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Adaptive Capability and the Financial Sustainability of Kenyan Non-Profit Organizations

Authors:
Paul K. Ndungu[1] & Gabriel O. Okello[1]

Affiliations:
[1]United States International University – Africa. P.O. Box 14634 - 00800, Nairobi, Kenya.

Corresponding Author:
Paul K. Ndungu –E-mail: kpndungu@gmail.com

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Abstract

Non-profit organizations (NPOs) in Kenya continue to experience financial sustainability challenges due to declining donor funding and growing competition for limited grants. Although adaptive capability is theorized to help organizations adjust to changing environments, its specific contribution to financial sustainability within the Kenyan NPO sector remains underexplored. This study examined the relationship between adaptive capability and the financial sustainability of Kenyan NPOs. A descriptive correlational design and quantitative cross-sectional survey were used to collect data from senior leaders of Kenyan registered NPOs across multiple sectors. Data collection was done using a structured online questionnaire, through which 197 valid responses were obtained from respondent NPOs selected via stratified random sampling. Data were analyzed using ordinal logistic regression to determine the relationship between adaptive capability and financial sustainability. The findings showed that adaptive capability had a significant positive association with financial sustainability. Organizations with low or moderate adaptive capability were substantially less likely to achieve higher levels of financial sustainability compared to those with high adaptive capability. These results indicate that the ability to maintain flexible organizational structures, use information systems and market analysis effectively, and respond quickly to changing clients' needs is associated with higher financial resilience. The study therefore recommends that NPO leaders and development partners prioritize investments in adaptive capability, particularly in flexible organizational structures, effective information systems, and responsiveness to clients' needs, to strengthen financial sustainability.

Keywords:
Adaptive Capability, Dynamic Capabilities, Kenyan Non-Profit Organizations

Introduction

Non-profit organizations (NPOs) play a critical role in responding to social and humanitarian needs, particularly in contexts where communities face recurring crises. Over the past two decades, however, NPOs globally have experienced a sustained decline in donor funding, a trend documented since the 2008 global financial crisis (Ebenezer et al., 2020) and exacerbated by recent disruptions such as the COVID-19 pandemic and geopolitical instability in Ukraine

and the Horn of Africa (Development Initiatives, 2023). These shocks have contributed to the highest recorded humanitarian funding shortfalls in 2022 (Development Initiatives, 2023), leaving many NPOs struggling to secure adequate resources to sustain their operations. In Kenya, this challenge is particularly acute, as most NPOs rely heavily on external donors and generate minimal income from local sources. According to the Public Benefit Organizations Regulatory Authority-PBORA (2024), Kenyan NPOs scored only 45% on the national sustainability index, with own-income activities contributing just 6.2% of total income in the 2022–23 financial year. This persistent financial vulnerability threatens their long-term viability and their ability to deliver essential services to vulnerable populations.

As the funding environment becomes increasingly volatile, NPOs must develop capabilities that enable them to adapt to changing conditions, reconfigure internal processes, and respond effectively to emerging opportunities and threats. Dynamic Capabilities Theory (Teece et al., 1997; Teece, 2007) provides a useful lens for understanding how organizations adjust to turbulent environments by sensing changes, seizing opportunities, and reconfiguring resources. Although originally developed for for-profit firms, the theory has gained traction in NPOs research, where scholars argue that NPOs also require dynamic capabilities to maintain service continuity, innovate, and mobilize resources in uncertain environments (Kaltenbrunner & Reichel, 2018; Shumate et al., 2017). Among these capabilities, adaptive capability is particularly critical, as it enables organizations to adjust structures, processes, and resource allocations in response to shifts in their operating environment (Mwangi et al., 2022). For NPOs facing declining donor support and increased competition for grants (Ye & Gong, 2021), adaptive capability may be essential for sustaining financial health.

Despite its relevance, empirical research examining how adaptive capability is associated with the financial sustainability of NPOs remains limited. Existing studies have focused primarily on organizational performance, service continuity, or competitive advantage (Son et al., 2024; Kadyrova & Shapira, 2023; da Costa et al., 2020), leaving the financial sustainability dimension underexplored. In the African context, research on dynamic capabilities is scarce (Rifqi et al., 2024), and even fewer studies have examined this capability within NPO settings. In Kenya, available studies have been constrained by narrow geographical scope, small sample sizes, or a focus on performance outcomes rather than financial sustainability (Shani et al., 2020; Muithya & Muathe, 2020; Wanga, 2022; Njilu & Karithi, 2020). No Kenyan study was found that had examined NPO-specific dynamic capabilities including adaptive capability (da Costa et al., 2020)as predictors of financial sustainability.

Addressing these gaps is essential, given the persistent financial vulnerability of Kenyan NPOs and their critical role in national development (Ahawo, 2020). Understanding how adaptive capability relates to financial sustainability can provide actionable insights for strengthening organizational resilience, improving resource utilization, and enhancing long-term viability. The purpose of this study was therefore to examine the relationship between adaptive capability and financial sustainability of Kenyan NPOs.

Focusing specifically on adaptive capability, the study used three sub-variables to examine the association between adaptive capability and the financial sustainability of Kenyan NPOs: flexible organizational structures, information systems and market analysis and speed of response to clients' needs. These sub-variables provided a structured basis for understanding the mechanisms through which adaptive capability may enhance financial resilience in a challenging and rapidly evolving funding environment.

Methodology

This study adopted a positivist research philosophy, which assumes that reality is objective, observable, and measurable, and that knowledge can be generated through systematic empirical inquiry. Positivism was appropriate because the study sought to test hypothesized relationships between dynamic capabilities and financial sustainability using quantifiable indicators derived from established theoretical constructs (Creswell & Creswell, 2022; Saunders et al., 2019). The independence between the researcher and the observed reality, the use of structured instruments, and the emphasis on empirical validation align with positivist assumptions.

A descriptive correlational research design was employed to examine the relationship between adaptive capability and the financial sustainability of Kenyan NPOs. Descriptive correlational designs are suitable when the objective is to determine the degree of association between variables without manipulating them (Willett, 2022). This design was appropriate because the study aimed to assess how adaptive capability—measured through flexible organizational structures, information systems and market analysis, and speed of response to clients' needs—is associated with financial sustainability without establishing causality. The design also aligns with the quantitative approach used to collect measurable data and generalize findings from a discrete sample population (Wijethilake & Lama, 2019).

The target population comprised active Kenyan NPOs registered with the Public Benefit Organizations Regulatory Authority (PBORA). Data were collected from knowledgeable respondents who included founders, country directors, or board members, because they possess direct knowledge of their organizations' capabilities and financial sustainability practices. PBORA's 2025 registry listed 1,698 active NPOs, which formed the sampling frame from which a sample of 323 NPOs was selected using the Yamane (1967) formula. Each NPO constituted a unit of analysis, represented by one knowledgeable respondent as the unit of observation.

Stratified random sampling was used to ensure representativeness across NPOs operating in different numbers of sectors. The population was stratified into five groups based on the number of sectors in which each NPO operated, and proportionate allocation was applied to determine the number of organizations selected from each stratum. Simple random sampling was then used within each stratum to select the required units. This approach ensured that each NPO had a known and non-zero probability of selection while preserving the natural distribution of the population. After data cleaning, 197 valid responses were retained for analysis.

Primary data were collected using a structured, self-administered questionnaire which was suitable for the research (Okello, 2022). The instrument consisted of two sections: demographic information and Likert-scale items measuring the study variables. The Likert items used a four-point forced-choice scale (1 = Strongly Disagree to 4 = Strongly Agree), consistent with recommendations to eliminate neutral responses and improve data quality (Combrinck, 2024; Zhang et al., 2023). Items for adaptive capability and financial sustainability were adapted from validated scales in prior studies and aligned with the dynamic capabilities model proposed by da Costa et al. (2020). The questionnaire was administered electronically using SurveyMonkey, enabling efficient distribution and follow-up.

A pilot study involving 22 NPO leaders was conducted to assess the reliability and validity of the instrument. Reliability was evaluated using Cronbach's alpha, with all sub-scales meeting acceptable or good thresholds (Tavakol & Dennick, 2011). For adaptive capability, flexible

organizational structures (α = 0.726), information systems and market analysis (α = 0.761), and speed of response to clients' needs (α = 0.806) demonstrated strong internal consistency. Financial sustainability sub-scales also exhibited high reliability, with coefficients ranging from 0.815 to 0.872. These results confirmed that the instrument consistently measured the intended constructs.

Validity was assessed through construct, content, and criterion-based approaches (Okello, 2024). Construct validity was ensured by grounding the measurement items in the dynamic capabilities' framework (da Costa et al., 2020). Content validity was strengthened through expert review and pilot testing, which enhanced clarity, relevance, and comprehensiveness (Creswell & Creswell, 2022). Convergent validity was assessed using Average Variance Extracted (AVE), with most sub-scales exceeding the 0.50 threshold (Hair et al., 2021). Although Flexible Organizational Structures (0.494) fell slightly below the threshold, it was retained due to strong composite reliability and theoretical importance. Criterion validity was examined using Spearman's correlation coefficients, appropriate for ordinal data.

Data preparation involved coding, cleaning, and screening the dataset before analysis. Questionnaires completed in under seven minutes or with more than 10% missing data were excluded to ensure response quality, resulting in 197 valid responses. Mode imputation was applied to remaining missing values under a Missing at Random (MAR) assumption (Rubin, 2021). Data were exported from SurveyMonkey to Excel and then to SPSS version 30 for analysis. Latent variable scores were computed using means and categorized into low, moderate, and high levels to preserve ordinal properties.

Data analysis involved descriptive statistics to summarize respondent characteristics and variable distributions. Inferential analysis was conducted using ordinal logistic regression, appropriate for modeling relationships between ordinal predictors and ordinal outcomes. The model assessed the association between adaptive capability and financial sustainability. Diagnostic checks were performed to ensure model adequacy, including the test of proportional odds.

Ethical considerations were observed throughout the study. Approval was obtained from the Institutional Review Board (IRB) and the National Commission for Science, Technology, and Innovation (NACOSTI). Participation was voluntary, informed consent was obtained electronically, and confidentiality was assured. No identifying information was collected, and data were used solely for academic purposes.

Results

Descriptive findings indicated that most Kenyan NPOs perceived themselves as moderately capable of adjusting to environmental shifts. Among the three sub-dimensions, information systems and market analysis recorded the strongest performance (M = 3.46, SD = 0.548), suggesting that many NPOs have reasonably effective mechanisms for gathering and interpreting environmental information. Speed of response to clients' needs also scored moderately high (M = 3.24, SD = 0.564), reflecting an ability to pivot in response to donor feedback or emerging community needs. Flexible Organizational Structures recorded the lowest mean (M = 3.11, SD = 0.665), indicating that structural agility is present but less consistently developed. These descriptive patterns suggest that while Kenyan NPOs are generally adaptive, their structural flexibility lags behind their informational responsiveness.

Table 1
Descriptive statistics for Adaptive Capability and its Sub-variables

Sub-variable	N	Min.	Max.	Mean	Std. Deviation
Information Systems and Market Analysis	197	1	4	3.46	0.548
Speed of Response to Clients' Needs	197	2	4	3.24	0.564
Flexible Organizational Structures	197	1	4	3.11	0.665
Adaptive Capability	197	2	4	3.30	0.552

Inferential Analysis

Inferential results reinforced the importance of adaptive capability. Spearman's rank-order correlation revealed a statistically significant positive association between adaptive capability and financial sustainability ($\rho = .286$, $p < .001$), indicating that higher levels of adaptive capability were reliably associated with stronger financial sustainability.

Table 2
Correlation Statistics for Adaptive Capability and Financial Sustainability

			Financial Sustainability	Adaptive Capability
Spearman's rho	Financial Sustainability	Correlation Coefficient	1.000	.286**
		Sig. (2-tailed)	.	<.001
		N	197	197
	Adaptive Capability	Correlation Coefficient	.286**	1.000
		Sig. (2-tailed)	<.001	.
		N	197	197

**. Correlation is significant at the 0.01 level (2-tailed).

The chi-square test of independence indicated a statistically significant association between adaptive capability category and financial sustainability category ($\chi^2 = 20.503$, $df = 4$, $p < .001$). However, this result should be interpreted with some caution because 2 cells (22.2%) had expected counts below 5, with a minimum expected count of 1.32.

Table 3
Chi-Square test for Adaptive Capability and Financial Sustainability

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.503a	4	<.001
Likelihood Ratio	19.806	4	<.001
Linear-by-Linear Association	14.680	1	<.001
N of Valid Cases	197		

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 1.32.

The Kruskal–Wallis H test showed significant differences in financial sustainability medians across adaptive capability levels ($H = 16.927$, $df = 2$, $p < .001$), with organizations exhibiting high adaptive capability achieving the highest mean rank (118.07), followed by moderate (88.91) and low (86.28) capability groups. However, the low adaptive capability group

contained only 9 cases, thus warrants caution when interpreting comparisons involving the low category.

Table 4
Kruskal-Wallis H Test for Adaptive Capability and Financial Sustainability

	Adaptive Capability	N	Mean Rank
Financial Sustainability	Low	9	86.28
	Moderate	119	88.91
	High	69	118.07
	Total	197	

	Financial Sustainability
Kruskal-Wallis H	16.927
df	2
Asymp. Sig.	<.001

a. Kruskal Wallis Test

b. Grouping Variable: Adaptive Capability Categories

The proportional odds assumption was satisfied, as indicated by the non-significant Test of Parallel Lines ($\chi^2 = 1.918$, df = 2, p = .383), confirming that the slope coefficients were consistent across financial sustainability response categories and validating the use of the ordinal logistic regression model.

Table 5
Results of the Test of Parallel Lines for Adaptive Capability

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	23.164			
General	21.247	1.918	2	.383

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
a. Link function: Logit.

The ordinal logistic regression model was estimated using all 197 valid cases retained after data cleaning. The model significantly improved prediction over the intercept-only model ($\chi^2 = 17.888$, df = 2, p < .001), and goodness-of-fit tests indicated adequate model fit (Pearson $\chi^2 = 2.041$, p = .360; Deviance $\chi^2 = 1.918$, p = .383). The Nagelkerke pseudo-R^2 value of .105 suggested that adaptive capability explained approximately 10.5% of the variance in financial sustainability, indicating a modest explanatory power.

Parameter estimates showed that organizations with low adaptive capability had significantly reduced odds of achieving higher financial sustainability (B= −1.506, SE = .759, Wald $\chi^2 = 3.939$, p = .047), while those with moderate adaptive capability also exhibited significantly lower odds (B= −1.360, SE = .338, Wald $\chi^2 = 16.243$, p < .001) compared to organizations with high adaptive capability. These findings indicate that as adaptive capability decreases—from high to moderate or low—an NPO has lower odds of higher financial sustainability.

Table 6
Parameter Estimates for Ordinal Logistic Regression Predicting Financial Sustainability from Adaptive Capability

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[Financial Sustainability= 1.00]	-2.799	.338	68.440	1	<.001	-3.462	-2.136
	[Financial Sustainability= 2.00]	.656	.245	7.159	1	.007	.175	1.136
Location	[Low Adaptive Capability]	-1.506	.759	3.939	1	.047	-2.993	-.019
	[Moderate Adaptive Capability]	-1.360	.338	16.243	1	<.001	-2.022	-.699
	[High Adaptive Capability]	0[a]	.	.	0	.	.	.

Link function: Logit.
a. This parameter is set to zero because it is redundant.

Discussions

These results align with the conceptualization of adaptive capability as an organization's ability to coordinate and reconfigure resources in response to environmental shifts (Mwangi et al., 2022). In the Kenyan NPO context—characterized by fluctuating donor priorities, evolving societal needs, and competitive funding landscapes—this capability is particularly vital. The ability to anticipate change and respond with agility is not merely advantageous; it may play an important role in supporting organizational resilience and sustained impact.

Adaptive capability has been identified as an important contributor to organizational performance. Dewi et al. (2020) frame it as a deliberately designed process for resource reconfiguration, while da Costa et al. (2020) emphasize its role in enabling NPOs to respond effectively to changes in their social environment. Studies such as Ngatno and Dewi (2019) and Hansson & Abrantes (2023) further demonstrate that adaptive capability enhances innovation, which in turn contributes to competitive advantage and sustainability. These interlinked pathways suggest that adaptive capability may operate both directly and indirectly in shaping financial outcomes.

The study's operationalization of adaptive capability through flexible structures, information systems and market analysis, and speed of response to clients' needs is well supported in the literature. Zaluski et al. (2022) validated these dimensions as core indicators of adaptiveness, while scholars such as Wojčák et al. (2021) and Wagner III (2021) emphasized the importance of structural flexibility in enabling organizations to navigate uncertainty. In this study, Kenyan NPOs demonstrated stronger performance in responsiveness and information systems than in structural flexibility, partially converging with Prysmakova and Pysmenna (2024), who observed that flexible structures were critical to NPO resilience during crises in Belarus and

Ukraine. However, the Kenyan context revealed a more reactive than proactive posture, suggesting a divergence in structural preparedness for sustained adaptability.

Similarly, while many Kenyan NPOs had basic information systems for data collection and reporting, fewer leveraged these systems for strategic decision-making or real-time market analysis. This partially aligns with Nadkarni & Prügl (2021), who emphasized the role of integrated systems in enabling strategic responsiveness, but diverges from Benke et al. (2024), who found that real-time data processing was a hallmark of adaptive capability in more technologically mature organizations.

Information Systems and Market Analysis emerged as the strongest dimension of adaptive capability among Kenyan NPOs, followed by Speed of response, converging with da Costa et al. (2020), who validated rapid responsiveness as a key indicator of adaptive capability in Brazilian NPOs. However, while speed was evident, the strategic depth of these responses varied, indicating a divergence from studies such as Niu & Li (2022), which emphasized process acceleration and innovation as complementary outcomes of rapid adaptation.

While the findings support the significance of adaptive capability, the modest explanatory power (Nagelkerke $R^2 = .105$) suggests that adaptive capability, though crucial, may need to be complemented by other capabilities—such as mobilizing or innovative capacity—to fully realize sustainable outcomes. The literature also reveals conceptual overlap between adaptive capability and constructs such as agility, flexibility, and versatility (Desalegn et al., 2024), which may pose challenges for measurement and interpretation.

Importantly, this study contributes new insights by validating adaptive capability within the Kenyan NPO context, a setting that has received limited empirical attention in dynamic capabilities research. By demonstrating its statistically significant link to financial sustainability, the study affirms that adaptive capability is not only relevant but essential for mission-driven organizations operating in volatile environments.

Conclusions

Descriptive results showed that Kenyan NPOs generally perceive themselves as adaptable. The results, however, showed that this adaptability is unevenly institutionalized, with informational responsiveness stronger than structural agility. Inferential analysis confirmed that adaptive capability is an important predictor of financial sustainability.

The findings indicate that adaptive capability enhances an organization's ability to interpret environmental shifts, adjust structures, and respond with agility to changing donor and community expectations. Its influence is substantial and becomes even more powerful when supported by complementary capabilities such as absorptive, innovative and mobilizing capabilities. Strengthening adaptive capability—particularly in areas of structural flexibility and managerial responsiveness—represents a strategic pathway for Kenyan NPOs seeking to build and sustain financial resilience in a dynamic operating environment. Additionally, the findings showed that adaptive capability differentiates more strongly between low and moderate levels of financial sustainability than between moderate and high levels, implying that improvements in adaptability may be especially impactful for financially vulnerable organizations.

Authorship Statement
Both the authors conceptualized the study, designed the methodology, collected and analyzed the data, interpreted the findings, and prepared the manuscript for publication. Both authors approved the final version of the manuscript and are accountable for all aspects of the work.

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