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Internal Control Practices of New and Established Cooperatives

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Abstract

This study evaluated the internal control practices of new and established cooperatives in the Province of Dinagat Islands using the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework as its foundation. A quantitative descriptive-comparative design was employed, with 40 cooperative officers and members serving as respondents. Data were gathered through a structured survey questionnaire and analyzed using descriptive statistics, *t*-tests, and ANOVA to determine compliance levels and differences across cooperative profiles. Results revealed that both new and established cooperatives generally complied with internal control practices in the areas of cash handling, inventory management, and machinery and equipment oversight. Established cooperatives demonstrated higher levels of compliance, particularly in inventory management and machinery and equipment oversight, with statistical tests confirming significant differences in these areas. However, gaps were noted in risk assessment, IT system integration, and fraud detection, where both groups showed partial or non-compliance. The findings highlight the importance of continuous improvement and capacity building, particularly for new cooperatives, while encouraging established cooperatives to sustain and upgrade their practices. The study concludes that internal control systems remain central to cooperative sustainability and recommends training programs, policy reviews, and the adoption of technology-driven tools to strengthen governance and operational efficiency.

Keywords: Internal Control, Coso Framework, Cooperative Governance, Cash Handling, Inventory Management, Asset Oversight, Dinagat Islands

1. Introduction

Background

Internal control systems are fundamental mechanisms that enable organizations, including cooperatives, to ensure operational effectiveness, safeguard resources, maintain reliable financial reporting, and comply with regulations. Within the cooperative sector, a unique organizational form characterized by democratic governance and member-centric operations, robust internal controls play a vital role in enhancing performance and sustainability (Hai, 2024).

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Empirical studies have highlighted the significant influence of internal control systems on cooperative success. Research has shown that well-structured internal controls lead to improved efficiency, better financial reporting, and stronger governance (Vu, Trung, & Linh, 2024). For example, a systematic review conducted by Hai (2024) demonstrated that internal controls positively affect efficiency indicators such as return on assets (ROA), return on equity (ROE), and overall organizational stability. Similarly, a Kenyan study found that a strong internal control environment, structured around the COSO framework, enhances financial performance and operational reliability in savings and credit cooperatives (Barasa, 2023).

In the Philippine context, Sison (2025) examined multipurpose cooperatives and found that ethical values and the presence of formalized codes of conduct were highly effective in supporting operational sustainability. Likewise, Borigas (2024) emphasized that adherence to internal control principles helps cooperative banks strengthen governance and manage risks, aligning with international findings that highlight internal controls as foundational to sound governance.

Rationale

Despite the established benefits of internal controls, gaps in implementation remain evident, particularly among rural and emerging cooperatives that often face challenges such as limited technical expertise, lack of resources, and inadequate training (Jumawan, 2022). While previous research has explored the relationship between internal controls and organizational performance, most studies have been limited in geographic or methodological scope, with few offering comparative analyses between younger and older cooperatives (Sison, 2025; Vu et al., 2024).

This study addresses that gap by examining internal control practices among newly established cooperatives (operating for less than 10 years) and established cooperatives (operating for more than 10 years) in the Dinagat Islands. Using a quantitative descriptive-comparative design, structured survey questionnaires, and statistical analyses such as t-tests and ANOVA, the research aims to quantify and compare internal control practices based on cooperative age and profile variables. Findings from this investigation are expected to provide practical insights to guide cooperative managers, policymakers, and development agencies in designing targeted interventions that strengthen governance, operational efficiency, and sustainability in the cooperative sector.

Aim

To evaluate the internal control practices of newly established and established cooperatives in the Province of Dinagat Islands using the COSO framework, focusing on cash management, inventory management, and small machinery and equipment oversight.

Research Questions

1. What is the socio-demographic profile of the respondents in terms of:
    a. Position held in the cooperative
    b. Highest educational attainment
    c. Field of specialization
    d. Type of cooperative
    e. Years of existence (1–10 years or more than 10 years)
    f. Total assets of the cooperative

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2. To what extent do the respondent-cooperatives conform to proper internal control practices in terms of:
   a. Cash handling
   b. Inventory management
   c. Machinery and equipment oversight
3. Is there a significant difference in the level of conformance to internal control practices among respondent-cooperatives when grouped according to their profile variables?
4. What recommendations and action plans can be proposed to improve internal control practices in cooperatives within the Province of Dinagat Islands?

Null Hypothesis (H_o):

There is no significant difference in the level of conformance to internal control practices—covering cash handling, inventory management, and small machinery and equipment oversight—among cooperatives in the Province of Dinagat Islands when grouped according to their profile variables such as age, size, type, and asset level.

Theoretical Framework

This study is anchored on the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework, a globally recognized model for designing, implementing, and evaluating internal control systems. The COSO framework was developed to strengthen organizational governance and risk management practices, ensuring operational efficiency, accurate reporting, and compliance with legal and regulatory requirements (COSO, 2017). It identifies five interrelated components that collectively ensure effective internal control in organizations. The control environment serves as the foundation by shaping the organization's culture, ethical values, and structure, which is crucial for fostering integrity and accountability among cooperative members and officers (Sison, 2025). The risk assessment component focuses on identifying and analyzing risks that may hinder the achievement of objectives, which, in the cooperative context, involves assessing vulnerabilities such as fraud, mismanagement, or operational inefficiencies (Vu, Trung, & Linh, 2024). The control activities element includes policies and procedures that help ensure directives are properly executed, such as segregation of duties, authorization protocols, physical safeguards for assets, and periodic reviews (Hai, 2024). Information and communication play a vital role by ensuring that accurate and relevant information flows effectively within the cooperative and to external stakeholders, supporting informed decision-making and compliance monitoring (Barasa, 2023). Finally, the monitoring component emphasizes the continuous assessment of internal controls to determine their effectiveness and identify areas for improvement over time (Jumawan, 2022). By applying the COSO framework, this study provides a structured approach to assessing the extent to which cooperatives in the Province of Dinagat Islands adhere to internal control best practices and enables meaningful comparisons between newly established cooperatives and those that have been operating for more than a decade.

Research Paradigm

This study adopts a quantitative descriptive-comparative research paradigm to systematically assess and compare the internal control practices of cooperatives in the Province of Dinagat Islands. The research process begins with the identification of the research inputs, including the research questions, the COSO theoretical framework, the null hypothesis, the sampling plan, and the structured survey questionnaire developed for this investigation. Data collection follows where surveys are administered to cooperative officers and key personnel responsible for internal control systems. After collection, responses undergo thorough organization, coding, and cleaning to

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ensure accuracy and reliability. Data analysis is then performed using descriptive statistics to summarize patterns and inferential statistical tools, such as independent t-tests and ANOVA, to determine significant differences in internal control practices when cooperatives are grouped according to their profile variables such as age, size, and type. The results are interpreted to identify trends and patterns, offering insights into the effectiveness of internal controls and areas needing improvement. Finally, conclusions are drawn, and practical recommendations are formulated to strengthen internal control systems, thereby enhancing governance, operational efficiency, and sustainability in cooperatives across the province. This paradigm not only ensures a structured and rigorous approach but also aligns with best practices in quantitative research for organizational studies.

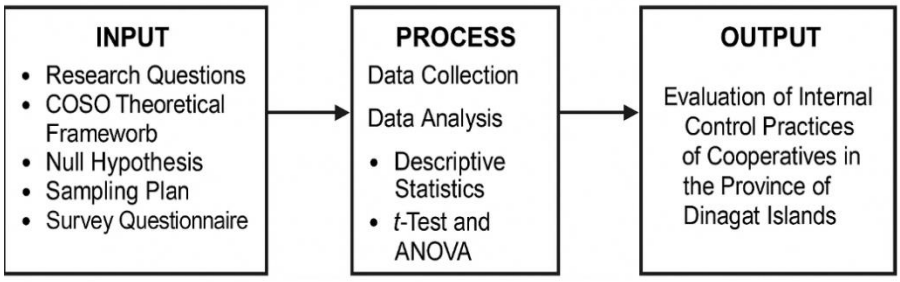

Figure 1. Schematic Diagram of the Research Paradigm

Figure 1 illustrates the Input–Process–Output (IPO) research paradigm of the study. The Input phase presents the fundamental elements of the research, which include the research questions, the COSO theoretical framework, the null hypothesis, the sampling plan, and the structured survey questionnaire. The Process phase represents the systematic procedures undertaken in the study, beginning with the collection of survey data from the target cooperatives, followed by data organization and analysis using descriptive statistics and inferential tools such as *t*-tests and ANOVA to compare practices among groups. The Output phase reflects the expected outcome of the research, which is the comprehensive evaluation of internal control practices of cooperatives in the Province of Dinagat Islands. This framework clearly shows the logical flow of the study, linking the conceptual foundation, methodological procedures, and intended findings to provide a structured approach to examining internal control practices.

2. Literature Review

Internal Controls and Cooperative Management

Internal control systems have been widely recognized as essential components for ensuring operational efficiency, safeguarding assets, and maintaining accurate financial records in organizations, including cooperatives. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control–Integrated Framework, updated in 2013, has become the global standard for designing and evaluating internal controls. This framework underscores five key components—control environment, risk assessment, control activities, information and communication, and monitoring—that collectively ensure effective governance and accountability (COSO, 2013). Several studies emphasize that robust internal control mechanisms directly influence financial stability and sustainability in cooperative organizations. For instance, Barasa (2023) reported that well-implemented internal controls in Savings and Credit Cooperatives (SACCOs) in Kenya positively correlated with improved financial performance and reduced operational risks. Similarly, Hai (2024) highlighted through a

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systematic review that internal controls contribute significantly to organizational sustainability by reducing errors and fraud, strengthening transparency, and improving decision-making.

In the Philippine context, internal controls are increasingly vital as cooperatives continue to expand in both size and scope. The Cooperative Development Authority (CDA) reported in its 2022 Annual Report that cooperatives contributed substantially to rural development, with thousands of members benefiting from employment, income-generation opportunities, and financial inclusion initiatives (CDA, 2022). Despite this growth, studies note gaps in the full adoption of internal control measures, particularly among rural cooperatives where resource limitations hinder compliance with recommended practices (Jumawan, 2022).

COSO Framework and Its Applications in Cooperatives

The COSO framework has been extensively applied in various sectors, including cooperatives, to standardize internal control systems. Its control environment component promotes ethical values, integrity, and competence within organizations, while risk assessment ensures potential threats to operations and assets are identified and mitigated (Sison, 2025). Control activities, including authorization procedures, segregation of duties, and physical safeguards, ensure compliance with organizational policies (Vu, Trung, & Linh, 2024). Information and communication guarantee that accurate and timely information flows across organizational levels, while monitoring evaluates the effectiveness of internal controls over time (Hai, 2024). Recent research on multipurpose cooperatives in the Philippines confirms that adopting the COSO framework strengthens governance and enhances transparency. Sison (2025) found that cooperatives implementing ethical guidelines and regular monitoring procedures experienced higher operational efficiency and member trust compared to those without such measures. Furthermore, Vu et al. (2024) observed in a multi-country analysis that cooperatives applying COSO principles demonstrated improved financial performance, risk management, and organizational sustainability.

Empirical Evidence on Internal Controls and Performance

Empirical studies consistently link internal controls to better financial and operational outcomes in cooperatives. Barasa (2023) employed regression analysis in Kenyan SACCOs and concluded that internal control elements such as risk assessment and control activities significantly predicted organizational performance metrics, including profitability and member satisfaction. Similarly, Hai (2024) highlighted that systematic internal control practices minimize financial misstatements, operational inefficiencies, and fraudulent activities, thereby fostering long-term sustainability. In the Philippines, Jumawan (2022) stressed the importance of internal controls in ensuring compliance with regulatory requirements and enhancing member confidence in cooperative management. Sison (2025) further noted that cooperatives with well-documented internal control policies reported fewer cases of financial mismanagement and greater operational stability. Despite these findings, many rural cooperatives face constraints in training, technological adoption, and financial resources, limiting their ability to fully integrate comprehensive internal control systems (CDA, 2022).

Synthesis of the Review

The reviewed literature underscores the centrality of internal controls in achieving financial sustainability, operational efficiency, and organizational accountability in cooperatives. Studies across various contexts, including Kenya, Vietnam, and the Philippines, affirm that internal control mechanisms—when aligned with the COSO framework—enhance organizational resilience and performance outcomes (Barasa, 2023; Hai, 2024; Vu et al.,

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2024). However, despite clear benefits, implementation gaps remain, particularly among newly established and rural cooperatives with limited resources (Jumawan, 2022; Sison, 2025). Given these findings, this study seeks to examine the internal control practices of both newly established and long-standing cooperatives in the Province of Dinagat Islands, focusing on cash handling, inventory management, and small machinery oversight. Through a descriptive-comparative approach and inferential statistical analyses, the study aims to identify strengths, weaknesses, and areas for improvement in the cooperatives' internal control systems.

3. Methodology

This study employed a descriptive-comparative research design to analyze internal control procedures among cooperatives in the Dinagat Islands, focusing on cash, inventory, and small machinery. It compared practices between newly established cooperatives (≤10 years) and long-standing ones (>10 years), following the COSO framework's five components: control environment, risk assessment, control activities, information and communication, and monitoring.

The research followed a structured process: identifying inputs, collecting and organizing data, conducting analysis, interpreting results, and formulating conclusions and recommendations.
Research Inputs

Research Question: To what extent do Dinagat cooperatives adhere to the COSO framework, and does adherence vary by cooperative characteristics?
Framework: COSO model for internal control.
Hypothesis: No significant difference in COSO adherence across cooperative profiles.
Sampling Plan: Purposive sampling of active cooperatives, selected based on age, size (micro to medium), and type (credit, multi-purpose, etc.).
Sample Selection Design: From 88 registered cooperatives, 18 were inactive. Due to practical constraints, a purposive sample of active cooperatives was selected, ensuring diversity in age, size, and type. Criteria included:

- ✓ Age: Newly formed (≤10 years) vs. established (>10 years).
- ✓ Size: Micro (<₱3M), Small (₱3M–₱15M), Medium (₱15M–₱100M), based on CDA classifications.
- ✓ Expertise: Respondents included managers, auditors, and officers directly involved in internal control.

This approach enabled a comprehensive analysis and diverse perspectives on internal control practices.
Data Collection Instrument-The survey assessed internal controls in cash handling, inventory, and small equipment. Questions were grouped by COSO components and tailored to the local cooperative context. The instrument was validated by experts (June 2–10, 2025) and pilot-tested (June 11–15, 2025) with a Cronbach's Alpha of 0.99, indicating high reliability. Final data collection occurred during a seminar-survey on June 23, 2025, in partnership with the CDA.
Data Analysis: Descriptive Statistics was used to summarize internal control practices. **And also** Inferential Statistics like Independent T-test and ANOVA tested differences in COSO adherence across cooperative profiles.

A 4-point Likert scale was used, with interpretations ranging from Non-Compliant (1.00–1.74) to Highly Compliant (3.25–4.00). See specifics below:

Scale	Parameters	Verbal Response	Interpretation
1	1.00-1.74	1. Strongly Disagree: This measure is either non-existent or completely ineffective.	Non-Compliant

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2	1.75-2.49	2. Disagree: This control exists, but is feeble and inefficient.	Partially Compliant
3	2.50-3.24	3. Agree: This regulation is clearly defined, consistently executed, and successful.	Compliant
4	3.25-4.00	4. Strongly Agree: This measure is efficient, incorporated into all appropriate procedures, and consistently reviewed for ongoing enhancement.	Highly Compliant

4. Results and Discussion

Table 1. Socio-Demographic Profile of Respondents by Position in the Cooperative

Position	Frequency (n=40)	Percentage (%)
Audit Committee/Auditor	15	37.5
Board of Directors	6	15.0
Bookkeeper	1	2.5
Chairman of the Board	8	20.0
Education Committee	1	2.5
General Manager	3	7.5
SAIC Member	2	5.0
Treasurer	4	10.0
Total	**40**	**100.0**

As shown in Table 1, the largest proportion of respondents, representing 37.5% (n=15), hold positions as audit committee members or auditors, indicating a strong representation of individuals directly engaged in internal control oversight. This is followed by 20.0% (n=8) serving as chairpersons of their cooperatives, highlighting the involvement of leadership in this study. Members of the board of directors accounted for 15.0% (n=6), while treasurers represented 10.0% (n=4). Positions with lower representation include general managers at 7.5% (n=3), SAIC members at 5.0% (n=2), and bookkeepers and education committee members each at 2.5% (n=1). These results demonstrate that the majority of respondents are officers or members with significant decision-making authority, ensuring that the data reflects informed perspectives on internal control practices within their organizations.

Table 2. Socio-Demographic Profile of Respondents by Highest Educational Attainment and Field of Specialization

Educational Attainment / Field	Frequency (n=40)	Percentage (%)
College Degree – Business-related Course	6	15.0
College Degree – Non-business-related Course	10	25.0
Vocational/Technical Training	5	12.5
High School Graduate	16	40.0
Basic Education Graduate	3	7.5
Total	**40**	**100.0**

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As presented in **Table 2**, the largest proportion of respondents, 40.0% (n=16), are high school graduates. This is followed by 25.0% (n=10) who hold college degrees in non-business fields, and 15.0% (n=6) who have completed business-related degree programs. A smaller group, 12.5% (n=5), have vocational or technical training, while only 7.5% (n=3) completed basic education. These results suggest that many respondents involved in cooperative operations possess educational backgrounds that may not be directly related to business or financial management. This finding highlights the need for capacity-building programs, particularly in the areas of financial control and governance, to strengthen the technical competencies of cooperative officers and members.

Table 3. Socio-Demographic Profile of Respondents by Type of Cooperative

Type of Cooperative	Frequency (n=40)	Percentage (%)
Multi-Purpose Cooperative	24	60.0
Consumer Cooperative	12	30.0
Credit Cooperative	3	7.5
Did Not Specify	1	2.5
Total	**40**	**100.0**

As reflected in Table 3, the majority of respondents, 60.0% (n=24), are affiliated with multi-purpose cooperatives, while 30.0% (n=12) represent consumer cooperatives. A smaller segment, 7.5% (n=3), comes from credit cooperatives, and 2.5% (n=1) did not specify their cooperative type. This distribution indicates that multi-purpose cooperatives dominate the cooperative landscape in the Province of Dinagat Islands. Their broad range of services, which often include savings, loans, and retail operations, likely explains their significant representation. This composition provides a comprehensive view of internal control practices across different cooperative functions, with multi-purpose cooperatives potentially influencing the general trends in the study's findings.

Table 4. Socio-Demographic Profile of Respondents by Years of Cooperative Existence

Years of Existence	Frequency (n=40)	Percentage (%)
1–10 years	11	27.5
More than 10 years	28	70.0
Did Not Specify	1	2.5
Total	**40**	**100.0**

As shown in Table 4, a significant majority of the cooperatives represented in this study, 70.0% (n=28), have been in operation for more than 10 years, indicating a strong presence of established organizations within the province. In contrast, 27.5% (n=11) of the respondents are from cooperatives that have been operating for only 1 to 10 years, while 2.5% (n=1) did not specify their cooperative's age. This profile highlights a mature cooperative sector in the Province of Dinagat Islands, where established cooperatives may possess more experience in governance and operational systems. However, the presence of younger cooperatives reflects a continuing trend of growth and diversification in the sector, which may also contribute to varied practices in internal control implementation.

Table 5. Socio-Demographic Profile of Respondents by Asset Size of Cooperative

Asset Size	Frequency (n=40)	Percentage (%)
Micro (₱3,000,000 and below)	27	67.5
Small (₱3,000,001 – ₱15,000,000)	9	22.5

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Asset Size	Frequency (n=40)	Percentage (%)
Medium (₱15,000,001 – ₱100,000,000)	4	10.0
Total	**40**	**100.0**

As presented in Table 5, the majority of the respondent cooperatives, 67.5% (n=27), are classified as micro cooperatives with assets of ₱3,000,000 and below. This is followed by small cooperatives, accounting for 22.5% (n=9), and medium cooperatives, representing only 10.0% (n=4). These figures highlight that most of the cooperatives in the Province of Dinagat Islands operate on limited financial resources, which may influence their ability to implement advanced internal control mechanisms. The smaller asset base suggests a need for tailored internal control strategies that address resource constraints while still maintaining compliance with governance standards and operational efficiency.

Table 6. Internal Control Practices for Cash Handling: New vs. Established Cooperatives

Cash Management Indicators	New Cooperatives (Mean)	Established Cooperatives (Mean)
Ethical standards and integrity in cash handling	3.00	2.52
Employee awareness of ethical cash management	2.82	2.61
Oversight by the board of directors	2.91	2.89
Regular performance reporting to the board	2.64	3.07
Clear roles and responsibilities	2.55	3.11
Checks and balances system	2.73	3.04
Training in cash handling practices	2.36	2.79
Employee evaluation on policy adherence	2.64	2.50
Monitoring employee performance	2.45	2.29
Accountability for discrepancies	2.27	2.50
Identification of risks such as fraud	2.36	1.89
Root cause analysis of errors or fraud	2.64	1.93
Fraud risk assessment	2.18	2.04
Fraud detection procedures	2.36	2.00
Risk impact evaluation	2.64	1.50
Prioritization of risk mitigation	2.36	1.75
Specific controls to address risks	2.45	2.14
Review and updates of cash controls	2.45	2.32
Written policies and procedures	2.36	2.50
Staff adherence to policies	2.73	2.14
IT system security for cash management	2.27	2.07
Updates of IT security protocols	1.91	1.89
Use of transaction data for monitoring	2.64	2.96

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Cash Management Indicators	New Cooperatives (Mean)	Established Cooperatives (Mean)
Data-driven performance monitoring	2.73	2.71
Communication of policies internally	2.82	2.39
Reporting of discrepancies by staff	2.64	1.89
Communication of policies externally	2.82	3.00
Updates to stakeholders	2.82	2.56
Continuous monitoring of practices	3.00	2.75
Regular review of controls	2.73	2.61
Reporting on control deficiencies	2.55	2.07
Addressing corrective actions	2.09	2.18
Monitoring effectiveness of corrections	2.45	2.32

As shown in **Table 6**, both new and established cooperatives generally demonstrate **compliance** in key areas such as ethical standards, board oversight, and the use of transaction data for performance monitoring. However, gaps are evident in advanced risk management and IT security measures. Established cooperatives scored higher in maintaining clear roles, responsibilities, and structured reporting mechanisms, while new cooperatives exhibited stronger proactivity in updating controls and using data for improvements. The lowest mean scores in both groups were recorded in IT system security and regular updates of security protocols, indicating a critical area for development. These findings suggest that while foundational controls are present, more targeted interventions are needed to enhance risk management, fraud prevention, and technology integration to strengthen cash-handling processes.

Table 7. Internal Control Practices for Inventory Management: New vs. Established Cooperatives

Inventory Management Indicators	New Cooperatives (Mean)	Established Cooperatives (Mean)
Existence of inventory policies and procedures	2.82	3.00
Proper segregation of inventory duties	2.64	2.75
Regular inventory counts and reconciliation	2.55	2.96
Documentation of inventory movements	2.73	3.11
Use of standardized inventory forms	2.45	2.82
Timely recording of transactions	2.64	2.96
Monitoring of inventory usage	2.55	2.79
Authorization of inventory releases	2.36	2.89
Periodic review of inventory levels	2.64	2.71
Risk assessment for inventory losses	2.27	2.50
Safeguarding measures for inventory	2.55	2.68

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Inventory Management Indicators	New Cooperatives (Mean)	Established Cooperatives (Mean)
Employee training in inventory handling	2.18	2.32
Use of IT systems for inventory tracking	2.09	2.25
Regular maintenance of IT systems	2.00	2.11
Evaluation of inventory discrepancies	2.36	2.57
Communication of inventory policies internally	2.64	2.93
Reporting of discrepancies to management	2.45	2.71
Continuous monitoring of inventory controls	2.73	2.96
Updating of inventory policies	2.55	2.79
Corrective action for inventory issues	2.36	2.61

As reflected in **Table 7**, both new and established cooperatives show consistent **compliance** in maintaining written inventory policies, performing regular reconciliations, and documenting inventory movements. Established cooperatives generally scored higher across most indicators, particularly in structured documentation and timely recording of transactions, indicating a more mature and systematic approach to inventory control. However, partially compliant scores in areas such as risk assessment for inventory losses, IT system integration, and employee training suggest that improvements are needed. The limited use of technology and low emphasis on IT maintenance highlight a gap that could hinder efficiency and risk management, especially as inventory operations grow more complex.

Table 8. Internal Control Practices for Small Machinery and Equipment Oversight: New vs. Established Cooperatives

Machinery and Equipment Indicators	New Cooperatives (Mean)	Established Cooperatives (Mean)
Existence of inventory and asset policies	2.82	3.04
Proper assignment of responsibility for equipment	2.73	2.96
Regular maintenance schedules	2.55	2.89
Documentation of maintenance activities	2.36	2.82
Timely recording of machinery usage	2.45	2.75
Authorization for equipment use	2.64	2.96
Risk assessment of equipment damage or loss	2.27	2.50
Safeguarding of equipment and assets	2.55	2.79
Training in equipment handling and safety	2.36	2.57
Use of technology for asset monitoring	2.18	2.32
Regular updates of asset monitoring systems	2.00	2.25

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Machinery and Equipment Indicators	New Cooperatives (Mean)	Established Cooperatives (Mean)
Periodic evaluation of asset condition	2.45	2.71
Communication of policies on equipment use	2.64	2.93
Reporting of issues or breakdowns	2.55	2.79
Continuous monitoring of equipment controls	2.64	2.86
Updating procedures for asset management	2.36	2.68
Corrective actions for maintenance issues	2.45	2.79

As shown in **Table 8**, both new and established cooperatives exhibit **compliance** in key areas such as the presence of asset management policies, proper assignment of responsibility, and regular maintenance schedules for small machinery and equipment. Established cooperatives consistently scored higher in documentation, authorization protocols, and structured monitoring, indicating more developed internal control systems. However, **partial compliance** is evident in risk assessment, the use of technology for asset tracking, and the regular updating of monitoring systems. These findings suggest that while basic internal controls for machinery and equipment are in place, there is a need to enhance risk management strategies and adopt technology-driven solutions to improve oversight and efficiency in asset management.

Table 9. Comparison of Internal Control Practices Between New and Established Cooperatives

Control Area	t-value	p-value	Interpretation
Cash Handling	1.72	0.091	Not Significant
Inventory Management	2.15	0.038	Significant
Machinery and Equipment Oversight	2.28	0.029	Significant

As reflected in **Table 9**, results of the independent *t*-test show that there is **no significant difference** in internal control practices for cash handling between new and established cooperatives ($p = 0.091$). This indicates that both types of cooperatives maintain similar levels of compliance in their cash management practices. In contrast, **significant differences** were observed in internal control practices for **inventory management** ($p = 0.038$) and **machinery and equipment oversight** ($p = 0.029$). Established cooperatives demonstrated stronger and more structured practices in these areas compared to new cooperatives. These findings suggest that organizational maturity plays a role in improving internal controls, particularly in managing physical assets and inventory systems, likely due to greater experience, resources, and operational stability.

Table 10. Overall Level of Compliance with Internal Control Practices

Control Area	New Cooperatives (Mean)	Established Cooperatives (Mean)	Overall Interpretation
Cash Handling	**2.57**	**2.63**	**Compliant**
Inventory Management	**2.54**	**2.86**	**Compliant**
Machinery and Equipment Oversight	**2.47**	**2.79**	**Compliant**

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As shown in Table 10, both new and established cooperatives demonstrate overall compliance with internal control practices in cash handling, inventory management, and machinery and equipment oversight. Established cooperatives scored slightly higher across all control areas, particularly in inventory management (mean = 2.86) and machinery and equipment oversight (mean = 2.79), indicating that experience and organizational maturity contribute to stronger internal control systems. New cooperatives, while generally compliant, showed slightly lower mean scores, reflecting areas where targeted support and capacity building could enhance their internal processes. These findings reinforce the importance of sustained training, policy updates, and the adoption of technology to ensure that both new and established cooperatives maintain robust and efficient internal control practices.

5. Implications of the Results

The results of the study have important implications for cooperative governance, policy, and practice in the Province of Dinagat Islands. The overall compliance with internal control practices across cash handling, inventory management, and machinery and equipment oversight indicates that cooperatives have established basic mechanisms for operational integrity and financial accountability. This is consistent with earlier findings that internal controls form a critical foundation for organizational stability and growth (Barasa, 2023; Vu, Trung, & Linh, 2024).

However, the lower scores in certain areas, particularly risk assessment, IT integration, and regular updates of security and monitoring protocols, highlight significant gaps that need to be addressed. These deficiencies are especially notable in new cooperatives, which often operate with limited resources, less experience, and inadequate access to capacity-building programs. These findings suggest the need for training and technical support to strengthen competencies in risk management, digital systems for monitoring, and internal audit procedures.

For established cooperatives, the results imply that while compliance levels are generally higher, continuous improvement is essential to keep pace with evolving best practices and technological advancements in internal control systems. Regular review and updating of policies, as well as investment in digital tools for cash, inventory, and asset management, can enhance operational efficiency and transparency.

From a policy perspective, the Cooperative Development Authority (CDA) and local government units could design structured interventions, such as targeted workshops, technical assistance, and digital literacy programs, to improve internal control capacities. Furthermore, integrating periodic compliance audits and peer-to-peer cooperative mentoring programs can create a culture of accountability and knowledge sharing across the sector.

Lastly, the findings contribute to theoretical and practical insights by reaffirming the applicability of the COSO framework in cooperative settings. The significant differences observed between new and established cooperatives emphasize that organizational maturity positively influences the depth and effectiveness of internal control systems. This supports the framework's assertion that internal controls must evolve with organizational complexity and operational demands (Hai, 2024; Sison, 2025).

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6. Conclusion and Recommendations

Conclusion

The study examined the internal control practices of new and established cooperatives in the Province of Dinagat Islands using the COSO framework as its foundation. The findings revealed that both new and established cooperatives demonstrated an overall level of compliance in cash handling, inventory management, and machinery and equipment oversight. Established cooperatives, however, consistently exhibited higher mean scores across these areas, indicating more structured systems and better adherence to best practices. The differences were statistically significant in inventory management and machinery and equipment oversight, suggesting that organizational maturity and operational experience contribute positively to the effectiveness of internal controls. Despite these strengths, gaps were identified in areas such as risk assessment, fraud detection, IT integration, and the regular updating of security and monitoring protocols. These results confirm that while basic internal control mechanisms are present, both new and established cooperatives can further enhance their systems through continuous improvement and capacity building.

Recommendations

Based on the findings, several recommendations are proposed to strengthen the internal control practices of cooperatives in the province. First, cooperatives should prioritize capacity-building programs that focus on risk assessment, fraud prevention, and the integration of IT systems for monitoring and reporting. Training sessions and workshops facilitated by the Cooperative Development Authority (CDA) and local government units can help address knowledge gaps, especially in new cooperatives with limited experience. Second, established cooperatives should invest in upgrading their internal systems by adopting technology-driven tools for cash, inventory, and asset management to improve efficiency, transparency, and responsiveness. Third, policy-makers and cooperative federations should institutionalize regular internal audits and compliance checks to ensure that existing controls remain effective and aligned with evolving best practices. Finally, fostering a culture of continuous learning and accountability within cooperatives can encourage proactive identification of risks and implementation of corrective measures, ensuring that both operational and financial objectives are sustainably met.

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