperative environment. A study by Niroo found a positive correlation between cooperative learning methods and financial literacy levels (Niroo, 2022). This strengthens the role of the Mulia Prasama Danarta Savings and Loan Cooperative, which has hundreds of individual and MSME members, in carrying out its mission of providing financial literacy. One of the cooperative's flagship initiatives is the introduction of the Budgeting Card (KARA) and Daily Card (KARI) methods to help members create a financial plan and record their finances. As reviewed by Eseza et al., the literacy and training programs organized by the cooperative have been proven to significantly improve members' knowledge, skills, and financial independence (Eseza et al., 2025).

The implementation of KARI and KARA at KSP Mulia Prasama Danarta still faces fundamental challenges because it is still manual and paper-based. This manual system has several significant weaknesses in the digital era. First, there is time inefficiency, as members must manually summarize their records, a time-consuming process that is prone to calculation errors. Second, there is a data security risk, as physical records are vulnerable to loss or damage. Third, and most importantly, there is the lack of automated data analysis, which limits members' ability to gain in-depth insights from their financial records (Alam et al., 2024; Susilawati, 2021). This reliance on traditional processes aligns with Aryal's findings, which suggest that they can hinder the sustainability of cooperatives and their members (Aryal & Panta, 2015).

Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve
Financial Literacy of Mulia Prasama Danarta Cooperative Members | Pamudji et al.

16

To address this challenge, this community service project proposes a solution in the form of digital transformation through the development of a financial management website. The use of digital technology in educational processes has been proven to promote inclusion and improve performance (Prasetya et al., 2022; Chandrawati et al., 2025). Developing digital applications as financial planning tools has also become a common solution to overcome the limitations of manual systems (Almuzakki et al., 2025; Windarto et al., 2024). Therefore, the primary objective of this project is to design and implement a digital platform that adopts the KARI and KARA methods. It is expected that this platform will not only serve as an efficient and secure recording tool but also serve as a modern and interactive educational instrument to improve financial literacy and support better financial management for all members of KSP Mulia Prasama Danarta.

Based on the preliminary analysis, three main needs were identified:

1. The need to transform the manual recording system to eliminate inefficiency and data loss risks.
2. The need for a platform capable of providing automated, simple data analysis.
3. The necessity for a user-friendly interface suitable for members with varying digital literacy levels.

In line with this problem identification, the objectives of this community service activity are as follows:

1. Develop a functional, secure, and user-friendly web-based financial management platform, adopting the KARI and KARA methods already familiar to members.
2. Implement the website platform among KSP Mulia Prasama Danarta members through comprehensive outreach and training.
3. Evaluate the level of acceptance, ease of use, and perceived benefits of using the digital platform as a tool for their daily financial management.

Methods

This community service activity was implemented over a three-month period, from July to September 2025, with the target partners being members of the Mulia Prasama Danarta Savings and Loan Cooperative (KSP). The method used is a participatory approach, in which

cooperative members are actively involved from the needs identification stage through evaluation. This approach ensures that the developed digital solutions truly align with the context and needs of users. The activity implementation is divided into four main stages (phases).

Phase 1: Survey and Needs Analysis (July 2025) The first stage is to conduct a preliminary study to deeply understand the workflow of the KARI and KARA systems, which were running manually. The implementation team conducted direct observations and interviews with several administrators and representatives of cooperative members. The purpose of this stage is to identify the main challenges faced by users and formulate essential features that the digital platform to be developed must have. The results of this needs analysis formed the main basis for designing the system architecture and user interface.

Phase 2: Platform Design and Development in July 2025, based on the cooperative needs analysis, the team proceeded to the design and development phase of a web-based financial management platform. This platform was developed using web technology for flexible access through various devices such as computers, laptops, and smartphones without requiring any installation. The primary focus of the development was creating an intuitive and user-friendly interface, considering the diverse digital literacy backgrounds of members. Core features developed included category management, budget planning (KARA digitization), daily transaction recording (KARI digitization), and automated financial report generation and analysis.

Phase 3: On July 28, 2025, after the website platform was developed, an initial information dissemination and training session was held, attended by 50 cooperative members. In this session, the implementation team provided material on the importance of digital transformation, followed by a demonstration of the website's main features. Members were also provided with hands-on guidance, from the account registration process to how to record transactions. At the end of the session, an online questionnaire (Google Form) was distributed to 40 respondents to measure initial perceptions, expected benefits, and ease of use of the platform using a Likert scale.

Phase 4: In August - September 2025, following the training, members were given approximately one and a half months to implement the website into their daily financial activities. On September 11, 2025, the implementation team held a follow-up evaluation session to measure the actual impact of platform use. At this stage, a second online evaluation questionnaire was distributed and completed by 27 respondents, who were active users. This questionnaire was designed to measure satisfaction levels, feature effectiveness, actual ease of use, and intentions to continue using the platform in the future. The quantitative and qualitative data collected from both questionnaires were then analyzed to form the basis for writing the results and discussion.

System Development Architecture

To ensure the platform remains lightweight, accessible, and easy to maintain without requiring complex server configurations, the system was built using native PHP as the core backend language. Data management is handled through a MySQL database, chosen for its reliability in processing relational data between user profiles and their financial records. On the client side, the user interface was developed using the Bootstrap framework. This choice ensures a responsive design, allowing cooperative members to access the platform seamlessly across various devices, from desktop computers to low-end smartphones, without display issues.

The system workflow is designed to mirror the manual habit, but with added efficiency. The process begins with User Registration, where members create an account linked to the cooperative's database. Once logged in, the user flow follows a structured financial logic:

1. Budget Planning (Digital KARA): Users are first required to input their projected income and allocate budgets into specific categories at the start of the period. This step is mandatory to set the baseline for tracking.

2. Daily Recording (Digital KARI): Users log their daily expenses in real-time. The system automatically subtracts these values from the allocated budget in the KARA module.

3. Automated Reporting: Finally, users can access a comprehensive dashboard that visualizes their financial health, comparing their initial plan against actual spending, providing immediate feedback on their financial behavior.

Results and Discussions

This section presents the results of community service activities, starting from a description of the digital platform that was successfully developed to an analysis of feedback received from members of KSP Mulia Prasama Danarta.

Results

Description of the Digital Financial Management Platform

The main outcome of this activity is a functional, web-based financial management platform specifically designed to digitize the KARI and KARA methods. This platform is accessible across multiple devices and has a user-friendly interface. The key features developed are as follows:

1. Category Management:

   Users can flexibly create, modify, and delete income and expense categories according to their individual business or household needs.

2. Budget Planning (KARA Digitalization):

   This feature allows users to set monthly budget limits for each expense category, providing a clear framework for financial management.

3. Daily Transaction Recording (KARI Digitalization):

   Users can easily and quickly record every daily income or expense transaction. Each transaction is directly linked to the relevant category.

4. Real-time Budget Synchronization:

   Each recorded expense automatically reduces the allocation to the appropriate budget category based on budget planning (KARA). This feature allows users to monitor their remaining budget in real time, helping them proactively control spending.

5. Automated Reports and Analysis:

   The platform provides a visual reporting dashboard that summarizes financial conditions periodically. These reports are complemented by simple analyses that highlight the largest income and expense items, providing valuable insights for users.

The visualization of these features can be seen in the system's interface. Figure 1 displays the main dashboard where the KARI and KARA methods are integrated. The design prioritizes clarity, showing the real-time comparison between the planned budget and actual daily expenses to help users make informed financial decisions.
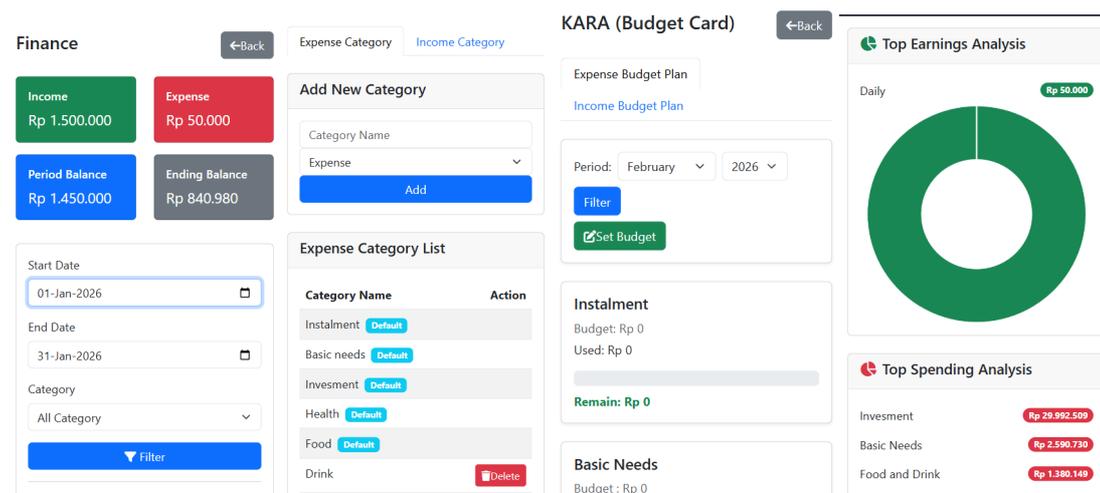
Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve
Financial Literacy of Mulia Prasama Danarta Cooperative Members | Pamudji et al.

20

Fig. 1. KARI KARA web application

Initial Dissemination Feedback Results

During the initial dissemination phase on July 28, 2025, a questionnaire was distributed to gauge the initial perceptions and expectations of 40 respondents. The results indicated a very high level of enthusiasm and acceptance. Based on data from respondents in Figure 2 who chose the scale of Agree (4) or Strongly Agree (5), it was found that:

a. 90% of respondents believed the platform would be useful and simplify their work.

b. 90% of respondents believed the platform would increase productivity in financial reporting.

c. 90% of respondents felt the platform would be easy to use and learn.

d. 92.5% of respondents stated they had the necessary devices to access the platform.

Fig. 2. Respondent graph from dissemination session

Qualitatively, the feedback provided at this stage was predominantly positive, with features such as "good," "very useful," and "great," indicating that members had high expectations and welcomed this digital innovation.

The implementation phase involved direct interaction with the cooperative members to ensure smooth adoption. Figure 3 captures the atmosphere of the dissemination and training session held on July 28, 2025. In this session, participants were not only listening to the presentation but also actively engaging in hands-on practice, registering their accounts, and trying out the input features directly on their devices.

Fig. 3. Dissemination session

Platform Usage Evaluation Results

After approximately 1.5 months of implementation, an evaluation questionnaire was distributed on September 11, 2025, and completed by 27 active users. The survey results

Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve
Financial Literacy of Mulia Prasama Danarta Cooperative Members | Pamudji et al.

22

confirmed that the initial positive expectations were borne out in actual user experiences in Figure 4.

a. 92.5% of respondents found the budget planning (KARA) feature very useful in their daily activities.

b. 96.2% of respondents stated that the platform was easy to learn and operate.

c. 92.5% of respondents agreed that using the platform made the recording and reporting process faster and more efficient.
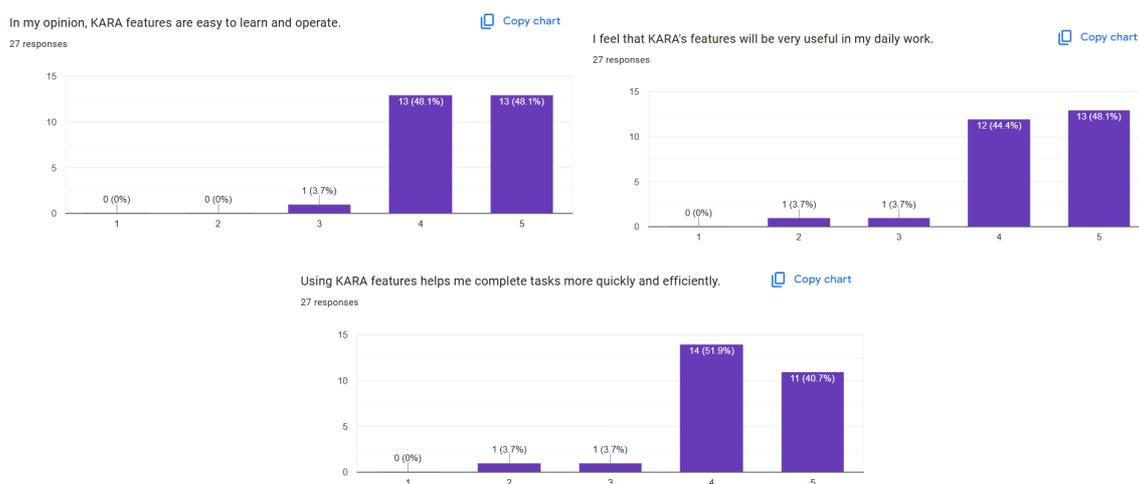

Fig. 4. Respondent graph about evaluation

The most significant indicator of success was the intention to continue using the platform, with 96.2% of respondents stating that they would continue using the platform in the future, and 92.5% would recommend it to others.

Qualitative feedback at this stage became more specific and constructive. The primary suggestion that emerged was the need for budget period flexibility. One respondent stated, "So that the date settings in the KARA feature can be adjusted to suit user needs (can be adjusted to each individual's payday) and not necessarily from the 1st to the 30th." Other input included a request for a feature to print reports.

Discussions

The results of this community service activity indicate that the digital transformation of the manual KARI and KARA financial recording systems was successfully implemented and very well received by members of KSP Mulia Prasama Danarta. The high level of acceptance in the

initial survey (July 28) demonstrates that cooperative members are aware of the limitations of the manual system and are ready to adopt new technology. This data refutes the assumption that digital adoption in MSMEs and cooperatives would be hampered by a lack of equipment readiness or basic knowledge.

Stronger validation came from the evaluation results (September 11), where these positive perceptions were confirmed through direct user experience. High levels of satisfaction with the platform's benefits and ease of use, along with a strong intention to continue using and recommending it, are key indicators of successful implementation. This demonstrates that the developed platform truly addresses user needs, namely time efficiency, ease of recapitulation, and the ability to monitor financial conditions in real time.

The emergence of constructive and specific feedback during the evaluation stage, such as requests for flexibility in budget dates, is not a deficiency but rather a sign of the success of the participatory method used. This demonstrates that members are not merely passive users, but actively engaged and have a deep understanding of the system, allowing them to provide relevant feedback for future improvements. This feedback is a valuable asset for the sustainability and development of the platform after the community service activity. Thus, this activity not only successfully created a digital product but also laid the foundation for a continuous improvement cycle driven by the user community itself.

Conclusion

Based on the results of the community service activities described above, the following conclusions can be drawn:

1. This community service activity successfully developed a web-based financial management platform that is functionally capable of digitizing the manual KARI and KARA recording systems. This platform proved to be an effective solution to address the inefficiency, risk of data loss, and lack of analysis inherent in the manual system.

2. The implementation of the digital platform was very positively received by KSP Mulia Prasama Danarta members. The high level of acceptance, as reflected in the results of the socialization and evaluation survey, indicates that members are ready and enthusiastic to adopt new technology to simplify their financial management.

Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve
Financial Literacy of Mulia Prasama Danarta Cooperative Members | Pamudji et al.

24

3. The developed platform proved useful and easy to use in daily practice. This was confirmed by the intention of 92.6% of users to continue utilizing the platform in the future, a key indicator of the success of this community service activity.

Overall, this digital transformation successfully supported KSP Mulia Prasama Danarta's goal of improving its members' financial literacy by providing modern, efficient, and tailored tools tailored to their needs.

Furthermore, to ensure the sustainability of this program, a continuous improvement cycle has been established. The cooperative management has been trained to handle basic administrative maintenance, while feedback mechanisms (such as the request for flexible budget dates) will be addressed in the next development phase to ensure the platform evolves with member needs.

Acknowledgements

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Digitalization of the KARI and KARA Web-based Financial Recording Systems to Improve
Financial Literacy of Mulia Prasama Danarta Cooperative Members | Pamudji et al.

25

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