

Implementation and Effectiveness of Sustainable Cooperative Management Practices

Ruth Ann Marie B. Attolba-Aquino*, Marc Oliver B. Castañeda
Saint Louis University, Baguio City, Philippines

*Corresponding Author Email: 2009071@slu.edu.ph

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Abstract. This study examined the implementation and effectiveness of sustainable cooperative management practices, focusing on the core management functions: planning, organizing, directing, and controlling. Guided by the Resource-Based View Theory, Sustainable Development Theory, Fayol's Principles of Management, and Stakeholder Theory, the study addressed a research gap: limited literature on the operational and managerial strategies that drive cooperative sustainability at the local level. A descriptive-quantitative design was utilized, surveying 201 cooperative managers and board members selected through simple random sampling. Statistical analyses, including medians and Spearman's rho correlation, were applied. Findings revealed that management practices were highly implemented across all functions. Planning (Mdn = 3.95) was strong in strategic and financial planning but weaker in market research (Mdn = 3.44). Organizing showed robust governance (Mdn = 3.90) but moderate technological integration (Mdn = 3.35). Directing emphasized leadership and communication (Mdn = 4.01), while feedback mechanisms were less developed. Controlling was highly implemented in financial monitoring (Mdn = 4.04) but needed stronger performance evaluation systems (Mdn = 3.50). Effectiveness ratings were Highly Effective in the social (Mdn = 4.11) and economic (Mdn = 3.80) aspects, and Very Highly Effective in the environmental aspect (Mdn = 4.22). Strong and statistically significant correlations ($\rho = 0.511-0.736$, $p < 0.05$) were found between the implementation of management practices and sustainability outcomes. Key challenges included limited financial and human resources (Mdn = 3.54) and underdeveloped performance assessment systems. A sustainability framework was proposed to address these gaps, emphasizing strategic planning, technological integration, and strengthened monitoring. The study offers practical implications for cooperative leaders, stakeholders, and policymakers in enhancing sustainable management practices and achieving long-term resilience.

Keywords: Cooperatives; Sustainable management practices.

1.0 Introduction

Cooperatives are increasingly recognized as pivotal for achieving sustainable economic and social development due to their foundational structure, which promotes inclusivity and community welfare. Member-owned enterprises contribute significantly to poverty alleviation, financial stability, and democratic governance. Research has shown that cooperatives can lead to shared prosperity by fostering an environment where members collaboratively manage resources and benefits, thus emphasizing their role in sustainable business practices (Díaz de León et al., 2021; Muhardi et al., 2022). The literature also emphasizes the importance of integrating cooperative principles into management strategies, aligning them with sustainability goals, which bolsters economic viability and social responsibility among cooperatives (Bogoviz et al., 2022).

The Resource-Based View (RBV) provides a theoretical framework to understand how cooperatives can leverage internal capabilities, such as governance, management structures, and strategic planning, to respond to external pressures and ensure long-term sustainability effectively (Gatawa, 2022; Mabalay et al., 2024). Studies indicate that cooperatives with robust internal resources can improve efficiency and member engagement, especially when addressing financial instability and operational management (Yuhertiana et al., 2022). Furthermore, Sustainable Development Theory underscores cooperatives' need to balance economic viability with environmental stewardship and social equity, promoting holistic approaches to community welfare (Dimas et al., 2022).

Management principles, notably Fayol's framework, further elucidate how cooperatives can achieve operational efficiency and strategic alignment with sustainability objectives. Fayol's planning, organizing, directing, and controlling principles underscore the importance of structured governance and participatory decision-making, which are critical for enhancing cooperative resilience and social effectiveness (Galang et al., 2020). Effective management practices optimize resource allocation and establish accountability, which is paramount in adapting to evolving community needs and environmental challenges (Rizky et al., 2024).

Engagement with stakeholders is essential in this regard. The Stakeholder Theory posits that managing relationships with various stakeholders, including members, customers, and external partners, is vital for enhancing cooperatives' sustainability and social responsibility (Marín-González et al., 2023). This is particularly evident in regions where cooperatives serve as pillars in rural and urban economies, providing essential financial services and livelihood opportunities (Oliveira & Bertolini, 2024). By actively involving stakeholders and aligning their interests with cooperative goals, organizations can fortify their operational frameworks and better navigate systemic challenges like management inefficiencies and financial sustainability (Holubčík et al., 2022).

Indeed, while cooperatives possess immense potential for fostering community development, many face obstacles that necessitate implementing sound management practices (Alfarizi & Hidayatullah, 2022). Studies demonstrate that cooperatives contributing to community growth through innovative financial services depend on structured management processes (Dumaguít & Sal, 2021; Mallo, 2025). Research highlights that effective planning, organizing, directing, and controlling are critical for empowering cooperatives and ensuring their long-term viability and community impact (Amelia et al., 2023).

Through these comprehensive insights, it becomes evident that cooperatives embody powerful vehicles for sustainable socioeconomic progress, particularly when underpinned by robust management frameworks and stakeholder engagement approaches. Thus, cooperatives reinforce their indispensable role in advancing community development objectives. While global research highlights the critical role of cooperatives in promoting sustainable development, it is essential to examine how these insights translate into specific national and local contexts. In the Philippines, cooperatives have emerged as vital institutions supporting rural and urban communities by providing financial access, employment, and community empowerment. Notably, these institutions empower marginalized communities, enhancing their socioeconomic conditions (Balingbing, 2024). Government efforts to promote cooperative development are significant; however, many cooperatives struggle with challenges related to management efficiency and financial sustainability (Muhardi et al., 2022). To address this, understanding the operational dynamics and effectiveness of management practices within these cooperatives is crucial. A systematic review highlights gaps in current research regarding implementing sustainable management within cooperatives (Benavides & Ehrenhard, 2021).

In Tabuk City, local cooperatives provide financial services and employment opportunities and engage in capacity-building initiatives (Gas-ib-Carbonel, 2019). Evidence suggests that the effectiveness of these cooperatives is intrinsically linked to their management practices, including planning, organizing, directing, and controlling (Larasdiputra, 2023). Fields like cooperative learning have shown that structured management can significantly enhance employee performance and community engagement, indicating a clear connection between effectively implemented management practices and positive outcomes (Shinde & Shinde, 2022). As cooperatives face increasing pressures from external markets and internal resource constraints, assessing their management practices becomes imperative to ensure operational sustainability and enhanced community development.

While numerous studies have explored the role of cooperatives in promoting sustainable development, much of the existing literature has primarily focused on their social and economic contributions or their alignment with global sustainability goals. However, limited research delves into the sustainable management practices of cooperatives, particularly in local contexts such as Tabuk City, Kalinga. Previous studies in this region have examined cooperatives' socioeconomic profiles, financial performance, and social impacts, often without addressing the operational and managerial strategies that drive their sustainability. This study aimed to address this gap by providing a focused analysis of sustainable cooperative management practices in Tabuk City, offering insights that can guide cooperatives in optimizing their operations and enhancing their contributions to sustainable development.

This study aimed to comprehensively evaluate the sustainable management practices implemented by cooperatives in Tabuk City, focusing on planning, organizing, directing, and controlling functions. Specifically, the research aimed to determine the level of effectiveness of these practices across social, environmental, and economic aspects. By exploring the relationship between implementation and effectiveness, identifying challenges faced by the cooperatives, and proposing a framework for enhancing sustainable development initiatives, the research aimed to provide valuable insights into improving cooperatives' overall performance and sustainability in Tabuk City.

2.0 Methodology

2.1 Research Design

The research involved a descriptive quantitative study on cooperative management practices for sustainable development.

2.2 Research Locale

The study was carried out in Tabuk City, focusing on the 66 active cooperatives in the area. Tabuk City is a thriving urban center located in Kalinga, Philippines. Situated in the Cordillera region, it is recognized for its rich cultural legacy and beautiful landscapes in its natural state. The city serves as the provincial capital of Kalinga and is a hub for various economic activities, including agriculture, trade, and tourism.

2.3 Research Participants

The total population for the study consisted of four hundred seventeen (417) cooperative managers and members of the board of directors actively involved in collaborative management and sustainable development initiatives. This population's sample size of 201 respondents was computed using Cochran's formula to ensure a representative and statistically valid selection. The study applied specific selection parameters to ensure its relevance and validity. It focused on cooperatives based in Tabuk City, providing data that reflected the local context. Eligible respondents were cooperative board of directors and managers who played a direct and significant role in cooperative management and sustainable development initiatives. The study did not include individuals who were not board of directors or managers, individuals with minimal involvement in cooperative management, and those not actively engaged in sustainable development initiatives. By establishing these selection parameters, the study ensured that it targeted the most relevant cooperatives and individuals, enhancing the collected data's accuracy, reliability, and applicability.

2.4 Research Instrument

A questionnaire was developed based on relevant literature and research objectives. The questionnaire consisted of three sections. The first section collected data on the level of implementation of the management practices employed by cooperatives, focusing on the planning, organizing, directing, and controlling management functions. The second section gathered data on the effectiveness of cooperatives' current sustainable management practices. The third section collected data on the cooperatives' challenges and barriers to implementing sustainable development initiatives.

The questionnaire was content-validated by five experts in the field of cooperatives. The validity test results showed that all the given values were rated as "very valid," indicating that the questions were relevant to addressing the proposed study objectives. The specific validity results were as follows: planning (0.9833), organizing (0.9926), directing (1.000), and controlling (0.9667). For the level of effectiveness, the validity scores were 1.000 across the social, economic, and environmental aspects. The challenges and barriers section also

demonstrated strong validity, with an Aiken's V of 0.9083. After undergoing validity testing, the questionnaire was finalized, enhanced, and proceeded to reliability testing.

The questionnaire was tested for reliability to ensure consistency and accuracy in measuring the intended variables. The reliability testing was conducted through a pilot test with 30 respondents in the Cordillera Administrative Region to determine the questionnaire's reliability. Cronbach's alpha was applied to confirm the questionnaire's reliability, requiring a mean of at least ≥ 0.8 with an interpretation of "very reliable." For the level of implementation of cooperative management practices, Cronbach's alpha values were as follows: planning (0.963), organizing (0.901), directing (0.962), and controlling (0.909). For the level of effectiveness, the reliability coefficients were 0.896 for the social aspect, 0.924 for the economic aspect, and 0.870 for the environmental aspect. Meanwhile, the challenges and barriers section demonstrated strong reliability with a Cronbach's alpha 0.958. The Cronbach's alpha values for all measured factors indicate a very high level of reliability, confirming that the questionnaire is a valid and consistent tool for assessing cooperative management practices and sustainable development.

2.5 Data Gathering Procedure

Before gathering data, permission was obtained from the appropriate authorities. The data-gathering procedures involved 201 cooperative boards of directors and managers. After identifying them and acquiring all relevant permits, the survey questionnaires were distributed to the respondents. The questionnaires were distributed electronically or in person, depending on the respondents' preferences.

2.6 Data Analysis

A 5-point Likert scale was employed to measure the level of implementation and effectiveness of cooperatives' current sustainable management practices and the challenges and barriers they face in implementing sustainable development initiatives. The study also utilized Spearman's rho to analyze relationships in sustainable cooperative management practices. Furthermore, the Likert scale median rating for per-item interpretation was used, which involved calculating each Likert item's median score to understand the responses' central tendency.

2.7 Ethical Considerations

The study's approach always took into account ethical considerations. All respondents' informed consent was acquired, and their privacy and confidentiality were ensured. The study adhered to ethical guidelines and regulations regarding human subject research. Offensive language was avoided in formulating questionnaires, interviews, or focus group questions, and the works of other authors were acknowledged using the APA referencing system. The highest level of objectivity was maintained in discussions and analyses throughout the research, and adherence to data protection laws was ensured. The study adhered to the Philippine Data Protection Act of 2012.

3.0 Results and Discussion

3.1 Implementation of Current Sustainable Management Practices of Cooperatives

Planning Phase

Cooperatives in Tabuk City exhibit a Highly Implemented (HI) level of sustainable management practices in the planning phase, demonstrating a strong commitment to strategic and financial planning (see Table 1). The highest-rated aspect, medium-term strategic planning, focuses on setting achievable goals over a 3–5-year period, aligning with Henri Fayol's planning principles and Resource-Based Theory on effective resource utilization (Fernandez-Guadano et al., 2020; Mbuthia & Ragui, 2023; Rana, 2024). In contrast, market research and analysis received the lowest score, indicating room for improvement in assessing customer needs, market trends, and competition, which are vital for adaptive decision-making and sustained success, as supported by Contingency and Stakeholder Theories (Zakaria et al., 2021). While cooperatives perform well in long-term planning, financial planning, and planning consistency, areas like risk assessment, contingency planning, and project-specific business plans show potential for further development. Existing literature highlights the importance of integrating risk management and market analysis to build resilience and ensure long-term sustainability in dynamic environments (Radhakrishnan et al., 2018; Chaudhuri et al., 2020; Mishra, 2020; Nyuydyne Wirba et al., 2020).

The results imply that while strategic and financial planning capabilities are strong, cooperatives may struggle

with adaptability and innovation without deeper investment in market research and risk management practices. To sustain growth and resilience, cooperative leaders must prioritize developing systems for environmental scanning, competitive analysis, and proactive risk planning. Strengthening these areas would enhance responsiveness to external changes and foster a more agile and resilient organizational culture capable of thriving under uncertainty.

Table 1. *Implementation of the Current Sustainable Management Practices of Cooperatives in terms of the Planning Phase*

Indicators	Mean	Interpretation
1. The cooperative engages in long-term strategic planning to define the organization's vision, mission, and objectives.	3.88	Highly Implemented
2. The cooperative engages in medium-term strategic planning to define the organization's vision, mission, and objectives.	4.01	Highly Implemented
3. The cooperative develops detailed business plans for specific projects or initiatives that outline the goals, timeliness, budgets, and strategies they plan to implement.	3.78	Highly Implemented
4. The cooperative creates financial plans to budget, forecast, and project finances for sustainability and the proper allocation of resources.	3.88	Highly Implemented
5. The cooperative conducts market research and analysis to understand market trends, customer needs, and competition to make informed and planned decisions.	3.44	Highly Implemented
6. The cooperative creates contingency plans in case of emergencies and unforeseen circumstances that help in crisis management and minimize loss.	3.69	Highly Implemented
7. The cooperative creates consistent plans in order to remain adaptable and flexible in various situations.	3.86	Highly Implemented
8. The cooperative identifies and assesses risks and plans according to them to mitigate potential losses and challenges.	3.76	Highly Implemented
Overall Result	3.95	Highly Implemented

Legend: VHII – Very Highly Implemented, HI – Highly Implemented, MI – Moderately Implemented, LI – Less Implemented, NI – Not Implemented

Moreover, the data suggest a need for capacity-building initiatives specifically aimed at improving technical planning skills - such as conducting market studies, developing contingency protocols, and designing flexible business plans. These initiatives can be supported by partnerships with government agencies, educational institutions, and private sector advisors specializing in cooperative development.

Organizing Phase

Cooperatives in Tabuk City exhibit a High Level of Implementation (HI) of sustainable management practices in the organizing phase, highlighting strong governance, participatory decision-making, and training (see Table 2). The highest-rated aspect- establishing clear governing structures- underscores the importance of leadership and defined roles in ensuring sustainability. However, lower scores in technological adoption, conflict resolution, and recognition indicate areas for improvement. Challenges in integrating modern systems reflect resource constraints and adaptability, as discussed in Resource-Based and Contingency Theories (Omotosho & Anyigba, 2019; Wang et al., 2019), while studies also stress that conflict management and inclusive governance enhance cooperative sustainability and resilience (Micu & Necula, 2019; Wilson et al., 2019; Damayanthi et al., 2020).

Table 2. *Implementation of the Current Sustainable Management Practices of Cooperatives in terms of the Organizing Phase*

Indicators	Mean	Interpretation
1. The cooperative establishes clear governing structures, such as the board of directors, appointed committees, and the management team. They have clearly defined roles, responsibilities, and duties.	4.31	Very Highly Implemented
2. The cooperative develops strategies for the recruitment of new members and the development of existing ones.	3.99	Highly Implemented
3. The cooperative ensures that each employee and member has a voice in business affairs and participates in decision-making.	4.23	Very Highly Implemented
4. The cooperative offers training and educational programs to improve and develop various skills and knowledge for its members and leaders.	4.16	Highly Implemented
5. The cooperative maintains excellent and effective communication systems that ensure information flows smoothly between various departments and leaders.	4.08	Highly Implemented
6. The cooperative has effective conflict resolution protocols that help resolve disputes and conflicts within the organization promptly and fairly.	3.83	Highly Implemented
7. The cooperative implements up-to-date technological systems to help manage data communication and ease workloads. These include software for financial management, member databases, and project management.	3.35	Moderately Implemented
8. The cooperative has systems and protocols in place for the fair and timely promotion and recognition of the organization's outstanding and performing members and employees.	3.69	Highly Implemented
9. The cooperative has clear election guidelines in place for the transparency, fairness, and equality of its electoral process.	4.11	Highly Implemented

Overall Result	3.90	Highly Implemented
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The findings imply that while cooperatives have successfully built strong governance and communication frameworks, their sustainability could be undermined if technological integration and human resource management are not improved. To remain competitive and resilient, cooperatives must invest in digital tools to streamline operations and enhance data management. Improving conflict management protocols and establishing clear recognition and reward systems can also strengthen organizational loyalty and productivity. Addressing these gaps will modernize cooperative management and foster a more adaptive, motivated, and cohesive membership base better equipped to meet future challenges.

Directing Phase

Cooperatives in Tabuk City demonstrate a High Level of Implementation (HI) of sustainable management practices in the directing phase (see Table 3). This indicates strong leadership in setting clear objectives, promoting open communication, and delegating responsibilities, aligned with Henri Fayol's Directing Principle and Sustainable Development Theory (Khanal, 2023; Abella & Bation, 2024). These practices also support the findings of Rincon-Roldan and Lopez-Cabrales (2022), who emphasize leadership's role in guiding sustainable strategies, and Stakeholder Theory, which highlights balancing diverse stakeholder needs. However, relatively lower scores in leadership monitoring and feedback, leadership development, and motivational efforts suggest areas for improvement, reinforcing Systems and Contingency Theories that stress feedback and adaptability (Zakaria et al., 2021; Khanal, 2023). These findings echo Goltsov et al. (2020) and Sumuob and Maghuyop (2020) those who advocate for continuous leadership training and structured feedback mechanisms to enhance cooperative resilience, efficiency, and member engagement. Overall, cooperatives excel at setting goals and encouraging involvement but are relatively weaker in leadership development and performance feedback loops, which are critical for continuous improvement and innovation.

Table 3. Implementation of the Current Sustainable Management Practices of Cooperatives in terms of the Directing Phase

Indicators	Mean	Interpretation
1. The cooperative invests in leadership development programs to train and prepare members and employees for various leadership roles in the cooperative.	3.91	Highly Implemented
2. The cooperative establishes clear, open communication lines that let organization members freely communicate with their leaders.	4.11	Highly Implemented
3. The cooperative's leaders define clear objectives, goals, and decision-making processes and how they impact the organization and the members involved.	4.13	Highly Implemented
4. The cooperative's leaders motivate its members and employees and recognize their contributions and achievements through financial incentives, non-financial rewards, and recognition.	3.92	Highly Implemented
5. The cooperative's leaders engage with their employees in various decision-making and problem-solving processes.	4.05	Highly Implemented
6. The cooperative's leaders monitor operations and gather feedback from their members to make necessary adjustments and improvements.	3.88	Highly Implemented
7. The cooperative's leaders establish and assure the quality of products or services to meet cooperative standards and customer expectations.	4.01	Highly Implemented
8. The cooperative's leaders encourage creativity and innovation among its members.	3.94	Highly Implemented
9. The cooperative's leaders clearly define the tasks and responsibilities of their members and employees and delegate them appropriately to ensure the implementation of approved plans.	4.05	Highly Implemented
Overall Result	4.01	Highly Implemented

These findings imply that while cooperatives are strong in leading their members toward shared goals, their long-term resilience will depend on strengthening feedback systems and leadership development programs. Without regular monitoring and adaptive management, even well-set goals may fail to respond effectively to changes in the environment or membership needs. Future initiatives should prioritize building structured feedback mechanisms, more formalized leadership succession planning, and encouraging a culture of innovation. Strengthening these areas will sustain current achievements and foster a leadership pipeline and dynamic responsiveness, ensuring the cooperative's adaptability and competitiveness in evolving economic and social landscapes.

Controlling Phase

Cooperatives in Tabuk City demonstrate a High Level of Implementation (HI) of sustainable management practices in the controlling phase, indicating strong governance, particularly in financial monitoring (see Table

4). Key practices, such as maintaining accurate records and adapting policies, emphasize transparency and compliance and align with stakeholder and sustainable development theories (Bridoux & Stoelhorst, 2022; Valentinov, 2023). These practices support cooperative resilience and long-term sustainability (Yuhertiana et al., 2022). However, lower ratings in performance metrics, risk management, and quality assurance highlight areas for improvement, particularly in refining performance measurement systems and risk strategies. This pattern suggests that while operational control is well-practiced, strategic-level evaluation and continuous improvement mechanisms are not yet fully optimized. Mella and Gazzola (2019) suggest that enhancing these aspects using Systems Thinking and Contingency Theory can improve decision-making and performance evaluation. Strengthening these practices will enhance cooperative governance, operational efficiency, and sustainability.

Table 4. *Implementation of the Current Sustainable Management Practices of Cooperatives in terms of the Controlling Phase*

Indicators	Mean	Interpretation
1. The cooperative monitors its operations' financial status and health and regularly reviews its financial statements, budget, and cash flow to control and manage expenses, revenue, and financial risks.	4.10	Highly Implemented
2. The cooperative employs the use of performance metrics and performance indicators to measure the success and productivity of the organization in achieving its goals.	3.50	Highly Implemented
3. The cooperative implements quality measures to ensure products and services meet the quality standards set.	3.82	Highly Implemented
4. The cooperative continuously manages risks that can be encountered and develops risk mitigation strategies to minimize adverse circumstances and events.	3.81	Highly Implemented
5. The cooperative maintains accurate records and documentation of its activities, financial transactions, and decisions for the sake of transparency and compliance.	4.17	Highly Implemented
6. The cooperative maintains updates of the operational policies in order to prevent any faults and mishaps from occurring.	4.07	Highly Implemented
Overall Result	4.04	Highly Implemented

The findings imply that to sustain long-term resilience, cooperatives must move beyond traditional financial control and invest in building comprehensive performance measurement and risk assessment frameworks. Without robust performance indicators, it will be difficult for cooperatives to evaluate their actual impact, identify inefficiencies, and innovate. Strengthening risk management strategies and enhancing quality assurance systems will prepare cooperatives for future uncertainties and competitive pressures. These improvements are crucial for safeguarding operational stability and enabling growth, continuous innovation, and higher member satisfaction in a dynamic cooperative sector.

3.2 Effectiveness of Current Sustainable Management Practices of Cooperatives

Table 5 presents the effectiveness of sustainable management practices among cooperatives in Tabuk City regarding social, economic, and environmental dimensions. The findings reflect a generally high commitment to sustainability, though with varying degrees of strength across the three aspects.

Social Aspect

Cooperatives in Tabuk City demonstrate strong effectiveness in their social sustainability practices. High levels of community involvement and inclusive decision-making highlight active engagement with stakeholders, aligning with the principles of Stakeholder Theory (Robson et al., 2021; Yakar Pritchard & Çalıyurt, 2021). These practices are consistent with research emphasizing participatory governance and community-based action (Adabanya et al., 2023). However, indicators related to addressing social inequalities and community assistance were comparatively lower. This reflects challenges in broadening inclusivity efforts, a concern also raised by Abella and Bation (2024). As Candemir et al. (2021) noted, measuring social outcomes remains complex, highlighting the need to deepen social capital through trust-building and reciprocal relationships. The median score reinforces the perception that, while generally effective, some aspects of social equity require strategic attention.

The high effectiveness of cooperatives in fostering community involvement and participatory decision-making suggests a strong alignment with inclusive governance and stakeholder engagement. However, slightly lower scores in addressing social inequalities and community assistance indicate that while cooperatives are socially active, there is room to improve in reaching marginalized groups and expanding social impact. To strengthen social sustainability, cooperatives should enhance targeted initiatives for vulnerable populations and establish structured community outreach programs. Embedding social equity indicators into their management systems can also help measure and improve inclusivity outcomes over time.

Table 5. *Effectiveness of the Current Sustainable Management Practices of Cooperatives*

Indicators	Mean	Interpretation
Social		
1. The cooperative involves themselves in the activities of the community to foster positive relationships with them and have a positive impact on their projects and programs.	4.34	Very Highly Effective
2. The cooperative involves its members and the community in the decision-making process to welcome new ideas and promote equality among all those involved.	4.16	Highly Effective
3. The cooperative sets standards for work practices and ethics that can affect other cooperatives within the area and positively influence the community.	4.05	Highly Effective
4. The cooperative's sustainable management practices help address social inequalities and promote inclusivity among its members and community.	3.95	Highly Effective
5. The cooperative helps improve its community through donations, fundraisers, healthcare and education programs, and other forms of aid and assistance.	3.99	Highly Effective
Overall	4.11	Highly Effective
Economic		
1. The cooperative can provide employment opportunities for unemployed individuals within the community.	3.43	Highly Effective
2. The cooperative helps in fostering entrepreneurship within the community to assist in alleviating individuals from poverty.	3.59	Highly Effective
3. The cooperative provides long-term financial sustainability and the potential for stable economic growth within the community.	3.75	Highly Effective
4. The cooperative provides investment opportunities to members of the community and promotes their cooperative as a safe and stable investment that can benefit the community.	3.86	Highly Effective
Overall	3.80	Highly Effective
Environmental		
1. The cooperative's sustainable management practices help promote environmentally friendly practices and activities that keep the community healthy, clean, and safe.	4.25	Very Highly Effective
2. The cooperative's sustainable management practices help provide environmental education, environmental awareness, and environmental advocacy efforts.	4.12	Highly Effective
3. The cooperative positively impacts the community's environmental and ecological state and helps protect and enhance its ecosystem.	4.15	Highly Effective
4. The cooperative complies with environmental regulations (such as acquiring the necessary permits) imposed by local, national, and international authorities.	4.32	Very Highly Effective
5. The cooperative's sustainable management practices include applying environmentally friendly methods that help reduce and properly dispose of waste, minimize energy consumption, and implement recycling programs.	4.20	Highly Effective
Overall	4.22	Very Highly Effective

Note: VHE – Very Highly Effective, HE – Highly Effective, ME – Moderately Effective, LE – Less Effective, NE – Not Effective

Economic Aspect

Economic effectiveness is evident in cooperatives' contributions to investment opportunities and financial sustainability, aligning with Resource-Based Theory, which emphasizes using internal capabilities for resilience (Zhou et al., 2021). These findings also support Yu et al. (2022), who stress the importance of local economic collaboration for sustainable development. Nonetheless, weaker performance in employment generation and entrepreneurship support reveals areas for growth. Deng et al. (2021) highlight the limited role of cooperatives in job creation, often due to underutilized social capital. This concern is echoed by Muangasame & Tan (2023), who stress the need for robust economic frameworks, and by Doloan (2024), who note that economic underperformance may hinder broader cooperative goals. The median score here reflects that some foundational aspects need strengthening, while cooperatives are generally economically practical.

Although cooperatives are seen as economically practical, especially in providing investment opportunities and promoting financial stability, the relatively lower scores in job creation and entrepreneurship support reveal untapped potential in driving grassroots economic growth. This suggests that cooperatives may operate more as financial service providers than active economic engines. To enhance their monetary role, cooperatives should diversify income-generating services, provide entrepreneurship training, and forge partnerships with local businesses and LGUs to boost employment and enterprise development.

Environmental Aspect

Cooperatives show the highest level of effectiveness in environmental sustainability. Substantial compliance with environmental regulations and engagement in community health initiatives reflect alignment with Systems Theory and the Sustainable Development Framework (Canwat, 2023). These practices indicate a solid integration of ecological priorities into operations.

Still, relatively lower scores in environmental education and ecological impact point to the need for enhanced advocacy and awareness-building. As Dudka and Magnani (2024) advocates argue, compliance alone is not sufficient—education and behavioral change are essential for long-term sustainability. Fayol’s Directing Principle underscores the role of leadership in steering these efforts. The median score confirms a strong environmental commitment, though deeper community engagement through education remains vital.

Environmental effectiveness was the strongest among the three dimensions, with particularly high ratings in regulatory compliance and promoting eco-friendly practices. These indicate that cooperatives have successfully institutionalized ecological responsibility. However, slightly lower scores in environmental education and advocacy suggest a need to go beyond compliance by actively cultivating environmental awareness among members and communities. Cooperatives should invest in environmental training, community campaigns, and green innovations to deepen ecological impact and influence sustainable behavior. Doing so will not only enhance their environmental contribution but also solidify their reputation as proactive sustainability leaders.

3.3 Relationship between Level of Implementation and Effectiveness of Current Sustainable Management Practices

Table 6 presents the Spearman-rho correlation coefficients indicating strong and statistically significant relationships between the level of implementation- planning, organizing, directing, and controlling- and the level of effectiveness- social, environmental, and economic- of sustainable management practices in cooperatives in Tabuk City. These findings affirm the practical relevance of classical and modern management theories. Planning demonstrated strong connections to all effectiveness dimensions, reinforcing Fayol’s and Sustainable Development Theory’s emphasis on the foundational role of strategic planning (Hristov & Chirico, 2019; Kurowksa et al., 2021; Basuki, 2024). Organizing also showed consistent positive relationships with effectiveness, validating principles from Fayol, Systems Theory, and Stakeholder Theory, which highlight how proper structure and stakeholder collaboration enhance sustainability (Keating et al., 2024; Wijesundara et al., 2024). Directing revealed the importance of leadership in aligning goals and motivating stakeholders, supported by Fayol’s directing principle and Contingency Theory (Hristov & Chirico, 2019; Keating et al., 2024; Wijesundara et al., 2024). Controlling showed meaningful correlations with sustainability outcomes, underscoring the importance of monitoring and feedback mechanisms, as supported by Systems Theory, Sustainable Development Theory, and Fayol’s Principles (Hristov & Chirico, 2019; Kurowksa et al., 2021; Keating et al., 2024). These empirical results support the Resource-Based View, which posits that strong internal capabilities such as governance structures and leadership contribute to long-term sustainability (Candemir et al., 2021; Junges et al., 2022). In line with Stakeholder Theory, the findings also emphasize that participatory decision-making and managing stakeholder relationships enhance cooperative effectiveness (Taruvunga et al., 2021; Velandia et al., 2022; Ingutia & Sumelius, 2024). Additionally, evidence from studies on youth involvement in cooperatives supports the idea that training and engagement improve responsiveness to stakeholder needs and overall sustainability (Velandia et al., 2022). The relationship between controlling and sustainability effectiveness further highlights the need for risk management and continuous improvement, aligning with the findings of Malekpour et al. (2020) and Valero-Amaro et al. (2021), who stress that consistent evaluation fosters innovation and strategic alignment with long-term sustainability goals.

Table 6. Correlation between *Level of Implementation and the Level of Effectiveness of the Current Sustainable Management Practices of Cooperatives*

Predictor	Response	ρ	Interpretation	p
Planning	Social	.63	Strong Relationship	<.001*
	Environmental	.63	Strong Relationship	<.001*
	Economic	.53	Strong Relationship	<.001*
Organizing	Social	.73	Very Strong Relationship	<.001*
	Environmental	.61	Strong Relationship	<.001*
	Economic	.67	Strong Relationship	<.001*
Directing	Social	.61	Strong Relationship	<.001*
	Environmental	.52	Strong Relationship	<.001*
	Economic	.60	Strong Relationship	<.001*
Controlling	Social	.61	Strong Relationship	<.001*
	Environmental	.60	Strong Relationship	<.001*
	Economic	.51	Strong Relationship	<.001*

*significant @ ≤ 0.05

The strong positive relationships between implementation and effectiveness suggest that sustainability in cooperatives is not incidental - it is built deliberately through structured management processes. First, cooperatives must recognize that strengthening internal organizational frameworks, particularly in governance (organizing), directly impacts building social capital and driving community development. Enhancing member engagement, accountability systems, and decision-making inclusiveness can further amplify social effectiveness. Second, strategic planning must go beyond traditional goal setting to incorporate flexible, market-responsive strategies that adapt to changing community needs and environmental realities. The strong link between planning and environmental/economic outcomes shows that sustainability must be an intentional part of early planning stages, not an afterthought. Third, leadership development should be a continuous investment. As directing showed strong correlations across all dimensions, fostering transformational leadership that motivates innovation, environmental stewardship, and inclusive economic participation is critical for future-proofing cooperatives. Finally, although controlling shows the "weakest" relative correlation, its role in risk management, transparency, and performance monitoring should not be underestimated. Cooperatives must strengthen their evaluation and corrective mechanisms, particularly through digital tools and key performance indicators, to close the feedback loop and ensure consistent progress toward sustainability goals. In short, the findings imply that cooperatives must approach sustainability holistically - integrating robust governance, forward-looking strategies, empowering leadership, and continuous monitoring to realize resilient, inclusive, and environmentally responsible growth.

3.4 Challenges and Barriers in Implementing Sustainable Development Initiatives

Table 7 highlights the perceived challenges cooperatives face in Tabuk City when implementing sustainable development initiatives. Cooperatives agree that limited financial and human resources are significant barriers, while other challenges, such as difficulties in collaboration and weak internal communication, are considered less critical. The neutral stance on several challenges suggests mixed experiences or uncertainty about their impact, indicating a need for further investigation into why some barriers are more pronounced in certain cooperatives.

Table 7. *Challenges and Barriers in Implementing Sustainable Development Initiatives*

Indicators	Mean	Interpretation
1. The cooperative is over-controlled and regulated by the government, which can hinder the autonomy and effectiveness of the cooperative in implementing sustainable management practices.	2.96	Undecided
2. The cooperative has limited access to credit.	3.17	Undecided
3. The cooperative has limited financial and human resources in order to invest in sustainable development initiatives.	3.54	Agree
4. There is a weak internal communication system or poor communication among the members and stakeholders.	2.75	Undecided
5. There are limited skills in cooperative management and governance (a lack of expertise in cooperative management and governance) in implementing sustainable management practices.	2.97	Undecided
6. The cooperative focuses more on short-term financial gains than long-term sustainability and does not invest in sustainable developmental initiatives.	3.23	Undecided
7. The cooperative lacks awareness and education on sustainability principles and potential benefits for sustainable development.	2.82	Undecided
8. The cooperative has difficulty collaborating and coordinating with other organizations, government bodies, and stakeholders in developing and implementing a sustainable development initiative.	2.74	Undecided

Note: SA - Strongly Agree, A - Agree, U - Undecided, D - Disagree, SD - Strongly Disagree

The Resource-Based Theory aligns with the finding that financial and human resources are essential for implementing sustainability initiatives, as these factors determine organizational success (Egorov & Inshakov, 2023). Similarly, Sustainable Development Theory stresses that ongoing investment is necessary for long-term sustainability (Fernandez-Guadano et al., 2020). The lower concern regarding collaboration difficulties supports Stakeholder Theory, which suggests that external partnerships enhance sustainability initiatives, while Systems Theory indicates that cooperatives may already have established networks (Melane-Lavado & Álvarez-Herranz, 2020; Valentinov, 2023). The overall uncertainty about the impact of various challenges reflects findings by Rahmadhani et al. (2022) and Miranda-García and Segovia-Vargas (2024), which emphasize financial constraints as major barriers to sustainability. Moreover, the study illustrates how financial constraints often take precedence over ecological goals, as discussed by Kervall and Pålsson (2023), and restrict the adoption of sustainable practices. Lastly, while governance frameworks and over-regulation are acknowledged, financial sustainability remains the primary concern for cooperatives, as noted by (Esamah et al., 2023; Hu & Zeng, 2024).

The findings hint at a deeper issue - not just the existence of barriers, but the limited organizational capacity to identify and respond to them effectively. The lack of consensus and clarity on most challenges suggests that many cooperatives may not yet have systems to assess internal weaknesses or anticipate future sustainability risks.

The strong agreement on resource limitations confirms that capacity-building must be a top priority. This includes financial support mechanisms (e.g., better credit access, investment partnerships) and human capital development through governance training, technical education, and leadership development. The widespread uncertainty about most other barriers presents a critical opportunity for awareness-raising. Cooperatives need diagnostic tools, such as sustainability audits or internal organizational assessments, to help them understand where they are vulnerable. These tools can guide strategic planning and prevent underestimating emerging challenges such as poor stakeholder coordination or lack of sustainability awareness. Additionally, the undervalued role of collaboration is a missed opportunity. Strengthening linkages with government agencies, NGOs, and other cooperatives could unlock access to resources, training, and innovation. Programs incentivizing multi-sector partnerships or knowledge-sharing among cooperatives could reduce isolation and boost collective resilience. Lastly, the apparent short-term orientation of some cooperatives should be addressed through policy and education. Even if not universally perceived as a significant issue, overemphasizing immediate financial returns can erode long-term sustainability efforts. Promoting success stories of cooperatives that balanced profitability with sustainability could shift this mindset.

3.5 Framework for Enhancing Sustainable Development Initiatives in Cooperatives

The Sustainable Cooperative Management Framework (Figure 1) is a strategic model designed to enhance the long-term viability of cooperatives in Tabuk City by integrating sustainability principles with core management functions.



Figure 1. Proposed Framework

Based on the study's findings, it addresses gaps in cooperative management, focusing on social, environmental, and economic sustainability. The framework provides a clear pathway to improve operational efficiency,

adaptability, and resilience by aligning planning, organizing, directing, and controlling with sustainability goals. It promotes social sustainability through inclusive governance and community engagement, environmental sustainability by encouraging responsible resource use and compliance, and economic sustainability by enhancing financial stability and risk management. The framework integrates management functions to strengthen strategic planning, governance structures, leadership, and performance monitoring. It also offers actionable recommendations, such as improving market research, investing in digital transformation, and expanding financial sustainability strategies. Adopting this framework will help cooperatives enhance sustainability, strengthen governance, and optimize resource management, positioning them as key drivers of sustainable development in Tabuk City.

4.0 Conclusion

This study provides a comprehensive evaluation of the sustainable management practices of cooperatives in Tabuk City, focusing on the core management functions of planning, organizing, directing, and controlling. The findings revealed a high level of implementation across all phases, reflecting a strong organizational commitment to sustainability. Cooperatives demonstrated particular strength in strategic and financial planning, participatory governance, transparent operations, and environmental compliance. A statistically significant correlation was also established between the level of implementation and the effectiveness of these practices in achieving social, economic, and ecological goals. Organizing practices showed the strongest link to sustainability outcomes, highlighting the value of inclusive structures, active member participation, and clearly defined roles. These findings affirm the applicability of classical management theories, such as Fayol's principles, along with modern frameworks like the Resource-Based View, Sustainable Development Theory, and Stakeholder Theory.

Despite these strengths, several areas require improvement. Weaker performance in market research, technological adoption, performance monitoring, and risk management indicates the need for innovation and long-term adaptability. Additionally, while environmental sustainability scored highest, the economic and social pillars showed greater variability, particularly in job creation, entrepreneurship support, and inclusivity. These gaps call for strategic interventions from both cooperative managers and policymakers. For cooperative managers, specific recommendations include strengthening market intelligence through regular research and environmental scanning; adopting digital technologies to streamline operations and enhance data management; establishing structured feedback systems to support continuous improvement; prioritizing leadership development and succession planning; and creating inclusive programs to help marginalized groups such as women, youth, and indigenous communities. For policymakers and support institutions, recommendations include facilitating access to credit and funding, institutionalizing capacity-building initiatives in partnership with educational institutions, supporting digital transformation through subsidies and infrastructure, promoting inter-cooperative collaboration, and encouraging sustainability reporting to enhance transparency and accountability. This study is not without limitations. Its geographic focus on Tabuk City may limit the generalizability of findings to other regions with different contexts. The cross-sectional design offers only a snapshot in time, restricting insight into long-term trends. Additionally, the reliance on self-reported survey data introduces the risk of social desirability bias, which may overestimate implementation levels. While a Sustainable Cooperative Management Framework was proposed, it has yet to be tested through pilot implementation or longitudinal research.

Future research could address these limitations by conducting comparative studies across rural and urban cooperatives, implementing longitudinal tracking of sustainability outcomes, piloting the proposed framework in selected cooperatives, and exploring themes such as digital readiness, youth and women's leadership, and cross-sector partnerships. Ultimately, this study underscores that sustainable cooperative management is not incidental but a deliberate, structured process that requires integrating inclusive governance, strategic planning, proactive leadership, and continuous monitoring. With these elements in place, cooperatives can play a vital role in driving resilient, inclusive, and environmentally responsible development.

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Ruth Ann Marie A. Aquino – writing, encoding, editing
Marc Oliver Castañeda – supervising, checking

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The authors declare no conflict of interest in the paper's publication.

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