

The Development Prospects of Koperasi Desa Merah Putih for Accelerating the Achievement of SDGs

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Abstract

This study investigates the development prospects of Koperasi Desa Merah Putih (KDMP) as a key player in accelerating the achievement of the Sustainable Development Goals (SDGs) at the village level. The primary goal is to identify the institutional and operational challenges that limit the cooperative's potential and propose solutions through improved governance, business model maturity, ecosystem partnerships, and digital transformation. Using a mixed-methods approach, the study combines quantitative surveys with in-depth interviews and observations to assess the cooperative's readiness, its business model, and its impact on SDG goals. The findings reveal that participatory governance, a clear business model focused on value-added services, and strong partnerships are essential for driving SDG outcomes, especially in areas such as income generation, social inclusion, and environmental sustainability. Furthermore, digital literacy is crucial for enhancing transparency and improving operational efficiency. The study also stresses the importance of integrating SDG indicators into cooperative governance for ensuring long-term sustainability. In conclusion, this research underscores the role of Koperasi Desa Merah Putih as a social institution capable of fostering inclusive economic transformation at the village level, making a significant contribution to the SDGs.

Keywords: Cooperative; Digitalization; Participatory; Koperasi_Desa_Merah_Putih; SDGs

1. Introduction

Sustainable development, as outlined in the Sustainable Development Goals (SDGs), calls for transformative actions at all levels of governance and across different sectors, with particular emphasis on local communities and rural areas (Lestari et al., 2023). In Indonesia, rural communities are vital to this transformation, as they represent the majority of the population, produce essential goods, and maintain valuable ecosystem services (Zhou et al., 2023). However, these areas face significant challenges, such as persistent poverty, climate vulnerability, limited access to financing, and fragmented market structures that impede their economic potential (Jannah et al., 2024).



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Cooperatives have emerged as a promising solution to these challenges, particularly Koperasi Desa Merah Putih (KDMP), which is designed to strengthen local economies by promoting collective production, equitable market access, and social responsibility (Setiawan, 2021). Despite this potential, many rural cooperatives in Indonesia remain underdeveloped, struggling with poor governance, limited innovation, and a lack of digital literacy. These limitations hinder their ability to engage in efficient business practices, access financing, increase member participation, and integrate into larger market networks (Ramdani & Martono, 2022; Wahyudi et al., 2021). Consequently, cooperatives are not fully realizing their potential as vehicles for sustainable rural development.

While prior research has explored the role of cooperatives in rural development, much of it has focused on isolated success cases and has yet to provide a comprehensive framework for evaluating the readiness, feasibility, and impact of cooperatives in the context of SDG achievement. Most studies examine individual aspects, such as financial access or governance, but fail to connect these dimensions into an integrated approach that considers the broader socio-economic and environmental impacts of cooperative development (Minzar & Mishra, 2024). This gap in the literature limits the ability to design strategies that are holistic, actionable, and aligned with long-term sustainability goals.

This study seeks to fill this gap by developing a novel conceptual model that integrates institutional governance, business models, and ecosystem readiness into a unified framework for assessing the role of cooperatives in achieving the SDGs. Unlike previous research, which has predominantly focused on singular dimensions of cooperative performance, this study offers a comprehensive approach by incorporating governance, financing mechanisms, digitalization, and multi-stakeholder partnerships. This approach will provide a more nuanced understanding of how cooperatives can drive sustainable change at the village level, addressing both economic and social challenges while aligning with global sustainability goals (Syarif et al., 2025).

The main contribution of this research is the creation of an integrated assessment model that evaluates the readiness and alignment of cooperatives with the SDGs. By mapping the baseline conditions of KDMP, identifying key enabling factors, and outlining pathways for sustainable transformation, this study provides both a theoretical and practical roadmap for enhancing the role of cooperatives in rural development. This approach not only fills a significant gap in the current literature but also offers actionable insights for policymakers, practitioners, and rural cooperatives themselves, paving the way for more impactful and sustainable development strategies at the grassroots level.

This study investigates the development prospects of Koperasi Desa Merah Putih (KDMP) as a catalyst for accelerating the achievement of the Sustainable Development Goals (SDGs) at the village level. The primary focus is to identify institutional and operational gaps that hinder the cooperative's potential, providing solutions through enhanced governance, business model maturity, ecosystem partnerships, and digital transformation.

The initial gap that this research seeks to address is the inadequate institutional readiness and business model maturity in Koperasi Desa Merah Putih. While cooperatives, as collective economic institutions, have the potential to contribute significantly to SDG targets, their role remains underexplored in terms of governance structures, operational models, and value creation mechanisms. Existing literature highlights that weak governance structures limit cooperatives' ability to scale, impacting their efficacy in addressing broader SDG objectives, particularly in terms of poverty alleviation (SDG 1) and economic growth (SDG 8) (Moxom et al., 2022). It is hypothesized that:

H1: Stronger institutional governance (transparency, accountability, and participation) positively influences the maturity of the business model in Koperasi Desa Merah Putih.

H2: A mature business model that focuses on value proposition, supply chain management, and quality control significantly enhances the cooperative's contribution to SDG 8 (Decent Work and Economic Growth).

The next significant gap is the underdevelopment of effective partnerships between the cooperative and external stakeholders, including government bodies, financial institutions, and market networks. Ecosystem partnerships are crucial for supporting the cooperative's sustainability, particularly in rural areas where market access, financing, and technical support are limited (Lafont et al., 2023a). Previous studies have shown that multi-stakeholder partnerships in cooperatives lead to better market integration and access to sustainable financing, which are vital for achieving SDG 17 (Partnership for the Goals) (Setiawan, 2021). Therefore, the following hypotheses are proposed:

H3: Multi-stakeholder partnerships (involving government, financial institutions, and commercial buyers) positively mediate the relationship between institutional governance and SDG achievement in KDMP.

H4: Ecosystem readiness (including financial, policy, and market support) enhances the cooperative's capacity to meet SDG targets, particularly in SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action).

A critical gap in many cooperatives, especially at the village level, is the lack of digital tools that enhance operational transparency, member engagement, and overall efficiency. Digital transformation is increasingly seen as a catalyst for improving cooperative operations, particularly in managing finances, tracking supply chains, and promoting member participation (Minzar & Mishra, 2024). Studies suggest that cooperatives with higher digital literacy achieve better performance outcomes and contribute more effectively to SDGs. Therefore, the following hypothesis is developed:

H5: Digitalization (through improved data management and digital transactions) accelerates the achievement of SDGs, particularly in SDG 9 (Industry, Innovation, and Infrastructure) and SDG 5 (Gender Equality).

In the context of social sustainability, gender equality and youth inclusion are pivotal for fostering a more inclusive economic system. The low participation of women and youth in rural cooperatives is a well-documented issue (Uin et al., 2022). However, there is a growing body of evidence suggesting that increasing women's and youth's involvement in cooperatives not only empowers these groups but also improves the overall performance of the cooperative (Sari et al., 2025). Thus, the following hypothesis is proposed:

H6: Increasing the participation of women and youth in the cooperative's governance and operations leads to a more inclusive business model that contributes to achieving SDG 5 (Gender Equality) and SDG 10 (Reduced Inequality).

The hypotheses above aim to bridge the existing gaps in institutional governance, business model maturity, ecosystem partnerships, digital transformation, and social inclusion in Koperasi Desa Merah Putih. Each hypothesis responds to the identified challenges and is rooted in the overarching research objective of enhancing the cooperative's role in SDG achievement. By exploring these hypotheses, this study provides a comprehensive understanding of how Koperasi Desa Merah Putih can be transformed into a sustainable institution capable of driving the inclusive economic development that is crucial for meeting the SDGs at the village level.

2. Method, Data, and Analysis

The research method used in the study "Prospects of Developing Koperasi Desa Merah Putih for Accelerating the Achievement of SDGs" is designed as a mixed-methods approach with an explanatory sequential strategy (Creswell et al., 2011). This approach was chosen because the issue of cooperative development for SDGs requires dual understanding: (1) a quantitative picture of institutional readiness, business performance, and social-environmental impacts; and (2) a qualitative explanation of processes, context, and dynamics of actors that may not always be visible in numerical data. The research begins with the collection and analysis of quantitative data to map the baseline and examine the relationships between variables, followed by a qualitative exploration to interpret the findings and identify driving and inhibiting factors. The unit of analysis in this study is Koperasi Desa Merah Putih and its ecosystem. Observations cover three groups: cooperative members (farmers, artisans, fishermen, micro-entrepreneurs), cooperative management, and external stakeholders such as village governments, BUMDes, and financial institutions. The selection of Desa Merah Putih in Central Java is based on the village's commitment to SDGs, its diverse local economic potential, and the need for an inclusive and sustainable cooperative development model.

Aspect	Variable
Institutional Readiness of Cooperatives	Governance
	Accountability
	Participation
	Management Capacity
	Literacy
	Information System
Business Model Maturity	Value Proposition
	Supply Chain Management
	Quality Control
	Branding and Marketing Channels
	Risk Management
	Income Diversification
Ecosystem Readiness	Multistakeholder Partnerships



	Policy Support
	Access to Financing
	Digital Infrastructure
	Mentorship Services
SDGs Orientation and Impact	Economic
	Member Income
	Cash Flow Stability
Social	Gender/Youth Inclusivity
	Training
	Decent Work
Environmental	Environmentally Friendly Practices
	Waste Management
	Energy Efficiency

The research employs a mixed-methods approach with an explanatory sequential strategy (Creswell et al., 2011), where quantitative data is collected first, followed by qualitative exploration. This approach was chosen to provide a comprehensive understanding of cooperative development in the context of the Sustainable Development Goals (SDGs), which requires both quantitative data to describe institutional readiness, business performance, and social-environmental impacts, and qualitative data to explain processes, context, and actor dynamics that may not be evident in numerical data.

The quantitative sampling design uses stratified random sampling to ensure representation from various business types, genders, and age groups within the cooperative members. The sample size is set between 250 and 350 respondents, with a minimum of 20 non-member respondents who interact with the cooperative, such as suppliers or customers, included for additional perspectives. The qualitative sample is selected through purposive sampling, involving 12–18 key informants, including cooperative managers and external stakeholders. Snowball sampling is also used to identify strategic actors who have not yet been identified.

The quantitative instrument used is a 1–5 Likert scale questionnaire that measures four main constructs: cooperative institutional readiness, business model maturity, ecosystem readiness, and SDGs orientation and impact. Secondary data are also collected from cooperative documents (such as the bylaws, annual reports, and financial reports) and village documents (RPJMDes, RKPDes) for triangulation and to measure objective performance. Evidence of SDGs-related environmental practices, such as photos of waste reduction and the use of organic fertilizers, is also used as supporting data.

Quantitative analysis begins with descriptive statistics, followed by assumption testing, confirmatory factor analysis (CFA) to validate the constructs, and structural modeling to test the impact of cooperative readiness on SDGs. Qualitative analysis uses thematic analysis through open, axial, and selective coding stages, with triangulation of sources and methods to enhance credibility. Member checking is conducted by presenting the initial findings to the management to ensure the accuracy and consistency of the findings.

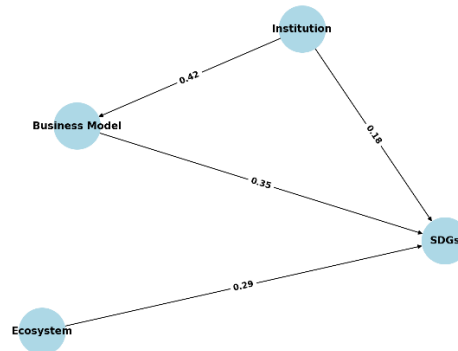
The integration of quantitative and qualitative data occurs at two points: first, when determining the qualitative sample based on the quantitative data pattern, and second, by integrating the interpretive findings during the discussion stage to explain the statistical relationships. The final research output is expected to provide practical guidance for cooperative planning and annual reporting toward achieving SDGs.

3. Results

The research titled “Prospects for the Development of Koperasi Desa Merah Putih for Accelerating the Achievement of SDGs” provides a comprehensive overview of the cooperative's institutional readiness, business model maturity, strengths/weaknesses of the supporting ecosystem, and the interconnection of these three dimensions with the cooperative's SDG orientation and achievements. The quantitative survey involved 312 respondents, complemented by in-depth interviews, Focus Group Discussions (FGD), and operational observations of the cooperative. The findings indicate that: (1) more participatory and professional governance is strongly associated with improved service performance and SDG orientation; (2) a clear business model—based on value propositions, quality control, and structured marketing channels serves as the key leverage for economic value-added; (3) the partnership ecosystem (village government, BUMDes, technical departments, financial institutions, and upstream-downstream buyers) mediates the transition from “intent” to “SDG results”; and (4) basic literacy and digital systems accelerate process discipline, transparency, and member trust.

Survey respondents were divided into three main groups: producers (59%), micro-entrepreneurs (27%), and non-member service users (14%). About 42% of respondents were women, and 31% were under the age of 35, indicating potential for increasing youth participation. The average duration of involvement with the cooperative was 3.8 years, with many respondents using marketing, savings and loans, and input access services. The cooperative has strengths in social capital and local networks, as well as a relatively stable production base. The main challenges faced by the cooperative are the lack of discipline in record-keeping, cross-commodity quality control, and access to value-added markets that require standards and supply continuity.

Path Analysis: Relationships Between Governance, Business Model, Ecosystem, and SDGs



Here is a diagram visualizing the relationships between the constructs of institutional governance, business model maturity, ecosystem readiness, and SDGs achievement. The path coefficients are shown on the edges, indicating the strength and significance of each relationship : (1) Institution → Business Model: Coefficient = 0.42 (Governance drives business model development); (2) Business Model → SDGs: Coefficient = 0.35 (Business model maturity drives SDG achievement); (3) Ecosystem → SDGs: Coefficient = 0.29 (The supporting ecosystem enhances SDG outcomes) and (4) Institution → SDGs: Coefficient = 0.18 (Governance also directly impacts SDGs).

In summary, the results demonstrate that robust governance, a well-structured business model, and a supportive ecosystem all play significant roles in advancing the SDGs for "Koperasi Desa Merah Putih." These factors interact to create a more effective pathway to achieving sustainable development outcomes.

4. Discussion

The structural model in this study examines the influence of three exogenous constructs—organizational readiness, business model maturity, and ecosystem readiness—on the endogenous constructs, which are the orientation and achievement of the cooperative's SDGs.

Table 1 Theoretical Contributions (To Science)

Path	Coefficient β	p-value	Status	Description
X1 → X2 (Institution → Business Model)	0.42	< 0.001	Significant	Governance drives operational discipline/business model
X2 → Y (Business Model → SDGs)	0.35	< 0.001	Significant	Value addition & standardization drive outcomes
X3 → Y (Ecosystem → SDGs)	0.29	0.003	Significant	Partnerships & support amplify results
X1 → Y (Institution → SDGs, direct)	0.18	0.031	Significant	Governance also functions as a market signal

The table presents the results of a structural model analysis showing the relationships between institutional governance, business models, ecosystems, and Sustainable Development Goals (SDGs) in the context of the "Koperasi Desa Merah Putih."

1. Institution → Business Model (X1 → X2): The first path shows a significant positive relationship between institutional governance (X1) and the business model (X2) with a coefficient of 0.42 and a p-

- value of less than 0.001. This implies that better governance practices are strongly associated with improved operational discipline, which in turn enhances the business model of the cooperative.
2. Business Model → SDGs (X2 → Y): The second path indicates a positive and significant relationship between the business model (X2) and the achievement of SDGs (Y) with a coefficient of 0.35 and a p-value less than 0.001. This suggests that the value addition and standardization within the business model are key drivers in achieving SDG outcomes.
 3. Ecosystem → SDGs (X3 → Y): The third path reveals that the ecosystem (X3), including partnerships and support systems, has a significant positive impact on SDGs (Y), with a coefficient of 0.29 and a p-value of 0.003. This highlights that strong partnerships and ecosystem support can significantly enhance the impact on SDGs.
 4. Institution → SDGs (X1 → Y, direct): Lastly, the direct effect of institutional governance (X1) on SDGs (Y) shows a coefficient of 0.18 and a p-value of 0.031, indicating a significant but smaller effect. This path suggests that governance not only affects business models but also functions as a market signal, indirectly contributing to SDG achievement.

The main findings of the study indicate that organizational readiness has a significant influence on business model maturity, with a path coefficient of $\beta = 0.42$ ($p < 0.001$), suggesting that participatory, accountable, and professional governance plays a crucial role in driving operational discipline, such as quality management and risk management. Participatory and accountable governance creates a shared sense of responsibility among members and managers, increasing transparency and operational effectiveness (Azzahara et al., 2025). Moreover, a professional approach in managing the cooperative helps ensure that decision-making processes and resource management are carried out to high standards, which in turn promotes improved quality and better risk mitigation (Da Gomez et al., 2024).

Furthermore, business model maturity has a positive impact on SDG achievement with $\beta = 0.35$ ($p < 0.001$), indicating that business models focusing on value-added, quality standardization, and diversified marketing increase member income, social inclusion, and environmentally friendly practices. The business model of Koperasi Desa Merah Putih, which prioritizes value-added and quality standardization, allows its products to be more competitive, significantly improving member income (Arief & Haeruddin, 2025). In addition, diversification of marketing channels expands market access, while a commitment to environmentally friendly practices supports the social and economic sustainability of the cooperative and enhances inclusion for all members (Fadillah & Khaer, 2025). Ecosystem readiness has also been found to influence SDG achievement with a coefficient of $\beta = 0.29$ ($p = 0.003$), where multi-stakeholder partnerships and supporting infrastructure such as technical assistance and internet access increase the likelihood of converting plans into tangible results. Multi-stakeholder partnerships involving village governments, financial institutions, and trade partners expand networks and strengthen the cooperative's bargaining position, providing greater access to markets and resources (Nurhayati et al., 2025). Supporting infrastructure, such as technical assistance and internet access, helps Koperasi Desa Merah Putih implement its plans more effectively, turning potential into tangible results that improve performance and SDG achievement (Akilah Nur et al., 2024).

Moreover, mediation analysis shows that financing and marketing partnerships play an important role in strengthening the relationship between governance and SDG achievement, with an indirect effect of $\beta = 0.12$. Finally, digital literacy moderation reveals that among groups with high digital literacy, the influence of the business model on SDG achievement increases ($\beta = 0.16$; $p = 0.014$), highlighting the importance of digital training and assistance. Digital literacy moderation indicates that groups with high digital literacy experience a significant increase in the influence of the business model on SDG achievement, as they are better able to leverage technology to improve efficiency and competitiveness (Arief & Haeruddin, 2025). This underscores the importance of continuous digital training and support in the development of Koperasi Desa Merah Putih to accelerate the achievement of SDGs more effectively and measurably (Putri et al., 2024). Overall, the model explains 62% of the variation in SDG achievement, with the largest contribution coming from business model maturity ($f^2 \approx 0.24$), followed by ecosystem readiness ($f^2 = 0.13$) and organizational readiness ($f^2 = 0.08$).

In the economic dimension, the income index of members directly linked to the cooperative shows an improvement compared to the last two years; the proportion of members reporting "income increase $\geq 10\%$ " reached $\pm 38\%$ (with variation across commodities). Koperasi Merah Putih has successfully driven the economic engine of its members, as reflected by the income index, which continues to show a positive trend (Amanah Bachtiar et al., 2025). Koperasi Merah Putih has become a solid foundation that strengthens the spirit of togetherness in achieving sustainable shared prosperity (Latifah & Abdullah, 2024). In the social dimension, women's participation in training and the Annual Member Meeting (RAT) has increased; 43% of female

respondents reported being "more frequently involved" compared to two years ago. The role of women in Koperasi Merah Putih is becoming more significant, with the number of women actively involved in various cooperative activities continuing to rise (Sari et al., 2025). This involvement not only strengthens solidarity but also opens opportunities for women to contribute economically and socially within their communities (Uin et al., 2022).

Koperasi Merah Putih has also positively impacted the environment by implementing environmentally friendly principles, such as waste reduction and the reuse of useful materials (Askar-Galau et al., 2025). Through these programs, the cooperative not only improves the well-being of its members but also contributes to environmental conservation and the reduction of carbon footprints (PASPI, 2025). It is important to note that these figures are not pure causal claims; rather, they are concurrent indicators that align with structural findings that governance, business models, and ecosystems influence SDG orientation/achievement.

The thematic analysis from interviews, FGDs, and observations produced six main themes that complement the quantitative findings. Transparency and accountability as sources of trust were observed in practices such as more open member meetings, concise unit cash flow publications, and repeated communication of conflict-of-interest policies. This has enhanced member trust in financial management, which impacts supply consolidation and willingness to meet quality standards. As one member stated, "Now, simple reports are posted in the hall, and we understand where the money comes from and goes." Koperasi Desa Merah Putih in Central Java demonstrates that transparency and accountability in financial management have increased member trust in the cooperative. Practices like publicly publishing financial reports and conducting periodic evaluations ensure that each fund flow is clearly accountable, creating a stronger atmosphere of trust and collaboration among members (Hildayani et al., 2025; Suyanto & Raenaldi, 2025).

The next theme discussed is the professionalization of processes and the role of a "quality manager," reflected in the establishment of a quality control role, even on a part-time basis. Small changes, such as the use of cleanliness checklists and standard drying procedures, contribute to improved quality consistency. This aligns with the "institutional → business model" path, demonstrating how a more professional organizational structure can enhance work outcomes. At Koperasi Desa Merah Putih, the implementation of a more professional organizational structure, with clearly defined roles and effective supervision, has improved cooperative performance. With positions like operational and financial managers, each process has become more organized, which in turn improves the efficiency and productivity of cooperative members (Arief & Haeruddin, 2025; Made et al., 2025).

Furthermore, partnerships are discussed as a bridge to added-value markets. Partnerships with buyers who set standards and provide price and volume certainty improve cash flow. Agreements that include lead times, defect tolerances, and quality feedback loops accelerate the learning cycle and support SDG achievement, strengthening the role of the ecosystem in business sustainability. The partnerships built by Koperasi Desa Merah Putih with various parties, such as raw material suppliers and distributors, have opened up broader market access for cooperative products. Through this collaboration, local products have gained added value, improved competitiveness, and provided better economic benefits for cooperative members (Kesa, 2025). Women and youth inclusion enriches innovation, with women involved in packaging design and digital marketing, and youth engaged in logistics and mobile-based recordkeeping, speeding up the adoption of new practices. As one manager said, "Young people help take product photos and manage the online catalog," showing how the youth support business development. In Central Java, the youth in Desa Merah Putih play an essential role in digitizing the cooperative system, enabling more efficient management and easier access to online markets (Falah et al., 2024). With an innovative spirit, they help introduce local village products to a wider market, boosting cooperative income and strengthening the regional economy (Arief & Haeruddin, 2025).

Simple digitalization, with tangible impacts, illustrates how the implementation of transaction recording apps and cashless payments improves deposit discipline and reduces cash discrepancies. Digitalization in Koperasi Desa Merah Putih has enhanced operational efficiency, such as more transparent financial management and more accurate inventory tracking (Hildayani et al., 2025). This digitalization strengthens the moderation of digital literacy within the structural model, providing a real impact on operational efficiency. Additionally, digitalization makes it easier for cooperative members to access services and information, which, in turn, increases member participation and satisfaction (Pakaya et al., 2025). Mixed financing and risk management highlight the importance of combining member savings, seasonal working capital credit, and purchase order financing support from partners. This helps reduce stock-out issues and enables the purchase of raw materials at lower prices (Askar-Galau et al., 2025). However, disciplined reporting and simple covenants remain crucial prerequisites for maintaining healthy operational continuity. Overall, this analysis emphasizes the importance of transparency, professionalization, strong partnerships, inclusion, digitalization, and risk management in supporting the sustainability and development of the business.

In the analysis conducted, a consistent pattern emerged between several interrelated factors that drive the achievement of the SDGs (Sustainable Development Goals). First, the implementation of more stringent and transparent governance has proven to enhance operational discipline within the cooperative. This discipline, in turn, strengthens the cooperative's business model, including product quality, branding, and distribution channels. This mature business model attracts partnerships in terms of financing and markets, leading to the achievement of SDGs across three main areas: income, inclusion, and environmental practices. Additionally, digital literacy and systems act as accelerators, supporting stages such as data consolidation, quality control, and member service.

A case study that illustrates this can be found in the Koperasi Desa Merah Putih located in Central Java. This cooperative successfully implemented more transparent governance and disciplined operations. With a more structured business model, they were able to attract partnerships with external parties providing financing to expand their product markets, particularly for processed food, herbal products, and coffee. Products with clearer quality standards showed a more significant impact on the achievement of SDGs, particularly in the economic sector with a β value of ≈ 0.41 ($p < 0.001$) for commodities with explicit quality standards compared to generic commodities ($\beta \approx 0.28$; $p = 0.017$).

Moreover, the group with higher digital literacy in this cooperative recorded better on-time payments and order fulfillment, further strengthening the link between the cooperative's ecosystem and the achievement of SDGs ($\beta \approx 0.34$ vs 0.24). This study also highlights the active role of women in the Koperasi Desa Merah Putih, particularly when decision-making spaces were expanded. This is evidenced by a policy of a minimum 30% quota for women in training committees, resulting in positive impacts on the cooperative's social indicators.

The findings suggest a gradual strategy that can be applied in village cooperatives, starting with product lines that are ready for standardization and involving members with better digital literacy. This approach can then be expanded through peer learning involving other members. A combination of strengthening the mature business model, better governance, and the utilization of digital technology provides a strong foundation for cooperatives to achieve more sustainable social and economic goals.

The findings of this research enrich our understanding of the institutional impact on the achievement of SDGs, emphasizing the crucial role of governance in reducing transaction costs and improving coordination among small producers. In the context of cooperatives, member ownership plays a key role in aligning incentives, maintaining quality, and ensuring supply continuity.

While the results of this study align with some previous research on the importance of governance, business model maturity, and ecosystem support for achieving SDGs in cooperatives, it offers a different perspective compared to studies that emphasize the role of technological adoption alone. For instance, studies by (Arief & Haeruddin, 2025; Fadillah & Khaer, 2025) highlight that digital tools and technology-driven business models are primary drivers of SDG success in cooperatives. However, this study shows that while digitalization plays an important role, factors like participatory governance, professionalized management, and strong partnerships within the ecosystem such as with government and financial institutions are equally crucial in driving SDG outcomes. Furthermore, the research emphasizes the positive impacts of transparent financial practices and the professionalization of organizational processes, which differ from studies that focus more on the digital infrastructure alone. Thus, this study broadens the theoretical understanding by integrating these operational and governance factors, while also providing practical insights for cooperatives on how to balance technology with governance and ecosystem development to achieve sustainable results.

Practical Contributions (To Cooperatives/SDGs)

The connection to SDGs is increasingly evident through several targets, such as SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth), reflected in increased member income and cash flow stability due to contract-based financing and order financing. SDG 5 (Gender Equality) is achieved through increased female participation in decision-making and training, which is linked to innovation in packaging and product marketing. For SDG 12 (Responsible Consumption and Production), the cooperative demonstrates quality control and packaging waste reduction, while simple traceability opens access to more environmentally-conscious markets. SDG 13 (Climate Action) is achieved through energy-efficient post-harvest technology adoption and agricultural and processing practices that reduce emissions. Finally, SDG 17 (Partnerships) highlights the importance of networks between government, businesses, and financial institutions as key differentiators in mediating the cooperative's outcomes.

The improvement of the theory of change found in this research proposes five main pathways for cooperatives to achieve SDG goals (Drucker, 1955). It starts with transparent and structured governance, followed by operational discipline in record-keeping and quality control, strengthening the business model by creating

added value, developing mutually beneficial partnerships, and finally achieving SDG results in the form of increased income, inclusion, and environmentally-friendly practices.

From a practical perspective, this study provides clear recommendations for cooperatives, particularly for Koperasi Desa Merah Putih, in improving their organizational and operational structures to support the achievement of SDGs. These include the importance of strengthening transparent governance and operational discipline in creating a better business model, and how strategic partnerships with the government, financial institutions, and business partners can enhance market access and resources. Moreover, the study emphasizes the need for better digitalization and digital literacy training for cooperative members to increase efficiency and competitiveness. Other practical contributions include strengthening the cooperative's capacity for risk management, such as through appropriate financing systems, stock management, and transparent reporting, to ensure operational continuity and support poverty reduction, decent work, and environmentally friendly practices. From a managerial perspective, Koperasi Desa Merah Putih can strengthen its capabilities by setting a 12-month governance agenda that includes the RAT based on a simple dashboard, cash flow publication, and light audits (Rajagukguk, 2025). Establishing a quality and data function and implementing standardized transaction record-keeping systems will improve quality standards. Through a structured and sustainable approach, Koperasi Desa Merah Putih can create an ecosystem that supports the achievement of SDGs. The results of this research indicate that an effective cooperative model must be based on transparent governance, consistent operational discipline, and strategic partnerships. Moreover, it is essential to address existing risks through adaptive systems, such as managing market risks with gradual contracts and sufficient buffer stock, and handling operational risks with manual backups and periodic audits. Thus, village cooperatives can develop sustainably, providing a positive impact on both the local economy and the environment.

5. Conclusion, Limitations, and Suggestions

Conclusion

The research findings indicate that the prospects for developing Koperasi Desa Merah Putih to accelerate the achievement of SDGs are conditionally positive: when governance is reinforced, processes are professionalized, the business model focuses on value-added and quality standardization, and partnerships/financing are managed with discipline, economic, social, and environmental indicators move in the desired direction. Basic digitalization accelerates this transition, especially in aspects of transparency, quality control, and member services. With a realistic roadmap and an operational SDGs scorecard, the cooperative can become a driving force for inclusive and resilient village transformation aligned with the spirit of "no one left behind." This also emphasizes that the cooperative is not only an economic vehicle but also a social institution that orchestrates public value. At this point, the achievement of SDGs is no longer a separate agenda, but becomes a natural result of how the cooperative manages processes, partners, and makes decisions every day.

Limitation and suggestions

Despite the valuable insights gained from this study, there are several limitations that need to be acknowledged. First, the research was conducted within a single cooperative, Koperasi Desa Merah Putih, located in Central Java, which may limit the generalizability of the findings to other regions with different socio-economic conditions or cooperative models. Future studies should consider expanding the sample to include cooperatives from various regions to enhance the external validity of the results. Second, the study's reliance on self-reported data from surveys and interviews may introduce response biases. To mitigate this, future research could incorporate third-party assessments or longitudinal tracking of cooperative performance.

Another limitation is the scope of digital literacy, which remains relatively low in rural areas, impacting the full adoption of digital tools within the cooperative. While this study highlights the importance of digital literacy in enhancing operational efficiency, further efforts are needed to improve digital access and skills among the rural population. Therefore, future studies could focus on evaluating the impact of targeted digital training programs on cooperative success.

In terms of suggestions, it is recommended that cooperatives invest more in enhancing digital infrastructure and promoting the inclusion of women and youth in leadership roles. These initiatives are essential for ensuring long-term sustainability and furthering the achievement of SDGs. Moreover, future research could explore the integration of green technologies within cooperatives, as environmental practices continue to gain importance in sustainable development frameworks.

Lastly, collaboration between cooperatives, local governments, and financial institutions should be strengthened to ensure better access to funding and resources. Developing a clear roadmap for cooperation and

funding strategies could serve as a model for other village cooperatives seeking to contribute more effectively to the SDGs.

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