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A Structural Equation Model on Organizational Performance Among Agricultural Cooperatives in Region XI

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Abstract
The main objective of this study is to identify the best-fit model for the organizational performance of agricultural cooperatives. This study utilized the quantitative, non-experimental design research approach and the structural equation model (SEM) was utilized to get the best fit model. The researcher surveyed 409 officers or head of office from well-known agricultural cooperatives in Region XI who have managerial or supervisory responsibilities utilizing purposive sampling technique. The data was analyzed using these statistical tools: Mean, Pearson-r, and Structural Equation Modeling. Results revealed that the level of the exogenous variables – organizational support, total quality management, corporate stakeholder responsibility, and endogenous variable – organizational performance are all very high. Second, there are significant positive relationship between the exogenous variables – organizational support, total quality management, corporate stakeholder responsibility, towards the endogenous variable – organizational performance. Lastly, among the three structural models examined, only Model 1 consistently demonstrated indices indicating an exceptional fit to the data, thereby establishing it as the best fit model. This is indicated by organizational support, total quality management, and corporate stakeholder responsibility.

Keywords: business administration, organizational support, total quality management, corporate stakeholder responsibility, organizational performance, Philippines

SDG Indicator: #11 (Sustainable Cities and Communities), #12 (Sustainable Consumption and Production).

1. INTRODUCTION

There have been a growing number of Thai Credit Union Cooperatives that have failed since 2013. This is due to corruption or bad investment choices. Unfortunately, Thai cooperatives have their own set of issues. Cooperative termination rates are high and rising in Thailand, with 2.2 co-ops being liquidated for every newly registered co-operative, according to the Co-operatives Promotion Department of Thailand (Laliwan & Potipiroon, 2022). For Cooperative members and larger communities, the demise of these institutions poses major issues (Kumkit, Anh, Gan, & Hu, 2023). Moreover, Budiyah, and Suyono (2020) highlighted that poor governance implementation can result in a weakened internal control mechanism,

which therefore encourages the exploitation of cooperative resources for private benefit, as in several cooperative corruption instances which affects the organizational performance of a certain organization.

Organizational problems mentioned above necessitates good corporate governance (GCG), because GCG need a governance structure that might help to ensure that all stakeholders are treated fairly and promote shareholder trust (Ahmed, 2023). A good system would guarantee that management works for the interest of the firm and give effective protection to shareholders to recoup their investments sensibly, effectively, and efficiently (Sunaryo, Zuhrohtun, EK, Kusumswardhani, & Susanto, 2023). Cooperatives are essential for rural development and finance. Cooperatives that include solid governance into their operational processes are more competitive and function well as an organization. The growth and development of cooperatives have been shown to be significantly influenced by the competitive process governed by excellent governance (Tripathy, Paliwal, & Nistala, 2021). In fact, as per Aini, and Djoko Setyadi (2022) when an organization practices effective governance, the danger of making bad decisions is reduced, which can enhance employee performance.

While a cooperative's goal is to satisfy a shared demand among its members and to offer them more advantages, like raising member incomes or improving their way of life (Do, 2020). Many farmers' organizations and cooperatives in Philippines still failed to maintain a profitable operation due to a lack of expertise and training, which has discouraged countless Filipino producers from joining or starting such groups (Ocampo, 2020). As a result, the majority of farmers miss out on opportunities to increase their income and never move above output. Consequently, the researcher is compelled to examine the following variables in this context: Organizational Support, Total Quality Management, Corporate Stakeholder Responsibility and Organizational Performance. Ensuring a good organizational performance and knowing the factors that greatly affect it is necessary in order to provide relevant programs based on the results of the study.

In relation, Cooperatives in the Philippines are intended to uplift farmers by pooling resources and improving livelihoods, yet many fail to sustain profitability due to limited expertise and training, discouraging participation and leaving farmers stuck at subsistence-level production. This situation highlights the urgent need to study the variables influencing cooperative success, specifically Organizational Support, Total Quality Management, Corporate Stakeholder Responsibility, and Organizational Performance since understanding these variables can guide the design of evidence-based programs that strengthen cooperative operations, empower farmers, and promote inclusive rural development.

This study aims to come up with the best-fit model for organizational performance in Region XI. Specifically, it aims to answer the following objectives: First, to determine the level of Organizational Support of Agricultural Cooperatives in terms of company's organizational supportiveness, caring attitude of organization, and appreciation of effort. Second, it aims to ascertain the level of Total Quality Management in terms of Service Quality Education & Training Level of Promotion, Service Quality Strategy Mgt, Customer Relationship Mgt., Service Process Mgt., Service Design Mgt., Senior Management Participation in Quality Control Activity, and Level of Computerization on Quality Information of the cooperatives.

Third to assess the level of Corporate Stakeholder Responsibility in terms of Local community-oriented CSR, Natural environment-oriented CSR, Employee-Oriented CSR, Supplier-Oriented CSR, Customer-Oriented CSR, and Shareholder-Oriented CSR. Fourth, to know the level of Organizational Performance in terms of Economic, Environmental, Community, Human, and Governance Performance. Fifth, to

determine the significant relationship between Organizational support and organizational performance, Total Quality Management, and organizational performance, and Corporate Stakeholder Responsibility and organizational performance. Sixth, to determine which exogenous variable/s significantly influence the organizational performance of agricultural cooperatives, and finally, to identify the best-fit model for the organizational performance of agricultural cooperatives. Presented in Figure 1 is the Conceptual Framework of the study.

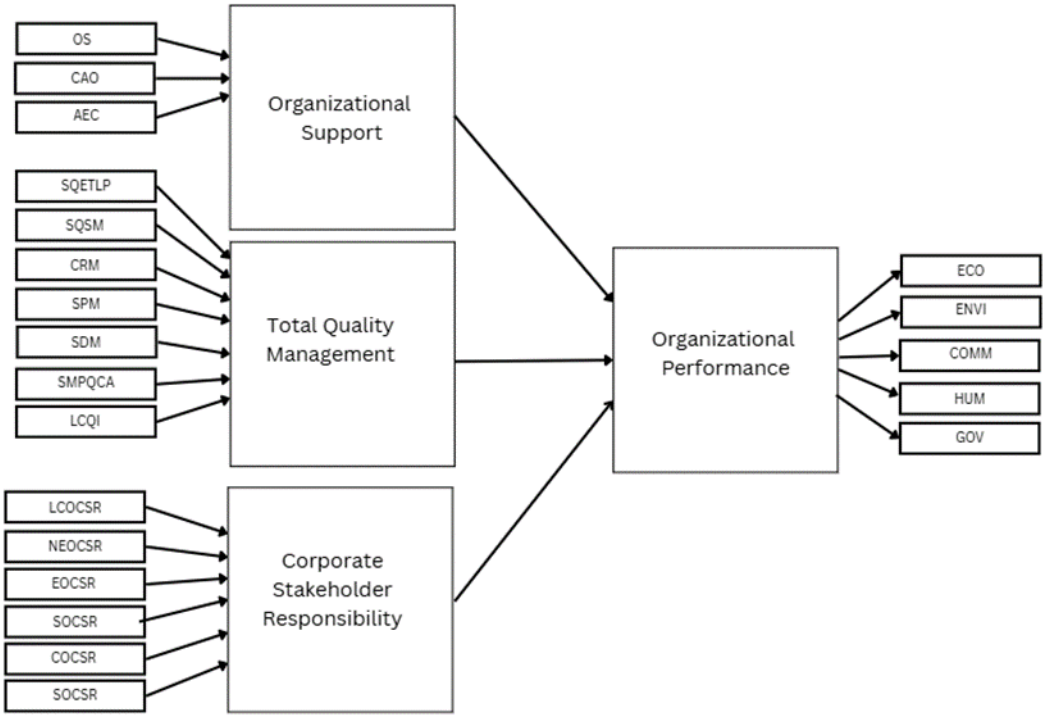

Figure 1. ***Conceptual Framework of the Study***

Legend:

Organizational Support	**Corporate Stakeholder Responsibility**
• OS - Organizational Supportiveness • CAO – Caring Attitude of Organization	• LCOCSR – Local community-oriented Corporate Stakeholder Responsibility
• AEC – Appreciation of Effort	• NEOCSR – Natural Environment-Oriented Corporate Stakeholder Responsibility
Total Quality Management • SQETLP – Service Quality Education &	• EOCSR – Employee-Oriented Corporate Stakeholder Responsibility
Training Level of Promotion • SQSM – Service Quality Strategy	• SOCSR – Supplier-Oriented Corporate Stakeholder Responsibility
Management • CRM – Customer Relationship Mgt.	• COCSR – Customer-Oriented Corporate Stakeholder Responsibility
• SPM – Service Process Management • SDM – Service Design Management	• SOCSR – Shareholder-Oriented Corporate Stakeholder Responsibility
• SMPQCA – Senior Management	
Participation in Quality Control Activity	**Organizational Performance**

• LCQI – Level of Computerization on Quality Information	• ECO – Economic Performance • ENVI – Environmental Performance • COMM – Community Performance • HUM – Human Performance • GOV – Governance Performance

This study is anchored on the theory of Behavioral management theory of Petit (1967), Deming's TQM Theory (Gartner & Naughton, 1988; Saunders, & Saunders, 1994), and Stakeholder Theory (Friedman & Miles, 2002). Moreover, this study aligns with several Sustainable Development Goals (SDGs) and has the potential to benefit wider societal good. Specifically, the Sustainable Development Goal indicator #11 Sustainable Cities and Communities, #12 Sustainable Consumption and Production.

Specifically, several theories and related studies were taken to support the study. These theories were organized as per correlation between measures. For the variable Organizational Support and Organizational Performance, this correlation is rooted on the Behavioral management theory of Petit (1967) which says that managers consider how raising employee motivation will boost workplace productivity, which will enhance the organization's success. In addition, the organizational support theory (OST) supports this study as well, emphasizing how crucial it is to view people as valuable organizational assets that are worthy of the company's commitment. In return, employees will put in a lot of effort to improve the organizational performance of the firm (Aldabbas, Pinnington, & Lahrech, 2023).

Also, for Total Quality Management and Organizational Performance this is anchored on Deming's TQM Theory (Gartner & Naughton, 1988; Saunders, & Saunders, 1994) where Total quality management was founded on his claim and that continual improvement raises manufacturing quality and productivity, enhancing customer satisfaction as costs fall. That will contribute to better organizational performance. Moreover, this study is also anchored to the system theory, which highlights that open system is necessary in a certain company, in which each component is interdependent and interrelated. Since the theory considers an organization as a whole and assumes that synergy is essential, system theory helps explain the relationship between Total Quality Management and overall organizational performance as the influence of one department on other departments within an organization influences other departments (Liu, Zhuang, & Shen, 2023).

Lastly, Sustainable Development and Organizational Performance is anchored on Stakeholder Theory. This theory of capitalism places a strong emphasis on the relationships that exist between a business's customers, suppliers, employees, investors, and communities. According to the theory, a company should generate value for all of its stakeholders, not just its shareholders (Friedman & Miles, 2002). Further, a mutually beneficial stakeholder relationship can improve a corporation's ability to generate wealth, while failing to do so reduces that ability (Post, Preston, & Sachs, 2002).

In the Philippines, cooperatives are vital to the country's economy because they promote socioeconomic growth, give people more influence, and improve financial inclusion. The Philippines had about 20,105 registered cooperatives as of 2022, spanning a number of industries such as consumer products, services, finance, and agriculture. These cooperatives come in a variety of forms, from modest neighborhood projects to bigger, multi-sectoral establishments (Lu, 2023). As per Cooperative Development Authority's September 2025 record, 12,192 out of 20,962 agricultural cooperatives are compliant coops (Cooperative Development Authority, 2025). The compliance rate is around 58% while 42% are not. In addition, this study is relevant to the Administration's research priority in the Philippines, the Agriculture Sector. This

is also in line with the Sustainable Development Goal indicator #1 No Poverty, #2 Zero Hunger, #12 Sustainable Consumption and Production.

Policy makers interested in cooperative growth would find this study useful as it offers insight into how governance, member commitment, incentives, cooperative principles, and technology impact agricultural co-ops' success. Secondly, the study would also benefit the different agricultural cooperatives sector as it can provide data analysis on the organizational performance of the cooperatives in this region. Finally, the study will add to the body of information that academics researching cooperative societies may delve into. It can also be utilized as a reference point and source of secondary material by researchers wishing to go deeper into the subject.

2. METHODS

Presented in this study is the Research Methodology. Particularly this contains details regarding the Research Participants, Materials and Instruments, and Design and Procedure.

Research Respondents

Scientific process was employed in choosing the respondents. Furthermore, the study utilized a purposive sampling technique to determine the respondents. Obilor (2023) defined Purposive sampling as a type of non-probability sampling in which researchers deliberately select participants who meet the specific objectives of the study. This approach enables researchers to exclude responses that fall outside the study's context, ensuring that the data collected is more relevant and reliable. By focusing on sources closely aligned with the research framework, purposive sampling also helps minimize errors in data collection (Tajik, Golzar, & Noor, 2025).

The study includes officers or head of office from well-known agricultural cooperatives in Region XI who have managerial or supervisory responsibilities. Respondent-officers were individuals who have worked for the cooperative for a minimum of one year, while employee-respondents were those who have held managerial and supervisory positions for at least one-year and have been employed in the cooperative for a minimum of one year. Moreover, the selected agricultural cooperative must be at least 5-years in operation.

Materials and Instrument

A questionnaire that the researcher downloaded from the internet was used. The survey was modified to only contain questions that are pertinent to the research. After presenting the manuscript to the researcher's adviser for feedback, experts were asked to evaluate the desired questionnaire. The researcher established a direct face-to-face interaction with participants. Additionally, steps were taken to ensure participants fully understand how information was shared and discussed during these in-person meetings, thereby supporting transparency and informed consent. Following the experts' validation, a pilot test utilizing Cronbach Alpha was conducted to assess the questionnaires' reliability. According to Gliem (2003), Cronbach's alpha reliability coefficient typically ranges between 0 and 1, although in practice it has no absolute lower bound. The closer the coefficient is to 1.0, the stronger the internal consistency among the scale's items. The pilot test (N = 36) produced a Cronbach's alpha of 0.997 across 168 items, indicating an excellent internal consistency and that the survey scales are reliably measuring cohesive constructs. This also means that the item-total correlations are uniformly strong and most item standard deviations are below 1.0 (the expected benchmark for a five-point Likert scale), which further supports consistent respondent answers.

This questionnaire consisted of variables such as: organizational performance, organizational support,

TQM, and sustainable development. There are four instruments that were used in this study namely: Organizational performance scale, Organizational support scale, Total Quality Management scale, and sustainable development scale.

Organizational Performance Scale (OPS). Based on Crucke and Decramer's (2016) dissertation, the scale was designed to measure cooperative organizational performance. The instrument included variables that are connected to both the individual's assessment of the circumstance and the cooperative's performance. OPS consists of 52 items divided into seven sub-scale: Capability, Resource, Environment. Strategy, Process, Measure and Analysis, Innovation and Learning.

Organizational Support Scale (OSS). Organizational Support Scale was developed by Jain and Sinha (2005) that helps measure the Cooperative's level of support given to its employees. The OSS instrument consists of 20 items divided into 3 subscales: Organizational Supportiveness, Caring Attitude of Organization, and Appreciation of Effort.

TQM Scale (TS). TQM Scale was developed by Liu (2016). The TPS instrument consists of 35 items divided into 7 subscales: Service Quality Education & Training Level of Promotion, Service Quality Strategy Management, Customer Relationship Management, Service Process Management, Service Design Management, Senior Management Participation in Quality Control Activity, and Level of Computerization on Quality Information.

Corporate Stakeholder Responsibility Scale (CSRS). El Akremi, Gond, Swaen, De Roeck, and Igalens (2018) developed the Corporate Stakeholder Responsibility Scale. The SDS instrument consists of 10 items divided into 3 subscales: Social Development, Economic Development, and Environmental Development.

Design and Procedure

The quantitative, non-experimental design research approach was used in this investigation. The structural equation model (SEM) was utilized to get the best fit model.

In order to measure the relationships of variables with different levels of measurement, the descriptive-correlational method of research was employed first. Szapkiw (2012) explains that descriptive-correlational studies examine the extent to which two or more variables are related, providing insights into the dynamics within a particular group of people.

Second the structural equation model, or SEM was used. According to Lomax and Li (2013), this approach tests theoretical relationships between latent variables by combining factor analysis and path analysis. Because any number of variables of any kind (i.e., observable, latent, independent, and/or dependent variables) can be included, models can be as basic or as complicated as needed. Better measurement conditions (i.e., validity and reliability) are made possible by using many measurements of each latent variable rather than a single measure when factor analysis is included into structural equation modeling. The relationship between organizational support, TQM, and the Sustainable Development of Agricultural Cooperatives in Region XI was assessed using this methodology.

Lastly, the data was analyzed and the hypotheses evaluated at the 0.05 significance level through the use of the following statistical tools. Mean. The level of the variables was determined using this. Pearson (r). This was used to ascertain how the aforementioned variables relate to one another. SEM stands for structural equation modeling. This was used to investigate the model that fits the data the best.

Moreover, Goodness-of-fit statistics for the alternative model were assessed using Analysis of Moment Structure (AMOS). To determine the best-fitting model, all index values must satisfy the established criteria:

Chi Square/Degree of Freedom (CMIN/DF)	< 3
Normative Fit Index (NFI)	> .95
Tucker-Lewis Index (TLI)	> .95
Comparative Fit Index (CFI)	> .95
Goodness of Fit Index (GFI)	> .95
Root Mean Square Error of Approximation (RMSEA)	< .08
P-close	> .05

3. RESULT AND DISCUSSION

This section presents the data and a detailed breakdown of respondents' perceptions and opinions on the organizational performance of agricultural cooperatives in Region XI. The discussion is organized under subheadings that report the mean and standard deviation for the different constructs: organizational support, total quality management, corporate stakeholder responsibility, and organizational performance. Further explore the relationships among these constructs, and identify the best fit model that predicts organizational performance. Table 1 shows a standard deviation below 1.0, the typical benchmark for a five-point Likert scale, indicating consistent responses.

Organizational Support, Total Quality Management, Corporate Stakeholder Responsibility, and Organizational Performance

Table 1 presents the level of the four latent variables: Organizational Support, Total Quality Management, Corporate Stakeholder Responsibility, and Organizational Performance overall and subscale means and standard deviations. As presented in the table, all of the exogenous variable got a very high level with Total Quality Management having the highest mean score. The result implies that the agricultural cooperative values its employees' contributions to its well-being, gives strong consideration to their goals and values, and takes particular pride in having them, especially their supervisors, within the organization. The result is in line with the proposition of Ridwan, Mulyani, and Ali (2020) who emphasized that organizational support can make employees feel cared for and comfortable when they take shelter in an organization. If an employee in an organization can feel the support of the organization in accordance with the norms, desires, expectations of employees, then by itself a commitment will be formed from employees to meet their obligations to the organization (Utomo, Irwantoro, Wasesa, Purwati, Sembiring, & Purwanto, 2023).

Table 1

Level of Organizational Support, Total Quality Management, Corporate Stakeholder Responsibility, and Organizational Performance

Variable	Mean	SD	Description
Organizational Support	**4.50**	**0.38**	**Very High**
Organizational Supportiveness	4.53	0.47	Very High
Caring Attitude of Organizations	4.49	0.46	Very High
Appreciation of Effort	4.50	0.43	Very High
Total Quality Management	**4.51**	**0.38**	**Very High**
Service Quality Education & Training Level of Promotion	4.67	0.41	Very High
Service Quality Strategy Management	4.50	0.45	Very High
Customer Relationship Management	4.46	0.52	Very High

Service Process Management	4.47	0.51	Very High
Service Design Management	4.53	0.50	Very High
Senior Management Participation in Quality Control Activity	4.52	0.53	Very High
Level of Computerization on Quality Information	4.47	0.55	Very High
Corporate Stakeholder Responsibility	**4.41**	**0.43**	**Very High**
Local community-oriented services	4.31	0.66	Very High
Natural environment-oriented CSR	4.37	0.53	Very High
Employee-oriented CSR	4.48	0.46	Very High
Supplier-Oriented CSR	4.40	0.47	Very High
Customer-oriented CSR	4.43	0.46	Very High
Shareholder-oriented CSR	4.46	0.46	Very High
Organizational Performance	**4.37**	**0.37**	**Very High**
Economic Performance	4.46	0.49	Very High
Environmental Performance	4.50	0.50	Very High
Community Performance	3.86	0.75	High
Human Performance	4.55	0.43	Very High
Governance Performance	4.50	0.47	Very High

Moreover, Eisenberger, Rhoades Shanock, and Wen (2020) emphasized that employees who perceive strong organizational support are more likely to demonstrate both affective and normative commitment. This signifies that if the agricultural cooperative gives its full support to the employees, it may have a positive effect on their performance.

Moreover, the overall mean for the exogenous variable, *Total Quality Management* is 4.51, with a Standard Deviation of 0.38 interpreted as very high. Specifically, *Service Quality Education & Training Level of Promotion* got the highest mean of 4.67, with a standard deviation of 0.41 interpreted as very high. The result implies that the agricultural cooperative has set specific short-term service quality goals, places strong emphasis on the design quality of new services, establishes clear service specifications and design processes, and ensures active senior management involvement in quality management activities.

Moreover, agricultural cooperatives demonstrate a commitment to service quality through the establishment of short-term objectives, structured design processes, and active leadership involvement. Conales (2022) stresses the need for continuous assessment of member satisfaction to refine service quality goals, while Ituriaga, Mariñas, and Saflor (2024) argue that resilience in agricultural services depends on sustainability-focused design and clear specifications. Complementing these perspectives, Attolba-Aquino and Castañeda (2025) highlight that senior management engagement in planning and organizing is indispensable for cooperative sustainability. Together, these studies affirm that cooperatives achieve service excellence by combining goal-setting, design quality, process clarity, and leadership involvement.

Moreover, the overall mean for the exogenous variable, *Corporate Stakeholder Responsibility* is 4.41, with a Standard Deviation of 0.43 interpreted as very high. Specifically, *Employee-Oriented CSR* got the highest mean of 4.48, with a standard deviation of 0.46 interpreted as very high. The result implies that the agricultural cooperative actively promotes employee safety and health, upholds non-discrimination in recruitment and promotion policies (regardless of age, gender, disability, ethnicity, or religion), ensures

transparent and accurate communication with shareholders, and consistently honors its commitments to customers.

Further, Agricultural cooperatives reinforce sustainability and stakeholder trust by prioritizing employee welfare, inclusivity, transparent communication, and customer commitment. Georges, Caleman, and Monteiro (2022) emphasize that transparent and consistent communication with cooperative members and shareholders is essential for accountability and organizational resilience. Similarly, the Cooperative Development Authority (2023) outlines ethical standards for Philippine cooperatives, mandating employee safety, health promotion, and non-discrimination in recruitment and promotion policies across age, gender, disability, ethnicity, and religion. Complementing these perspectives, Attolba-Aquino and Castañeda (2025) highlight that cooperative sustainability depends on strong leadership involvement and ethical practices, particularly in honoring commitments to customers and ensuring equitable treatment of employees. Together, these studies affirm that modern cooperatives achieve resilience by embedding ethics, inclusivity, and transparency into their governance structures.

Finally, the overall mean for the endogenous variable, *Organizational Performance* is 4.37, with a Standard Deviation of 0.37 interpreted as very high. Specifically, *Human Performance* got the highest mean of 4.55, with a standard deviation of 0.43 interpreted as very high. The result implies that the agricultural cooperative adopts inclusive management policies, prioritizes employee training and development, favors green products in its purchasing practices, integrates environmental performance objectives into organizational plans, and demonstrates a clear understanding of its mission.

The agricultural cooperatives increasingly integrate inclusivity and sustainability into their management systems by aligning employee development, environmental responsibility, and mission clarity. Cruz and Quilloy (2021) demonstrated that green training enhances cooperative members' knowledge and willingness to adopt eco-friendly practices, underscoring the importance of employee training and development. Expanding this perspective, Cervantes, Dakina, Modasir, Monteza, Ocor, and Orillo (2023) analyzed the sustainability of agricultural cooperatives and found that environmental practices such as biodiversity preservation and resource conservation are central to cooperative resilience, directly supporting the integration of environmental performance objectives into organizational plans. Complementing these findings, Attolba-Aquino and Castañeda (2025) examined sustainable cooperative management practices and emphasized that effective planning, organizing, and leadership involvement are critical for embedding environmental goals and clarifying mission orientation. Together, these studies affirm that modern cooperatives achieve resilience and stakeholder trust by combining inclusive management, employee training, green purchasing, and mission-driven leadership.

Significance of the Relationship between Exogenous and Endogenous Variables

Table 2 displays the correlation results between organizational support, total quality management, and corporate stakeholder responsibility as exogenous variables, and organizational performance as the endogenous variable, both individually and collectively. Using Pearson-r, the analysis shows that there are significant relationships between the exogenous and endogenous variables, with all p-values falling below the 0.05 threshold ($p < 0.05$). Consequently, the null hypothesis of no significant relationship is rejected.

Table 2 ***Correlation Analysis Between Variables***

		TQM	OS	CSR	OP
TQM	r-value	1	.696**	.824**	.664**
	p-value	.	0	0	0

OS	r-value	.696**	1	.724**	.648**
	p-value	0	.	0	0
CSR	r-value	.824**	.724**	1	.792**
	p-value	0	0	.	0
OP	r-value	.664**	.648**	.792**	1
	p-value	0	0	0	.

Legend:

TQM – Total Quality Management
CSR – Corporate Stakeholder Responsibility
OP – Organizational Support
OP – Organizational Performance

Specifically, the correlation results indicate that all four variables: Total Quality Management (TQM), Organizational Support (OS), Corporate Stakeholder Responsibility (CSR), and Organizational Performance (OP) are strongly and positively correlated to one another, with all coefficients statistically tested at 0.05 level of significance. Among these, the strongest relationship is between TQM and CSR (r = 0.824), suggesting that organizations that emphasize quality management are also highly engaged in socially responsible practices. CSR also shows the strongest link to OP (r = 0.792), highlighting its critical role in driving organizational performance. Meanwhile, OS demonstrates also a strong positive correlation with both CSR (r = 0.724) and OP (r = 0.648), underscoring the importance of effective organizational initiatives in supporting responsibility and performance. This implies that organizations seeking higher performance should integrate total quality management, organizational support, and stakeholder responsibility as complementary strategies.

The findings of the study validate the theoretical foundations on which it was anchored. First, Petit's Behavioral Management Theory (1967) emphasized that managers enhance organizational success by raising employee motivation, thereby improving workplace productivity. Second, Deming's Total Quality Management (TQM) Theory (Gartner & Naughton, 1988; Saunders & Saunders, 1994) emphasizes continual improvement as a means of elevating manufacturing quality and productivity, which in turn enhances customer satisfaction while reducing costs. Lastly, the Stakeholder Theory of Friedman and Miles (2002) who highlights the importance of capitalism rooted in relationships among customers, suppliers, employees, investors, and communities. This theory asserts that organizations must generate value for all stakeholders, not solely for shareholders, thereby reinforcing inclusivity and long-term sustainability.

Regression Analysis of the Influence of Exogenous Variables towards Endogenous Variable

The data shown in Table 3 are the regression coefficients to test the significant influence of the exogenous variables towards the endogenous variable. The model explains 69.8% of the variance in organizational performance — very strong for behavioral data. Moreover, Corporate Stakeholder Responsibility ($\beta \approx 0.5167$) is the dominant predictor. Total Quality Management ($\beta \approx 0.1966$) is the second strongest driver. While, Organizational support is significant but weaker once the other two are controlled. Finally, all predictors are statistically significant ($p < .01$).

Table 3

***Regression Analysis of the Influence of Exogenous Variables* towards Endogenous Variable**

Predictor	Unstandardized	Standard Error	t-value	p-value	Decision
Constant	0.8338	0.122			
Corporate Stakeholder Responsibility	0.5167	0.047	10.937	0.000	Reject
Organizational Support	0.0821	0.031	2.676	0.008	Reject
Total Quality Management	0.1966	0.052	3.809	0.000	Reject
r-value **r2** **F-value** **p-value**	0.701 0.698 317.5 < 0.001				

Best-Fit Model that Predicts Agricultural Cooperatives' Organizational Performance

This section examines the relationships among the research variables. To determine the most suitable model for the data, three organizational performance models were tested. Each model comprises two components: a measurement model and a structural model. The structural model defines the latent variables, while the measurement model captures the latent constructs through the observed variable loadings.

Moreover, the goal of this study was to find which model of organizational performance best fits the data and to compare the relationships among the different models. A model is considered a good fit when the hypothesized relationships among latent and observed variables adequately correspond with the empirical data. The first model, shown in Figure 1, had to be adjusted so it could better explain which factors predict organizational performance. To answer this question, three different models were created and tested.

Table 4 presents the results of the goodness-of-fit indices for the three tested models. Among the three structural models, Model 1 demonstrated the best overall fit to the data. All goodness-of-fit indices exceeded the recommended thresholds (CFI = 0.993, TLI = 0.989, NFI = 0.982, GFI = 0.971, RMSEA = 0.038, P-close = 0.711), indicating excellent model adequacy. Furthermore, Model 1 explained 70.1% of the variance in organizational performance, outperforming Models 2 and 3. These results confirm that corporate shareholder responsibility, organizational support, and total quality management jointly and significantly predict organizational performance.

Table 4

Summary of Goodness of Fit Measures for Organizational Performance

Index	Criterion	Model 1	Model 2	Model 3
CMIN/DF	< 3.00	1.41	1.98	2.63
p-value	> 0.05	0	0	0
NFI	> 0.95	0.982	0.964	0.941
TLI	> 0.95	0.989	0.972	0.953

CFI	> 0.95	0.993	0.978	0.959
GFI	> 0.95	0.971	0.953	0.936
RMSEA	< 0.08	0.038	0.057	0.071
Pclose	> 0.05	0.711	0.216	0.041

Legend:

CMIN/DF - Minimum Discrepancy divided by Degrees of Freedom — CFI - Comparative Fit Index

p-value - probability value — GFI - Goodness of Fit Index

RMSEA - Root Mean Square Error of Approximation — NFI - Normal Fit Index

TLI- Tucker - Lewis Index — Pclose - test of Close Fit

Moreover, after iterative model re-specification, low-loading indicators were eliminated to improve construct validity. The final measurement model retained three indicators per construct as shown in Figure 2. Shown in the Appendices also that the Composite reliability values ranged from 0.60 to 0.60, which is acceptable for exploratory structural equation modeling. All HTMT values were below the 0.85 threshold, confirming discriminant validity among constructs. All retained indicators load significantly on their intended latent variables ($p < .001$), meeting minimum factor loading requirements (>0.60).

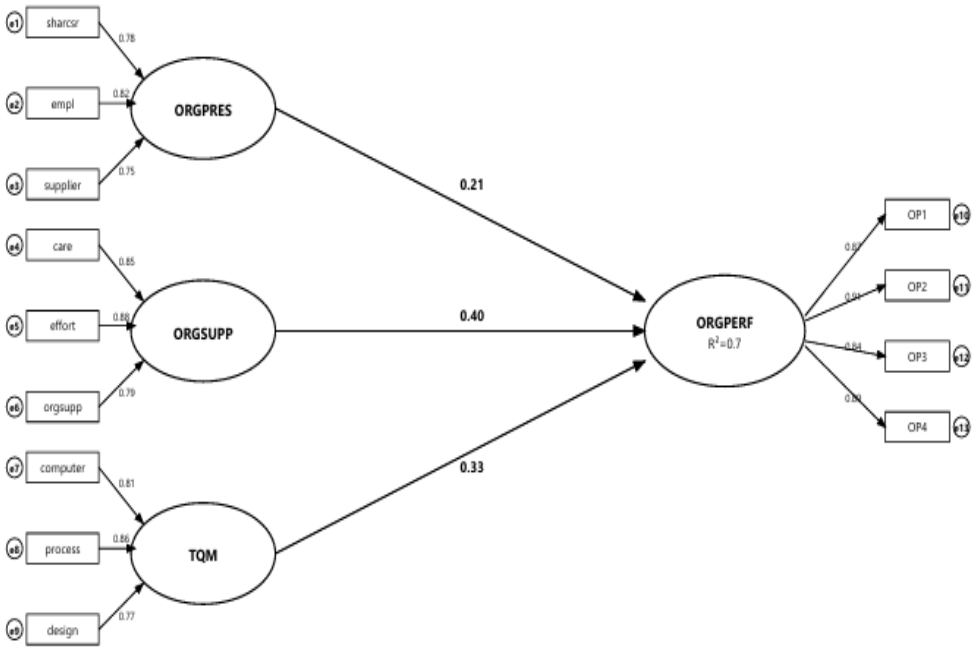

Figure 2. **Structural Model 1 in Standardized Solution**

Legend:

ORGSUPP - Organizational Support	**CSR - Corporate Stakeholder Responsibility**
• orgsupport - Organizational Supportiveness • care – Caring Attitude of Organization	• empl – Employee-Oriented Corporate Stakeholder Responsibility
• effort – Appreciation of Effort	• supplier – Supplier-Oriented Corporate Stakeholder Responsibility

TQM - Total Quality Management • computer – Level of Computerization on	• sharcsr – Shareholder-Oriented Corporate Stakeholder Responsibility
quality information • process – Service Process Management	**ORGPERF - Organizational Performance**
• design – Service Design Management	• OP 1 – Economic Performance
	• OP 2 – Environmental Performance
	• OP 3– Community Performance
	• OP 4 – Human Performance

The researcher determined that the best-fitting model of organizational performance among agricultural cooperatives is driven by organizational support, total quality management, and corporate stakeholder responsibility. These three exogenous variables serve as significant predictors of organizational performance. To summarize, the model explains 70.1% of the variance in organizational performance, very strong for behavioral data. Corporate stakeholder responsibility ($\beta \approx 0.52$) is the dominant predictor. Total Quality Management ($\beta \approx 0.20$) is the second strongest driver. Organizational support is significant but weaker once the other two are controlled. Lastly, all predictors are statistically significant ($p < .01$).
The result of the study confirm that organizational support, total quality management (TQM), and corporate stakeholder responsibility are critical drivers of the agricultural cooperative's performance. Martínez-López, Fernández-Barcala, and González-Díaz (2023) highlight that performance measurement in agricultural cooperatives must account for their multifaceted objectives, including member support and organizational backing, which directly influence productivity and resilience. Complementing this, Lossee and Tekle (2022) demonstrate that TQM practices that is focused on continuous improvement, customer satisfaction, and employee engagement, significantly enhance organizational performance in cooperative settings. Finally, Udeogu and Udeogu (2025) emphasize that stakeholder-oriented practices, such as diversity management and inclusive team leadership, are dominant predictors of cooperative effectiveness, underscoring the primacy of corporate stakeholder responsibility in driving organizational success. Together, these studies affirm that organizational support, TQM, and stakeholder responsibility are statistically significant predictors of cooperative performance, with stakeholder responsibility emerging as the strongest driver.

4. CONCLUSION AND RECOMMENDATION

Based on the empirical findings of the study, the researcher reached the following conclusions: First, the level of the exogenous variables – organizational support, total quality management, corporate stakeholder responsibility, and endogenous variable – organizational performance are all very high. Second, there are significant positive relationship between the exogenous variables – organizational support, total quality management, corporate stakeholder responsibility, towards the endogenous variable – organizational performance. Lastly, among the three structural models examined, only Model 1 consistently demonstrated indices indicating an exceptional fit to the data, thereby establishing it as the best fit model. The study's findings affirm its theoretical foundations. Petit's Behavioral Management Theory (1967) highlights the role of employee motivation in enhancing productivity and organizational success. Deming's Total Quality Management Theory (Gartner & Naughton, 1988; Saunders & Saunders, 1994) underscores continual improvement as a driver of quality, productivity, and customer satisfaction. Finally, Friedman and Miles' Stakeholder Theory (2002) underscores that organizations are obligated to generate

value for all stakeholders, rather than solely for shareholders, thereby advancing inclusivity and sustainability.

The researcher proposes a set of concrete, practical plans for agricultural cooperatives derived from the study's findings. The Agricultural Cooperatives may launch an *Integrated Cooperative Sustainability Program* that combines stakeholder responsibility, total quality management, and organizational support. This program could include quarterly *stakeholder forums and digital platforms for transparent reporting* to strengthen trust and accountability; *regular quality audits, benchmarking, and continuous employee training* to embed TQM practices into daily operations; and *structured employee development* initiatives such as mentorship, recognition systems, and wellness programs to enhance organizational support. By aligning these activities with the cooperative's mission, the program ensures that stakeholder engagement, quality improvement, and employee motivation work together to drive long-term resilience, competitiveness, and sustainable success.

Moreover, the Cooperative may also invest in *Member Training*. The Cooperative may provide continuous education on sustainable farming, business management and cooperative principles to empower members and improve operational efficiency using the Cooperative Education Training Fund of the Cooperative to finance the program. Also, to prioritize Environmental Sustainability by integrating Corporate Social Responsibility (CSR) into the cooperative's values to ensure that its operations benefit the broader community & not just its members. Lastly, is to foster Social Responsibility by doing activities that requires members to work together, such as shared equipment use or collective marketing, to build stronger bond achieving common goals.

The implementation of these concrete plans should be carried out by the cooperative's leadership team in close collaboration with its board of directors and management committees. Specifically, the general manager and department heads (ex. operations, human resources, and sustainability units) should oversee program execution, while the board of directors ensures alignment with cooperative policies and mission. At the same time, employee representatives and member-stakeholders must be actively involved in planning and monitoring to guarantee inclusivity and accountability.

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