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**Control Environment Activities and NGO Efficiency in
International and Local Non-Governmental Organizations in
Mezam Division, Northwest Region-Cameroon.**



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Control Environment Activities and NGO Efficiency in International and Local Non-Governmental Organizations in Mezam Division, Northwest Region-Cameroon.

 ^{1*}Kedze Jude Ndze, ²Tambi Daniel Mbu, ³Noumigue Guy Roland Kenmegni

¹PhD Student, Faculty of Economics and Management Science, University of Bamenda.

²Professor, Higher institute of Transport and Logistics (HITL), University of Bamenda.

³Professor, Higher institute of Commerce and Management, University of Bamenda.

<https://orcid.org/0009-0005-1971-4526>

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ABSTRACT

Purpose: This study examined the effect of the control environment activities on the efficiency of international and local non-governmental organizations (NGOs) in Mezam Division, Northwest Region-Cameroon. Specifically, it assessed the influence of the control environment activities on the efficiency of all NGOs, international NGOs (INGOs), and local NGOs (LNGOs), while controlling for budget participation, organisational culture, regulatory environment, and external audit.

Methodology: A quantitative cross-sectional survey design was adopted. Data were collected from 226 NGOs, comprising 34 INGOs and 192 LNGOs. NGO efficiency was estimated using the Charnes, Cooper and Rhodes (CCR) Data Envelopment Analysis (DEA) model, while Ordinary Least Squares (OLS) regression was used to examine the determinants of efficiency. Separate regression models were estimated for all NGOs, INGOs, and LNGOs.

Findings: The findings revealed that the control environment had a positive and statistically significant effect on NGO efficiency across all three models. For all NGOs, the effect was $B = 0.212$, $\beta = 0.352$, $p < 0.001$; for INGOs, $B = 0.287$, $\beta = 0.403$, $p < 0.001$; and for LNGOs, $B = 0.207$, $\beta = 0.354$, $p < 0.001$. Budget participation was the strongest predictor for all NGOs ($\beta = 0.433$) and LNGOs ($\beta = 0.431$), whereas the control environment was the strongest predictor for INGOs ($\beta = 0.403$). Organisational culture also had a positive and significant effect across all models, while regulatory environment and external audit were insignificant. The models exhibited strong explanatory power, with adjusted R^2 values of 0.893, 0.913, and 0.862 for all NGOs, INGOs, and LNGOs, respectively. The findings highlight the importance of strengthening ethical leadership, governance, participatory budgeting, and organisational culture to enhance NGO efficiency and sustainability in Cameroon.

Unique Contribution to Theory, Practice and Policy: The study contributes to theory by demonstrating that control environments influence NGO efficiency and vary between INGOs and LNGOs. Practically, stronger ethical leadership, governance, accountability, participatory budgeting, and organisational culture can improve efficiency. Policy-wise, Cameroon should strengthen internal governance and participatory management systems to enhance NGO accountability, sustainability, and resource utilization.

Keywords: *Control environment, Efficiency, International non-governmental organisations, Local non-government organisations.*

INTRODUCTION

The control environment is widely recognized as the foundation of an effective internal control system because it establishes the ethical values, governance structures, management philosophy, organizational culture, accountability mechanisms, and human resource policies that influence how an organization achieves its objectives (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013). In non-governmental organizations (NGOs), where accountability for donor resources and the delivery of social services is fundamental, a strong control environment promotes transparency, prudent resource utilization, risk awareness, and compliance with regulatory requirements. Globally, NGOs play a critical role in addressing humanitarian crises, poverty reduction, healthcare, education, environmental conservation, and community development. However, increasing donor expectations, financial constraints, fraud, weak governance, and operational inefficiencies have intensified concerns regarding the effectiveness of internal control systems and their influence on organizational efficiency (Organisation for Economic Co-operation and Development [OECD], 2021).

From a global perspective, several corporate and nonprofit scandals have demonstrated the consequences of weak governance, inadequate accountability, and ineffective internal control systems. Cases involving organizations such as Enron, WorldCom, Tyco, United Way, and the Red Cross have generated significant concerns regarding financial mismanagement, misuse of resources, governance failures, and accountability. For example, the Tyco scandal demonstrated how weaknesses in internal controls and governance could facilitate the inappropriate diversion of organizational resources, while the Toshiba accounting scandal illustrated how weaknesses in organizational oversight and ethical culture could contribute to financial misreporting (Kwakye, 2017; Lagat et al., 2016; Adeyemi & Olarewaju, 2019). Although some of these cases concern corporations rather than NGOs, they demonstrate the broader importance of a strong control environment for protecting organizational resources and ensuring accountability.

The COSO Internal Control—Integrated Framework therefore emphasizes the control environment as the cornerstone upon which the other components of internal control are built (COSO, 2013). A sound control environment is characterized by ethical leadership, clearly defined organizational structures, competent personnel, appropriate assignment of authority and responsibility, effective segregation of duties, and oversight by boards and management. These elements establish the organizational conditions under which other control mechanisms operate. Previous research has linked effective governance, ethical leadership, and sound internal control systems with improved accountability, reduced opportunities for fraud, and enhanced organizational performance (Bryson, 2018). Nevertheless, organizations, including NGOs, may experience difficulties in translating formal control structures into effective practices because of inadequate staff capacity, weak leadership commitment, insufficient training, poor policy implementation, and dependence on external funding.

The importance of the control environment is particularly relevant in Africa, where NGOs have become indispensable partners in achieving the Sustainable Development Goals through humanitarian assistance, healthcare, education, agriculture, poverty reduction, and community development. Many African NGOs, however, operate within institutional environments characterized by limited resources, political and economic instability, weak regulatory enforcement, inadequate financial management systems, and institutional capacity constraints. These conditions can make it difficult for NGOs to establish and maintain effective governance and internal control systems. Studies have consequently identified weaknesses in ethical culture, segregation of duties, communication, managerial competence, and accountability as continuing challenges affecting nonprofit organizations in Africa (Ghasemi et al., 2022).

In Cameroon, NGOs constitute important development and humanitarian actors, particularly in the provision of social services and support to vulnerable communities. Their effectiveness depends substantially on their capacity to utilize limited financial, human, and material resources efficiently while maintaining accountability to donors, beneficiaries, government authorities, and other stakeholders. The control environment is therefore expected to play an important role in shaping NGO efficiency by influencing leadership practices, employee behaviour, accountability, resource allocation, and adherence to organizational policies.

1.1 Statement of the Problem

Despite the recognized importance of the control environment in strengthening organizational accountability and performance, NGOs continue to face challenges related to weak governance, inadequate accountability, limited managerial capacity, poor implementation of internal policies, and inefficient utilization of organizational resources. These challenges are particularly significant because NGOs generally operate with limited financial, human, and material resources while being expected to deliver substantial humanitarian and developmental outcomes. Weak ethical leadership, unclear organizational responsibilities, inadequate segregation of duties, insufficient staff capacity, and ineffective oversight can create opportunities for financial mismanagement, fraud, resource wastage, and operational inefficiency (COSO, 2013; Ebrahim, 2003). Consequently, the effectiveness of the control environment has become an important concern for organizations seeking to improve accountability and maximize the developmental impact of scarce resources.

The problem is particularly relevant in developing-country contexts such as Cameroon, where NGOs operate in environments characterized by financial constraints, institutional weaknesses, regulatory challenges, and increasing demands for transparency and accountability. Although NGOs are expected to demonstrate responsible stewardship of donor and organizational resources, the existence of formal governance structures and internal control policies does not necessarily guarantee their effective implementation. Ghasemi et al. (2022), for example, found that NGOs in Buea, Cameroon, faced challenges relating to internal control, accountability, regulatory oversight, funding constraints, and institutional capacity. Such weaknesses may undermine the ability of NGOs to adequately safeguard resources, implement programmes efficiently, and achieve intended organizational outcomes. The problem is therefore not merely

whether control mechanisms exist, but whether the control environment effectively influences how organizational resources are managed and transformed into outputs.

Furthermore, previous studies on NGO internal controls have predominantly focused on financial accountability, fraud prevention, transparency, reporting quality, and governance (Ebrahim, 2003; Rafindadi & Olanrewaju, 2019). While these studies provide valuable insights into the importance of internal control, comparatively limited empirical attention has been devoted to examining the direct effect of the control environment on NGO efficiency, particularly where efficiency is assessed in terms of the relationship between organizational inputs and outputs. This distinction is important because accountability and financial compliance do not necessarily imply efficient resource utilization. An NGO may comply with financial reporting requirements while still consuming excessive resources to produce relatively limited outputs. Therefore, empirical investigation is required to establish whether a stronger control environment actually enables NGOs to achieve greater outputs from their available resources.

The problem is further compounded by the limited evidence distinguishing between international NGOs (INGOs) and local NGOs (LNGOs). These organizations may differ considerably in terms of funding sources, governance structures, managerial expertise, organizational capacity, donor requirements, and accountability mechanisms. INGOs may benefit from standardized international governance and control systems, whereas LNGOs may operate with comparatively limited financial and administrative capacity. Such differences could influence the extent to which the control environment contributes to organizational efficiency. However, existing literature provides insufficient empirical evidence on whether the effect of the control environment varies according to NGO type, particularly within the Cameroonian context.

This evidence gap is important given the growing role of NGOs in providing social, humanitarian, and developmental services in Cameroon. Weak organizational controls can potentially result in inefficient allocation of scarce resources, reduced programme effectiveness, increased operational costs, and diminished stakeholder confidence. Conversely, an effective control environment characterized by ethical leadership, competent personnel, clear authority and responsibility, effective oversight, and strong accountability mechanisms may create conditions conducive to better resource utilization and improved organizational efficiency (COSO, 2013). Establishing the nature and magnitude of this relationship is therefore important for both theory and practice.

Therefore, this study examines the effect of the control environment on the efficiency of NGOs in Mezam Division, Cameroon, with particular attention to differences between international and local NGOs. The study seeks to provide empirical evidence on whether strengthening the control environment can contribute to improved NGO efficiency and more effective utilization of scarce organizational resources by providing answers to the following research questions.

1.2 Research Questions

What is the effect of control environment activities on the efficiency of all NGO's in Mezam Division?

What is the influence of control environment activities on the efficiency of international non-governmental organisations (INGO's) in Mezam Division, Cameroon?

What is the role of control environment activities on the efficiency of local non-governmental organisations (LNGO's) in Mezam Division, Cameroon?

LITERATURE REVIEW

2.1 Conceptual Literature

Control Environment Activities

The control environment refers to the foundation of an organization's internal control system, encompassing the ethical values, integrity, governance structure, management philosophy, leadership commitment, assignment of authority and responsibility, human resource policies, and organizational culture that influence employees' attitudes toward internal control. According to the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2013), the control environment establishes the discipline and structure upon which all other components of internal control are built. In NGOs, a strong control environment promotes accountability, transparency, ethical behaviour, sound governance, and prudent resource management, thereby reducing fraud, enhancing donor confidence, and improving organizational efficiency and effectiveness (Moeller, 2016; Drucker, 1990). Also, COSO (2013) postulated that control environment is one of the five internal control system interrelated components: the control environment, risk assessment, control activities, information and communication, and monitoring activities. In NGOs, internal control systems enhance accountability, transparency, donor confidence, and the prudent utilization of resources, thereby contributing to organizational efficiency and sustainability (Moeller, 2016).

Efficiency

Efficiency is a fundamental concept in economics, management, and public administration that describes an organization's ability to maximize outputs from available inputs or minimize inputs while maintaining desired outputs. Early scholars such as Koopmans (1951), Debreu (1951), and Farrell (1957) established the theoretical foundations of efficiency by emphasizing optimal resource utilization, technical efficiency, and allocative efficiency. Farrell (1957) further argued that overall economic efficiency is achieved when organizations are both technically efficient, by producing maximum output from available resources, and allocatively efficient, by using inputs in optimal proportions. These principles later informed the development of frontier efficiency measurement techniques, particularly Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA), which evaluate the relative performance of organizations using multiple inputs and outputs (Charnes et al., 1978; Banker et al., 1984; Coelli et al., 2005). Contemporary literature extends the concept beyond economic

performance to include governance, accountability, sustainability, social impact, and organizational effectiveness. Scholars argue that efficiency should not only focus on "doing things right" through optimal resource utilization but also on achieving organizational objectives and creating long-term public value (Drucker, 1974; Kaplan & Norton, 1996; Ebrahim & Rangan, 2014). Consequently, modern efficiency is regarded as a multidimensional construct that integrates operational performance with effectiveness, stakeholder accountability, social impact, and sustainable development, particularly in public and nonprofit organizations where mission achievement is as important as resource optimization.

International Non-Governmental Organisations (INGO)

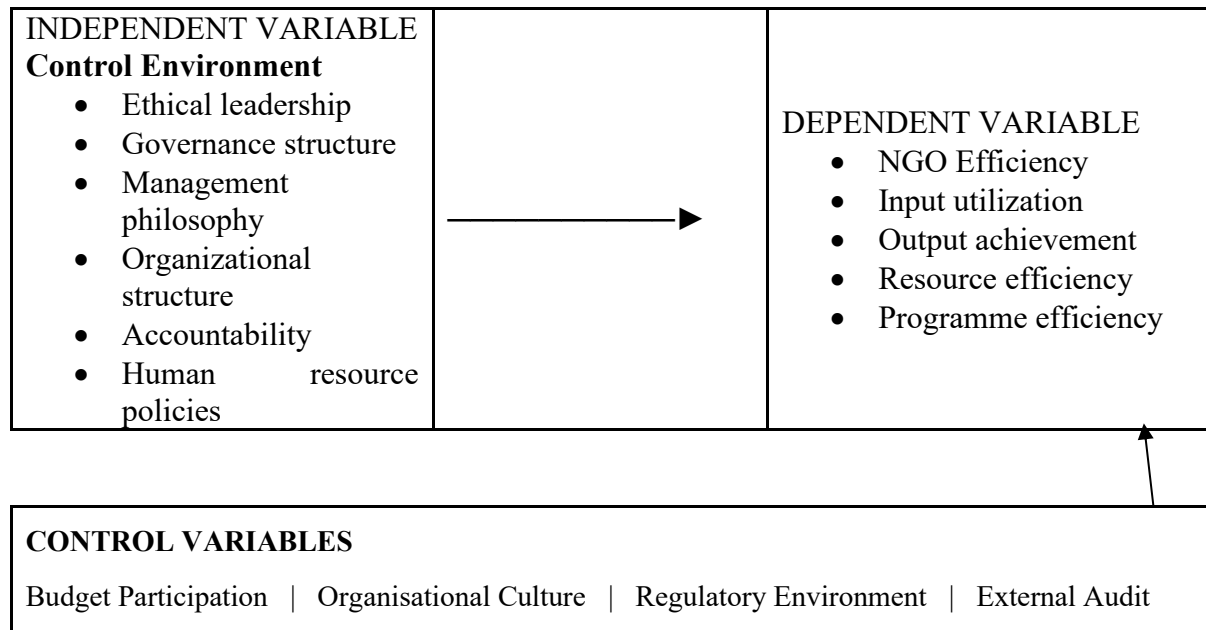
International Non-Governmental Organizations (INGOs) are independent, non-profit organizations that operate across national boundaries to address humanitarian, developmental, environmental, health, human rights, and social welfare challenges. They are established independently of government control, although they may collaborate with governments, international agencies, and local organizations in implementing development programs. According to the United Nations (1945), NGOs are organizations that contribute to international cooperation and may be granted consultative status with international bodies such as the Economic and Social Council (ECOSOC). Lewis and Kanji (2009) define INGOs as voluntary organizations that mobilize resources internationally to promote sustainable development, advocacy, and service delivery in multiple countries.

Local Non-Governmental Organisations (LNGO)

Local Non-Governmental Organizations (LNGOs) are non-profit, voluntary organizations established and managed within a specific country or community to address local social, economic, environmental, and humanitarian challenges. Unlike international NGOs, LNGOs primarily operate within national boundaries and possess a deeper understanding of local cultures, needs, and institutional contexts. They work closely with communities, government agencies, donors, and other stakeholders to deliver development programs, advocate for vulnerable groups, and promote sustainable livelihoods. According to Lewis and Kanji (2009), local NGOs play a critical role in community participation, service delivery, and grassroots development by mobilizing local resources and fostering citizen engagement.

2.2 Conceptual Framework

Effect of Control Environment on NGO Efficiency



Controls statistically held constant when estimating the effect of Control Environment on NGO Efficiency

2.3 Theoretical Literature

The Agency Theory, Stewardship Theory, Enterprise Risk Management (ERM) Theory, Productive Efficiency Theory, and Systems Resource Theory collectively provide a comprehensive explanation of how control environment activities enhance the efficiency of non-governmental organizations (NGOs). Agency Theory (Jensen & Meckling, 1976) explains that the control environment establishes governance structures, ethical standards, board oversight, and accountability mechanisms that minimize conflicts of interest and information asymmetry between donors, boards, beneficiaries, and NGO managers. Through policies that promote integrity, segregation of duties, transparency, and financial accountability, the control environment reduces fraud, misuse of donor funds, and operational inefficiencies. Stewardship Theory (Donaldson & Davis, 1991; Davis et al., 1997) complements this perspective by arguing that an effective control environment should not rely solely on monitoring but should also cultivate ethical leadership, trust, professionalism, and organizational commitment. In mission-driven NGOs, where managers are expected to act as custodians of donor resources and public trust, a control environment built on shared values and ethical behaviour strengthens accountability while encouraging responsible resource management.

Enterprise Risk Management (ERM) Theory further expands the role of the control environment by emphasizing proactive risk governance and organizational resilience (COSO, 2004). It argues that leadership commitment, clearly defined responsibilities, ethical culture, and effective communication create a risk-aware control environment in which financial, operational, compliance, and reputational risks are systematically identified and managed.

Such an environment enables NGOs to safeguard donor resources, improve decision-making, comply with regulatory requirements, and maintain stakeholder confidence. Together, Agency, Stewardship, and ERM theories suggest that the control environment is the foundation of an effective internal control system because it integrates governance, ethical leadership, accountability, and risk management to support organizational stability and sustainable performance.

The relationship between the control environment and NGO efficiency is further explained by Productive Efficiency Theory (Farrell, 1957) and Systems Resource Theory (Yuchtman & Seashore, 1967). Productive Efficiency Theory argues that a strong control environment promotes the optimal utilization of inputs such as donor funding, qualified staff, and technological resources, enabling NGOs to maximize service delivery while minimizing waste and operational inefficiencies. Systems Resource Theory complements this view by emphasizing that organizational efficiency also depends on the ability to acquire, protect, and sustain critical resources through effective governance, transparency, and stakeholder trust. Collectively, these theories demonstrate that control environment activities—including ethical leadership, board oversight, staff competence, clearly defined organizational structures, accountability, and risk-conscious management—not only strengthen internal control systems but also improve operational efficiency, enhance donor confidence, promote organizational sustainability, and enable NGOs to achieve their social mission effectively.

2.4 Empirical Review

The control environment is widely recognized in the literature as the foundation of an effective internal control system because it establishes the ethical values, governance structures, management philosophy, accountability mechanisms, and organizational culture that guide employees' behaviour and decision-making. Collectively, the reviewed studies demonstrate that a strong control environment enhances transparency, accountability, operational efficiency, and organizational sustainability, particularly within non-governmental organizations (NGOs). Ghasemi et al. (2022), in their study of NGOs in Buea Sub-division, Cameroon, found that the control environment was one of the most actively practiced components of the COSO internal control framework. Together with information and communication, control activities, internal audit, and segregation of duties, it contributed positively to accountability and organizational performance. However, the authors also observed that weak regulatory oversight and inadequate monitoring by government agencies limited the effectiveness of internal controls, emphasizing that a sound control environment requires both internal commitment and external institutional support.

Similarly, Ilyas et al. (2020) identify the control environment as the most fundamental component of internal control and argue that it forms the basis upon which all other control elements depend. Their findings indicate that organizations cannot achieve effective governance, risk management, or organizational objectives without first establishing a strong control environment characterized by ethical leadership, integrity, and management commitment. Airout (2022) extends this perspective by demonstrating that effective internal

control systems significantly improve external audit procedures through better planning, risk assessment, and monitoring. The study concludes that a robust control environment strengthens the reliability of financial reporting and enhances audit quality, thereby promoting accountability and stakeholder confidence.

Further evidence is provided by Nakabago and Hofisi (2024), who found that the control environment moderates the relationship between organizational sustainability and performance. Their findings suggest that governance principles such as integrity, honesty, and managerial responsibility strengthen organizational performance by creating an environment that supports effective control implementation. Likewise, Namusonge and Ngware (2012) argue that staff competence, ethical values, commitment to duty, and effective communication are essential elements of the control environment that improve financial accountability and programme performance. Weaknesses in these areas, they found, result in poor resource utilization and ineffective programme implementation. Research Guru (2024) reinforces these findings in the NGO context by showing that leadership integrity, ethical standards, organizational structure, and clearly defined responsibilities improve financial management, donor confidence, project implementation efficiency, and fraud prevention, although these benefits may be undermined by limited staff capacity, management override, and weak policy enforcement. Finally, Ndonwi et al. (2025) conclude that effective internal control systems supported by a strong control environment significantly improve financial reporting accuracy, fraud prevention, risk management, stakeholder trust, and overall organizational performance. Collectively, these studies establish that the control environment is not merely one component of internal control but the cornerstone that determines the effectiveness of all other control mechanisms. In NGOs, where accountability for donor resources and public trust are paramount, a strong control environment provides the ethical, managerial, and governance foundation necessary for achieving operational efficiency, financial accountability, and sustainable organizational performance.

METHODOLOGY

3.1 Scope and Area of Study

This study assesses the relationship between control environment activities and the efficiency of international and local non-governmental organizations (NGOs) in Mezam Division, Cameroon. It focuses on registered NGOs whose primary mission is humanitarian and development service rather than profit-making. The study population comprises 468 local NGOs (LNGOs) registered with the Senior Divisional Officer (SDO) of Mezam and 56 international NGOs (INGOs) registered with the Governor's Office of the North West Region between 2012 and 2025. Using a sample of 226 NGOs, the study collected data from 192 LNGOs and 34 INGOs to evaluate how control environment activities influence organizational efficiency.

Mezam-Division is one of the seven administrative Divisions that make up the North West Region of Cameroon. It is located between latitude 5° 45'1" and 6° 20'1" north of the equator and longitude 9° 55'1" and 10° 21'1" east of the Greenwich meridian. The Division is situated in the

Western highland of Cameroon and is bordered to the North by Boyo and Menchum Division, to the South by Bamboutus and Lebialem Divisions, to the West by Momo Division and to the East by Ngokentunjia Division. The division covers an area of 1745 km² and had a total population of 524,127 as of 2005. The capital of the Division is Bamenda and the Division is divided administratively into seven Sub-Division which include: Bafut, Bali, Tubah, Santa, Bamenda I, Bamenda II and Bamenda III. The population of Mezam has grown from 313,000 to approximately 20,000 as seen in the National institute of statistics census data of 1987, 2005 to present day population growth estimate.

3.2 Research Design and Data Collection

According to Bryman (2016) quantitative survey research uses structured procedures for collecting measurable data, allowing researchers to investigate relationships among variables through statistical techniques. This study employed a probability sampling technique in developing the sampling frame. Stratified random sampling, that was applied to ensure adequate representation of the different categories of NGOs. Our main data was primary data which was collected by administering questionnaires to a sample of 260 associations and NGOs selected from the total population of 468 registered association and NGO's in Mezam Division using a stratified random sampling technique where a particular sample unit is drawn from the total population according to the proportion type of local and international associations and NGOs, in Mezam. This study adopted the Yamane (1967) formula for determining the sample size because the total population of registered non-governmental organizations (NGOs) was known and finite. Yamane's formula provides a simplified statistical approach for calculating an appropriate sample size from a finite population while considering a predetermined level of precision.

The Yamane (1967) formula is expressed as:

$$n = \frac{N}{1+N(e)^2} = \frac{468}{1+468(0.05)^2} = \frac{468}{1+1.17} = 215.67 = 216 \dots\dots\dots 1$$

Where; n = Required sample size, N = Total population size

e = Level of precision (sampling error), usually 0.05 for a 95% confidence level

Table 1: Determination of Sample Units of Each Stratum of Stratified Population

Item	Total number	Calculations	Number of sample units
Local Non-Governmental Organisations (LNGO)	412	$(412 / 468) \times 216 = 186.2$	190
International Non-Governmental Organisations (INGO)	56	$(56 / 468) \times 216 = 25.8$	26
Total	468	$186.2 + 25.8 = 212.0$	216

Note. Calculations are based on proportional stratified sampling allocation.

Source: Kedze, 2026.

3.3 Variables on which Data will be collected

The variables of this study dependent variable (efficiency); independent variables (control environment activities) and Control activities (Budget participation, organisational culture, regulatory environment and external audit. Control variables are included to isolate the relationship between the independent and dependent variables by accounting for other influences that may affect the study outcome. Their inclusion improves the validity and reliability of research findings by reducing bias, controlling for confounding effects, and enhancing the accuracy of statistical estimates (Gujarati & Porter, 2009). According to Wooldridge (2020), control variables enable researchers to estimate the true effect of explanatory variables while holding other relevant factors constant.

Table 2: Variables on which Data is collected

Variables	Symbol	Measurement	Data collection method	Analytical tool
Independent Variables				
Control Environment	CE	Likert scale	Questionnaire	Mean, variance, standard deviation, correlation
Control Variables				
Budget Participation	BP	Likert scale	Questionnaire	Mean, variance, standard deviation, correlation
Organisational Culture	OC	Likert scale	Questionnaire	Mean, variance, standard deviation, correlation
Regulatory Environment	RE	Likert scale	Questionnaire	Mean, variance, standard deviation, correlation
External Audit	EA	Likert scale	Questionnaire	Mean, variance, standard deviation, correlation
Dependent Variable				
Efficiency	EFC	Numerical scale	Calculations using inputs/outputs	Ordinary Least Squares (OLS) / Data Envelopment Analysis (DEA)

Source: Kedze, 2026

Method of Data Analysis and Model Specification

Method of Data Analysis

This study employs the Ordinary Least Squares (OLS) regression technique and the CCR Data Envelopment Analysis (DEA) model to examine the relationship between control environment activities and NGO efficiency. OLS is selected because it minimizes the sum of squared differences between observed and predicted values, producing reliable and unbiased parameter estimates under the classical regression assumptions while allowing for the assessment of multicollinearity (Gujarati, 2004; Wooldridge, 2013). The study also adopts the CCR DEA model, the original DEA model developed by Charnes et al. (1978), because it efficiently

evaluates the overall technical efficiency of decision-making units using multiple inputs and outputs under the assumption of constant returns to scale. The model is appropriate for assessing the overall efficiency of international and local NGOs in Mezam Division (Cooper et al., 2007; Farrell, 1957).

Model Specification

$$EFC = A_0 + a_1CE + a_2BP + a_3OC + a_4RE + a_5EA + e_1^m \dots\dots\dots 2$$

Where;

EFC= NGO's Efficiency

A_0 = Autonomous NGO's Efficiency level that will exist even if there are no changes in control environment and other factors (BP, OC, RE and EA) or are zero.

a_1 = Coefficient of changes in NGO's Efficiency as a result of changes in Control environment activities.

a_2 = Coefficient of changes in NGO's Efficiency as a result of changes in Budget Participation

a_3 = Coefficient of changes in NGO's Efficiency as a result of changes in organisational culture.

a_4 = Coefficient of changes in NGO's Efficiency as a result of changes in Regulatory environment.

a_5 = Coefficient of changes in NGO's Efficiency as a result of changes in external audit.

e_1^m = Error term of the effect of control environment on NGO's Efficiency.

Where, CE = Control Environment Activities, BP = Budget Participation, OC = Organisational Culture, RE = Regulatory environment and EA = External Audit

Apriori expectations: $a_1, a_2, a_3, a_4, a_5 > 0$

3.5 Estimation Techniques

This study employs Excel Solver to estimate the efficiency scores of international and local NGOs using the CCR Data Envelopment Analysis (DEA) model, while the Statistical Package for the Social Sciences (SPSS) is used to examine the effect of control environment activities on NGO efficiency through Ordinary Least Squares (OLS) regression analysis. Prior to analysis, data quality was assessed using a pilot study, Cronbach's alpha to establish reliability, and the Pearson correlation coefficient to examine relationships among variables. Following regression estimation, several diagnostic tests were conducted to validate the OLS model, including the F-test (ANOVA), t-tests, R^2 and Adjusted R^2 , Durbin–Watson statistic, Variance Inflation Factor (VIF), Tolerance, residual diagnostics, and Cook's Distance. These procedures ensured that the regression results were reliable, statistically valid, free from major assumption violations, and appropriate for interpretation (Gujarati & Porter, 2009; Wooldridge, 2020).

PRESENTATION OF RESULTS

Following the pilot study, the reliability of the measurement indicators was assessed using Cronbach's alpha, which confirmed strong internal consistency among the study variables, while the Pearson correlation coefficient established the existence and direction of relationships between the variables under investigation. The study subsequently interpreted the regression coefficients, their significance levels (p-values), and the Variance Inflation Factor (VIF) to determine the magnitude, significance, and multicollinearity of the explanatory variables. The Model Summary, including the Adjusted R^2 and Durbin–Watson statistic, was examined to assess the explanatory power and reliability of the regression model. Furthermore, the ANOVA (F-test) was analyzed to determine the overall significance and goodness-of-fit of the model. These diagnostic and inferential analyses provided a robust basis for evaluating the extent to which control environment activities and other institutional governance mechanisms influence the efficiency of international and local non-governmental organizations in Mezam Division, Cameroon.

Table 3: Regression Analysis for Control Environment Activities Predicting Efficiency (All NGOs).

Variable	B	SE B	B	t	p	VIF
(Constant)	-1.367	0.059	—	-23.072	< .001	—
Control Environment (CE)	0.212	0.020	0.352	10.732	< .001	2.256
Board Practices (BP)	0.229	0.017	0.433	13.799	< .001	2.058
Organizational Culture (OC)	0.176	0.020	0.289	8.964	< .001	2.182
Risk Evaluation (RE)	0.013	0.017	0.021	0.733	.465	1.798
Enforcement Activities (EA)	-0.012	0.017	-0.021	-0.748	.455	1.714

Note. N = 226. Model Summary: $R = .946$, $R^2 = .895$, Adjusted $R^2 = .893$, SEE = 0.088, Durbin-Watson = 1.951. ANOVA: $F(5, 220) = 374.747$, $p < .001$.

Source: Kedze, 2026.

Table 3 show that Control Environment (CE) has a positive and statistically significant effect on NGO efficiency ($B = 0.212$, $\beta = 0.352$, $t = 10.732$, $p < 0.001$). This implies that a one-unit improvement in control environment activities increases NGO efficiency by 0.212 units, holding other variables constant. The finding suggests that organizations with stronger ethical values, leadership commitment, and governance structures etc. are more likely to achieve higher efficiency. The Variance Inflation Factor (VIF) of 2.256 is well below the recommended threshold of 10 (or the more conservative threshold of 5), indicating that multicollinearity is not a concern for this variable. Budget Participation (BP) also has a positive and statistically significant influence on NGO efficiency ($B = 0.229$, $\beta = 0.433$, $t = 13.799$, $p < 0.001$). This coefficient is the largest standardized beta among all predictors, indicating that budget

participation is the strongest predictor of NGO efficiency in the model. Specifically, increasing staff involvement in budget preparation and implementation leads to a 0.229-unit increase in efficiency. The VIF value of 2.058 indicates that budget participation is free from multicollinearity problems and contributes unique explanatory power to the model.

Similarly, Organisational Culture (OC) exerts a positive and statistically significant effect on NGO efficiency ($B = 0.176$, $\beta = 0.289$, $t = 8.964$, $p < 0.001$). This finding implies that improving shared values, teamwork, transparency, accountability, and employee commitment etc. enhances organizational efficiency. Although its standardized beta is lower than those of CE and BP, it remains an important determinant of NGO efficiency. The VIF of 2.182 further confirms that multicollinearity is not present. The coefficient for Regulatory Environment (RE) is positive but statistically insignificant ($B = 0.013$, $\beta = 0.021$, $t = 0.733$, $p = 0.465$). Although the positive sign suggests that improvements in the regulatory environment may enhance NGO efficiency, the effect is too small to be statistically distinguished from zero at the 5% significance level. This implies that variations in the regulatory environment do not significantly explain differences in NGO efficiency after controlling for the other predictors. The VIF of 1.798 indicates no multicollinearity concerns. Conversely, External Audit (EA) has a negative and statistically insignificant coefficient ($B = -0.012$, $\beta = -0.021$, $t = -0.748$, $p = 0.455$). The negative coefficient suggests that, after accounting for the effects of the other variables, external audit is associated with a slight decrease in NGO efficiency. However, because the relationship is statistically insignificant, this negative effect cannot be considered meaningful. The result may indicate that external audits alone are insufficient to improve operational efficiency unless audit recommendations are effectively implemented. The VIF value of 1.714 confirms the absence of multicollinearity.

The estimated regression model is written in an equation form as:

$$EFC = -1.367 + 0.212(CE) + 0.229(BP) + 0.176(OC) + 0.013(RE) - 0.012(EA) + e^m \dots \dots 3$$

The model summary indicates that the regression model provides an excellent explanation of variations in NGO efficiency. The multiple correlation coefficient ($R = 0.946$) shows a very strong positive relationship between the combined independent variables (Control Environment, Budget Participation, Organisational Culture, Regulatory Environment, and External Audit) and NGO efficiency. The coefficient of determination ($R^2 = 0.895$) indicates that 89.5% of the variation in NGO efficiency is explained by the independent variables included in the model. This is a very high explanatory power, suggesting that internal control components and organizational factors are major determinants of NGO efficiency. The remaining 10.5% of the variation is attributable to factors not included in the model, measurement error, or random variation. The Adjusted R^2 of 0.893 is only slightly lower than R^2 , indicating that the explanatory power of the model remains very high even after adjusting for the number of predictors. The small difference between R^2 and Adjusted R^2 suggests that the model is not over fitted and that each predictor contributes meaningfully to explaining NGO efficiency. The standard error of the estimate (0.08797) is relatively small, indicating that the predicted values of NGO efficiency are very close to the observed values, reflecting high

prediction accuracy. The Durbin-Watson statistic of 1.951 is very close to the ideal value of 2.0, indicating that there is no evidence of first-order autocorrelation among the residuals. This suggests that one of the important assumptions of regression analysis—independence of errors—is satisfied.

The Analysis of Variance (ANOVA) tests whether the regression model as a whole significantly predicts NGO efficiency. The results show that the regression model is statistically significant ($F = 374.747$, $p < 0.001$). The regression sum of squares ($SSR = 14.500$) is substantially larger than the residual sum of squares ($SSE = 1.703$), indicating that the model explains most of the variability in NGO efficiency. The mean square for regression (2.900) is considerably greater than the residual mean square (0.008), resulting in the very large F-statistic. Since the significance value ($p = 0.000$) is less than the conventional significance level of 0.05, the null hypothesis that all regression coefficients are simultaneously equal to zero is rejected. This implies that the independent variables, taken together, significantly predict NGO efficiency. Therefore, the regression model provides a good fit to the data and is appropriate for explaining variations in NGO efficiency.

The study hypothesized positive relationships between each independent variable and NGO efficiency based on theoretical and empirical evidence. The regression results provide partial support for these a priori expectations. The positive and statistically significant coefficients for Control Environment, Budget Participation, and Organisational Culture support the theoretical expectation that stronger internal control systems and a supportive organizational culture enhance NGO efficiency. A sound control environment promotes accountability, ethical conduct, and effective governance. Participatory budgeting improves resource allocation, employee commitment, and transparency, while a positive organizational culture encourages teamwork, innovation, and efficient service delivery. These findings are consistent with the principles of the COSO Internal Control Framework, which emphasizes that effective control systems improve organizational performance.

The coefficient for Regulatory Environment is positive, which is consistent with the a priori expectation, but it is not statistically significant. This suggests that although compliance with regulations may contribute to NGO efficiency, its independent effect is weak when other internal organizational factors are taken into account. One possible explanation is that most NGOs operate under similar regulatory requirements, resulting in limited variation in regulatory compliance across organizations. However, the coefficient for External Audit is negative and statistically insignificant, contrary to the a priori expectation of a positive relationship. This finding implies that external audits, by themselves, do not necessarily improve NGO efficiency. A possible explanation is that external audits often focus on compliance and accountability rather than operational performance. In addition, if audit recommendations are not implemented promptly or effectively, the audit process may have little influence on organizational efficiency. Therefore, while the sign contradicts the expected direction, the lack of statistical significance indicates that external audit has no measurable effect on NGO efficiency in this sample. In summary, the a priori expectations are fully supported for Control Environment, Budget Participation, and Organisational Culture; partially

supported for Regulatory Environment because the sign is positive but insignificant; and not supported for External Audit because the coefficient is negative and statistically insignificant. These results suggest that internal organizational practices play a more influential role in improving NGO efficiency than external oversight mechanisms alone.

Table 4: Regression Analysis for Control Environment Activities Predicting Efficiency (INGOs)

Variable	B	SE B	β	T	p	VIF
(Constant)	-1.400	0.193	—	-7.270	< .001	—
Control Environment (CE)	0.287	0.068	0.403	4.206	< .001	3.491
Board Practices (BP)	0.196	0.046	0.391	4.252	< .001	3.215
Organizational Culture (OC)	0.168	0.051	0.274	3.328	.002	2.578
Risk Evaluation (RE)	-0.069	0.057	-0.090	-1.227	.230	2.043
Enforcement Activities (EA)	0.043	0.057	0.057	0.746	.462	2.194

Note. N = 34. Model Summary: R = .962, R² = .926, Adjusted R² = .913, SEE = 0.091, Durbin-Watson = 2.202. ANOVA: F (5, 28) = 70.427, p < .001.

Source: Kedze, 2026.

Table 4 shows that the constant has a coefficient of -1.400 and is statistically significant ($t = -7.270$, $p < 0.001$). This implies that if all explanatory variables were equal to zero, the predicted efficiency score of NGOs would be -1.400. Although statistically significant, the intercept has little practical interpretation because the explanatory variables are measured on Likert scales where a value of zero is outside the range of observed responses. Control Environment (CE) has a positive and statistically significant coefficient ($B = 0.287$, $\beta = 0.403$, $t = 4.206$, $p < 0.001$). This indicates that a one-unit improvement in the control environment increases NGO efficiency by 0.287 units, holding all other variables constant. The standardized beta coefficient shows that control environment is the strongest predictor in the model, suggesting that ethical leadership, sound governance structures, management commitment, and clearly defined responsibilities play a significant role in improving organisational efficiency. The VIF value of 3.491 is below the commonly accepted threshold of 5, indicating that multicollinearity is not a concern. Budget Participation (BP) also has a positive and statistically significant coefficient ($B = 0.196$, $\beta = 0.391$, $t = 4.252$, $p < 0.001$). This implies that increased participation of managers and employees in budgeting significantly enhances NGO efficiency. The standardized beta coefficient indicates that budget participation is the second strongest predictor of efficiency. This finding suggests that participatory budgeting improves accountability, transparency, employee commitment, and effective allocation of organisational resources. The VIF value of 3.215 indicates an acceptable level of multicollinearity.

Organisational Culture (OC) has a positive and statistically significant coefficient ($B = 0.168$, $\beta = 0.274$, $t = 3.328$, $p = 0.002$). This indicates that strengthening organisational values, teamwork, ethical behaviour, and accountability contributes significantly to improving NGO

efficiency. Although its influence is smaller than that of control environment and budget participation, organisational culture remains an important determinant of efficiency. The VIF value of 2.578 indicates no multicollinearity concerns. Regulatory Environment (RE) has a negative but statistically insignificant coefficient ($B = -0.069$, $\beta = -0.090$, $t = -1.227$, $p = 0.230$). This suggests that the regulatory environment does not have a statistically significant influence on NGO efficiency in the sampled organisations. The negative coefficient may indicate that stringent regulatory requirements increase compliance costs and administrative burdens, thereby reducing operational efficiency. However, because the coefficient is statistically insignificant, there is insufficient evidence to conclude that regulatory environment has any meaningful effect on NGO efficiency. The VIF value of 2.043 confirms the absence of multicollinearity. External Audit (EA) has a positive but statistically insignificant coefficient ($B = 0.043$, $\beta = 0.057$, $t = 0.746$, $p = 0.462$). This indicates that external audit has a positive but negligible influence on NGO efficiency, and the effect is not statistically significant. Although external audits are intended to improve accountability, transparency, and compliance, they may not directly influence operational efficiency because they focus primarily on financial reporting and regulatory compliance. The VIF value of 2.194 is well below the acceptable threshold, indicating that multicollinearity is not a concern.

The estimated regression model is written in an equation form as:

$$\text{EFC} = -1.400 + 0.287(\text{CE}) + 0.196(\text{BP}) + 0.168(\text{OC}) - 0.069(\text{RE}) + 0.043(\text{EA}) + e_{10}^m \dots 4$$

The model summary indicates that the regression model has excellent explanatory power. The multiple correlation coefficient ($R = 0.962$) shows a very strong positive relationship between the combined explanatory variables and NGO efficiency. The coefficient of determination ($R^2 = 0.926$) indicates that approximately 92.6% of the variation in NGO efficiency is jointly explained by control environment, budget participation, organisational culture, regulatory environment, and external audit. This leaves only 7.4% of the variation attributable to factors not included in the model or to random error. The Adjusted R^2 of 0.913 remains very high after adjusting for the number of predictors, indicating that the explanatory variables make substantial contributions to explaining NGO efficiency and that the model is not overfitted. The standard error of the estimate (0.0912) is very small, suggesting that the predicted values closely approximate the observed values, reflecting a high level of predictive accuracy. The Durbin–Watson statistic of 2.202 is close to the ideal value of 2.0, indicating that there is no evidence of serious autocorrelation among the residuals. Furthermore, the significant F-change ($p < 0.001$) confirms that the inclusion of the explanatory variables significantly improves the prediction of NGO efficiency.

The ANOVA table evaluates whether the regression model as a whole significantly predicts NGO efficiency. The results show that the model produced an F-statistic of 70.427, which is highly statistically significant ($p < 0.001$). This indicates that the explanatory variables, when considered jointly, significantly explain variations in NGO efficiency. The regression sum of squares (2.927) is considerably larger than the residual sum of squares (0.233), demonstrating that the model explains most of the variation in NGO efficiency. Consequently, the null

hypothesis that all regression coefficients are simultaneously equal to zero is rejected. Therefore, the regression model is statistically significant and confirms that the selected internal control variables collectively influence the efficiency of NGOs.

The a priori expectation of the study was that all explanatory variables would have positive coefficients, based on the COSO Internal Control Framework, which argues that effective internal control systems enhance accountability, improve governance, safeguard organisational resources, strengthen decision-making, and ultimately improve organisational efficiency. The empirical findings support the a priori expectations for Control Environment (CE), Budget Participation (BP), Organisational Culture (OC), and External Audit (EA) because all these variables have positive coefficients. However, only Control Environment, Budget Participation, and Organisational Culture are positive and statistically significant, indicating that they make meaningful contributions to improving NGO efficiency. Among these predictors, Control Environment has the largest standardized beta coefficient ($\beta = 0.403$), making it the strongest predictor of NGO efficiency, followed closely by Budget Participation ($\beta = 0.391$) and Organisational Culture ($\beta = 0.274$). These findings imply that NGOs with strong ethical leadership, participatory budgeting systems, and supportive organisational cultures are more likely to achieve higher operational efficiency.

The findings do not support the a priori expectation for Regulatory Environment (RE) because the estimated coefficient is negative ($B = -0.069$) and statistically insignificant ($p = 0.230$). Although theory suggests that a supportive regulatory environment should improve organisational performance through better governance and compliance, the results indicate that regulatory requirements do not significantly influence NGO efficiency in the sampled organisations. One possible explanation is that compliance with regulatory requirements may increase administrative costs, reporting obligations, and bureaucratic procedures, thereby offsetting potential efficiency gains. Although External Audit (EA) has the expected positive sign, its coefficient is not statistically significant ($B = 0.043$, $p = 0.462$). This indicates that external audits do not make a significant independent contribution to NGO efficiency. A plausible explanation is that external audits are primarily designed to ensure financial accountability and donor compliance rather than improve day-to-day operational performance. Additionally, audit recommendations may not always be implemented effectively, limiting their impact on organisational efficiency. Consequently, the hypotheses relating to Control Environment, Budget Participation, and Organisational Culture are supported, the hypothesis relating to External Audit is only partially supported because the sign is positive but insignificant, while the hypothesis relating to the Regulatory Environment is not supported because both the sign and statistical significance differ from the a priori expectation.

Table 5: Regression Analysis for Control Environment Activities Predicting Efficiency (LNGOs)

Variable	B	SE B	β	T	p	VIF
(Constant)	-1.379	0.066	—	-20.937	< .001	—
Control Environment (CE)	0.207	0.021	0.354	9.913	< .001	2.121
Board Practices (BP)	0.230	0.019	0.431	12.385	< .001	2.005
Organizational Culture (OC)	0.177	0.022	0.291	8.154	< .001	2.111
Risk Evaluation (RE)	0.022	0.019	0.038	1.168	.244	1.730
Enforcement Activities (EA)	-0.015	0.018	-0.027	-0.852	.395	1.669

Note. N = 192. Model Summary: R = .931, R² = .866, Adjusted R² = .862, SEE = 0.096, Durbin-Watson = 1.865. ANOVA: F (5, 186) = 240.406, p < .001.

Source: Kedze, 2026.

Table 5 show that Control Environment (CE) has a positive and statistically significant effect on NGO efficiency (B = 0.207, β = 0.354, t = 9.913, p < 0.001). This implies that a one-unit improvement in control environment activities leads to a 0.207-unit increase in NGO efficiency, holding other variables constant. The finding suggests that organizations with strong ethical values, effective governance structures, and clearly defined responsibilities are more likely to achieve higher efficiency. Similarly, Budget Participation (BP) exhibits the strongest positive and statistically significant influence on NGO efficiency (B = 0.230, β = 0.431, t = 12.385, p < 0.001). Among all the predictors, budget participation has the highest standardized beta coefficient, indicating that involving employees and managers in the budgeting process contributes most substantially to improving organizational efficiency. This finding implies that participatory budgeting enhances accountability, commitment, and effective resource utilization within NGOs. Organisational Culture (OC) also has a positive and significant relationship with NGO efficiency (B = 0.177, β = 0.291, t = 8.154, p < 0.001). This indicates that strengthening organizational values, teamwork, transparency, and accountability significantly enhances operational efficiency. A supportive organizational culture encourages employee commitment and facilitates the successful implementation of internal control systems.

Conversely, Regulatory Environment (RE) has a positive but statistically insignificant effect on NGO efficiency (B = 0.022, β = 0.038, t = 1.168, p = 0.244). Although the coefficient has the expected positive sign, the effect is too weak to conclude that regulatory environment significantly influences NGO efficiency in the sampled organizations. This may suggest that compliance with external regulations alone does not necessarily translate into improved operational efficiency unless complemented by effective internal management practices. Likewise, External Audit (EA) has a negative and statistically insignificant coefficient (B = –

0.015, $\beta = -0.027$, $t = -0.852$, $p = 0.395$). This indicates that external audit does not significantly influence NGO efficiency in the study. The negative coefficient, although insignificant, suggests that external audits may primarily focus on compliance and accountability rather than directly improving operational efficiency. It may also indicate that audits are conducted after operations have occurred and therefore have limited immediate impact on organizational performance.

The estimated regression model is written in an equation form as:

$$\text{EFC} = -1.379 + 0.207(\text{CE}) + 0.230(\text{BP}) + 0.177(\text{OC}) + 0.022(\text{RE}) - 0.015(\text{EA}) + e_{14}^m \dots 5$$

The model summary demonstrates that the regression model provides an excellent explanation of variations in NGO efficiency. The multiple correlation coefficient ($R = 0.931$) indicates a very strong positive relationship between the combined independent variables and NGO efficiency. This suggests that improvements in internal control and governance variables are strongly associated with increased organizational efficiency. The coefficient of determination ($R^2 = 0.866$) indicates that 86.6% of the variation in NGO efficiency is explained jointly by Control Environment, Budget Participation, Organisational Culture, Regulatory Environment, and External Audit. The remaining 13.4% of the variation is attributable to factors not included in the model, such as leadership quality, staff competence, technology adoption, donor support, organizational size, or other environmental factors. The Adjusted R^2 of 0.862 is very close to the R^2 value, indicating that the explanatory power of the model remains high even after adjusting for the number of predictors. This suggests that the included variables make meaningful contributions and that the model is not over fitted. The standard error of the estimate (0.0963) is relatively small, implying that the predicted values are close to the observed values and that the model has high predictive accuracy. Furthermore, the Durbin-Watson statistic of 1.865 is close to the ideal value of 2, indicating no serious evidence of autocorrelation among the residuals. This confirms that one of the key assumptions of multiple regression has been satisfied.

The ANOVA table assesses whether the regression model as a whole significantly predicts NGO efficiency. The regression sum of squares (11.153) is substantially larger than the residual sum of squares (1.726), indicating that the model explains most of the variation in the dependent variable. The model is statistically significant ($F = 240.406$, $p < 0.001$), demonstrating that the five independent variables jointly provide a significant explanation of NGO efficiency. This means that the probability of obtaining such a large F-statistic by chance is less than 0.1%, providing strong evidence that the regression model fits the data well. Consequently, the null hypothesis that all regression coefficients are simultaneously equal to zero is rejected, while the alternative hypothesis is accepted. Overall, the findings confirm that the selected internal control and governance variables collectively have a statistically significant influence on the efficiency of NGOs. The a priori expectation of the study was that all explanatory variables would have positive coefficients, based on theoretical and empirical evidence that stronger internal control systems and governance mechanisms improve organizational efficiency.

The results partially support this expectation. Control Environment (CE), Budget Participation (BP), and Organisational Culture (OC) all have positive and statistically significant coefficients, which is consistent with theory. A strong control environment promotes ethical behaviour and accountability; participatory budgeting improves planning, ownership, and efficient allocation of resources; while a positive organizational culture enhances employee motivation, cooperation, and adherence to organizational objectives. These findings are consistent with the COSO Internal Control Framework, which emphasizes that these elements strengthen organizational performance and efficiency. The Regulatory Environment (RE) also has the expected positive sign, although its coefficient is statistically insignificant. This suggests that while compliance with regulations may contribute to efficiency, its influence is relatively weak within the sampled NGOs. One possible explanation is that regulatory requirements often emphasize legal compliance rather than operational effectiveness. Consequently, compliance alone may not be sufficient to improve efficiency unless supported by strong internal management systems. However, External Audit (EA) does not conform to the a priori expectation because its coefficient is negative, although statistically insignificant. This finding may reflect the fact that external audits primarily serve accountability and assurance purposes rather than directly enhancing operational efficiency. In some NGOs, external audits may identify weaknesses after activities have already occurred, making their immediate effect on efficiency limited. The negative sign may also result from delays in implementing audit recommendations, limited management responsiveness, or resource constraints associated with audit compliance. Since the coefficient is statistically insignificant, there is insufficient evidence to conclude that external audit has either a positive or negative effect on NGO efficiency in this study. Overall, the regression results largely support the theoretical expectation that stronger internal control mechanisms improve NGO efficiency. Three of the five predictors significantly enhance efficiency; one exhibits the expected positive but insignificant relationship, while one shows an insignificant negative relationship. These findings suggest that internal governance mechanisms particularly control environment, budget participation, and organizational culture are the principal drivers of NGO efficiency in the study context.

DISCUSSION OF RESULTS

The findings of this study revealed substantial variation in the efficiency of NGOs in Cameroon, with only 17 out of 226 NGOs (7.5%) operating on the efficiency frontier, while 162 NGOs (71.7%) were classified as highly inefficient. These findings are consistent with Worthington (2004), who emphasized that Data Envelopment Analysis (DEA) is an appropriate tool for measuring the relative efficiency of non-profit organizations using multiple inputs and outputs. Similarly, the results support Kong (2010), who argued that DEA enables organizations to identify resource wastage and establish performance improvement targets without increasing available resources. The findings further agree with Sarrico & Dyson (2004), who demonstrated that DEA identifies benchmark organizations capable of guiding weaker institutions towards improved performance. Likewise, the study corroborates Emrouznejad & Yang (2018) and Verschuere & Suykens (2020), who highlighted DEA as a

robust approach for measuring efficiency and enhancing accountability in non-profit organizations.

The findings are broadly consistent with the study's a priori expectation that NGOs should utilize available resources efficiently to maximize outputs. However, the large proportion of highly inefficient NGOs indicates that many organizations are yet to achieve optimal resource utilization. This suggests that considerable opportunities exist for improving managerial practices, resource allocation, planning, and operational performance. The observed differences in efficiency further imply that NGOs vary considerably in their ability to convert scarce financial, human, and institutional resources into developmental outcomes. The findings also support the theoretical foundations underpinning the study. They are consistent with Productive Efficiency Theory (Farrell, 1957), which posits that organizations achieve superior performance by maximizing outputs from available inputs while minimizing resource wastage. Similarly, the findings align with Systems Resource Theory (Yuchtman & Seashore, 1967), which argues that organizational effectiveness depends on the ability to acquire, utilize, and sustain valuable resources from the external environment. The variation in efficiency observed among NGOs demonstrates that effective resource utilization remains central to organizational performance and sustainability.

The findings have important policy implications for governments, donors, NGO regulatory agencies, and NGO managers. Policymakers should institutionalize routine efficiency assessments using DEA to monitor organizational performance and identify best-performing NGOs that can serve as benchmarks. Donors should complement financial assistance with technical support aimed at improving managerial capacity and resource utilization, while regulatory agencies should incorporate efficiency evaluation into NGO oversight frameworks. Furthermore, NGO managers should adopt best practices in planning, resource allocation, monitoring, and evidence-based decision-making to improve operational efficiency, enhance accountability, strengthen donor confidence, and ensure the long-term sustainability of NGO interventions.

RECOMMENDATIONS

This study shows that strengthening institutional governance is essential for improving the efficiency of international and local NGOs in Mezam Division, Cameroon, specially building the capacity of underperforming LNGOs. NGOs should reinforce their control environment, institutionalize participatory budgeting—the strongest efficiency determinant—and cultivate cultures of integrity, transparency, and teamwork. Although regulation and audits showed little effect, regulators should offer technical support and performance-oriented audits. Governments, donors, and management should invest in leadership, financial, and monitoring training, encourage INGO–LNGO partnerships, and adopt differentiated donor strategies. Cameroon should establish a national governance framework and an independent Charity Board for registration, certification, evaluation, and compliance monitoring, enhancing accountability, transparency, and sustainable development.

LIMITATION OF THE STUDY

Despite its methodological strengths, this study has several limitations. The use of Likert-scale questionnaires may simplify respondents' perceptions and introduce measurement bias due to differences in interpreting response categories. The cross-sectional quantitative design relied on self-reported data, making the findings susceptible to social desirability and recall bias while limiting the ability to establish causal relationships. Furthermore, Ordinary Least Squares (OLS) regression is based on assumptions such as linearity, homoscedasticity, normality, independence of errors, and the absence of multicollinearity; violations of these assumptions may affect the reliability of the estimates. Similarly, SPSS and Microsoft Excel are user-dependent and may be affected by data-entry errors or limited advanced analytical capabilities. Nevertheless, these limitations were minimized through pilot testing, reliability and validity assessments, rigorous data cleaning, diagnostic tests, and appropriate statistical procedures, thereby enhancing the robustness, validity, and credibility of the study findings.

CONCLUSION

This study examined the effect of the control environment on the efficiency of international and local NGOs in Mezam Division, Cameroon, using CCR Data Envelopment Analysis (DEA) and Ordinary Least Squares (OLS) regression. Results show that the control environment significantly and positively influences the efficiency of all NGOs, INGOs, and LNGOs. Budget participation and organisational culture also had significant positive effects, while regulatory environment and external audit were insignificant. DEA revealed that most NGOs were highly inefficient, indicating substantial resource-utilisation gaps. The findings support Agency, Stewardship, ERM, Productive Efficiency, and Systems Resource theories and underscore the need for stronger governance, accountability, leadership, and capacity-building.

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