



Assistance in Digital Transformation of Cooperative Financial Reporting through Spreadsheet-Based Systems to Enhance Transparency and Accountability

Pendampingan Transformasi Digital Laporan Keuangan Koperasi untuk Meningkatkan Transparansi dan Akuntabilitas

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Makalah: Diterima xx November xxxx; Diperbaiki xx Maret xxxx; Disetujui 15 Mei 2026
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Abstrak

Koperasi desa masih menghadapi keterbatasan dalam pengelolaan keuangan yang transparan dan terdigitalisasi, sehingga berdampak pada akuntabilitas dan kualitas pengambilan keputusan. Kegiatan ini bertujuan meningkatkan transparansi dan akuntabilitas melalui pendampingan transformasi digital pelaporan keuangan pada Koperasi Desa di Majalaya, Kabupaten Bandung. Metode yang digunakan adalah pendekatan partisipatif meliputi identifikasi kebutuhan, pelatihan literasi keuangan, implementasi sistem pembukuan digital berbasis spreadsheet, serta pendampingan dan evaluasi melalui pre-test dan post-test. Hasil kegiatan menunjukkan peningkatan literasi keuangan pengurus sebesar 24% dan keteraturan pencatatan transaksi mencapai 85% menggunakan sistem digital. Selain itu, laporan keuangan periodik mulai tersusun secara lebih sistematis dan didukung oleh penerapan SOP keuangan. Kegiatan ini berkontribusi dalam meningkatkan keterbukaan informasi, pengendalian internal, serta kepercayaan anggota koperasi.

Kata Kunci: Akuntabilitas; Koperasi Desa; Laporan Keuangan; Transformasi Digital; Transparansi

Abstract

Village cooperatives often face limitations in transparent and digitized financial management, which affects accountability and decision-making quality. This activity aims to enhance transparency and accountability through digital transformation assistance in financial reporting at a village cooperative in Majalaya, Bandung Regency. A participatory approach was applied, including needs assessment, financial literacy training, implementation of a spreadsheet-based digital bookkeeping system, and mentoring with pre- and post-test evaluation. The results indicate a 24% increase in financial literacy among board members and 85% compliance in transaction recording using the digital system. In addition, periodic financial reports were prepared more systematically, supported by the implementation of financial Standard Operating Procedures (SOPs). This activity contributes to improved information transparency, internal control, and member trust in cooperative governance.

Keywords: *Accountability; Digital Transformation; Financial Reports; Transparency; Village Cooperative*

1. Introduction

Digital transformation in the governance of economic organizations has become a global priority in response to increasing demands for transparency and public accountability. Strengthening governance structures is widely recognized as a prerequisite for sustainable economic development in member-based enterprises [11]. The advancement of digital financial services has also been shown to improve efficiency, reporting accuracy, and financial information accessibility in small-scale institutions [19]. Furthermore, the broader evolution of

financial technology and digital ecosystems has reshaped organizational accountability frameworks and financial service delivery models [1], [4]. In the accounting domain, digitisation and big data analytics have significantly transformed accounting information systems and management control practices [2], [3], [21].

Within the cooperative context, digital transformation in financial management is increasingly viewed as a strategic imperative rather than an optional reform [14], [15]. Empirical studies indicate that digital financial reporting practices enhance reporting quality and institutional governance in rural cooperatives [6]. However, evaluations of cooperative digitalization programs in Indonesia reveal uneven implementation and limited sustainability [10]. Research also shows that many village-level savings and loan cooperatives continue to face constraints in accounting literacy and limited utilization of digital bookkeeping applications [12]. These limitations are closely associated with weaknesses in financial accountability and transparency [9], which are fundamental components of sound governance [16].

At the operational level, inadequate integration of accounting information systems often results in fragmented reporting and reduced information reliability [17]. This general condition is also reflected in the partner cooperative involved in this activity. Prior to the program, financial recording was conducted manually using simple cash books, without standardized formats or integration between transaction records. Monthly financial reports were not prepared consistently, and several transactions were recorded with delays, increasing the risk of calculation errors and data inconsistencies. In addition, access to financial information for members was still limited, as reports were not systematically documented or regularly presented in member meetings. These conditions indicate that transparency and accountability mechanisms had not been fully implemented in practice.

Ideally, cooperatives as member-based institutions are expected to maintain transparent, accountable, and timely financial reporting systems to support decision-making and strengthen member trust [11]. However, the gap between these ideal governance principles and the actual conditions at the partner cooperative highlights the need for practical and context-based interventions. Financial literacy itself plays a crucial role in strengthening economic decision-making capacity and improving organizational outcomes [8], [18].

Although various cooperative digitalization initiatives have been introduced by policymakers and academic institutions, many programs remain instructional rather than participatory and lack sustained mentoring mechanisms. Prior studies emphasize that technology adoption in small and medium organizations requires alignment between technological tools, organizational readiness, and environmental support factors [13]. Participatory mentoring models have been shown to be more effective in strengthening cooperative institutions and ensuring practical implementation of governance reforms [20].

Based on this background, this community service activity aims to enhance cooperative financial management capacity through guided digital transformation of financial reporting systems. By integrating financial literacy improvement with the implementation of a context-appropriate spreadsheet-based bookkeeping system, this initiative seeks to strengthen transparency and accountability within the cooperative. Through this intervention, the partner cooperative is expected to establish a more systematic reporting framework, improve information accessibility for members, and reinforce institutional trust as a foundation for sustainable governance.

2. Materials and Method

This community service activity employed a participatory and practice-based approach to address the partner cooperative's financial management challenges. The program was conducted over six months at a village cooperative in Majalaya, Bandung Regency, involving cooperative board members (chairperson, treasurer, and administrative staff) as the main participants.

The implementation was carried out through several sequential stages:

1. Needs Identification (Month 1)

This stage aimed to understand the initial condition of the cooperative's financial management. Data were collected through observation, document review, and interviews with board members, focusing on recording practices, reporting routines, and existing constraints.

2. Training and Capacity Building (Months 2–3)

Activities included financial literacy training and technical workshops on bookkeeping. The materials covered basic accounting concepts, transaction classification, and preparation of financial statements. Training was delivered through interactive discussions, case examples, and direct practice using the cooperative's transaction data.

3. System Introduction and Simulation (Month 3)

A spreadsheet-based digital bookkeeping system was introduced and explained through guided simulations. Participants were trained to input transactions, classify accounts, and generate simple financial reports, including cash flow and income statements.

4. Implementation of Digital Bookkeeping (Months 4–5)

At this stage, the previous manual recording system was gradually replaced with a structured digital bookkeeping system based on spreadsheets. The system was designed with simple formulas to automate calculations and integrate transaction data into periodic reports, enabling easier and more accurate financial recording.

5. Mentoring and SOP Development (Months 4–5)

Continuous mentoring was conducted to assist participants in applying the system consistently. The mentoring process also supported the preparation of financial Standard Operating Procedures (SOPs) to ensure sustainability and standardization of financial practices.

6. Monitoring and Evaluation (Month 6)

Evaluation was carried out using pre-test and post-test instruments to measure improvements in financial literacy. In addition, changes in recording practices and report preparation were assessed through observation and document analysis.

Data collection techniques included observation, structured interviews, documentation review, and questionnaires. Quantitative data from pre- and post-tests were analyzed using descriptive comparison to identify percentage improvements, while qualitative data were analyzed through data reduction, data display, and conclusion drawing.

The main tools used in this activity were a spreadsheet-based bookkeeping template, training modules, and evaluation instruments. Indicators of success included: (1) increased financial literacy scores, (2) the use of digital systems in transaction recording, (3) the availability of periodic financial reports, and (4) improved accessibility of financial information for cooperative members.

Through this structured and participatory approach, the activity was expected to produce practical and sustainable improvements in financial transparency and accountability within the cooperative.

3. Results and Discussion

The implementation of this community service activity resulted in measurable improvements in three main aspects: financial literacy of cooperative administrators, adoption of a digital bookkeeping system, and strengthening of transparency and accountability practices. These findings are discussed as reflections of changes in managerial capacity and institutional governance.

3.1 Improvement in Financial Literacy

Financial literacy was measured through pre- and post-tests covering transaction recording, account classification, preparation of cash flow statements, and interpretation of income statements. The results indicate an average increase of 24%.

Table 1. Improvement in Financial Literacy of Cooperative Management

Assessment Component	Pre-Test (%)	Post-Test (%)	Improvement (%)
Transaction Recording Understanding	58	78	20
Account Classification and Coding	55	80	25
Cash Flow Statement Preparation	52	77	25
Income Statement Interpretation	60	83	23
Average	56	80	24

Source: Data Processing 2026

The increase was mainly driven by the use of hands-on training methods, where participants directly practiced using their own transaction data. This approach not only improved conceptual understanding but also reduced hesitation in applying bookkeeping practices. However, initial observations showed that some participants required repeated guidance, particularly in account classification, indicating that literacy improvement is a gradual process rather than an immediate outcome.

3.2 Implementation of Digital Bookkeeping System

Prior to the activity, financial records were maintained manually, fragmented across different books, and not prepared periodically. After the mentoring process, 85% of transactions were recorded using a structured spreadsheet-based system.

Table 2. Comparison of Financial Recording Systems

Aspect	Before Activity	After Activity
Recording Media	Manual cash book	Spreadsheet-based system
Data Integration	Separated	Integrated in one file
Monthly Summary	Manual and slow	Automated through formulas
Calculation Error Risk	High	Reduced
Report Availability	Non-periodic	Available monthly

Source: Data Processing 2026

The improvement occurred because the system simplified the recording process through automated calculations and structured formats. The spreadsheet was designed with basic formulas to generate cash flow summaries and income statements, reducing dependency on manual calculations.

However, the transition phase was not without challenges. Some administrators initially experienced difficulties in operating the system due to limited digital familiarity. In addition, there was a tendency to rely on a single operator, which may pose a risk for long-term sustainability if not addressed through broader capacity building.

3.3 Improvement in Financial Reporting Quality

The completeness and structure of financial reports improved significantly after system implementation.

Table 3. Financial Report Completeness

Report Component	Before (%)	After (%)
Cash Receipt Summary	65	100
Cash Disbursement Summary	60	100
Surplus/Deficit Calculation	55	95
Cash Balance Reconciliation	50	90
Standard Format Presentation	45	95

Source: Data Processing 2026

These improvements indicate that the digital system contributed not only to efficiency but also to reporting consistency. The use of standardized formats and automated recapitulation reduced omissions and improved the reliability of financial data.

Importantly, the reports generated through the system were periodically reviewed by the cooperative's management, particularly the chairperson and treasurer, before being presented in internal meetings. Although external audits were not conducted during the activity period, internal verification mechanisms became more structured compared to the previous condition.

3.4 Impact on Transparency and Accountability

The implementation of the digital system had a direct impact on transparency and accountability practices within the cooperative.

Table 4. Changes in Transparency Indicators

Indicator	Before Activity	After Activity
Monthly Financial Reports	Not available	Regularly available
Member Access to Information	Limited	Increased
Document Verification	Minimal	More structured
Annual Meeting Readiness	Less prepared	Better prepared

Source: Data Processing 2026

The availability of periodic reports enabled members to access financial information more easily, particularly during meetings. This contributed to increased trust, as financial data became more transparent and open for discussion.

From an accountability perspective, the introduction of Standard Operating Procedures (SOPs) strengthened internal control mechanisms, especially in transaction recording and reporting workflows. The presence of documented procedures also reduced ambiguity in task responsibilities among administrators.

3.5 Sustainability, Challenges, and Practical Implications

From a sustainability perspective, the program shows strong potential for continuation, as the system has been integrated into daily administrative practices and supported by SOPs. The use of a simple spreadsheet format ensures that the system can operate without additional financial burden.

Nevertheless, several challenges remain. The shift from manual to digital practices requires behavioral adaptation, which cannot be achieved instantly. In addition, the reliance on a limited number of trained operators may affect consistency if knowledge transfer is not expanded.

Despite these limitations, the activity has produced tangible benefits for cooperative members. Financial information is now more accessible, reporting is more timely, and decision-making processes are better supported by structured data. These changes indicate that even a simple digital intervention, when combined with participatory mentoring, can significantly improve governance quality in small-scale cooperatives.

4. Conclusion

This community service activity successfully improved the cooperative's financial management capacity, as reflected in increased financial literacy, the adoption of spreadsheet-based digital bookkeeping, and the ability to prepare periodic financial reports more systematically. These changes contributed to better transparency, more structured internal control, and improved access to financial information for members, which in turn strengthened trust in cooperative governance. Despite these achievements, several limitations remain. The implemented system is still spreadsheet-based and not yet integrated into a cloud platform, limiting data accessibility and long-term scalability. In addition, the sustainability of the system depends on the consistency and capacity of its operators, which may pose risks if knowledge transfer is not evenly distributed among administrators. Future activities are recommended to develop more integrated and cloud-based financial systems, expand training to a broader range of cooperative members, and strengthen monitoring mechanisms to ensure consistent implementation. Replication of this participatory mentoring model in other cooperatives with similar characteristics is also encouraged to enhance broader impact.

5. Acknowledgments

The authors would like to express their sincere appreciation to Universitas Ma'soem and Universitas Koperasi Indonesia for providing financial support for this community service program in accordance with their institutional policies, enabling the program to be implemented in a structured and sustainable manner. The authors also extend their gratitude to the board members and members of Koperasi Desa Majalaya, Bandung Regency, for their openness, active participation, and strong commitment throughout the mentoring process. Special thanks are addressed to the implementation team and student assistants for their valuable contributions in training, mentoring, documentation, and evaluation activities. The collaboration and support of all parties involved have been instrumental in achieving the objectives of the program and in generating tangible benefits for strengthening the cooperative's financial governance.

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