

DEVELOPING STANDARD OPERATING PROCEDURES FOR A PRODUCER COOPERATIVE THROUGH UNIVERSITY-INCUBATOR COLLABORATION: A COMMUNITY SERVICE INITIATIVE IN SOUTH KALIMANTAN

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ABSTRACT

Introduction: Bahtera Sejahtera Nusantara Cooperative in South Kalimantan lacked standardized and documented operational procedures, creating risks of inconsistency and limiting institutional development. This community service initiative aimed to develop priority Standard Operating Procedure (SOP) drafts, strengthen participants' understanding of SOP concepts, and explore digitalization opportunities.

Methods: A participatory mixed-method evaluation approach was implemented through a partnership among Hasnur Polytechnic's Digital Business Program, Wetland Box Business Incubator, and the cooperative. The intervention comprised needs assessment, an intensive workshop, collaborative SOP drafting, and draft review. Data were collected through observation, semi-structured interviews, focus group discussions, document analysis, and a satisfaction questionnaire with ten cooperative members.

Results: Five priority SOP drafts were developed covering procurement, production, marketing, finance, and membership administration. Their implementation was not assessed during the study period. Participants expressed strong interest in digitalization opportunities, particularly financial recording applications, social media marketing, internal communication platforms, and digital membership management.

Conclusion: The initiative produced collaboratively reviewed SOP drafts and was associated with improved participant understanding. The findings suggest that university-incubator-cooperative collaboration may provide a practical mechanism for strengthening cooperative governance and digitalization awareness. Sustained mentoring and follow-up evaluation remain

necessary to assess long-term implementation and knowledge retention.

INTRODUCTION

Producer cooperatives play a vital role in Indonesia's economy, particularly in empowering Micro, Small, and Medium Enterprises (MSMEs) and strengthening local food systems. These cooperatives function as collective platforms where producers collaborate to achieve shared economic objectives through principles of mutual cooperation and shared prosperity (Ribas et al., 2022). Their contributions encompass member welfare improvement, employment creation, and more equitable income distribution across communities.

Despite their strategic importance, many cooperatives in Indonesia continue to face substantial challenges in operational management. The absence of structured, documented Standard Operating Procedures (SOPs) frequently results in operational inefficiencies, miscommunication among members and management, inconsistent product or service quality, and difficulties in adapting to evolving market demands (Rufino et al., 2025). These limitations significantly constrain cooperatives' capacity to scale operations, access formal financing, and compete effectively in increasingly digitalized markets.

Standard Operating Procedures represent written guidelines that systematically document operational activity sequences, designed to achieve efficiency, output quality, and performance uniformity. In cooperative contexts, SOPs provide critical frameworks ensuring that all members and management personnel understand and execute responsibilities consistently, reducing variability and maintaining quality standards (Steen-Tveit et al., 2024). Structured SOPs can provide organizational foundations for subsequent digitalization by clarifying workflows, responsibilities, and information requirements (Dennstädt et al., 2025).

Business incubators play essential roles in supporting and developing cooperatives, particularly in governance and digitalization aspects (Berniak-Woźny et al., 2025). Business incubators provide resources, training, mentoring, and networking opportunities that help cooperatives develop managerial and technical capacities while bridging access to funding and markets (Almansour, 2022). Simultaneously, higher education institutions facilitate knowledge and technology transfer directly to practitioners through community service initiatives (Hailu, 2024). The strategic synergy between business incubators and universities creates conducive ecosystems for cooperative growth and sustainability (Leal et al., 2023).

Bahtera Sejahtera Nusantara Cooperative, located in Pagatan, Tanah Bumbu Regency, South Kalimantan, primarily serves small-scale agricultural producers who collectively supply products to its retail outlet, Gerai Sembako B+. Despite its potential, the cooperative lacked documented operational procedures, creating risks of inconsistency and limiting its capacity to access institutional support. This community service initiative responds to the practical gap

between the cooperative's need for systematic operational governance and its current informal practices. Specifically, this initiative aims to: (1) develop priority operational SOP drafts for the cooperative; (2) deepen management and members' understanding of SOP functions, benefits, and implementation strategies; (3) identify digitalization opportunities; and (4) strengthen institutional readiness for potential engagement with external support and financing institutions.

LITERATURE REVIEW

Good cooperative governance requires clear organizational structures, transparent decision-making processes, accountability mechanisms, and effective member participation. These governance elements are essential for building member trust, accessing external resources, and ensuring long-term sustainability. However, many Indonesian cooperatives struggle with governance implementation due to limited managerial capacity, inadequate documentation, and informal operational practices (Asmara et al., 2026).

Standard Operating Procedures constitute written instructions documenting step-by-step processes for routine tasks or activities (Ahmadi & Rahmani, 2023). SOPs are designed to achieve efficiency, output quality, and performance uniformity. In cooperative contexts, SOPs provide frameworks for ensuring consistent understanding and execution of responsibilities, reducing variability and maintaining quality standards (Rufino et al., 2025). Potential benefits of SOP implementation include enhanced operational efficiency, consistent output quality, improved accountability, increased transparency, and facilitation of new member training (Ahmad et al., 2025). For cooperatives seeking institutional support, documented SOPs can demonstrate organizational preparedness.

From a governance perspective, SOPs do not merely standardize routine activities; they also make organizational responsibilities and information flows more explicit. This standardization is particularly relevant to digitalization because digital tools require clearly defined processes, data inputs, responsibilities, and reporting routines.

Cooperative institutional digitalization involves integrating information and communication technologies into operational and managerial aspects (Ribeiro-Navarrete et al., 2024). Digitalization objectives include improving efficiency, transparency, accountability, and service reach while reducing transaction costs. Digitalization adoption among Indonesian cooperatives faces significant barriers, including limited digital literacy, infrastructure gaps, financial constraints, and organizational resistance to change. Effective digitalization strategies require phased approaches, starting with simple technology solutions and gradually progressing to more sophisticated systems as capacity develops (Aghahadi et al., 2024). Business incubators and university partnerships play crucial roles in facilitating this process through technical assistance, training, and ongoing mentoring (Hassan, 2024).

Business incubators function as facilitators providing resources, training, mentoring, and networking opportunities for cooperatives (Antunes et al., 2021). Incubators assist in developing

managerial, strategic, and technical capacities while bridging access to funding and markets (Hassan, 2024). In the Indonesian context, incubators such as Wetland Box provide specialized support for cooperatives focusing on governance strengthening, digitalization, and market access. These incubators often collaborate with universities and government agencies to leverage complementary resources and expertise (Leal et al., 2023).

Despite growing recognition of SOP importance and digitalization potential for cooperatives, limited documentation exists on collaborative interventions that simultaneously address SOP development and digitalization awareness in producer cooperatives, particularly through university-incubator partnerships in rural Kalimantan. This community service initiative responds to this practical and scholarly gap by documenting a collaborative intervention model combining SOP development with digitalization awareness in a producer cooperative setting.

Accordingly, the intervention treated SOP development as an organizational standardization mechanism and digitalization awareness as a preparatory step rather than as an immediate technology-adoption outcome.

RESEARCH METHODS

This community service initiative employed a participatory mixed-method evaluation approach, combining qualitative assessment of participants' needs and experiences with quantitative evaluation of changes in knowledge scores. The qualitative component documented participants' needs, operational challenges, and perceptions through observation, semi-structured interviews, focus group discussions, and document analysis. The quantitative component assessed changes in participant knowledge using pre-test and post-test scores. The collaborative dimension involved synergy between Hasnur Polytechnic's Digital Business Program faculty team, Wetland Box Business Incubator, and Bahtera Sejahtera Nusantara Cooperative throughout all activity stages. The participatory component actively encouraged cooperative management and members' engagement in needs identification, SOP development, and review processes, ensuring resulting SOPs were relevant and implementable.

The initiative was conducted at Bahtera Sejahtera Nusantara Cooperative, located in Pagatan, Tanah Bumbu Regency, South Kalimantan, Indonesia. The cooperative primarily serves small-scale agricultural producers who collectively supply products to its retail outlet, Gerai Sembako B+. This location was selected due to the cooperative's demonstrated potential for growth and its engagement with external support institutions. The intervention was implemented through a full-day intensive engagement on June 12, 2025.

Participants comprised all ten active members of Bahtera Sejahtera Nusantara Cooperative involved in key operational processes, ensuring representation from various cooperative functions. Participants provided voluntary informed consent for engagement and data collection, and cooperative leadership approved the activity implementation and publication of outcomes.

Data were collected through multiple instruments. Structured observation guides documented participant engagement, workshop interactions, and process outcomes. Semi-structured interviews with cooperative management explored organizational structures, existing workflows, operational challenges, and digitalization readiness. Facilitated focus group discussions identified key operational processes requiring SOPs and explored digitalization opportunities.

The community service implementation was organized into three main stages:

May-June 2025, Initial visits to the cooperative involved structured interviews with management to understand organizational structure, existing workflows, and identification of key processes requiring SOPs. Coordination meetings were conducted with Wetland Box Business Incubator to align objectives, design schedules, and define roles. Faculty members developed workshop modules and materials focused on SOP development with practical examples from cooperative contexts.

June 12, 2025, The implementation comprised six integrated sessions: (1) Introductory Workshop on SOP fundamentals and digitalization potential; (2) Key Process Identification to map operational workflows; (3) SOP Drafting Session guided by templates and examples; (4) Personal Mentoring for small-group support; (5) Digitalization Discussion exploring technology applications; and (6) SOP Review Session to examine the completeness, clarity, and practicality of the draft SOPs.

Following the workshop, SOP drafts underwent refinement with cooperative management. Pre-test and post-test questionnaire responses were analyzed. The satisfaction questionnaire was administered. Structured feedback was collected regarding activity effectiveness and improvement suggestions.

Qualitative data were analyzed thematically using Christou (2023) framework, with themes identified through systematic coding by two researchers independently. Disagreements between coders were resolved through discussion and consensus. Qualitative findings were used to contextualize the quantitative assessment results and to interpret participants' operational needs, perceived challenges, and digitalization interests.

This community service initiative adhered to ethical principles of voluntary participation, confidentiality, and respect for participants' perspectives. All participants provided written informed consent. Cooperative leadership approved the activity implementation and publication of outcomes. Participants were assured that declining involvement would not affect their cooperative membership.

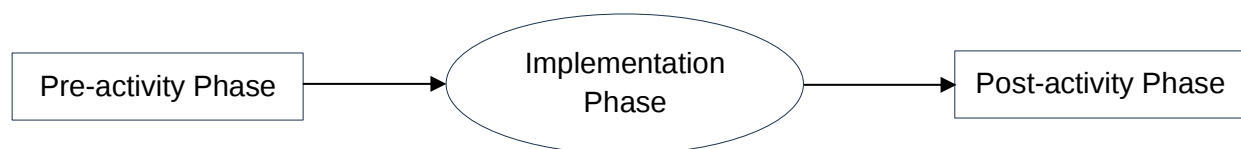


Figure 1. Stages of Activity Implementation

RESULT

The initial needs assessment revealed that Bahtera Sejahtera Nusantara Cooperative lacked structured, documented SOPs across its operational functions. Management interviews identified challenges including inconsistent task execution, miscommunication, and limited documentation. Key operational processes requiring SOPs were identified as: raw material procurement and inventory management; production processing and quality control; marketing, sales, and customer service; financial management and reporting; and membership administration. The assessment also identified limited digital technology adoption, with record-keeping primarily manual. Management expressed interest in exploring digital solutions, indicating openness to capacity building in both SOP development and digitalization.

All ten active cooperative members participated in the full intervention. Participant characteristics are presented in Table 1.

Table 1. Participant Characteristics

Characteristic	n	%
Gender		
Male	7	70
Female	3	30
Role		
Management	3	30
Non-management members	7	70
Education		
Senior High School	6	60
Diploma/Bachelor's	4	40
Experience (years)		
1–3	4	40
4–6	3	30
>6	3	30

Through collaborative sessions, participants successfully developed five priority SOP drafts covering primary operational processes. Table 2 presents the SOP overview. At the end of the intervention, the five SOPs remained draft documents. Their actual implementation was not evaluated during the study period.

Table 2. Priority SOP Drafts Developed

No.	SOP Area	Main Components	Primary Responsible
1	Raw Material Procurement & Inventory	Needs identification, supplier selection, ordering, receipt and quality inspection, inventory recording, storage management	Operations Coordinator
2	Production Processing & Quality Control	Production workflow, quality standards, inspection procedures, equipment maintenance, corrective action protocols	Production Coordinator

3	Marketing, Sales & Customer Service	Pricing policies, promotion activities, sales procedures, customer service standards, complaint handling	Marketing Coordinator
4	Financial Management & Reporting	Transaction recording, daily/weekly/monthly reporting, cash handling, reconciliation, financial statement preparation	Treasurer
5	Membership Administration	Recruitment and admission procedures, data maintenance, meeting processes, communication protocols	Secretary

Each SOP draft included: purpose statement, scope definitions, responsibilities, detailed procedures with sequential steps, required documents, and performance indicators. The cooperative management demonstrated particular commitment to finance-related SOPs, acknowledging their importance for accountability and potential financing applications.

Management specifically appreciated the practical approach and immediate applicability to their operations. Members expressed enthusiasm for learning new skills and contributing to cooperative development. Wetland Box representatives expressed satisfaction with the partnership, recognizing the initiative as a potential model for future collaborative programs. The cooperative's engagement with external institutional support initiatives highlighted the relevance of improved governance and documentation for future financing opportunities.

DISCUSSION



Figure 1. Documentation Of The Training Session

Significance of SOP Development Outcomes

The documented SOP drafts provide the cooperative with a potential framework for improving operational consistency, accountability, and transparency. These outcomes align with previous research demonstrating that SOP implementation can reduce variability, enhance quality, and facilitate performance evaluation (Rufino et al., 2025). The cooperative's previously informal, undocumented procedures created risks of inconsistency and miscommunication, challenges typical of many Indonesian cooperatives (Asmara et al., 2026). By developing formal

SOP drafts, the cooperative now has a documented framework that can support greater consistency and accountability if the procedures are subsequently adopted and implemented.

The participatory process was designed to strengthen participant ownership and facilitate future implementation. Previous studies indicate that participatory approaches can significantly improve organizational change adoption (Sahay & Goldthwaite, 2024). By actively involving participants in workflow mapping and SOP drafting, the intervention contributed to participants' immediate knowledge development rather than simply delivering external knowledge (Taş et al., 2026).

Particular significance attaches to financial management SOP drafts, responding to previously identified concerns regarding financial documentation and accountability. The documentation of financial procedures may strengthen organizational readiness for future engagement with financing institutions. This addresses the common challenge of inadequate documentation identified as a barrier to institutional support in similar contexts. The financial SOP drafts also provide a foundation for strengthening internal control mechanisms.

The greatest improvements occurred in SOP components understanding and digitalization understanding, areas where participants demonstrated the least prior knowledge. This finding suggests that the workshop successfully addressed identified capacity gaps. Implementation and sustained retention require additional reinforcement, consistent with studies showing that knowledge gains from single-session training may diminish without follow-up support (Lee, 2026).

Digitalization Implications

Participants' expressed interest in several digitalization options indicates an initial awareness of potential technology applications. Simple technology solutions, such as mobile applications for financial recording or messaging platforms for member communication, represent appropriate starting points for cooperatives with limited digital infrastructure.

Practical implementation requires additional capacity building and infrastructure support. Technology adoption typically requires time, resources, and ongoing adaptation, particularly in rural contexts. The cooperative's engagement with Wetland Box Business Incubator may facilitate future digitalization efforts by providing access to technical assistance and mentoring. This sustained support can be valuable for digitalization success (Isensee et al., 2023).

Collaborative Partnership Model

The strategic partnership between Hasnur Polytechnic's Digital Business Program and Wetland Box Business Incubator represents a promising approach to cooperative capacity building. Each partner contributed complementary strengths: academic knowledge and curriculum relevance from the university, practical business incubation expertise from Wetland Box, and operational insights from the cooperative. This partnership enabled an integrated form of support addressing multiple aspects of cooperative development simultaneously.

This collaborative model may be adaptable to other cooperative contexts, subject to local organizational needs and resources. The core elements of university-incubator-cooperative partnership appear transferable. The engagement of government cooperative-support institutions further strengthens the model by linking cooperative development to external resources and validation.

Broader Implications

Beyond immediate cooperative benefits, this initiative contributes to broader development objectives, including strengthening local economic institutions and building institutional capacity for effective governance. These outcomes align with established development frameworks and contribute to Sustainable Development Goal 8 (Decent Work and Economic Growth) by promoting productive employment and enterprise development (Raman et al., 2025). The participatory approach also supports inclusive participation in cooperative governance.

Practical Challenges and Limitations

Despite overall success, several practical challenges emerged. Time limitations prevented comprehensive SOP development across all desired processes, necessitating prioritization that excluded some secondary functions. Varying participant educational backgrounds created disparities in engagement, requiring flexible facilitation approaches. Geographical distance between the cooperative location and the university/incubator presented logistical challenges.

The study has several limitations. The small sample size ($n = 10$) limits generalizability, and the single-session workshop design may not capture long-term knowledge retention or implementation outcomes. The study also did not include a control group, making causal attribution challenging. Future research should examine longer-term SOP implementation outcomes, digitalization adoption patterns, and program replication experiences in different contexts.

CONCLUSION

This community service initiative demonstrates that collaborative, participatory interventions can support the development of priority SOP drafts for producer cooperatives, strengthening governance foundations and increasing understanding of digitalization opportunities. The partnership between Hasnur Polytechnic, Wetland Box Business Incubator, and Bahtera Sejahtera Nusantara Cooperative enabled integrated support addressing multiple operational aspects. Five priority SOP drafts were developed covering procurement, production, marketing, finance, and membership administration, providing a documented framework for cooperative operations. The initiative also identified digitalization interest in financial recording applications and social media marketing.

Key success factors included committed cooperative leadership, strong partnership collaboration, and practical, engaging workshop approaches. Challenges of time limitations,

participant educational diversity, and geographical distance were addressed through flexible facilitation, prioritization, and resource mobilization. The initiative established foundations for improving operational consistency, accountability, and understanding of digitalization opportunities.

For sustained impact, several recommendations emerge: (1) continued mentoring for SOP implementation and review through periodic follow-up visits and virtual support; (2) development of case-based training modules addressing different cooperative types and contexts; (3) strengthened multi-stakeholder collaboration involving government agencies, incubators, and private sector partners; and (4) regular member education sessions. This collaborative model suggests potential for adaptation to other cooperative contexts in South Kalimantan and beyond.

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