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Policies and practices: Optimizing operational efficiency and performance metrics in Naga City cooperatives

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Abstract:

This research, based on a mixed-methods study of 10 micro and small cooperatives in Naga City, Philippines, proposes a developmental improvement plan and a comprehensive performance measurement system to address the need for enhanced digitalization while capitalizing on existing strengths in compliance and operational practices. The study identifies high levels of compliance in areas such as regulatory adherence and financial reporting, alongside strong engagement in financial management and manpower resource development. However, it highlights a crucial need for improvement in digitalization to optimize operational effectiveness and member engagement. The proposed cyclical process for continuous improvement encompassing assessment, planning, implementation, evaluation, and feedback/adjustment is designed to guide cooperatives in strengthening key operational areas, including financial management, digital transformation, operational efficiency, compliance, employee performance, and customer-centricity. A detailed set of specific metrics and target goals for each area is provided, enabling cooperatives to continuously monitor, evaluate, and enhance their performance, ultimately leading to greater value creation for their members and the community.

Keywords:

Compliance, Operational Efficiency, Performance Metrics, Developmental Improvement Plan, Digitalization.

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INTRODUCTION

On a global front, cooperatives are recognized for their critical role in fostering economic stability and promoting social fairness through community-focused solutions and financial inclusivity. Santini et al. (2021), in their study *"System of Continuous Improvement for a Cooperative Organization in Southern Brazil,"* demonstrated how cooperatives advanced sustainable development goals by offering essential services and reinforcing economic resilience. Additionally, reports from the International Cooperative Alliance (ICA, 2021) emphasized the significant impact of cooperatives on local economies and their effectiveness in addressing social disparities.

In the context of the policies-practices gap, Baral et al. (2020) highlighted policy barriers and identified major gaps hindering the growth of organic agriculture in Nepal. Similarly, Sadok and Bednar (2020) noted that corporate information security policies in small and medium-sized enterprises (SMEs) were often insufficient for maintaining security unless integrated with visible and recognized practices within work systems that handle sensitive information.

Building on this global perspective, the importance of cooperatives in the Philippines becomes evident, particularly in rural areas where access to financial and technical resources is limited. According to Cadusale (2023), agricultural cooperatives in the Philippines have enhanced productivity by providing farmers with access to credit, market linkages, and technical assistance. Furthermore, the Cooperative Development Authority (CDA) has highlighted the necessity of governance and capacity-building programs to ensure cooperative sustainability and compliance with national regulations (CDA Annual Report, 2022). In line with these efforts, Dimas et al. (2022) found that the lack of formal performance metrics to guide governance and operational practices contributed to poor financial performance and institutional challenges in rice cooperatives in the Philippines.

At the local level, particularly in Naga City, the Naga City Cooperative Development Council (NCCDC) upholds its mission "to provide and assist cooperatives with services for the socio-economic upliftment of members through feasible development plans and programs." The council supports and aids its member organizations of cooperatives in Naga City (NCCDC FB Page). Despite their positive contributions and assistance, the number of compliant cooperatives has significantly declined. As of 2024, out of 106 registered cooperatives in Naga City, only 27 were compliant (CDA, 2024). Exploring the operational and regulatory aspects will help understand the cause of this decline, which forms the basis of this study. Consequently, developing a performance metrics system that can enhance cooperative operations and compliance with both local and national regulatory standards becomes imperative.

This research provides a comprehensive examination of the operational and regulatory aspects of cooperatives in Naga City. By analyzing key factors such as capitalization, product offerings, and regulatory compliance, the study identifies both strengths and weaknesses

within local cooperatives. This analysis offers valuable insights for policymakers, cooperative managers, and stakeholders, enabling them to make informed decisions that enhance the effectiveness of cooperatives and ensure better alignment with regulatory standards.

Furthermore, the establishment of a performance metrics system creates a structured framework for evaluating and improving cooperative operations, contributing to broader goals of economic development and social welfare in Naga City.

To bridge the existing gap in cooperative performance, this research explores these critical areas and provides evidence-based recommendations for improved management practices and regulatory compliance. Understanding the connection between business profiles and compliance levels is essential for formulating strategies that elevate cooperative performance. Ultimately, this research contributes to the development of an efficient performance metrics system that supports the sustainable growth of cooperatives in Naga City while ensuring alignment with both local and national standards.

Research Questions

This research seeks to establish the characteristics of cooperatives, determine their legal and managerial compliance, and examine the correlation between these variables. Through an analysis of business profiles, compliance rates, and operational strategies of cooperatives in Naga City, the study addresses the following questions:

1. What is the business profile of the cooperatives in Naga City in terms of capitalization, years of operations, products offered, number of members, and monthly income?
2. What is the level of compliance of cooperatives in Naga City regarding regulations, documentation, operational standardization, and financial reports?
3. What is the extent of operational practices of cooperatives in Naga City concerning manpower, financial resources, facilities, and digitalization?
4. What aspects of the business profile affect the level of compliance of cooperatives in Naga City?
5. What is the relationship between the level of compliance and the extent of operational practices of cooperatives in Naga City?
6. What system of performance metrics would effectively measure the operational effectiveness of cooperatives in Naga City?

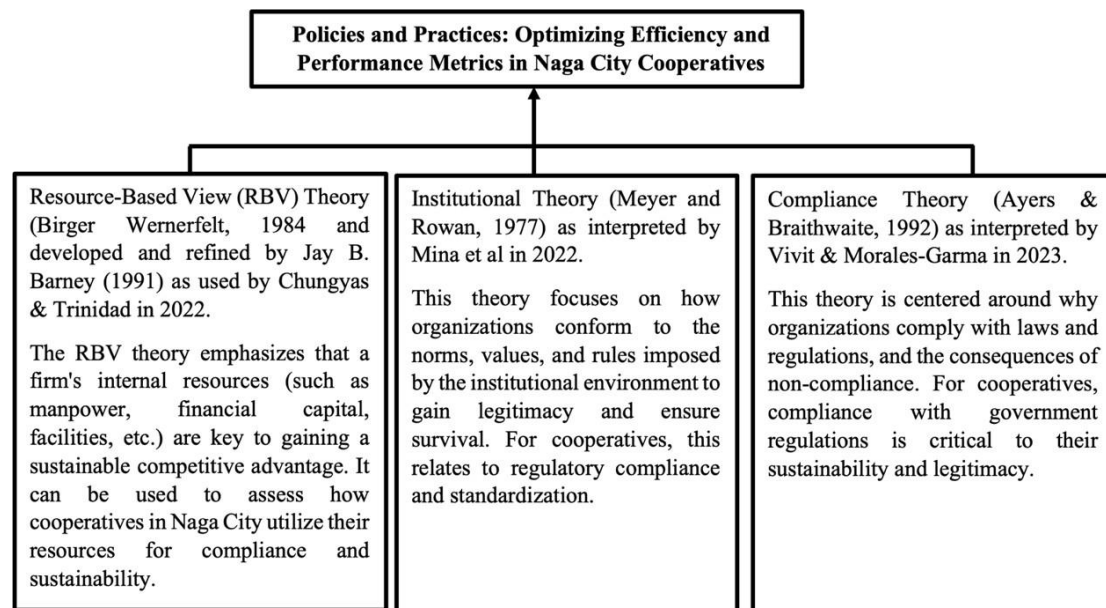


Figure 1. Theoretical Paradigm

The study on the effect of strategic management practices by Chungyas and Trinidad (2022) on cooperatives' financial and operational performance aligned with the Resource-Based View (RBV) Theory, which emphasized gaining competitive advantage through effective management of internal resources like human capital, finances, and operational capabilities. This research's focus on metrics like net profit margin, ROA, and ROE connects to the research objective of assessing the operational practices of cooperatives in Naga City, particularly in terms of manpower, financial management, and facilities. By exploring how strategic resource management impacts compliance and sustainability, the research drawn comparisons between the two studies to evaluate if similar practices lead to operational effectiveness in Naga City's cooperatives.

The study of Mina et al (2022) can be understood through Institutional Theory, which emphasized that organizations operate within a framework of rules, norms, and standards imposed by their environment. It highlighted how cooperatives follow structured management practices (planning, organizing, directing, controlling) and collaborate with the Cooperatives Development Authority (CDA) to conform to established principles and ensure legitimacy. This aligned with the research objectives in assessing compliance, as the study demonstrates how structured management practices influence regulatory adherence, documentation, and operational standardization. It also suggested that the business profile, particularly management systems, affected compliance levels, and explored the relationship between operational practices and compliance, providing valuable insights for evaluating similar dynamics in Naga City cooperatives.

The study of Vivit and Morales-Garma (2023) aligned with Compliance Theory, focusing on how cooperatives adhere to regulations, such as RA 9520, the Philippine Cooperative Code of 2008, to enhance legitimacy and meet governance obligations. By examining social responsibility integration and compliance with legal requirements, the

study highlighted challenges like budget constraints and lack of sincerity, which impact compliance. This connected to the user's research objectives by offering insights into evaluating compliance in Naga City cooperatives, particularly regarding regulatory adherence, documentation, and operational standardization. The study also suggested a relationship between resource allocation and compliance, providing a framework for exploring similar dynamics in Naga City cooperatives' operational practices and compliance levels.

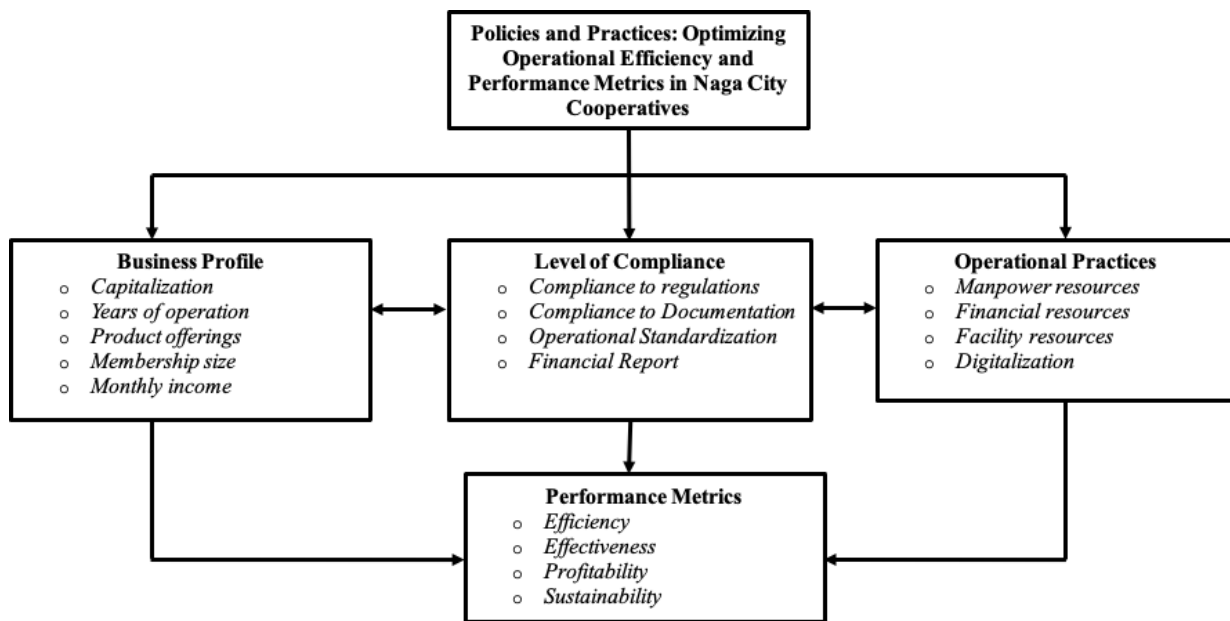


Figure 2. Conceptual Paradigm

This research assumes that there are various correlations between different factors in Naga City cooperatives. Specifically, it suggests that the business profile of a cooperative—such as capitalization, years in business, products offered, membership, and income (Independent Variables)—is related to its degree of compliance with regulations and documentation (Intervening Variables) and operational standards (Dependent Variables). Furthermore, it proposes that compliance levels are associated with operational factors, including manpower, finance, and facilities. Finally, this research suggests that when business profiles, compliance levels, and operations are optimized, cooperatives in Naga City can enhance performance indicators such as efficiency, effectiveness, profitability, and sustainability.

LITERATURE REVIEW

Cooperatives are businesses that are voluntarily owned and controlled by members who share a common community or interest. They offer various services to their members, such as banking, financial, and social services, and operate on a nonprofit or cost-based model (Sujith & Sumathy, 2019). Furthermore, non-government organizations and people's organizations

also assist in establishing cooperatives, helping to improve the lives of impoverished people. International research by Syahrudin and Abdul Karim (2020) also shows that cooperatives, as businesses promoting the principle of kinship, contribute significantly to the Gross Income Level at national, provincial, and regional scales. In line with this, Quinones (2023) highlighted that the Basud Development Cooperative (BADEVCO) has been a significant driver of socioeconomic development, not only in its province but throughout the Bicol Region. BADEVCO, one of the region's most prominent cooperatives, continues to fulfill its goal of providing internationally competitive products and services to its 26,989 members.

Evaluating cooperatives' compliance with regulations, documentation, and operational standardization is essential to maintaining their competitiveness and stability. Carrillo et al. (2020) highlighted that members' perception of positive incentives benefiting their organization influences compliance with regulatory principles, which in turn impacts overall performance. Additionally, implementing SACCO Societies Regulatory Authority (SASRA) regulations helped in improving financial performance and expanding membership (Nteere, 2022). Hence, emphasizing the importance of regulatory enforcement in applying strict and immediate regulation of unfair practices, specifically on regulatory bodies, such as the CDA, enforcing cooperatives to follow the Cooperative Continuity Plan to ensure stable operations, and scrutinizing cooperatives and related organizations to improve compliance (Nay-ud, 2022; Paudel, 2021). Furthermore, there is a need to evaluate the compliance level of multipurpose cooperatives and find a high degree of adherence in their documentation (Ringor et al., 2022).

The operational practices of cooperatives, including their management of manpower, financial resources, and facilities, play a vital role in their sustainability. It analyzes key works, including "Corporate Strategy and Organizational Performance of a Manpower Service Cooperative" which illustrates the significant impact of strategic management on operational success by (Juevesa et al. 2020). Additionally, in another study, Cabutaje (2019) found that employee engagement at the Panabo Multi-Purpose Cooperative reveal a strong correlation between workforce commitment and overall performance. These insights underscore the essential role of effective resource management in enhancing the sustainability of cooperatives. Further exploration of management practices, such as Mina et al.'s (2022) "Management Practices of Cooperatives in Nueva Ecija" and Chungyas and Trinidad's (2022) research on strategic management in Ifugao, provides a solid framework for understanding the operational challenges faced by cooperatives. Agbayani-Caballero's (2021) study, "The Impact of Resources on Multi-Purpose Cooperative Sustainability," complements this by analyzing how resource allocation influences the long-term viability of these organizations. By synthesizing these perspectives, the research aims to identify best practices that enhance performance and sustainability in the cooperative sector, ultimately contributing to the development of tailored strategies that promote resilience and growth within these organizations.

The business profile of a cooperative significantly impacts its ability to comply with regulatory standards. Ritonga et al. (2023), the Accounting Journal of BINANIAGA

supported that the size of the cooperative is certainly one of the tangible manifestations of the performance of the cooperative which is accompanied by the type of business being conducted and the success of the cooperative business certainly cannot be separated from the quality of its human resources which can be seen from the level of education received by its employees. Kusuma et al. (2019) stated that there is an influence from the aspects of capital, cooperative knowledge, and member participation on the success rate of cooperatives, while the entrepreneurial aspect has no effect on the success of cooperatives. In addition, Syahidah (2019) states that member participation, quality of human resources, and quality of credit services simultaneously affect the success of the Sukabumi City republican employee cooperative.

Exploring the link between compliance levels and operational practices, Geroso and Maguate (2023) emphasize that strong operational practices, especially in organizational and economic management, are critical for compliance and financial success. In contrast, the study by Shamsuddin et al. (2019) found that poor governance and operational decisions, such as high leverage, negatively impact financial performance and compliance. This finding is supported by Dimas et al. (2022), who highlight the importance of a clear separation between ownership and control, advocating for centralized decision-making among accountable directors and managers. Sarsale and Kilongkilong (2020) reveal that smaller cooperatives demonstrate better management practices, contributing to their operational success compared to larger ones. This suggests a need for tailored strategies to address the unique challenges faced by medium and large cooperatives. Jumawan (2022) further underscores the significance of robust financial and non-financial management practices for cooperative sustainability, particularly during economic disruptions. Thus, understanding the relationship between compliance levels and operational practices can provide valuable insights for improving cooperative resilience.

Improving efficiency and performance metrics in cooperatives, highlights how cooperatives are becoming more important in tackling various social and economic issues. Nouri and Mousavi (2020) dive into how cooperative management can enhance organizational agility, emphasizing that empowering employees is a key performance metric. Plus, Buyucan (2019) highlights the strong link between operational success and member satisfaction, particularly in agricultural cooperatives, which is super important for their overall success. Pampurini et al., (2020) suggest that adopting cooperative banking practices, like those found in credit unions, can enhance financial stability while keeping the focus on community. Lastly, Giacomini, (2019) stresses the need for effective performance measurement, pointing out that evaluating both inter-cooperative and intra-cooperative performance is essential for efficiency. This comprehensive approach helps cooperatives use their resources better, setting them up for long-term growth and ensuring they meet their financial and social goals.

Although the existing literature provides ample insights into cooperatives' business profiles, compliance, operational practices, and performance metrics, several research gaps remain. First, much of the current research focuses on larger cooperatives, leaving smaller

ones under-researched. The impact of limited resources on smaller cooperatives' ability to comply with regulatory standards and maintain effective operational practices is not fully addressed. In general context of regulatory compliance, Francisco et al. (2020) found that while additional time spent on regulatory compliance decreased the probability of growth among SMEs in general, additional monetary costs in proportion to total business costs spent on regulatory compliance decreased the probability of growth among younger firms with less than five years of operations. Another significant gap lies in the lack of research on how digital transformation, particularly the adoption of online platforms and financial technologies, affects the operational efficiency and compliance of cooperatives. Vazquez et al. (2019) states that, cooperatives must embrace digital transformation not only for growth but also for survival in an increasingly competitive environment. Lastly, while research shows the relationship between compliance and operational practices, there is limited investigation into the challenges faced by cooperatives that are only partially compliant due to financial or administrative constraints.

METHODS

Research Methods

This research used a descriptive-correlational research design with a mixed-methods approach, employing both qualitative and quantitative methods. The descriptive research design was utilized to determine the level of compliance and operational practices of micro and small cooperatives in Naga City from 2019-2023, excluding the pandemic years of 2020 and 2021. This design was also applied to the information gathered from interviews with the respondents. The qualitative method was supplemented with open-ended questions in the interviews, while the quantitative method utilized structured questionnaires. The correlational research design was employed to assess (1) the significant differences in the levels of compliance with regulations, documentations, operational standardization, and financial reporting among the micro and small cooperatives, and (2) the relationship between the business profiles of the micro and small cooperatives and their level of compliance and operational practices. Documentary analysis of cooperative records, including articles of cooperation, bylaws, financial statements, meeting minutes, and internal policies and procedures, was performed first to identify the parameters needed to utilize the main research instruments: structured questionnaires and semi-structured interviews. Both research instruments were administered consecutively to each respondent. They were surveyed using a structured questionnaire with a 4-point Likert scale, namely, "Highly compliant/engaged", "Moderately compliant/engaged", "Somewhat compliant/engaged", and "Not at all compliant/engaged", to measure the degree of their opinion on the given parameters under compliance and operational practice areas. The first part of the questionnaire determined the demographic profile of the respondents, including their age, gender, position/designation, number of years in the position, and number of years in the cooperative. The second part assessed the level of compliance in four areas: regulations and reporting, documentation standards, operational standardization, and financial reporting. The survey also evaluated

engagement in four areas: manpower resources, financial management, digitalization, and facility resources. The respondents were also interviewed to gather their insights and recommendations regarding cooperative performance in Naga City. These interviews were used to ask follow-up questions that aimed to assess the contribution of the cooperatives' practices to their overall performance and served as a guide for the formulation of recommendations for improvement.

Sampling Procedures

Purposive sampling was used in this research. Based on data from the Cooperative Development Authority (CDA), there are 106 registered cooperatives in Naga City. The sample size was narrowed down to 10 micro and small cooperatives. A manager or any representative at the managerial level/higher position with reasonable knowledge and handling of the cooperative's operational activities was surveyed and interviewed to collect the relevant data needed per cooperative. The respondents were informed about the research project and given the opportunity to decline participation. They were assured that all information shared would be kept confidential and anonymous.

RESULTS AND DISCUSSIONS

Profile of Cooperatives

Table 1.1 Cooperatives Profile

Profile	Frequency	%	Rank
Years of Operations			
10 years or less	4	40%	2
11 to 20	5	50%	1
years 21	1	10%	3
years or more			
Total	10		
Number of Members			
250 or less	7	70%	1
251 to 499	1	10%	3
500 or more	2	20%	2
Total	10		
Capitalization			
less than PHP 1M	4	40%	1
PHP 1M to PHP 5M	1	10%	4
PHP 5M to PHP 10M	2	20%	3
higher than PHP 10M	3	30%	2
Total	10		
Services Offered Credit Transport			
Multiservice	7	70%	1
	2	20%	2
	1	10%	3
Total	10		

The operational characteristics of cooperatives in Naga City are presented in terms of the length of cooperatives' operations, number of members, amount of capitalization, and services offered. The largest percentage (50%) of the cooperatives have been in operation for 11 to 20 years. There is also a strong bias towards small size in terms of co-operative membership, with over 70% of co-operatives having 250 or fewer members.

Capitalization varies with more focus; 40% of the cooperatives have less than PHP 1 million; 30% have capital over PHP 10 million. This leads to the presumption that while many cooperatives have small financial capacities, there are those that have developed larger financial structures. Out of all services provided, credit services are offered by 70% of cooperatives, and credit services take a dominant share of cooperatives' service offer, mainly because they help members who often have no access to banking services.

The dominance of the credit services sub-sector is an indication of the sector's primary aim of providing basic financial services – an essential need that was hitherto unmet in the Ugandan economy. That said, transport and multi-services while being less frequent exemplify the increasing trend towards diversification. Studies proved that the diversification of services improves the stability and the sustainability of the cooperatives through the diversification of income and the mitigation of risks that are associated with the economic fluctuations Brown et. al. (2021).

Level of Compliance

This part will discuss the level of compliance of cooperatives in Naga City along with regulations, documentations, operational standardization, and financial reports.

Regulations and Reporting Compliance

Table 2.1 Level of compliance on regulations and reporting

Parameters	Mean	Rank	Interpretation
Holds a valid Certificate of Registration from the Cooperative Development Authority (CDA).	4.00	1	Highly Compliant
Bylaws are aligned with RA 9520 and amendments are registered with CDA.	3.97	2.5	Highly Compliant
Complies with regulations specific to its sector (e.g. financial services, agriculture, etc.)	3.97	2.5	Highly Compliant
Follows CDA circulars, orders, and guidelines relevant to operations.	3.92	4	Highly Compliant
Complies with national laws such as labor laws, social security, and taxation, as applicable to cooperatives.	3.83	5	Highly Compliant
Overall	3.94		Highly Compliant
Notes: 3.25 - 4.00: Highly Compliant, 2.50 - 3.24: Moderately Compliant, 1.75 - 2.49: Somewhat Compliant, 1.00 - 1.74: Not at all Compliant			

Table 2.1 reveals that the highest compliance is observed in the parameter "Holds a valid Certificate of Registration from the Cooperative Development Authority (CDA)," with a perfect mean score of 4.00, ranking first. On the other hand, the lowest compliance is seen in "Complies with national laws such as labor laws, social security, and taxation," which has a mean score of 3.83. Although still within the "Highly Compliant" category, this lower score suggests a slight gap in aligning with broader legal obligations compared to other parameters.

These results highlight the efficiency of the regulatory framework provided by the CDA and the initiatives of the cooperatives to comply with these requirements. On the other hand, the relatively lower score on compliance with the national laws indicates a need for focused strategies, including capacity building, to increase further compliance with these wider requirements. Closing these minor gaps will not only secure the legal status of the cooperatives but also increase the level of confidence among the stakeholders and their ability to operate. With continuous improvement of their high compliant levels, cooperatives in Naga City can hope to maintain an active and viable cooperative environment that is sustainable in the long run.

One of the most important things to ensure trust, smooth operations and prosperity of the cooperatives is adhering to the regulations and the legal requirements (Kartika, 2020). According to the research, better service and commitment from the members is seen with organizations that are extremely compliant (van Steenberg & Ellemers, 2021). The high compliance levels achieved by the Naga City cooperatives shows strong commitment to the CDA and the cooperative law, which sets a standard for good practice in governance. However, areas such as compliance with national legislation can raise their profile and enhance operational resilience (Itani et al., 2024). The level of training offered by cooperatives, in addition to appropriate structures to monitor compliance would enable them to increase their strengths while remaining flexible to the changing legal and operational environment, which enhances growth.

Documentation Standards

Table 2.2 Level of compliance on documentation standards

Parameters	Mean	Rank	Interpretation
Keeps an updated register of members with details like contributions, shareholdings, and participation.	3.78	3.5	Highly Compliant
Minutes of general assembly and board meetings are recorded, archived, and accessible.	3.89	1	Highly Compliant
Financial transactions are accurately recorded and maintained according to accounting standards.	3.78	3.5	Highly Compliant
Documented policies and procedures covering key operational areas are in place.	3.58	5	Highly Compliant
Maintain copies of its articles of cooperation, laws, and other relevant legal documents.	3.86	2	Highly Compliant
Overall	3.78		Highly Compliant

Notes: 3.25 - 4.00: Highly Compliant, 2.50 - 3.24: Moderately Compliant, 1.75 - 2.49: Somewhat Compliant, 1.00 - 1.74: Not at all Compliant.

Table 2.2 operational compliance of cooperatives in Naga City shows high compliance levels in governance and documentation practices. Areas like financial transaction recording and keeping member up-to- date registers were ranked with a mean of 3.78, therefore "Highly Compliant". The same case was shown in the keeping of legal documents with a mean score of 3.86, which reflected that cooperatives are on high adherence to statutory compliance. "The minutes of the general assembly and board meeting are recorded, archived and are available" scored mean value as 3.89 with excellent governance practice.

These results reveal that the cooperatives have good governance and compliance to the regulations that are vital for the continuous functioning and members' confidence. These results indicate that cooperatives in Naga City have a good appreciation of statutory requirements and recommended practices for cooperatives. Although, the score on documenting policies and procedures is just slightly lower, it indicates that there is still room for improvement when it comes to simplifying the operations policies and procedures. Clear and easily understandable policies can improve the decision making, increase responsibility and optimize the work of the organization. In future, specific training and development programs will assist cooperatives to overcome the existing deficiencies and ensure adequate levels of compliance in all aspects of their work.

Strong governance and compliance are critical for the sustainability and credibility of cooperatives (Gómez et al., 2020). Research shows that a cooperative with a robust structure of governance is more in a position to manage its risks and attract member participation (Liu et al., 2023). Naga City cooperatives can further strengthen their operational resilience by enhancing policies and procedures, ensuring every aspect of their governance conforms to best practices (Iliopoulos et.al 2022).

Operational Standardization

Table 2.3 Level of compliance on operational standardization

Parameters	Mean	Rank	Interpretation
Standardized procedures for core operations, such as loan applications, product/service delivery, and dispute resolution are in place.	3.75	2	Highly Compliant
Quality control measures are in place to ensure consistent service delivery and product quality.	3.69	4	Highly Compliant
Internal controls to manage risks, prevent fraud, and ensure operational efficiency are in place.	3.78	1	Highly Compliant
Track and monitor key performance indicators (KPIs) to evaluate operational effectiveness.	3.69	4	Highly Compliant
Documented risk management framework to identify, assess, and mitigate potential risks are in place.	3.69	4	Highly Compliant

Overall	3.72	Highly Compliant
Notes: 3.25 - 4.00: Highly Compliant, 2.50 - 3.24: Moderately Compliant, 1.75 - 2.49: Somewhat Compliant, 1.00 - 1.74: Not at all Compliant		

The assessment of cooperatives in Naga City on operational standardization practices, as shown in Table 2.3, was "Highly Compliant" with a general mean score of 3.72. Internal control implementation received the highest rating with a mean score of 3.78. Quality control measures, key performance indicators monitoring, and risk management frameworks documented all obtained 3.69.

The high compliance levels are attributed to the regulatory support from the CDA and the cooperatives' commitment to maintaining operational integrity. The scores indicate that there is consistent adherence to standards, but areas such as further refinement of quality control and performance tracking could benefit from targeted capacity-building initiatives. Addressing these minor gaps would not only enhance operational resilience but also strengthen stakeholder confidence, ensuring a sustainable and competitive cooperative environment in the region. Operational standardization is essential for ensuring the sustainability and effectiveness of cooperatives.

Research shows that organizations with well-implemented internal controls and standardized procedures are better equipped to mitigate risks, ensure service quality, and instill member trust (Oliveira Junior & Wander, 2022). The high compliance scores of Naga City cooperatives reflect a structured approach to governance and operational efficiency. Advanced quality control measures and more precise performance monitoring are some of the areas that cooperatives can address to further optimize their operations. This will not only strengthen internal processes but also enhance their capacity to adapt to changing economic and regulatory environments, thereby ensuring long-term growth and resilience.

Financial Reporting

Table 2.4 Level of compliance on financial reporting

Parameters	Mean	Rank	Interpretation
Annual financial statements are prepared according to Philippine Financial Reporting Standards for Cooperatives.	3.97	2	Highly Compliant
Annual external audit conducted by an independent and qualified auditor is accredited by CDA.	4.00	1	Highly Compliant
Financial reports and audit reports are submitted to CDA within the stipulated timeframe (within 120 days after the end of calendar year).	3.83	4	Highly Compliant
Financial reports are accurate, complete, and transparent, reflecting the cooperative's financial	3.81	5	Highly Compliant

position.			
Complies with all tax regulations and obligations applicable to cooperatives.	3.89	3	Highly Compliant
Overall	3.90		Highly Compliant
Notes: 3.25 - 4.00: Highly Compliant, 2.50 - 3.24: Moderately Compliant, 1.75 - 2.49: Somewhat Compliant, 1.00 - 1.74: Not at all Compliant			

As shown in Table 2.4, cooperatives in Naga City in terms of compliance to the requirements of financial reports yielded an overall mean of 3.90; thus, it is graded "Highly Compliant." Among the parameters evaluated, the highest compliance score of 4.00 was achieved in conducting annual external audits by CDA-accredited independent auditor. Compliance with tax regulations scored 3.89, indicating that the cooperatives were very keen on fulfilling their tax-related obligations. On the other hand, submission of financial and audit reports to the CDA scored 3.83, and accuracy and completeness of financial reports scored 3.81.

Annual audits, and financial reports as required by the CDA are among the statutory and regulatory compliance in cooperative governance. These requirements are aimed at making the cooperative organizational operations to be transparent, accountable and financially sound – all factors that are central to the promotion of public credibility. In contrast, lower scores are shown in terms of timely reporting and the accuracy of the financial reports submitted. Such areas are seen as an opportunity to build capacity and make improvements by either training individuals on the best practices in financial management or adopting digital tools that could help smoothen processes. By keeping their high levels of compliance in place even as they fill minor gaps, cooperatives in Naga City can further improve stakeholder trust and solidify their role as pivotal contributors to the local economy. Adherence to financial reporting standards is a bedrock of effective cooperative governance and trust- building.

Studies have confirmed that the compliance of these organizations in the financial auditing and reporting gives them great credibility (Gipper et al., 2020), which is pivotal for member trust and in attracting external alliances. For instance, Naga City cooperatives, in terms of external audits, have expressed strong compliance; they also observed the standard reports, therefore, indicating strong commitment on transparency and accountability (Bigus & Grahn, 2022). However, in areas such as reporting time and report accuracy, these cooperatives can do much better. They will only be able to take the benefit of modern financial technologies and foster continuous learning for their financial officers.

Summary of Level of Compliance

Table 2.5 Summary of level of compliance of cooperatives in Naga City

Parameters	Mean	Rank	Interpretation
Regulations and Reporting Compliance	3.94	1	Highly Compliant
Documentation Standards	3.78	3	Highly Compliant
Operational Standardization	3.72	4	Highly Compliant
Financial Reporting	3.90	2	Highly Compliant
Overall	3.84		Highly Compliant
Notes: 3.25 - 4.00: Highly Compliant, 2.50 - 3.24: Moderately Compliant, 1.75 - 2.49: Somewhat Compliant, 1.00 - 1.74: Not at all Compliant			

As indicated in Table 2.5, the cooperatives in Naga City scored high compliance in all assessed parameters. Overall mean score of 3.84 puts the cooperatives under the category of "Highly Compliant." Among the parameters, Regulations and Reporting Compliance had the highest mean score at 3.94, showing that cooperatives adhere very well to regulatory frameworks and reporting standards. Financial Reporting, with a mean of 3.90, ranked second, as it indicated the significance of financial transparency and accountability. Documentation Standards (mean = 3.78) and Operational Standardization (mean = 3.72) also fell under the "Highly Compliant" category but ranked third and fourth, respectively.

These slightly lower scores suggest even more potential for improvement in these areas especially in fine tuning particular activities and in assuring compliance with the best practices in all operational areas. The similarity in compliance index in all the parameters indicates that the cooperatives have adhered to high standards of operations and compliance as shown in table 2.5. Such a pattern of performance indicates that the cooperatives have laid down good structures in governance, documentation and operational structures, which are critical in creating stability and sustainability. Similar findings were reported in prior cooperative research where it was pointed out that documentation, process and operational regularity are essential in cooperatives. These studies also note, that documented policies not only increase accountability and transparency, but also help cooperatives to react actively to changes in the regulatory framework and market needs. These areas include risk management, and procedural standardization which if fine-tuned can help cooperatives to enhance their capacity to deliver quality services, mitigate risks and develop confidence among members and other stakeholders.

The results indicate a high level of compliance and effectiveness of the policies and practices of cooperatives in Naga City. This level of compliance is a good indication of a solid foundation in sustainable operations and community contributions (Mhlanga & Chowa, 2020). To further strengthen their systems, linkages between cooperatives and regulatory bodies may focus on refining documentation and operational practices. Such initiatives, as

suggested by, will ensure continued compliance and support for the growth of the cooperative sector.

Level of Engagement on Operational Practices

This part will discuss the extent of engagement on operational practice of cooperatives in Naga City along with manpower, financial, facilities resource, and digitalization.

Manpower Resources

Table 3.1 Level of engagement on manpower resources

Parameters	Mean	Rank	Interpretation
Skilled personnel are recruited/retained to meet operational demands.	3.61	3.5	Highly Engaged
Training programs are provided to enhance employee performance.	3.72	1.5	Highly Engaged
Roles and responsibilities of employees are aligned with the cooperative's goals.	3.72	1.5	Highly Engaged
Performance reviews are conducted regularly to assess skill development and efficiency.	3.61	3.5	Highly Engaged
Members are empowered to contribute ideas and innovations to achieve operational goals.	3.58	5	Highly Engaged
Overall	3.65		Highly Engaged
Notes: 3.25 - 4.00: Highly Engaged, 2.50 - 3.24: Moderately Engaged, 1.75 - 2.49: Somewhat Engaged, 1.00 - 1.74: Not at all Engaged			

Table 3.1 shows that the evaluation of cooperatives in Naga City regarding manpower engagement revealed an overall mean score of 3.65, indicating a "Highly Engaged" status. The highest mean score was 3.72 shared by two parameters, namely: Training programs and Performance reviews. Recruitment and retention of skilled personnel with regular performance reviews scored 3.61, indicating a focus on maintaining an efficient and competent workforce. Empowering members to contribute ideas and innovations scored a mean of 3.58, which means there is still room for improvement in making the organizational culture more participative.

These results indicate that cooperatives in Naga City are rather responsive toward the management of manpower resources and keen on the aspect of human capital development and operational direction. The low level of participation in empowering members to contribute ideas is a gap that can be exploited to enhance membership participation and collaboration within the organization. Members should be taken through the sharing platforms and engaged in decision making for them to unlock a stock of ideas on innovation in cooperatives. It is possible to enhance the stability of high engagement levels and improve the identified weaknesses to enhance the operational effectiveness and flexibility of

cooperatives. Manpower engagement is going to be one of the significant commitments for the cooperative sector to be viable and innovative in the context of emerging and evolving challenges and opportunities. The participation of manpower is one of the most important factors that determine the success and sustainability of cooperatives.

According to Akdere and Egan (2020) Organizations with employee development initiatives and strategic workforce alignment are said to experience high productivity and member satisfaction. Training and role alignment of the Naga City cooperatives indicate a proactive approach in capacity building. However, encouraging active contribution of ideas by cooperative member will further enhance cooperation strength in terms of cooperative resilience (Mahajan et al., 2022). Furthermore, inclusiveness results may bring innovative solutions or contribute to a greater degree of ownership among members who in turn are more amenable to the best governance practices around the world.

Financial Management

Table 3.2 Level of engagement on financial management

Parameters	Mean	Rank	Interpretation
Funds are managed efficiently to ensure sustainability.	3.75	1	Highly Engaged
Resources are well allocated to meet operational needs.	3.72	2	Highly Engaged
Financial forecasting for strategic planning are utilized effectively.	3.56	5	Highly Engaged
Risk management strategies are implemented effectively to safeguard financial stability.	3.69	3.5	Highly Engaged
Periodic financial audits are conducted thoroughly to assess fund allocation and management efficiency.	3.69	3.5	Highly Engaged
Overall	3.68		Highly Engaged
Notes: 3.25 - 4.00: Highly Engaged, 2.50 - 3.24: Moderately Engaged, 1.75 - 2.49: Somewhat Engaged, 1.00 - 1.74: Not at all Engaged			

With the overall mean score of 3.68, Table 3.2 that shows level of engagement in terms of practices in financial management of the cooperatives in Naga City reflects a “Highly Engage” status. Among the parameters, fund management practices ranked first with the mean of 3.75 and the lowest score of 3.56, their financial forecasting for strategic planning, indicates an opportunity to improve their long-term financial planning efforts.

Such findings can be evidence that the cooperative in Naga City has active measures in enhancing the financial management system towards more sustainability and accountability. The research reveals a strong operational platform as demonstrated by its rank high among the parameters, however, it also reveals areas of growth regarding participation in financial planning. Future problems and opportunities for gaining advantage on growth opportunities for cooperatives can be predicted and solved better with the help of improved

forecasting instruments and better training in strategic financial planning. Besides, these will not only strengthen the financial stability but will also assist the cooperatives in surviving in the competitive and changing economic world.

Cooperatives require a proper management of its financial resources so that it will be strong and capable of growth. Studies show that well developed fund management and sound risk management practices help organizations to be more resilient when the impact of the economic cycle is experienced (Eichholz et al., 2024). The positive results in resource utilization and audit mean that the Naga City cooperatives have been committed to the principles of accountability and transparency. However, a notably weaker emphasis has been placed on financial forecasting; it is here that a potential weakness has been identified (Kim & Shi, 2020). Improving the capacity of forecasting can help cooperatives to make the right decision at the right time hence helping the cooperatives to be ready to face the future challenges. These three principles of financial stewardship can be best described as balanced and can greatly improve the organizations' long-term effectiveness and endurance.

Digitalization

Table 3.3 Level of engagement on digitalization

Parameters	Mean	Rank	Interpretation
Digital tools are integrated extensively for operational efficiency.	2.86	5	Moderately Engaged
Utilization of digital platforms for member engagement and communication are maximized.	2.94	3.5	Moderately Engaged
Security measures on digital systems are implemented effectively.	2.94	3.5	Moderately Engaged
Digital literacy programs are effectively provided to members and officers.	3.00	1	Moderately Engaged
Digital platforms are continuously evaluated and updated for operational efficiency and member satisfaction.	2.97	2	Moderately Engaged
Overall	2.94		Moderately Engaged
Notes: 3.25 - 4.00: Highly Engaged, 2.50 - 3.24: Moderately Engaged, 1.75 - 2.49: Somewhat Engaged, 1.00 - 1.74: Not at all Engaged			

Table 3.3 shows a mean score of 2.94 which reads as “Moderately Engaged”. Providing digital literacy has the highest score of 3.00 while integration of digital tools for operational efficiency gets the lowest score of 2.86. While scores are close for each of the parameters, all are being interpreted to be “Moderately Engaged”.

The low response across the parameters suggests that the cooperatives in Naga City are not yet fully immersed in the digital environment. The score of 2.86 for operational efficiency indicates that there is much room for enhancing the use of digital technologies that are critical to increasing efficiency and effectiveness of operations. Also, security measures

and member interaction slightly better at 2.94, these areas also have to improve for better operational efficiency and to gain more confidence of the members in the cooperatives' digital platform. Overall this moderate level of engagement indicates the need for additional investment in technology infrastructure as well as technology skills of the staff and members.

Social connectivity is an essential driver of the current economy, improving the functional effectiveness and reaching more members (Srivastava et al. 2023). Research points out that those cooperatives that have adopted digital strategies experience an improved satisfaction of its members and operational productivity (Akdere & Egan 2020). To increase the digital activity, the Naga City cooperatives should target the adoption of modern instruments, the improvement of safety measures, and the promotion of constant digital competency, which will bring the cooperatives' activities into accordance with the existing technological environment.

Facilities Resources

Table 3.4 Level of engagement on facilities resources

Parameters	Mean	Rank	Interpretation
Available facilities are sufficient to support operations.	3.42	2	Highly Engaged
Physical infrastructure are being maintained and upgraded as needed.	3.31	4	Highly Engaged
Facilities are utilized effectively to ensure operational productivity.	3.5	1	Highly Engaged
New technologies and innovations are integrated effectively into facility upgrades.	3.14	5	Moderately Engaged
Facilities are evaluated periodically to ensure they meet the growing operational demands.	3.36	3	Highly Engaged
Overall	3.35		Highly Engaged
Notes: 3.25 - 4.00: Highly Engaged, 2.50 - 3.24: Moderately Engaged, 1.75 - 2.49: Somewhat Engaged, 1.00 - 1.74: Not at all Engaged			

Table 3.4 also shows the extent of participation of cooperatives in Naga City in terms of managing and improving infrastructure that would cater to operations. In the present study, the result for Effective utilization of facilities was the highest with mean score of 3.50 and categorized as 'Highly Engaged' in the efficient use of the existing facilities. Availability of facilities and periodic assessments received 3.42 and 3.36 respectively, which clearly depicted good involvement in the operational aspect of production. Nevertheless, the level of engagement in adopting new technologies and innovations was ranked slightly lower with a mean of 3.14 and labeled "Moderately Engaged".

By stressing the efficient use of and regular assessment of facilities, the cooperatives appear to have operational flexibility and adaptability. As for the physical infrastructure maintenance, the score 3.31 was lower, but still belongs to the "Highly Engaged" category indicating the continuous work on the infrastructure requirements. This moderate activity in

technology adoption raises an issue of underutilization of innovations to improve the function and efficiency of facilities.

There is need for well maintained and efficiently used facilities in order to support cooperative actions and address increasing needs (Haniyah et al., 2023). Studies have demonstrated that the use of technology and routine facility improvements greatly improve organizational stability and service provision (Al-Qahtani et al., 2023). Naga City cooperatives may be helped by more funding in strategic infrastructure improvement and new technologies to enable them to offer increased value for their members.

Summary of Level of Engagement on Operational Practices

Table 3.5 Summary of level of engagement on operational practices of cooperatives in Naga City

Parameters	Mean	Rank	Interpretation
Manpower Resources	3.65	2	Highly Engaged
Financial Management	3.68	1	Highly Engaged
Digitalization	2.94	4	Highly Engaged
Facilities Resources	3.35	3	Highly Engaged
Overall	3.41		Highly Engaged
Notes: 3.25 - 4.00: Highly Engaged, 2.50 - 3.24: Moderately Engaged, 1.75 - 2.49: Somewhat Engaged, 1.00 - 1.74: Not at all Engaged			

Table 3.5 the summary of cooperatives in Naga City in terms of the different operation domains yields a “Highly Engaged” mean score of 3.41. The highest mean score of 3.68 points to financial management. Manpower resources ranked second with a mean of 3.65, indicating that the cooperatives appreciate the development of the manpower resources and their conformity to the organizational requirements. Maintenance and optimization of infrastructure was captured under facilities resources where it scored 3.35, implying constant practice. However, digitalization received the least engagement score with a mean of 2.94, which again suggests moderate usage of technology for functional and membership activities.

The high level of commitment in financial management and manpower resources show that sustainability and capacity development are paramount. These strengths support the ability of the cooperatives to address the challenges, and the operational requirements as required. However, the level of participation in the process of digitalization is slightly lower, and this seems to be a promising direction for development. This gap in adoption of advanced technologies may slow down the modernization of operations and improvement of the members’ experiences in the digital economy.

For the cooperatives to be successful and sustainable, each of the operational areas has to be engaged with the correct balance. Studies show that cooperatives with strong financial management and right staff strategies tend to create more value for members over the long

run (Srivastava et al. 2023). Closing gaps in digitalization may help to boost the efficiency of operations and members' engagement still more. Through the use of technology and training on digital competencies, the cooperatives in Naga City have potential in expanding areas where they can develop and improve services that can prepare the sector for the future.

Impact of Business Profiles on Compliance Levels

Table 4.1 Chi square test results between profile of cooperative and compliance levels

	Documentation Standards	Operational Standardization	Financial Reporting
Capitalization	$X^2 (6, N = 34) = 5.7926$, $p = 0.4468$	$X^2 (3, N = 34) = 5.3718$, $p = 0.1465$	$X^2 (3, N = 34) = 1.8889$, $p = 0.5958$
Years of Operations	$X^2 (6, N = 34) = 5.7926$, $p = 0.4468$	$X^2 (3, N = 34) = 5.3718$, $p = 0.1465$	$X^2 (3, N = 34) = 1.8889$, $p = 0.5959$
Products Offered	$X^2 (4, N = 34) = 17.7391$, $p = 0.001388^{***}$	$X^2 (2, N = 34) = 5.1997$, $p = 0.07428$	$X^2 (2, N = 34) = 2.4727$, $p = 0.2904$
Number of Members	$X^2 (4, N = 34) = 2.2415$, $p = 0.6914$	$X^2 (2, N = 34) = 2.8743$, $p = 0.2376$	$X^2 (2, N = 34) = 0.7212$, $p = 0.6973$
Note: *** p is significant ($p < 0.05$) X^2 (degrees of freedom, N = sample size) = chi-square statistic value, p = p value. A P-value less than 0.05 is deemed to be statistically significant, meaning the null hypothesis should be rejected in such a case. A P-Value greater than 0.05 is not considered to be statistically significant, meaning the null hypothesis should not be rejected. This happens when There is not enough evidence to suggest an association between variable A and variable B.			

The analysis of the chi-square results highlights key relation between the cooperative profile variables and the standards evaluated. Among the findings, the relationship between products offered and documentation standards stands out with a highly significant result ($X^2 = 17.7391$, $p = 0.001388$), suggesting a strong link between the mixture of products and documentation practices. In contrast, all other relationships across variables, including capitalization, years of operation, and number of members, with the three standards—documentation standards, operational standardization, and financial reporting—did not return statistically significant results (p- values ranging from 0.07428 to 0.6973).

The significant association between products offered and documentation standards may be attributed to the varying administrative requirements tied to specific product categories. For example, cooperatives offering financial products often face stricter regulatory documentation standards, whereas those focused on agricultural products may need specialized tracking for inventory or quality assurance. This finding underscores the importance of tailoring administrative systems to the complexity and diversity of cooperative offerings. On the other hand, the absence of significant results in other relationships suggests that variables like capitalization, years of operations, or membership size operate independently of these administrative standards or are influenced by external factors not captured in this analysis.

The alignment between products and documentation practices is supported by literature emphasizing the operational interdependence in cooperative systems (Habba et al.,

2019). Emphasizes how cooperatives adjust their operational and administrative practices based on the products they handle. For example, cooperatives managing high-risk or specialized products, such as financial or agricultural products, tend to establish documentation standards tailored to meet regulatory or quality-assurance requirements. This reflects the need to align their internal systems with the complexities of their offerings for sustainability and compliance. Similarly, (Onyilo & Adong, 2019) highlights the importance of adapting cooperative documentation and operational practices to the specific value chains of their products. This study discusses how cooperatives strategically manage their processes to align with product-specific needs, especially in industries with unique regulatory or market demands, such as fair trade or sustainable farming.

The Correlation between Level of Compliance and Level of Engagement on Operational Practices

Table 5.1 Chi Square test results between level of compliance and engagement on operational practices

	Regulations and Reporting Compliance	Documentation Standards	Operational Standardization	Financial Reporting
Manpower Resources	$r(34) = .354, p = .034^{***}$ weak	$r(34) = .502, p = .002^{***}$ moderate	$r(34) = .648, p < .001^{***}$ Strong	$r(34) = .57, p < .001^{***}$ moderate
Financial Management	$r(34) = .726, p < .001^{***}$ strong	$r(34) = .789, p < .001^{***}$ strong	$r(34) = .805, p < .001^{***}$ very strong	$r(34) = .572, p < .001^{***}$ moderate
Digitalization	$r(34) = .242, p = .154$ weak	$r(34) = .309, p = .066$ weak	$r(34) = .27, p = .111$ Weak	$r(34) = .271, p = .110$ weak
Facilities Resources	$r(34) = .321, p = .056$ weak	$r(34) = .44, p = .007^{***}$ moderate	$r(34) = .417, p = .011^{***}$ moderate	$r(34) = .512, p = .001^{***}$ moderate

Note: *** p is significant ($p < 0.05$)
r(degrees of freedom) = the r statistic, p = p value.

The chi-square test results indicate that Financial Management consistently shows strong to very strong correlations with all four compliance and standardization measures, suggesting a strong relationship between financial management practices and regulatory compliance, documentation standards, operational standardization, and financial reporting. This is substantiated by high correlation coefficients (e.g., $r(34) = .805$ for Operational Standardization) and highly significant p-values ($p < .001$). Conversely, Digitalization demonstrates weak correlations with all measures, none of which are statistically significant. This indicates that digitalization efforts may not be as closely linked to compliance and standardization outcomes in this context. Manpower Resources and Facilities Resources

exhibit moderate to strong correlations with varying levels of significance, suggesting mixed but generally positive relationships with the compliance and standardization measures.

Effective financial management is crucial for achieving high levels of regulatory compliance, documentation standards, operational standardization, and financial reporting. This strong relationship can be credited to the fact that sound financial management practices ensure that organizations have the necessary resources and controls in place to meet regulatory requirements and maintain high standards. The weaker correlations observed for Digitalization may be due to the fact that digital transformation is still an emerging area in many organizations, and its impact on compliance and standardization may not yet be fully realized. The moderate correlations for Manpower Resources and Facilities Resources suggest that while these factors are important, they may not be as critical as financial management in driving compliance and standardization outcomes.

The importance of financial management in achieving regulatory compliance and high standards is well- documented in the literature. For instance, Financial Stability Board (2019) emphasizes that robust financial systems are critical for meeting regulatory requirements and ensuring stability. Their guidelines highlight the importance of transparency and regulatory compliance to maintain institutional integrity and systemic stability (Financial Stability Board 2019). Similarly, Simanjuntak, (2024) discusses how financial management strategies align organizational resources with regulatory goals, emphasizing that robust financial planning supports compliance and ensures better organizational outcomes. The weaker impact of digitalization in this study aligns with findings by Eller et al. (2020), which suggest that while digital transformation is often expected to improve organizational performance, the benefits are not always immediately evident. Their research shows that the effect of digital transformation on performance is not instantaneous, and that it can be influenced by factors such as digital maturity and the integration of digital strategies across all business areas. Similarly, other studies have indicated that the maturity level of digital initiatives plays a crucial role in determining the success of digital transformation efforts. For example, a study by Schallmo et al., (2022) found that the performance of organizations with higher digital maturity was not always superior to that of their less mature counterparts, emphasizing that digital transformation's impacts often unfold gradually.

Developmental Improvement Plans for Small and Micro Cooperatives in Naga City

This section shows the development formulated by the researchers based on the results of the follow-up interview conducted. Each plan category highlights cooperatives' possible actions for optimizing operational efficiency and performance metrics.

Inputs

1. Primary Resources – The researchers developed the developmental plan using data gathered through survey forms collected from ten cooperatives in Naga City. They also conducted Follow-up interviews were conducted with cooperative officers and knowledgeable personnel to

substantiate survey results.

2. Secondary Resources – The researchers used sustainability reports from cooperatives served as a foundation for survey and interview questionnaire development. In addition, related literature and research derived from platforms such as Elicit and Google Scholar, focusing on peer-reviewed articles, provided additional context to substantiate the developmental plan.

Process

Step 1: Performed a documentary analysis of cooperative sustainability reports to identify essential parameters for measuring operational effectiveness.

Step 2: Developed a structured questionnaire featuring a Likert scale to capture respondents' opinions on identified parameters.

Step 3: Administered the survey to cooperative respondents and consolidated the results to identify trends, challenges, and opportunities.

Step 4: Conducted semi-structured interviews with selected cooperative officers to gain deeper insights into the operational issues and opportunities for improvement.

Step 5: Combine data from surveys and interviews to identify actionable insights. Grouped findings into thematic categories aligned with performance metrics.

Step 6: Formulated a developmental improvement plan incorporating actionable steps for enhancing operational efficiency, financial stability, and member engagement. Furnish copies of developmental improvement plans for the cooperatives.

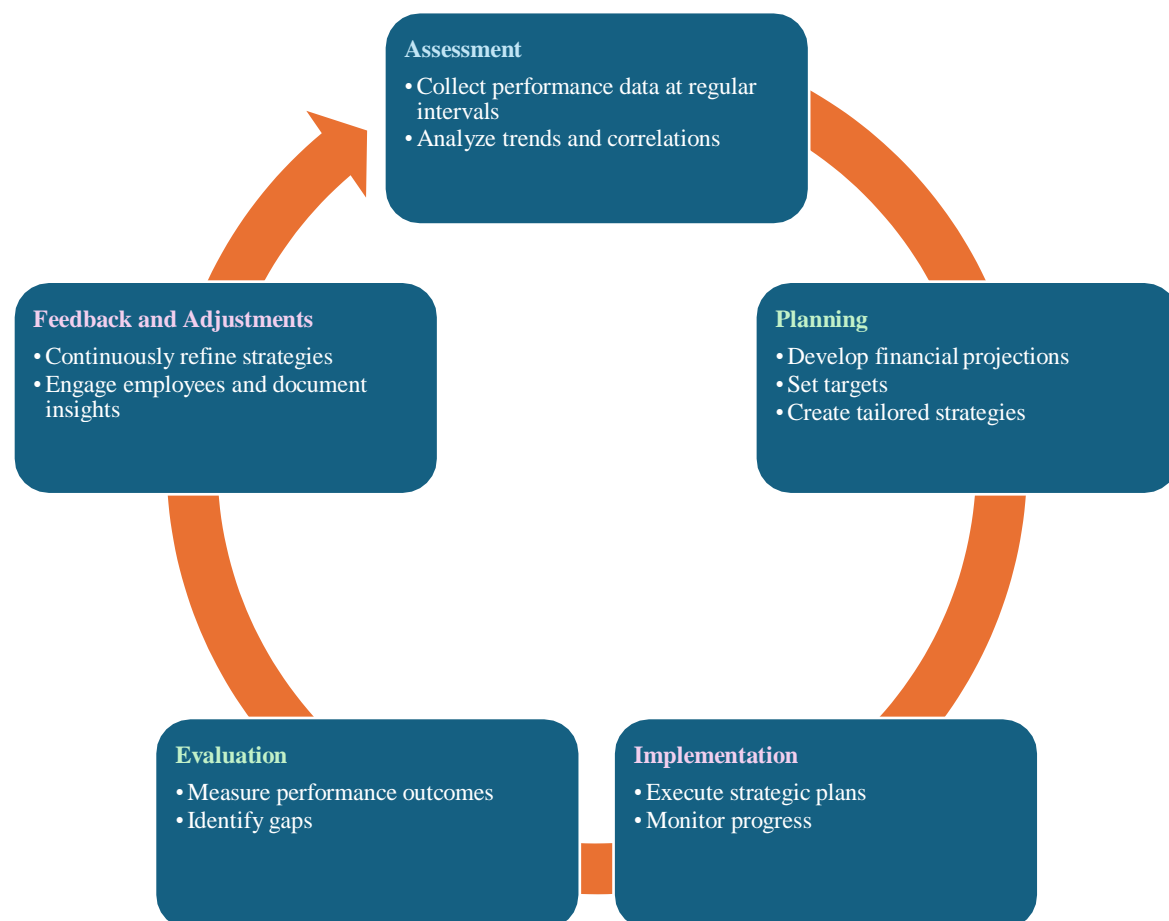
Output

This section shows the developmental improvement plan formulated by the researchers based on the results of the follow-up interview conducted. Each plan category highlights cooperatives' possible actions for optimizing operational efficiency and performance metrics.

Cyclical Process for Continuous Improvement

The cyclical process for continuous improvement is designed to ensure that a Cooperative consistently enhances its performance metrics, leading to sustainable and efficient operations. It begins with Assessment, where data on key performance metrics is regularly collected and analyzed to identify trends and correlations. Next, in the Planning phase, realistic targets are set, and strategies are developed based on financial projections and demographic insights before the start of each fiscal year. The Implementation phase involves executing these plans and continuously monitoring progress, making necessary adjustments along the way. This is followed by Evaluation, where outcomes are measured by comparing actual performance against set targets to identify any gaps or areas needing improvement.

Finally, the Feedback and Adjustment phase uses the evaluation results to refine strategies, involving employees in the process to ensure continuous improvement and adaptation to demographic changes. This cycle helps organizations remain responsive to changes, optimize their operations, and achieve long-term success.



Comprehensive Performance Metrics

The comprehensive system of performance metrics aligns seamlessly with the cyclical process for continuous improvement, creating a dynamic framework for sustained Cooperative success. The process begins with Assessment, where data on key performance metrics such as budget variance, ROI, digital adoption rate, system downtime, operational standardization rate, process cycle time, and more are collected and analyzed. This helps identify trends and correlations, for example, the strong correlation between financial management and operational standardization revealed by chi-square results.

During the Planning phase, these insights are used to set realistic targets and develop strategies. Financial projections and demographic insights are considered to ensure that plans are feasible and aligned with organizational goals. For instance, understanding the ROI helps prioritize investments that yield significant returns, while digital adoption rates guide technology integration strategies.

In the Implementation phase, these strategies are executed, and progress is continuously monitored. Metrics such as resource utilization and employee productivity are tracked to ensure that resources are being used efficiently and effectively. This phase also involves adjusting plans as needed to respond to emerging trends and demographic changes.

Evaluation follows, where outcomes are measured against the set targets. Metrics like documentation accuracy and audit findings are used to assess compliance and identify areas for improvement. The evaluation helps identify gaps and understand the reasons behind underperformance.

Finally, the Feedback and Adjustment phase uses evaluation results to refine strategies, ensuring continuous improvement. Employee engagement levels and customer satisfaction metrics are particularly important here, as they provide critical feedback on the effectiveness of implemented strategies. This phase ensures that the organization adapts to changes and continuously enhances its operations.

By aligning these performance metrics with the cyclical process, the organization can remain responsive, optimize operations, and achieve long-term success. This integration ensures that performance is continuously monitored, evaluated, and improved, creating a sustainable and effective operational framework.

Category	Metric	Rationale	Target (Suggested)	Generic Formula
Financial Management	Budget Variance	This metric helps in monitoring the financial performance by comparing the budgeted figures with actual expenditures. It identifies areas where spending is off target, helping to control costs and reallocate resources as needed.	Target: Less than 5% Explanation: A target of less than 5% variance indicates tight financial control and accurate forecasting, ensuring that expenditures are closely aligned with budgets, minimizing unexpected costs.	$= ((\text{Budgeted Amount} - \text{Actual Amount}) / \text{Budget Amount}) \times 100$
	Return of Investment	ROI measures the profitability of investments, providing insights into which investments are yielding the best returns. This is crucial for making informed financial decisions and optimizing resource allocation.	Target: Greater than 15% Explanation: An ROI target of over 15% ensures that investments are yielding significant returns, justifying the allocation of resources and promoting profitable growth.	$= ((\text{Net Profit} - \text{Investment Cost}) / \text{Investment Cost}) \times 100$
			Target: 100%	

	Regulatory Compliance Rate	This metric ensures adherence to financial regulations and standards, which is vital for avoiding legal penalties and maintaining organizational integrity.	Explanation: Full compliance (100%) is critical to avoid legal penalties, maintain reputation, and ensure operational integrity. This sets a high standard and minimizes risks.	$= (\text{Number of Compliant Instances} / \text{Total Number of Instances}) \times 100$
Digital Transformation	Digital Adoption Rate	Measures the extent of digital transformation within the organization, indicating how effectively digital tools are being integrated into business processes to improve efficiency and innovation.	<p>Target: 85% or higher</p> <p>Explanation: A high adoption rate shows that digital tools are being effectively integrated and utilized, which enhances operational efficiency and drives innovation.</p>	$= (\text{Number of Digital Processes} / \text{Total Number of Processes}) \times 100$
	System Downtime	Tracks the reliability of digital systems, ensuring that downtime is minimized to prevent disruptions in operations and maintain productivity.	<p>Target: Less than 1%</p> <p>Explanation: Minimizing downtime to below 1% ensures that digital systems are reliable and consistently available, preventing disruptions and maintaining productivity.</p>	$= (\text{Total downtime hours} / \text{Total Available hours}) \times 100$
	User Satisfaction (Internal)	Gauges the effectiveness and user-friendliness of digital tools and technologies, ensuring that they meet the needs of users and support their work processes.	<p>Target: 90% or higher</p> <p>Explanation: High user satisfaction indicates that digital tools and systems meet user needs effectively, which is crucial for productivity and user engagement.</p>	$= \text{Sum of Satisfaction Scores} / \text{Number of Users Surveyed}$
	Operational Standardization Rate	Indicates the extent to which business processes are standardized, leading to improved efficiency, consistency, and reduced variability in operations.	<p>Target: 95% or higher</p> <p>Explanation: High standardization ensures consistency in processes, reducing variability and improving overall efficiency and quality.</p>	$= (\text{Number of Standardized processes} / \text{Total Number of Processes}) \times 100$

Operational Efficiency	Process Cycle Time	Measures the efficiency of business processes by tracking the time taken to complete them, identifying areas for improvement and speeding up operations.	Target: Reduced by 20% annually Explanation: Continuously reducing cycle time by 20% annually indicates ongoing efforts to streamline processes, which enhances operational efficiency and responsiveness.	= total time taken / Number of completed processes
	Resource Utilization	Ensures that resources (both human and physical) are used efficiently, optimizing productivity and minimizing waste.	Target: 85% or higher Explanation: High resource utilization ensures that human and physical resources are being used efficiently, maximizing productivity and minimizing waste.	= (time resource is used / Total available time) x 100
Compliance and Standardization	Documentation Accuracy	Ensures that all documentation meets regulatory and organizational standards, which is crucial for compliance and operational efficiency.	Target: 99% or higher Explanation: High accuracy in documentation is crucial for compliance and operational efficiency, ensuring that records are reliable and meet standards.	= (Number of accurate documents / total number of documents) x 100
	Audit Findings	Identifies and addresses compliance issues, helping to maintain high standards and avoid potential legal problems.	Target: Less than 5% issues found Explanation: A low percentage of issues found in audits indicates strong compliance and adherence to standards, reducing risks and improving reliability.	= (Number of issues found / total audit scope) x 100
	Incident Response Time	Measures the speed at which compliance-related issues are addressed, ensuring quick and effective responses to maintain standards.	Target: Less than 24 hours Explanation: Quick response times (under 24 hours) ensure that compliance-related issues are addressed promptly, minimizing disruptions and maintaining standards.	= total time to respond / Number of incidents

Employee Performance	Training Effectiveness	Evaluates the impact of training programs on employee performance, ensuring that training investments lead to improved skills and productivity.	<p>Target: 30% improvement post-training</p> <p>Explanation: Significant improvement in performance post-training indicates that training programs are effective, enhancing skills and productivity.</p>	$= \frac{\text{Post training performance score} - \text{pre training performance score}}{\text{pre training performance score}} \times 100$
	Employee Productivity	Measures the output of employees relative to the time and resources invested, indicating efficiency and effectiveness in their roles.	<p>Target: 10% annual increase</p> <p>Explanation: Consistent annual increases in productivity reflect ongoing improvements in efficiency and output, driving overall performance.</p>	$= \frac{\text{total output}}{\text{total input (hours worked)}}$
	Engagement Levels	Reflects employee satisfaction and motivation, which are key drivers of productivity, innovation, and retention.	<p>Target: 85% or higher</p> <p>Explanation: High engagement levels ensure that employees are motivated and satisfied, which boosts productivity, innovation, and retention.</p>	$= \frac{\text{sum of engagement score}}{\text{Number of employee surveyed}}$
Customer-Centric	Customer Satisfaction	Gauges how well customer needs and expectations are being met, which is crucial for maintaining loyalty and ensuring positive experiences.	<p>Target: 90% or higher</p> <p>Explanation: High customer satisfaction indicates that services meet or exceed customer expectations, fostering loyalty and positive experiences.</p>	$= \frac{\text{sum of engagement score}}{\text{Number of employee surveyed}}$
	Service Quality	Measures the consistency and reliability of services provided, ensuring that they meet high standards and customer expectations.	<p>Target: 95% or higher</p> <p>Explanation: High service quality ensures that services are consistent, reliable, and meet high standards, which is crucial for customer retention and satisfaction.</p>	$= \frac{\text{number of quality services}}{\text{total services provided}} \times 100$
			Target: 85% or higher	

	Customer Retention	Tracks the ability to retain customers over time, indicating the effectiveness of customer relationship strategies and the overall satisfaction with services.	Explanation: A high retention rate indicates strong customer loyalty and satisfaction, which is essential for sustained business growth and stability.	= (number of retained customers / total number of customers) x 100
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CONCLUSION

This section presents the findings derived after the data analysis and conclusions made for the problems being solved.

Profile of Cooperatives

The operational characteristics of cooperatives in Naga City reveal a stable yet mature industry, with the majority operating for 11 to 20 years. The strong bias towards small membership sizes, with over 70% having 250 or fewer members, reflects their focus on serving local community markets. Financial capacities vary significantly, with a notable portion of cooperatives having less than PHP 1 million in capitalization, while some have developed larger financial structures exceeding PHP 10 million. The dominance of credit services, offered by 70% of cooperatives, underscores their primary aim of providing essential financial services to members who lack access to traditional banking. This emphasis on credit services highlights the crucial role cooperatives play in fulfilling unmet financial needs. Additionally, the trend towards service diversification, including transport and multi-services, aligns with studies suggesting that diversifying income sources enhances stability and sustainability by mitigating risks associated with economic fluctuations Brown et al., 2021). Overall, these insights highlight the importance of strategic planning and diversification in sustaining the growth and stability of cooperatives in the region

Level of Compliance of Cooperatives

Cooperatives in Naga City demonstrate a high level of compliance across all assessed parameters, as evidenced by an overall mean score of 3.84, categorizing them as "Highly Compliant." The highest scores were observed in Regulations and Reporting Compliance (3.94) and Financial Reporting (3.90), underscoring the importance placed on adhering to regulatory frameworks and ensuring financial transparency and accountability. Although Documentation Standards (3.78) and Operational Standardization (3.72) also ranked highly, these areas present opportunities for further improvement. The uniformity in high compliance levels reflects the cooperatives' strong commitment to operational excellence and regulatory adherence, which aligns with findings from similar studies that highlight the critical role of documentation and operational consistency in cooperative success.

The results indicate that the policies and practices of cooperatives in Naga City are effective, contributing to sustainable operations and significant community contributions. To

enhance their systems further, establishing stronger linkages between cooperatives and regulatory bodies could focus on refining documentation and operational practices. Such initiatives will ensure continued compliance and support the growth and stability of the cooperative sector, reinforcing its role in providing essential services and fostering community development (Mhlanga & Chowa, 2020).

Level of Engagement on Operational Practices

Cooperatives in Naga City demonstrate a high level of engagement across various operational domains, as evidenced by a mean score of 3.41. Financial management stands out with the highest score of 3.68, highlighting the stability of their financial status and operational cash flow. Manpower resources, with a mean score of 3.65, further emphasize the importance of developing human capital and aligning with organizational requirements. Facilities resources scored 3.35, indicating consistent practices in maintenance and optimization. However, the lower engagement score of 2.94 for digitalization suggests moderate use of technology, presenting an opportunity for growth in this area.

The strong focus on financial management and manpower resources underscores the cooperatives' commitment to sustainability and capacity development, essential for addressing challenges and meeting operational needs. Nonetheless, the relatively lower engagement in digitalization indicates a promising direction for development, as the adoption of advanced technologies could enhance modernization and improve member experiences in the digital economy.

For continued success and sustainability, it is crucial for cooperatives to maintain a balanced engagement across all operational areas. Studies, such as those by Srivastava et al. (2023), show that cooperatives with robust financial management and effective staff strategies create more value for members over time. By addressing gaps in digitalization through technology use and digital competency training, cooperatives in Naga City can expand and enhance their services, preparing the sector for future growth.

Impact of Cooperative's Profile on Regulation Compliance

The results of the chi-square analysis emphasize a critical insight: the significant relationship between the diversity of products offered and documentation standards reflects the necessity of aligning operational practices with cooperative offerings. This finding highlights that cooperatives with varied product lines must adopt tailored documentation practices to address regulatory and operational complexities. Such alignment ensures that cooperatives not only meet compliance requirements but also optimize efficiency in their administrative processes.

On the other hand, the lack of significant relationships between other profile variables—such as capitalization, operational years, and membership size—and the evaluated standards suggests these factors may influence cooperative operations in ways not directly tied to the administrative frameworks examined in this study. This could indicate the

presence of external determinants or contextual variables influencing these relationships, which future research should aim to uncover.

The observed alignment between products and documentation is further supported by prior research emphasizing the adaptability of cooperative systems. Studies by Habba et al., (2019); Onyilo and Adong, (2019) underline the importance of synchronizing administrative frameworks with cooperative offerings to ensure operational sustainability and regulatory compliance. These insights collectively underscore the strategic need for cooperatives to continuously assess and refine their practices, ensuring that they remain responsive to both internal diversity and external demands.

Correlation of Level of Compliance and Engagement on Operational Practices

The findings underscore the pivotal role of financial management in achieving high levels of regulatory compliance, documentation standards, operational standardization, and financial reporting. Strong correlation (e.g., $r(34) = .805$ for Operational Standardization) and highly significant p-values ($p < .001$) demonstrate that financial management practices are integral to aligning resources, maintaining controls, and meeting compliance requirements. This suggests that organizations with robust financial systems are better positioned to achieve and sustain high operational and regulatory standards.

Digitalization, however, shows weak and statistically insignificant correlations with the same measures, implying that its role in compliance and standardization is less pronounced in the current context. This could be attributed to the relatively nascent stage of digital transformation efforts in many organizations, where benefits may not yet be fully realized or operationalized. The findings are consistent with Schallmo et al., (2022), who argue that the impact of digitalization depends on the maturity of digital initiatives and their integration into core processes.

Manpower and facilities resources demonstrate moderate to strong correlations, reflecting their importance in supporting compliance and standardization. These results indicate that while human and physical resources play a positive role, they are secondary to financial management in driving compliance outcomes. For instance, well-trained personnel and adequate infrastructure can enhance efficiency and adherence to standards, but their influence may vary depending on specific organizational contexts and priorities.

The findings are supported by prior research. (Adi, 2023) highlight the role of financial management in aligning resources with strategic goals to enhance compliance and performance. Similarly, Ilori et al., (2024) emphasizes that strong financial control systems are critical in ensuring regulatory adherence and maintaining operational excellence. The observed weak impact of digitalization aligns with findings suggesting that its potential benefits are realized over time and depend on the extent of integration into business processes.

Overall, the study underscores the foundational importance of financial management in achieving compliance and standardization while acknowledging the growing, but currently limited, influence of digitalization. These insights suggest that organizations should prioritize strengthening financial management systems while gradually enhancing digital initiatives to support long-term improvements in compliance and operational standards

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