

# Internal Control System and Operational Performance of Agricultural Cooperatives in Anambra State, Nigeria

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**ABSTRACT:** This study examined the internal control system and operational performance of agricultural cooperatives in Anambra State, Nigeria. The study was guided by four research questions. The study adopted the correlational research design. The population of the study comprised 2891 members of cooperative societies in Anambra State. The sample size of the study was 351 members of agricultural cooperative societies. Taro Yamane's formula was used to determine the sample size of the study. The instrument for data collection was a structured questionnaire. The data collected were analysed with simple percentage, descriptive statistics of mean and Pearson Product Moment Correlation. The hypotheses were analyzed with simple linear regression at 0.05 significant level. The study found that internal control systems have significant relationship with operational performance. Effective environmental controls ensure agricultural cooperatives comply with environmental regulations to easy operations of the farmers and minimize soil pollution to enable quality farming operations. Risk assessment controls assist in identifying potential risks that could safeguards cooperatives' operations and prioritize risk management of the crops. Financial controls ensure the reliability of financial reporting for effective operations. Communication controls ensure agricultural cooperatives have channels of communication during operations. It was recommended that agricultural cooperatives should implement an effective

environmental control to ensure agricultural cooperatives comply with environmental regulations to easy operations of the farmers. Agricultural cooperatives should leverage risk management controls because these controls assist in identifying potential risks that could safeguards cooperatives' operations.

**Keywords:** Internal control, Operational Performance, Agricultural Cooperatives, Anambra state.

## I. INTRODUCTION

### 1.1. Background to the Study

Agriculture is undeniably one of the foundational sectors of any economy, offering a multitude of benefits that resonate far beyond the boundaries of individual farms. These benefits encompass economic, social, and environmental dimensions, making agriculture a cornerstone of sustainable development. One of the primary advantages of agriculture is its role in providing food security. As the source of our food supply, agriculture ensures that communities have access to the nourishment necessary for health and well-being. Moreover, a robust agricultural sector contributes to national food sovereignty, reducing dependence on imports and mitigating the risks associated with food shortages or disruptions in global supply chains.

In light of these myriad benefits, it is no wonder that many individuals involved in agriculture have come together to form cooperatives. Agricultural cooperatives are

collaborative ventures where farmers and other stakeholders pool their resources, knowledge, and efforts to achieve common goals (Olajide, 2020). Also, agricultural cooperatives as defined by the Central Bank of Nigeria (CBN, 2020) is voluntary associations of farmers, including producers, processors, marketers, and input suppliers, who come together to pool their resources, share risks, and collectively undertake agricultural activities for mutual benefit and socio-economic development.

These agricultural cooperatives serve as powerful vehicles for improving the livelihoods of their members and advancing the interests of the agricultural sector as a whole (Okeke and Ezeanya, 2021). One key advantage of agricultural cooperatives is their ability to empower smallholder farmers. As Adesoji and Babalola (2019) stated, by joining forces, small farmers can access economies of scale in purchasing inputs, processing, and marketing their products. This collective strength enables them to negotiate better prices, secure fair market access, and improve their overall competitiveness in the agricultural marketplace.

It is because of the importance of agricultural cooperatives such as these that internal control systems have been advocated as crucial. Internal control systems within cooperatives are designed to ensure accountability, transparency, and good governance practices. They encompass mechanisms for risk assessment, internal audit, and compliance with legal and regulatory requirements (Cook and Iliopoulos, 2017). Similarly, the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2018) defines internal control system as a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations. By implementing robust internal control systems, agricultural cooperatives can improve operational performance of these cooperatives.

The Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB, 2020) described internal control are the policies, procedures, and practices implemented by management to safeguard assets, ensure reliable financial reporting, promote operational efficiency, and comply with relevant laws and regulations. Also, the Nigerian Institute of Agricultural Engineers' (NIAE, 2018) stated that internal control within encompasses the measures and mechanisms put in place to manage risks, optimize resources, maintain accurate records, and uphold accountability in the pursuit of cooperative objectives.

The Nigerian Institute of Management (NIM, 2020) defines operational performance as the effectiveness and efficiency with which an organization carries out its day-to-day activities and processes to achieve its strategic objectives, meet customer expectations, and deliver value to

stakeholders. According to the Chartered Institute of Personnel Management of Nigeria (CIPM, 2019), operational performance refers to the measurement of an organization's ability to execute its operational strategies, processes, and activities in a manner that optimizes resources, minimizes waste, and delivers consistent results aligned with organizational goals. In response to internal control system, Uzohuo (2022) argued that internal control system attributes can help in improving operational performance of cooperatives.

Uzohuo (2022) stated that some attributes of internal control that affect operational performance are control environment, risk assessment, risk management, financial control, communication, monitoring, control activities, segregation of duties, compliance, documentation and operational control among others. Effective internal control systems integrate these attributes to provide reasonable assurance that the organization's objectives are achieved efficiently, accurately, and in compliance with applicable laws and regulations. For the sake of this study, environment, risk management, financial control, and communication seems to be the best among others.

Environmental control refers to the management of factors within an organization's surroundings that can affect its operations, processes, and outcomes. This includes measures to monitor, mitigate, and adapt to environmental conditions such as air quality, water resources, waste management, and biodiversity conservation (Environmental Protection Agency Nigeria, 2020). In the context of agricultural cooperatives in Nigeria, environmental control plays a crucial role in shaping operational performance and sustainability. One of the key areas where environmental control intersects with operational performance is in agricultural production practices. Effective environmental control measures, such as sustainable land management, water conservation techniques, and integrated pest management, contribute to increased crop yields, improved product quality, and reduced environmental impact (Farming Systems Support Services Limited, 2021).

For risk assessment control, Akande and Adegbite (2018) stated that risk assessment control involves identifying, analyzing, evaluating, and mitigating risks that could impact the cooperative's operations, finances, reputation, and strategic objectives. Uzohuo (2022) added that one key aspect of the relationship between risk assessment control and operational performance is improved risk management. By conducting comprehensive risk assessments, cooperatives can identify and prioritize risks based on their likelihood and potential impact. This enables them to develop risk mitigation strategies, contingency plans, and resilience measures tailored to specific risks, thereby reducing vulnerabilities and enhancing operational stability. Financial controls are crucial for ensuring the accuracy, reliability, and integrity of financial information and

transactions within cooperative businesses. These controls may include budgetary controls, accounting controls and cash controls among others (Institute of Chartered Accountants of Nigeria, 2019). Also, in financial control, implementing budgets for various activities within the cooperative helps in controlling costs and optimizing resource allocation. This helps in monitoring and approving expenses to ensure they are in line with the budget and are legitimate business expenses to improve operational performance.

Effective communication control is instrumental in shaping the operational performance of agricultural cooperatives in Nigeria, impacting various aspects such as productivity, collaboration, decision-making, and overall efficiency. Bijman (2020) posited that communication control enables agricultural cooperatives to make informed decisions based on timely and reliable information. Clear channels of communication ensure that critical information regarding market trends, input availability, pricing, and regulatory requirements is communicated promptly to decision-makers within the cooperative. This facilitates agile decision-making, risk management, and strategic planning, ultimately enhancing operational performance and competitiveness.

In view of the above, it has become evident that operational performance is indeed paramount to agricultural cooperatives in Nigeria which Anambra State is not an exception as it directly impacts their efficiency, effectiveness, and overall success. However, when there is poor operational performance, this can have far-reaching consequences that affect various aspects of the cooperative's functioning, sustainability, and reputation. This can lead to operative performance challenges within a cooperative business. Unfortunately, it appears much attention has not been given to these controls such as financial, operational, compliance and risk management controls in agricultural cooperatives in Anambra State. It is against this background that this study seeks to examine internal control system and operational performance of cooperative business in Anambra State.

### 1.2. Statement of the Problem

Operational performance is crucial to the success of cooperative businesses, and poor operational performance can have significant negative consequences across various areas of the cooperative's operations and reputation. However, inadequate operational performance can undermine the quality of products or services offered by the cooperative. This may lead to customer dissatisfaction, decreased demand for the cooperative's offerings, and ultimately, loss of market share to competitors. For example, delays in product delivery, inconsistent service quality, or failure to meet customer expectations can tarnish the cooperative's reputation and erode customer trust.

Furthermore, poor operational performance can strain internal relationships and teamwork within the cooperative. Inefficient processes, unclear roles and responsibilities, or lack of communication channels can lead to conflicts among employees, reduced morale, and decreased productivity. This can hinder collaboration, innovation, and overall organizational cohesion, impacting the cooperative's ability to achieve its objectives effectively. It is against this backdrop that this study seeks to examine internal control system and operational performance of cooperative business in Anambra State.

### 1.3. Objectives of the Study

The main objective is to examine internal control system and operational performance of cooperatives in Anambra State. Specifically, this study seeks to:

1. Determine the relationship between environment controls and operational performance of agricultural cooperatives in Anambra State.
2. Examine the relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State.
3. Ascertain the relationship between financial controls and operational performance of agricultural cooperatives in Anambra State.
4. Examine the relationship between communication controls and operational performance of agricultural cooperatives in Anambra State.

### 1.4. Hypotheses

The study will test the following null hypotheses at 0.05 significant level.

1. There is no significant relationship between environment controls and operational performance of agricultural cooperatives in Anambra State.
2. There is no significant relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State.
3. There is no significant relationship between financial controls and operational performance of agricultural cooperatives in Anambra State.
4. There is no significant relationship between communication and operational performance of agricultural cooperatives in Anambra State.

## 2.1. Conceptual Framework

### 2.1.1. Internal Control System

Internal control systems can be defined as a set of processes, policies, and procedures designed and implemented by management to provide reasonable assurance regarding the achievement of objectives in the effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations (COSO, 2013). According to the International Organization

for Standardization (ISO, 2019), internal control systems are the whole system of controls, financial or otherwise, established by the management in order to carry on the business of the enterprise in an orderly and efficient manner, ensure adherence to management policies, safeguard the assets, and secure as far as possible the completeness and accuracy of the records.

Internal control systems can also be viewed as a series of checks and balances designed to prevent and detect errors and fraud, safeguard assets, and ensure compliance with laws and regulations (Arens, Elder and Beasley, 2016). The Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2013) defines internal control as a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations. Internal control systems are also described as the integration of activities, plans, attitudes, policies, and efforts of the people of an organization working together to provide reasonable assurance that the organization will achieve its objectives and mission (Weil and Reinstein, 2018).

### **2.1.2. Operational Performance**

Operational performance can be defined as the ability of an organization to efficiently and effectively utilize its resources to achieve its strategic and operational objectives (Brewer, Garrison and Noreen, 2019). According to Heizer and Render (2016), operational performance refers to the measurement of how well an organization uses its resources to deliver products and services to customers in a manner that satisfies their requirements. Operational performance can also be described as the extent to which an organization delivers high-quality products or services to customers within expected timeframes and meets or exceeds customer expectations (Stevenson, Chuong and Hojati, 2018).

Operational performance encompasses the ability of an organization to respond quickly and effectively to changes in market conditions, customer demands, and internal or external factors that impact its operations (Slack, Brandon-Jones and Johnston, 2019). Operational performance is also defined as the achievement of cost-effective operations through the optimization of processes, resources, and systems to minimize waste, reduce costs, and maximize profitability (Jacobs and Chase, 2017).

### **2.1.3. Relationship between environmental controls and operational performance of agricultural cooperatives**

Environment refers to the natural surroundings, including landforms, water bodies, climate, and biodiversity. In Nigeria, the physical environment varies widely, from the lush rainforests of Cross River State to the arid landscapes

of the northeastern region (Egwuatu, 2019). Also, environment encompasses the social structures, norms, values, and interactions that influence individuals and communities. In Nigerian society, the social environment plays a crucial role in shaping behaviors, beliefs, and societal expectations (Uzochukwu and Okafor, 2020).

Similarly, environment comprises human-made structures such as buildings, infrastructure, roads, and urban spaces. In cities like Lagos and Abuja, rapid urbanization has led to significant changes in the built environment, impacting transportation, housing, and public amenities (Adegoke, 2018). Besides, environment refers to the beliefs, traditions, customs, arts, and heritage of a society. Nigeria's cultural environment is rich and diverse, with over 250 ethnic groups, each contributing unique cultural elements to the national identity (Okafor and Njoku, 2021).

In environmental controls, Oyinloye and Nwagwu (2019) stated that environmental controls refer to regulatory measures, policies, and laws implemented by government agencies to manage and protect the environment. In Nigeria, regulatory controls include environmental impact assessments (EIAs), pollution control regulations, and conservation laws enforced by agencies like the Federal Ministry of Environment. Besides, environmental controls also encompass technological solutions and innovations designed to mitigate environmental impacts. Examples in Nigeria include the use of renewable energy technologies, waste management systems, and pollution control technologies in industries (Igweze and Okoro, 2020).

Environmental controls also involve behavioral controls which involves influencing human behaviors and practices to promote sustainable environmental practices. In Nigeria, campaigns promoting waste reduction, recycling, and conservation behaviors are examples of behavioral controls (Adeloye and Ogungbemi, 2021). On the other hand, environment controls also involved economic controls which refer to financial incentives, taxes, and market mechanisms used to influence environmental decision-making. In Nigeria, economic controls may include carbon pricing, subsidies for green technologies, and incentives for sustainable practices in agriculture and industry (Nwankwo and Eze, 2018).

Agricultural cooperatives play a vital role in Nigeria's agricultural sector, contributing significantly to food production, rural development, and livelihoods. However, the sector also faces environmental challenges ranging from land degradation and water pollution to biodiversity loss and climate change impacts. In response, environmental controls have become increasingly important for agricultural cooperatives to ensure sustainable operations and enhance their operational performance. For this reason, this study explores the relationship between environmental controls and the operational performance of agricultural cooperatives

in Nigeria, focusing on key regulatory, technological, and behavioral controls.

Regulatory controls are government-imposed measures aimed at managing and mitigating environmental impacts.

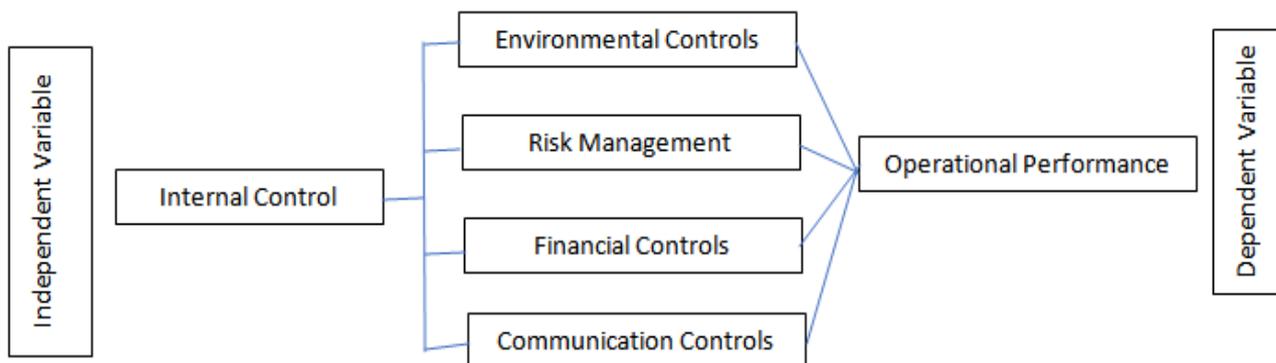


Figure 1: Key Variables of the Conceptual Framework

## 2.2. Theoretical Framework

### 2.2.1. System Theory

The system theory was proposed by Ludwig von Bertalanffy, in 1968. System theory posits that organizations and natural systems can be understood as complex, interconnected systems composed of elements that interact with each other and their environment. The key principles of system theory include:

**Holism:** Systems are viewed as holistic entities where the whole is greater than the sum of its parts. The interactions and relationships among components within a system are crucial for understanding its behavior and properties.

**Interdependence:** Components within a system are interdependent, meaning changes in one component can affect other components and the system as a whole. This highlights the interconnectedness and feedback loops present in systems.

**Hierarchy:** Systems can exhibit hierarchical structures, with subsystems nested within larger systems. Each level of the hierarchy contributes to the functioning and behavior of the overall system.

**Openness:** Systems are open to their environment, exchanging inputs, outputs, and information. This openness allows systems to adapt, evolve, and respond to external changes and influences.

**Feedback:** Feedback loops play a crucial role in systems, providing information about the system's performance and enabling self-regulation and adaptation. Positive feedback reinforces behaviors, while negative feedback helps maintain stability and homeostasis.

**Emergence:** System theory recognizes that systems can exhibit emergent properties that arise from the interactions of components, rather than being solely determined by the properties of individual elements. These emergent properties can lead to novel behaviors and phenomena at the system

level. Overall, system theory provides a framework for understanding complex systems, emphasizing the dynamic interactions, patterns, and behaviors that characterize them. It has applications in various fields, including biology, psychology, sociology, management, and organizational studies, offering insights into how systems function, evolve, and adapt in response to internal and external factors.

In essence, system theory provides a framework for understanding the complex interactions and influences of internal control systems on the operational performance of cooperative businesses. It underscores the interconnectedness, feedback loops, adaptability, and holistic nature of these relationships, highlighting the importance of integrated and effective control mechanisms in achieving operational excellence and sustainable success.

### 2.3. Empirical Studies

Okharenia, Muritala and Ibrahim (2023) examined the influence of internal control systems on financial performance of Nigeria's construction firms. It utilized ridge regression to analyze data from a self-administered questionnaire administered to 305 employees at a company. Internal control had a strong positive impact on financial performance, as evidenced by an R2 of 82.92 percent. In the majority of cases, internal control had positive and statistically significant effects and correlations with financial performance. The positive effects of the control environment and risk assessment were statistically insignificant. It suggests upgrading the control system; the control system must be present and functional.

Muraleetharan's (2011) study on the "impact of internal control on financial performance" at the University of Jaffna in Sri Lanka established a significant link between internal control and financial performance. Profitability, efficiency, and liquidity were used to assess financial performance. The

research focused on the five components of internal control. The methodology of the study was detailed, employing Cronbach Alpha to a degree greater than 0.7 to test for reliability, chi-square, and regression analytical tools; it concluded that internal control was statistically significant in predicting financial performance.

**II. METHODOLOGY**

**Research Design:** The study adopted the correlational research design. Correlational research design is a type of non-experimental research method that focuses on exploring relationships and associations between variables without manipulating them.

**Area of the Study:** The study was carried out in Anambra State. Anambra State is one of the 36 states located in southeastern Nigeria

**Population of the Study:** The population of the study comprised 2891 members of agricultural cooperative societies in Anambra State.

**Sampling and Sampling Technique**

The sample size of the study was 351. Taro Yamane’s formula was used to determine the sample size of the study. The formula is given as thus:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample size

N = Population

e = sampling error (0.05) or 5%

$$n = \frac{2891}{1 + 2891(0.05)^2}$$

$$n = \frac{2891}{1 + 2891(0.0025)}$$

$$n = \frac{2891}{1 + 2.3175}$$

$$n = \frac{2891}{3.3175} = 351.3826$$

Approximately 351 respondents were arrived at as sample size

**Method of Data Analysis**

The data collected from the demographic data of the respondents were analysed with simple percentage while the data from the copies of the questionnaire were analyzed using the Pearson Product Moment Correlation. The Pearson product-moment correlation coefficient, often denoted as r, is a statistical measure used to quantify the strength and direction of a linear relationship between two continuous variables. The following regression coefficient rule was used in answering the research questions.

Very Low 0.00 - 0.20

Low 0.20 - 0.40

Moderate 0.40 - 0.60

High 0.60 - 0.80

Very High 0.80 - 1.00

For Pearson and Regression Coefficient (r)

+ Sign = Positive Predictor

- Sign = Negative Predictor

**Hypotheses**

For P-value when

P-value < .05: Reject H<sub>0</sub> and Accept H<sub>1</sub>

P-value > .05: Accept H<sub>0</sub> and Reject H<sub>1</sub>

The statistical tool to be used for the data analysis was SPSS version 25.0.

**III. DATA PRESENTATION AND ANALYSIS**

**Analysis of Questionnaire**

**Table 5: Environment Controls**

S/N	Environment Controls:	X	SD	Decision
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1	Ensure agricultural cooperatives comply with environmental regulations to easy operations of the farmers	3.35	.771	Agree
2	Minimize soil pollution to enable quality farming operations	3.28	.709	Agree
3	Ensure implementing efficient waste management practices to foster operational efficiency	3.31	.781	Agree
4	Help in identifying potential environmental risks to prevent disruptions of operational continuity	3.31	.781	Agree
5	Encourage environmental education fosters sustainable practices	3.32	.769	Agree
<b>Average Mean and Standard Deviation</b>		<b>3.81</b>	<b>0.762</b>	<b>Agree</b>

Source: Field Survey, 2024.

Table 5 presented the environmental controls of internal control system. The results indicated that items 1 to 5 have an average mean score of 3.81 with a standard deviation of 0.762. This average mean score is above 2.50 decision

point. This means that the enlisted environment controls have a relationship with operational performance of agricultural cooperatives in Anambra State.

**Table 6: Risk Assessment Controls:**

S/N	Risk Assessment Controls:	X	SD	Decision
6	Assist in identifying potential risks that could safeguards cooperatives' operations	3.32	.779	Agree
7	Prioritize risk management of the crops fosters sustainable agricultural practices	3.31	.736	Agree
8	Encourage collecting relevant data to improve agricultural production practices	3.35	.754	Agree
9	Explore different risk outcomes to effectively manage operational performance	3.31	.736	Agree
10	Help in identifying risk sources to prevent loses that affects operations of the cooperatives	3.31	.742	Agree
<b>Average Mean and Standard Deviation</b>		<b>3.32</b>	<b>0.749</b>	<b>Agree</b>

Source: Field Survey, 2024.

Table 6 showed the risk assessment controls of internal control system. The results indicated that items 6 to 10 have an average mean score of 3.32 with a standard deviation of 0.749. This average mean score is above 2.50 decision

point. This signifies that the enlisted risk assessment controls have a relationship with operational performance of agricultural cooperatives in Anambra State.

**Table 7: Financial Controls**

S/N	Financial Controls:	X	SD	Decision
11	Ensure the reliability of financial reporting for effective operations	3.47	.859	Agree
12	Assist in preventing financial transactions to improve operations	3.29	.723	Agree
13	Educate agricultural cooperatives the principles of financial intelligence to enhance productivity	3.45	.870	Agree
14	Encourage financial transactions of recordkeeping	3.45	.870	Agree
15	Ensure compliance of effective budgeting to ensure prompt provisions of operational tools	3.41	.843	Agree
<b>Average Mean and Standard Deviation</b>		<b>3.41</b>	<b>0.833</b>	<b>Agree</b>

Source: Field Survey, 2024.

Table 7 showed the financial controls of internal control system. The results indicated that items 11 to 15 have an average mean score of 3.41 with a standard deviation of 0.833. This average mean score is above 2.50 decision

point. This means, the enlisted financial controls have a relationship with operational performance of agricultural cooperatives in Anambra State.

**Table 8: Communication Controls**

S/N	Communication Controls:	X	SD	Decision
16	Ensure agricultural cooperatives have channels of communication during operations	3.42	.852	Agree
17	Make sure cooperatives get market analysis to increase operational performance	3.40	.814	Agree
18	Ensure agricultural cooperatives get current product prices so as to be motivated to improve performance	3.44	.826	Agree
19	Ensure cooperatives know where to buy agricultural products that help improve operational performance	3.38	.794	Agree
20	Provide places to get financial assistance that will help in enhancing operational performance	3.38	.799	Agree
<b>Average Mean and Standard Deviation</b>		<b>3.38</b>	<b>0.799</b>	<b>Agree</b>

Source: Field Survey, 2024.

Table 8 showed the communication controls of internal control system. The results indicated that items 16 to 20 have an average mean score of 3.38 with a standard deviation of 0.799. This average mean score is above 2.50

decision point. This means, the enlisted communication controls have a relationship with operational performance of agricultural cooperatives in Anambra State.

**Table 9: Operational Performance**

S/N	Operational Performance:	X	SD	Decision
21	Focuses on maximizing efficiency in farming	3.13	.990	Agree
22	Resources utilization to achieve optimal output with minimal inputs	3.30	.746	Agree
23	Emphasizes delivering high-quality products or services that meet or exceed customer expectations	3.20	1.011	Agree
24	Respond effectively to changing market conditions	3.11	1.004	Agree
25	Meeting customers' demand	3.41	.970	Agree
<b>Average Mean and Standard Deviation</b>		<b>3.23</b>	<b>0.944</b>	<b>Agree</b>

Source: Field Survey, 2024.

Table 9 showed the operational performance of agricultural cooperatives. The results indicated that items 21 to 25 have an average mean score of 3.23 with a standard deviation of 0.944. This average mean score is above 2.50 decision point. This means that the enlisted items are how to identify

operational performance of agricultural cooperatives in Anambra State.

**Research Question One:** What is the relationship between environment controls and operational performance of agricultural cooperatives in Anambra State?

**Table 10: Mean scores of the relationship between environment controls and operational performance of agricultural cooperatives in Anambra State**

Variables	Operational Performance	Environment Controls	No. of Respondents	Decision Relationship
Operational Performance	1	.875**	344	Relationship
Environment Controls	.875**	1	344	

Source: Field Survey, 2024.

Table 10 shows the relationship between environment controls and operational performance of agricultural cooperatives in Anambra State. The result revealed that the r-value was .819. This signifies that there is a positive relationship between environment controls and operational performance of agricultural cooperatives in Anambra State.

This means, 87.5% environment controls can improve operational performance of agricultural cooperatives in Anambra State.

**Research Question Two:** What are the relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State?

**Table 11: Mean scores of the relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State**

Variables	Operational Performance	Risk management Controls	No. of Respondents	Decision
Operational Performance	1	.720**	344	Relationship
Risk Management Controls	.720**	1	344	

Source: Field Survey, 2024.

Table 11 shows the relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State. The result revealed that the r-value was .819. This signifies that there is a positive relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State. This means, 72% efforts of risk

management controls can improve operational performance of agricultural cooperatives in Anambra State.

**Research Question Three:** What are the relationship between financial controls and operational performance of agricultural cooperatives in Anambra State?

**Table 12: Mean scores of the relationship between financial controls and operational performance of agricultural cooperatives in Anambra State**

Variables	Operational Performance	Financial Controls	No. of Respondents	Decision
Operational Performance	1	.860**	344	Relationship
Financial Controls	.860**	1	344	

Source: Field Survey, 2024.

Table 12 shows the relationship between financial controls and operational performance of agricultural cooperatives in Anambra State. The result revealed that the r-value was .932. This signifies that there is a positive relationship between financial controls and operational performance of agricultural cooperatives in Anambra State. This means,

86% efforts of financial controls can improve operational performance of agricultural cooperatives in Anambra State.

**Research Question Four:** What is the relationship between communication controls and operational performance of agricultural cooperatives in Anambra State?

**Table 13: The relationship between communication controls and operational performance of agricultural cooperatives in Anambra State**

Variables	Operational Performance	Communication Controls	No. of Respondents	Decision
Operational Performance	1	.849**	344	Relationship

<b>Communication Controls</b>	.849**	1	344
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Table 13 shows the relationship between communication controls and operational performance of agricultural cooperatives in Anambra State. The result revealed that the r-value was .900. This signifies that there is a positive relationship between communication controls and operational performance of agricultural cooperatives in Anambra State. This means, 84.9% efforts of communication controls can improve operational performance of agricultural cooperatives in Anambra State.

**4.3. Test of Hypotheses**

Hypothesis testing is a statistical procedure used to make inferences or draw conclusions about a population based on

sample data. The process involves formulating a null hypothesis and an alternative hypothesis, collecting data, and analyzing the data to determine if there is sufficient evidence to support or reject the null hypothesis in favor of the alternative hypothesis.

**Test of Hypothesis One**

H<sub>0</sub>: 1. There is no significant relationship between environment controls and operational performance of agricultural cooperatives in Anambra State.

H<sub>1</sub>: There is significant relationship between environment controls and operational performance of agricultural cooperatives in Anambra State

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	Sign.
1	.875 <sup>a</sup>	.765	.752	.44158	58.670	.000 <sup>b</sup>

**Table 14: Summary of the Results of Test of Hypothesis One**

a. Predictors: (Constant), Environment Controls

The result in Table 14 showed that the results of hypothesis one and it revealed that the R value was .875 while R Square value is 0.765. This result indicated that the null hypothesis was rejected while the alternative was retained. Thus, there is significant relationship between environment controls and operational performance of agricultural cooperatives in Anambra State. This also indicated that

76.5% of environment controls improve operational performance of agricultural cooperatives in Anambra State.

**Test of Hypothesis Two**

H<sub>0</sub>: There is no significant relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State.

H<sub>1</sub>: There is significant relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	Sign.
1	.720 <sup>a</sup>	.519	.492	.63236	19.386	.000

**Table 15: Summary of the Results of Test of Hypothesis Two**

a. Predictors: (Constant), Risk Management Controls

The result in table 15 showed that the results of hypothesis one and it revealed that the R value was 0.720 while R Square value is 0.519. This result indicated that the null hypothesis was rejected while the alternative was retained. Thus, there is significant relationship between risk management controls and operational performance of agricultural cooperatives in Anambra State. This also indicated that 51.9% of risk management controls improve operational performance of agricultural cooperatives in Anambra State.

**Test of Hypothesis Three**

H<sub>0</sub>: There is no significant relationship between financial controls and operational performance of agricultural cooperatives in Anambra State.

H<sub>1</sub>: There is significant relationship between financial controls and operational performance of agricultural cooperatives in Anambra State.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	Sign.
1	.860 <sup>a</sup>	.740	.726	.46453	51.280	.000

**Table 16: Summary of the Results of Test of Hypothesis Three**

a. Predictors: (Constant), Financial Controls

The result in table 16 showed that the results of hypothesis one and it revealed that the R value was 0.860 while R Square value is 0.740. This result indicated that the null hypothesis was rejected while the alternative was retained. Thus, there is significant relationship between financial controls and operational performance of agricultural cooperatives in Anambra State. This also indicated that 74% of financial controls improve operational performance of agricultural cooperatives in Anambra State.

**Test of Hypothesis Four**

H<sub>0</sub>: There is no significant relationship between communication controls and operational performance of agricultural cooperatives in Anambra State.

H<sub>1</sub>: There is significant relationship between communication controls and operational performance of agricultural cooperatives in Anambra State.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Value	Sign.
1	.849 <sup>a</sup>	.720	.705	.48182	46.398	.000

**Table 17: Summary of the Results of Test of Hypothesis Four**

a. Predictors: (Constant), Communication Controls

The result in table 17 showed that the results of hypothesis one and it revealed that the R value was 0.849 while R Square value is 0.720. This result indicated that the null hypothesis was rejected while the alternative was retained. Thus, there is significant relationship between communication controls and operational performance of agricultural cooperatives in Anambra State. This also indicated that 72% of communication controls improve operational performance of agricultural cooperatives in Anambra State.

**4.4. Discussion of Findings**

The findings of research question one and hypothesis one showed that there is significant relationship between environment controls and operational performance of agricultural cooperatives in Anambra State. This finding is in agreement with Akerele (2018) findings that effective environmental controls, such as waste management, sustainable practices, and compliance with regulations, have a direct impact on the productivity, efficiency, and profitability of agricultural cooperatives in Nigeria. More so, the findings of Okoro (2019) stated that by implementing robust environmental controls, cooperatives

can reduce environmental risks, improve resource utilization, and enhance operational processes, leading to increased competitiveness and long-term sustainability. These findings underscore the importance of environmental management in driving operational performance in Nigeria's agricultural cooperatives.

The findings of research question two and hypothesis two showed that there is significant relationship between risk mitigation controls and operational performance of agricultural cooperatives in Anambra State. This finding is in agreement with Amadi and Okafor (2020) findings that effective risk management practices, such as risk assessment, mitigation strategies, and contingency planning, directly impact the resilience, stability, and profitability of agricultural cooperatives in Nigeria. Ogunmuyiwa and Ogunsola (2021) also found that by implementing robust risk management controls, cooperatives can proactively identify and address potential threats, improve decision-making processes, and enhance overall operational efficiency and performance. These findings highlight the critical role of risk management in ensuring the sustainability and success of agricultural cooperatives in Nigeria's agricultural sector.

The findings of research question three indicated that and hypothesis three indicated that there is significant relationship between financial controls and operational performance of agricultural cooperatives in Anambra State. In line with this finding, Okoro et al. (2018) emphasized that effective financial controls, including budgeting, accounting practices, and financial reporting, play a crucial role in enhancing the financial stability, transparency, and accountability of agricultural cooperatives in Nigeria. Ogunmuyiwa and Ogunsola (2021) also found that by implementing strong financial controls, cooperatives can better manage resources, reduce financial risks, and make informed strategic decisions, ultimately leading to improved operational performance and long-term viability. These findings emphasize the importance of sound financial management in driving success in Nigeria's agricultural cooperatives.

Furthermore, the results of research question four and hypothesis four revealed that there is significant relationship between financial controls and operational performance of agricultural cooperatives in Anambra State. In affirmation to this finding, Olaniyi and Olaniyan (2019) emphasized that the implementation of robust financial control measures, such as budgetary controls, internal audits, and financial reporting standards, contributed to improved operational performance. These financial controls helped in optimizing resource allocation, reducing financial risks, and ensuring transparency and accountability in financial management practices. As a result, agricultural cooperatives were able to enhance productivity, reduce costs, and achieve better financial sustainability. Furthermore, Ogunleye and Afolabi (2020) findings affirmed that effective communication controls, such as clear channels of communication, timely information sharing, and stakeholder engagement, are essential for improving coordination, decision-making, and overall performance within cooperatives. Adebayo and Adewale (2019) findings revealed that by fostering transparent and open communication practices, cooperatives can enhance teamwork, resolve conflicts, and align organizational goals, leading to increased productivity and competitiveness. These findings highlight the critical role of communication management in driving operational success in Nigeria's agricultural

#### IV. CONCLUSION

The relationship between internal control systems and operational performance in cooperatives, encompassing environmental controls, risk management controls, financial controls, and communication controls, underscores the vital role these controls play in ensuring efficiency, effectiveness, and sustainability. Effective environmental controls ensure agricultural cooperatives comply with environmental regulations to easy operations of the farmers, minimize soil pollution to enable quality farming operations and ensure

implementing efficient waste management practices to foster operational efficiency. Also, risk assessment controls assist in identifying potential risks that could safeguards cooperatives' operations and prioritize risk management of the crops fosters sustainable agricultural practices. Besides, financial controls ensure the reliability of financial reporting for effective operations and assist in preventing financial transactions to improve operations. In addition, communication controls ensure agricultural cooperatives have channels of communication during operations and make sure cooperatives get market analysis to increase operational performance.

#### 5.3. Recommendations

Based on the findings of this study, the following were recommended:

1. Agricultural cooperatives should implement an effective environmental control to ensure agricultural cooperatives comply with environmental regulations to easy operations of the farmers.
2. Agricultural cooperatives should leverage risk management controls because these control assist in identifying potential risks that could safeguards cooperatives' operations
3. Agricultural cooperatives should strengthen financial controls as these ensure the reliability of financial reporting for effective operations.
4. Agricultural cooperatives should strengthen their communication controls as these ensure agricultural cooperatives have channels of communication during operations.

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