

Social Entrepreneurship and Organisational Performance of Public Referral Hospitals in the Lake Region Economic Bloc, Kenya

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ABSTRACT

Kenya's public referral hospitals operate under persistent financial, human-resource and infrastructural constraints while being expected to provide accessible, equitable and high-quality healthcare. This study examined the relationship between Social Entrepreneurship and Organisational Performance among public referral hospitals in the Lake Region Economic Bloc, Kenya. Anchored in Resource Dependence Theory and Stakeholder Theory, the study adopted a positivist philosophy and an explanatory cross-sectional survey design. Data were obtained from 415 healthcare professionals serving as key informants drawn from 83 public referral hospitals across six counties. Social Entrepreneurship was modelled as a reflective-formative higher-order construct comprising Process and Results, while Organisational Performance comprised Financial Perspective, Internal Business Process and Quality of Care. The model was estimated in SmartPLS 4.1.1.8 using the disjoint two-stage procedure and 5,000 bootstrap resamples. Social Entrepreneurship had a positive and statistically significant association with Organisational Performance ($\beta = .118$, $t = 2.454$, $p = .014$, BC 95% CI [.022, .211]). Hospital-clustered and random-intercept mixed-model sensitivity analyses retained the positive direction and statistical conclusion; the mixed model yielded $B = .085$, $p = .027$ after accounting for Strategic Orientation, Hospital Level and respondent nesting. Its practical contribution was nevertheless small ($f^2 = .015$) after Strategic Orientation and Hospital Level were accounted for. The complete predictor set explained 16.6% of the variance in Organisational Performance (adjusted $R^2 = .160$), while Q^2 predict of .141 indicated out-of-sample predictive relevance. The study's contribution lies in testing Process and Results jointly as a higher-order Social Entrepreneurship capability against multidimensional performance in public referral hospitals. The findings position Social Entrepreneurship as a complementary capability that can support stakeholder collaboration, socially directed innovation and resource mobilisation, but cannot substitute for adequate public financing, staffing, medicines, equipment, infrastructure and institutional reform.

Keywords: Organisational Performance, PLS-SEM, Public Referral Hospitals, Social Entrepreneurship, Stakeholder Collaboration

INTRODUCTION

Kenya's public referral hospitals carry a demanding service and equity mandate. In addition to receiving patients from lower tiers of care, they provide specialised services to communities for whom private treatment is often unaffordable. The public system contains approximately 47% of the country's health facilities, delivers close to 48% of healthcare services and serves an estimated 36% of people living in poverty (Ministry of Health, 2023). Their performance therefore has direct implications for access, accountability and the quality of publicly funded care.

That mandate is pursued under difficult conditions. Delayed disbursements, restricted financial autonomy, shortages of specialised personnel, medicines and equipment, and high recurrent expenditure constrain hospital operations. The Kenya Health Facility Census reported newborn-service availability of only 12%, overall newborn-care readiness of approximately 22%, and comprehensive emergency obstetric and neonatal care in only 3% of public hospitals (Ministry of Health, 2023). These gaps reflect not only clinical shortages but also organisational difficulties in mobilising resources, redesigning services and coordinating stakeholders around unmet needs.

Social Entrepreneurship offers a relevant organisational response by applying entrepreneurial methods to social problems while retaining social value as the central purpose (Oloo & Schampers Car, 2020). In a public hospital, this does not mean commercialising the public mandate. It means identifying unmet health needs, developing workable innovations, bringing together public, community, non-profit and private actors, and securing resources that permit useful interventions to continue. The approach can include redesigned patient pathways, collaborative outreach, partnerships for equipment or expertise, community-based initiatives and more sustainable ways of delivering essential services.

The construct is multidimensional. Vieira et al. (2023) distinguish the processes through which social problems are recognised and addressed from the results generated for beneficiaries and the organisation. The present study therefore conceptualised Social Entrepreneurship as a higher-order capability formed by Process and Results. Process captures problem identification, resource mobilisation and stakeholder collaboration. Results capture healthcare improvement, social value creation and responsiveness to community needs. The distinction matters because activity alone is insufficient: an initiative becomes organisationally meaningful when socially oriented processes produce discernible and sustainable results.

Organisational Performance in a public hospital is likewise broader than profitability. The study used an adapted Balanced Scorecard comprising Financial Perspective, Internal Business Process and Quality of Care (Kaplan & Norton, 1992, 1996; Jaber & Nashwan, 2022). Financial Perspective captured stewardship and alignment of expenditure with service priorities; Internal Business Process represented operational effectiveness; and Quality of Care reflected patient-centred service outcomes. Learning and Growth was not included as a performance dimension because organisational learning formed part of the broader Strategic Orientation construct used in the complete structural model.

Existing research indicates that socially entrepreneurial practices can strengthen innovation, stakeholder collaboration, adaptability and resource use (Palacios-Marqués et al., 2019; Lokman & Chahine, 2021; Chandra et al., 2022). However, much of this evidence comes from social enterprises, nonprofit organisations, community initiatives and independently governed ventures rather than mainstream public institutions (Bansal et al., 2019; Palacios-Marqués et al., 2019; Basri et al., 2023). This limitation is particularly relevant because stakeholder management remains underexamined in public organisations (Rupčić & Lamovšek, 2019). Healthcare evidence has also relied substantially on qualitative or case-based studies. For example, Lokman and Chahine (2021) studied nine primary-healthcare social enterprises through interviews with founders and senior employees and acknowledged that including government stakeholders would have provided a more balanced perspective. Consequently, quantitative, multi-informant evidence on the relationship between Social Entrepreneurship and Organisational Performance in public referral hospitals remains limited. Performance has also frequently been assessed through financial sustainability, organisational survival or broadly defined effectiveness rather than through an integrated combination of financial stewardship, internal business processes and quality of care (Palacios-Marqués et al., 2019; Basri et al., 2023; Jaber & Nashwan, 2022).

A related theoretical gap concerns how public healthcare organisations improve performance while facing persistent resource constraints. Resource Dependence Theory explains why organisations establish external relationships to obtain finance, expertise, technology and legitimacy (Pfeffer & Salancik, 1978; Hillman et al., 2009). Ansmann et al. (2021) confirmed the relevance of RDT in healthcare and called for broader evaluation of setting-specific resource strategies using performance evidence, including quality and outcome indicators. Stakeholder Theory complements this explanation by showing why resource mobilisation and organisational

responses should be directed towards the needs of patients, employees, communities, governments and development partners (Freeman, 1984). However, limited research has integrated these perspectives to explain whether Social Entrepreneurship helps public referral hospitals mobilise complementary resources, respond to stakeholder needs and improve multidimensional organisational performance.

To address these limitations, the study drew evidence from 83 public referral hospitals in Kenya's Lake Region Economic Bloc (LREB). The study assessed whether Social Entrepreneurship was associated with Organisational Performance after accounting for the additional predictors retained in the broader structural model.

The following null hypothesis was tested:

H₀₁: There is no significant effect of Social Entrepreneurship on Organisational Performance of public referral hospitals in the Lake Region Economic Bloc, Kenya.

LITERATURE REVIEW

Theoretical Review

Resource Dependence Theory

Resource Dependence Theory (RDT), developed by Pfeffer and Salancik (1978), explains how organisations manage dependence on actors that control resources required for survival and performance. Such resources include funding, professional expertise, technology, information, legitimacy and access to collaborative networks. Dependence creates uncertainty, but organisations are not passive: they can reduce exposure and improve access through alliances, partnerships, inter-organisational arrangements and deliberate stakeholder engagement (Hillman et al., 2009).

The theory is especially pertinent to public referral hospitals. Hospitals depend on national and county governments, regulators, suppliers, development agencies, professional groups, communities and other institutions. Where public allocations are delayed or insufficient, service continuity may depend on whether hospital leadership can build credible partnerships, acquire specialised knowledge or mobilise complementary resources. Social Entrepreneurship provides a mechanism for doing so because it joins social-purpose innovation with collaboration and sustainable resource mobilisation.

RDT therefore predicts a positive relationship between Social Entrepreneurship and Organisational Performance. Social entrepreneurial processes can broaden access to financial, human, technological and institutional support; their results can strengthen service delivery, internal operations and organisational sustainability. The theory does not imply that external partnerships replace public financing. Rather, it explains how hospitals can manage dependency and uncertainty while using their formal resources more effectively.

RDT has been criticised for placing greater weight on external constraints than on managerial agency and internal capability. That limitation is addressed here by treating Social Entrepreneurship as an organisational capability, not merely an environmental reaction, and by combining RDT with Stakeholder Theory. The latter identifies the social purpose and stakeholder obligations that should direct resource mobilisation.

Stakeholder Theory

Stakeholder Theory proposes that organisations create value through relationships with groups that affect or are affected by organisational activity (Freeman, 1984). For public hospitals, these groups include patients, communities, healthcare professionals, county and national governments, suppliers, development partners and regulators. Performance must therefore be judged not only by internal efficiency but also by whether services respond to legitimate stakeholder needs.

Social Entrepreneurship closely fits this logic. It begins with a recognised social problem, uses collaboration and innovation to devise a response, and seeks results that benefit society while sustaining the organisation's ability to act. In hospitals, stakeholder participation may improve the identification of service gaps, the acceptability of proposed interventions, access to complementary resources and accountability for the results achieved. Social Entrepreneurship can consequently strengthen both stakeholder value and organisational effectiveness.

Stakeholder Theory alone offers limited guidance when stakeholder claims compete and resources are inadequate. RDT complements it by explaining how hospitals secure and manage the resources needed to respond. In the present study, Stakeholder Theory explains the direction of value creation, while RDT explains the external resource relationships that help make that value creation possible. Together they underpin the proposed Social Entrepreneurship–Organisational Performance relationship.

Conceptual Review

Social Entrepreneurship

Social Entrepreneurship refers broadly to the application of entrepreneurial processes to societal problems, with social value occupying the central place in organisational purpose. Its defining features include recognition of unmet social needs, innovation, resource mobilisation, stakeholder engagement and pursuit of sustainable outcomes (Bansal et al., 2019; Macassa, 2021; Vieira et al., 2023). It differs from conventional commercial entrepreneurship because financial activity is a means of sustaining social value rather than the sole end.

This study adopted the multidimensional logic advanced by Vieira et al. (2023). The Process dimension represents how an organisation identifies social problems, mobilises resources and collaborates with stakeholders. The Results dimension concerns whether those activities improve healthcare, create social value and respond to community needs. The dimensions are related but not interchangeable: an organisation may undertake extensive activity without achieving meaningful results, while results cannot be sustained without appropriate processes. They were consequently modelled as distinct reflective lower-order constructs that form a higher-order Social Entrepreneurship construct.

In public healthcare, the concept must be interpreted within the public mandate. Social Entrepreneurship may involve non-commercial innovation, cross-sector partnerships, community participation, knowledge exchange or more sustainable deployment of existing resources. It should complement statutory funding and accountability rather than shift responsibility for essential services from government to communities or donors.

Organisational Performance

Organisational Performance reflects the extent to which an organisation achieves its objectives. Because public hospital performance cannot be assessed through financial outcomes alone, the study adapted the Balanced Scorecard by retaining the Financial Perspective and Internal Business Process dimensions, replacing the customer perspective with Quality of Care, and excluding Learning and Growth to avoid overlap with Learning Orientation (Kaplan & Norton, 1992, 1996; Jaber & Nashwan, 2022).

Financial Perspective assessed stewardship and the alignment of expenditure with priority services. Internal Business Process captured resource adequacy, service efficiency and management of essential processes. Quality of Care reflected patient satisfaction and healthcare outcomes. These dimensions jointly form performance because improvement in one cannot compensate indefinitely for failure in the others. For example, expenditure control that undermines service quality would not represent satisfactory public-hospital performance.

Empirical Literature Review

Social Entrepreneurship and Organisational Performance

Empirical research generally associates Social Entrepreneurship with favourable organisational outcomes, although the size and form of the relationship vary. Palacios-Marqués et al. (2019) linked social entrepreneurship with organisational performance and highlighted organisational learning as an intervening mechanism. Their work suggests that social-purpose activity is more likely to influence performance when organisations convert experience into knowledge and organisational improvement. Basri et al. (2023) reported that social entrepreneurship orientation and business planning were important to social-enterprise performance. This supports the argument that social mission alone is not sufficient: socially oriented organisations require deliberate processes that connect opportunity recognition, resource decisions and implementation with results. However, evidence from social enterprises cannot be transferred automatically to public hospitals, whose authority, financing and accountability arrangements are different.

Recent healthcare evidence clarifies two mechanisms central to Social Entrepreneurship: resource mobilisation and stakeholder collaboration. It also indicates that neither mechanism automatically improves organisational performance. Lokman and Chahine (2021) documented the business models used by nine primary-healthcare social entrepreneurs in low- and middle-income countries, while Chandra et al. (2022) showed how governance and cross-sector relationships connect public purpose with organisational action in healthcare social enterprises. Bärnreuther (2023) examined a digitally enabled primary-care initiative in India in which loans supported community health entrepreneurship. Although this financing model created possibilities for service delivery, it also shifted financial risk to low-income health workers, showing that resource mobilisation must be assessed alongside equity and sustainability. Santa et al. (2025) mapped collaboration among community-based health and social-care providers in the United Kingdom. The reported network was sparse and fragmented, with an overall collaboration density of 2.2%, indicating that the presence of multiple organisations does not by itself create effective coordination. Santa et al. provide adjacent evidence about the stakeholder-collaboration mechanism rather than a direct test of Social Entrepreneurship in public hospitals. Collectively, these studies explain relevant mechanisms and trade-offs, but none estimates the incremental relationship between a higher-order Social Entrepreneurship capability and multidimensional performance in public referral hospitals.

Evidence from Kenya and the wider East African region provides additional support for these relationships. Lihanda et al. (2023) found that social entrepreneurship strategies significantly contributed to the resilience of One-Acre Fund household livelihoods in Kenya, demonstrating how socially oriented initiatives can generate sustainable outcomes in resource-constrained settings. Similarly, Mukhongo et al. (2023) reported a strong positive relationship between strategic partnerships and organisational performance among broadcasters in Kenya. Although these studies examined household livelihoods and broadcasting rather than public hospitals, they suggest that social entrepreneurship strategies, collaboration and access to complementary resources can strengthen organisational and social outcomes. Baine et al. (2018) also documented how a partnership-based community health-insurance initiative supported healthcare access and financing at Kisii Hospital in Uganda. However, these context-specific studies do not establish whether Social Entrepreneurship predicts multidimensional performance across public referral hospitals.

The literature therefore leaves a specific gap. Social Entrepreneurship is frequently examined in standalone ventures, community organisations or partnership initiatives, and its processes and results are rarely modelled as distinct dimensions of one higher-order capability. Quantitative evidence from mainstream public referral hospitals is particularly limited, as is performance assessment that combines financial stewardship, internal business processes and quality of care. This study addresses that gap by estimating the unique Social Entrepreneurship–Organisational Performance relationship in Kenyan public referral hospitals while retaining Strategic Orientation and Hospital Level in the complete predictor set.

On theoretical and empirical grounds, socially entrepreneurial hospitals are expected to identify unmet needs more clearly, build stronger stakeholder partnerships, mobilise complementary resources and implement

innovations that improve service delivery. Accordingly, Social Entrepreneurship was hypothesised to have a positive association with Organisational Performance, although the formal test retained the null formulation stated in the Introduction.

MATERIALS AND METHODS

The investigation focused on the association between Social Entrepreneurship and Organisational Performance in public referral hospitals within Kenya's Lake Region Economic Bloc.

Study Design: A positivist orientation and an explanatory cross-sectional survey were used to test the proposed relationship with standardised quantitative measures. Since the observations were collected once, the estimated effect is interpreted as a structural association and not as evidence that Social Entrepreneurship temporally caused later performance.

Study Location: Data were collected in public referral hospitals situated in Bungoma, Kisumu, Siaya, Migori, Kisii and Homa Bay counties. Eligible facilities were verified through the Kenya Master Health Facility Registry.

Study Duration: February 2026 to July 2026.

Sample Size and Response Completion: The analysis comprised 415 complete questionnaires from healthcare professionals working in 83 public referral hospitals. The 100% usable yield was achieved through a controlled key-informant protocol rather than a single-attempt survey distribution. Five designated respondents were identified in each hospital, and data collection involved sustained physical and email follow-up until the questionnaires were returned. Each questionnaire was checked for completeness upon receipt, and data entry included range and completeness checks against the five-point response scale. The final returns contained no item-level omissions; consequently, all 415 questionnaires were usable and no statistical imputation of missing values was required.

Sample Size Calculation: An a priori power test was performed in G*Power 3.1.9.7 (Faul et al., 2009). At $f^2 = .15$, $\alpha = .05$ and power = .95, at least 107 observations were required. The realised sample of 415 exceeded that benchmark. As the power calculation presumes independent observations, adequacy was considered alongside the acknowledged nesting of respondents within hospitals.

Subjects and Selection Method: Multistage selection began with the six study counties and the public referral-hospital population. The facilities were classified by Hospital Level, after which all 83 eligible hospitals (76 Level 4, five Level 5 and two Level 6) were retained. Five purposively selected key informants participated in every hospital: the Director of Nursing Services, Head of Maternity Unit, Nurse in Charge of the Newborn Unit, Clinical Officer in Charge of Maternity Services and Clinical Officer in Charge of the Newborn Unit. Their responsibilities gave them direct knowledge of hospital initiatives, stakeholder relationships, resource mobilisation and performance.

Although the constructs concerned organisational practices, the evidence consisted of key informants' individual assessments. The feasibility of hospital-level aggregation was examined with rwg(J), ICC(1), ICC(2) and one-way ANOVA. Taken together, these diagnostics did not support reliable facility-level scores; consequently, the respondent remained the empirical unit of analysis ($N = 415$). This decision did not remove the hierarchical structure created by selecting five respondents from each hospital. The main PLS-SEM estimates were therefore supplemented by two sensitivity analyses across the 83 facilities: a composite-score regression with hospital-clustered sandwich standard errors and a random-intercept linear mixed model with respondents nested within hospitals. These analyses examined whether the focal inference remained stable after accounting for statistical dependence among observations from the same hospital.

Inclusion Criteria:

1. Registration in the Kenya Master Health Facility Registry.
2. Public ownership and management by a county government or the national government.
3. Location within Bungoma, Kisumu, Siaya, Migori, Kisii or Homa Bay County.
4. Classification as a Level 4, Level 5 or Level 6 referral hospital.
5. Occupation of one of the five designated managerial or clinical leadership positions.

Exclusion Criteria:

1. Facilities below Hospital Level 4.
2. Private, faith-based, military, parastatal or nongovernmental facilities.
3. Specialised institutions without a general referral mandate.
4. Facilities outside the six selected LREB counties.
5. Duplicate registry entries and satellite, outreach or auxiliary units linked to a parent hospital.
6. Patients, external stakeholders and staff outside the designated key-informant positions.

Procedure Methodology: Information was gathered through a structured questionnaire scored on a five-point Likert scale. Six Social Entrepreneurship items were adapted from Vieira et al. (2023), with three measuring Process and three measuring Results. Organisational Performance was operationalised through an adapted hospital Balanced Scorecard: two Financial Perspective indicators, four Internal Business Process indicators and two Quality-of-Care indicators (Kaplan & Norton, 1992, 1996; Gazi et al., 2022; Jaber & Nashwan, 2022). The learning-and-growth perspective was omitted because organisational learning was represented elsewhere in the complete structural model, thereby avoiding conceptual duplication.

Five subject experts examined the questionnaire for relevance, clarity and coverage. It was subsequently piloted with 45 respondents from nine public Sub-County Hospitals in Busia County. The pilot assessed wording, sequencing, response options, administration and preliminary psychometric behaviour. Ambiguous, repetitive, double-barrelled or weak items were revised or removed, reducing the complete study instrument from 50 to 25 items while preserving the conceptual content required by each construct.

Statistical Analysis: SmartPLS 4.1.1.8 was used for Partial Least Squares Structural Equation Modelling (Ringle et al., 2024). PLS-SEM suited the explanatory and predictive purpose and the reflective-formative specification of Social Entrepreneurship and Organisational Performance. Their indicators reflected the lower-order constructs, whereas the non-interchangeable dimensions jointly formed the higher-order constructs. Following the disjoint two-stage procedure, Stage One evaluated the reflective measures and generated lower-order latent-variable scores; Stage Two used those scores as formative indicators without repeating the original items (Becker et al., 2012; Sarstedt et al., 2019).

Stage One assessment covered indicator loadings, Cronbach's alpha, Dijkstra–Henseler's ρ_A , composite reliability (ρ_C), Average Variance Extracted, the Heterotrait-Monotrait ratio and the Fornell–Larcker criterion (Fornell & Larcker, 1981; Hair et al., 2022; Henseler et al., 2015). Stage Two examined formative VIFs together with the magnitude, significance and relevance of the outer weights.

For the structural model, the analysis assessed inner VIF values, the standardised Social Entrepreneurship-to-Organisational Performance coefficient, bootstrap t statistics, bias-corrected 95% confidence intervals, R^2 , f^2 and

PLSpredict results. Statistical inference was based on 5,000 bootstrap resamples, while predictive assessment used 10 folds and 10 repetitions. Full-collinearity VIF values provided an additional diagnostic for common method bias (Kock, 2015). Supplementary Pearson correlations were examined in IBM SPSS Statistics to assess possible redundancy among the Social Entrepreneurship indicators.

Respondents were nested within 83 hospitals. Two supplementary analyses were therefore conducted to assess whether this dependence affected the focal conclusion. First, a composite-score regression reproduced the complete predictor set using standardised lower-order construct scores combined according to the Stage Two outer weights. CR1 sandwich standard errors were clustered by hospital, with statistical inference based on 82 cluster degrees of freedom. Second, a random-intercept linear mixed model was estimated in IBM SPSS Statistics using restricted maximum likelihood. Organisational Performance was specified as the dependent variable; Social Entrepreneurship and Strategic Orientation were entered as continuous fixed effects; Hospital Level was entered as a categorical fixed effect, with Level 6 as the reference category; and the numeric hospital identifier defined the random intercept. An unconditional model was first estimated to partition the variance in Organisational Performance into within-hospital and between-hospital components and calculate the intraclass correlation coefficient. Social Entrepreneurship, Strategic Orientation and Hospital Level were then entered into the adjusted model. Both supplementary analyses were treated as sensitivity checks on the focal PLS-SEM conclusion rather than replacements for the disjoint two-stage reflective-formative structural model.

The focal coefficient was estimated within the complete structural model, in which Strategic Orientation and Hospital Level were retained as additional predictors of Organisational Performance. Accordingly, $\beta = .118$ and $f^2 = .015$ represent the unique contribution of Social Entrepreneurship after those variables were accounted for. The non-focal path coefficients are omitted to maintain the article's focus; R^2 is explicitly described as the variance explained by the complete predictor set.

Ethical Considerations: Approval was granted by the Masinde Muliro University of Science and Technology Ethics Review Committee and the Jaramogi Oginga Odinga Teaching and Referral Hospital Ethics Review Committee. The National Commission for Science, Technology and Innovation authorised the research, and the relevant county authorities and hospitals permitted data collection. Participation followed informed consent and remained voluntary, anonymous and confidential.

RESULTS AND DISCUSSION

Measurement Model Assessment

The measurement model was assessed in two stages. Stage One examined the reflective lower-order constructs for indicator reliability, internal consistency, convergent validity and discriminant validity. Stage Two evaluated the formative higher-order constructs for collinearity and the significance and relevance of their outer weights. Tables 1–5 report the measurement-model results, followed by an interpretation of each table. Tables 6 and 7 report the structural-model results for the hypothesised relationship, followed by their interpretation.

To maintain the paper's focus, Tables 1–5 display the measurement results for Social Entrepreneurship and Organisational Performance. Strategic Orientation, which was retained as a non-focal predictor in the broader structural model, was assessed within the same estimation procedure and satisfied the applicable reflective and formative measurement criteria.

Table 1. Indicator Reliability

Construct	Indicator	Outer Loading
Social Entrepreneurship: Process	SEP1	.932
	SEP2	.944
	SEP3	.883
Social Entrepreneurship: Results	SER1	.942
	SER2	.941
	SER3	.861
Financial Perspective	FP1	.941
	FP2	.953
Internal Business Process	IBP1	.846
	IBP2	.947
	IBP3	.939
	IBP4	.880
Quality of Care	QC1	.950
	QC2	.931

Source: Computed from research data using SmartPLS 4.1.1.8 (2026).

Indicator reliability is reported in Table 1. All reflective indicators exceeded .80 on their intended lower-order constructs. Loadings ranged from .883 to .944 for Social Entrepreneurship Process and from .861 to .943 for Social Entrepreneurship Results. For the Organisational Performance dimensions, the values ranged from .846 to .953. These coefficients provided adequate support for retaining all the indicators in the measurement model.

Table 2. Construct Reliability and Convergent Validity

Construct	Cronbach's α	rho_A	rho_C	AVE
Financial Perspective	.886	.894	.946	.897
Internal Business Process	.925	.941	.947	.817
Quality of Care	.871	.885	.939	.885
SE Process	.913	1.007	.943	.846
SE Results	.912	1.063	.940	.839

The reliability and convergent-validity statistics are presented in Table 2. Cronbach's alpha and composite reliability (rho_C) exceeded the recommended minimum of .70 for every lower-order construct, while all AVE values were above .50. For Social Entrepreneurship Process and Social Entrepreneurship Results, the indicator loadings ranged from .883 to .944 and from .861 to .943, respectively, exceeding the recommended minimum

of .708. Their Cronbach's alpha values were .913 and .912, composite reliability (ρ_C) values were .943 and .940, and AVE values were .846 and .839, respectively. These results supported the internal consistency reliability and convergent validity of the two dimensions.

Supplementary Pearson correlation analysis in SPSS showed that correlations among the Process indicators ranged from .687 to .851, while those among the Results indicators ranged from .686 to .840; all were statistically significant at $p < .001$. Although the indicators were strongly related, no within-dimension correlation exceeded .90, and examination of their content did not reveal substantive duplication. However, the ρ_A estimates for Social Entrepreneurship Process (1.007) and Social Entrepreneurship Results (1.063) exceeded the theoretically admissible upper bound of 1.00 and were therefore not interpreted as reliability evidence. Given the satisfactory loadings, Cronbach's alpha, ρ_C and AVE values, together with the absence of excessive inter-item correlations, all indicators were retained. The inadmissible ρ_A estimates were disclosed but excluded from the reliability conclusion.

Table 3. Heterotrait-Monotrait Ratio (HTMT)

Construct	FP	IBP	QC	SE-P	SE-R
FP	—				
IBP	.047	—			
QC	.066	.100	—		
SE-P	.043	.156	.139	—	
SE-R	.117	.080	.088	.054	—

Table 4. Fornell-Larcker Criterion

Construct	FP	IBP	QC	SE-P	SE-R
FP	.947				
IBP	.042	.904			
QC	.060	.091	.941		
SE-P	.045	.153	.130	.920	
SE-R	.114	.079	.085	.064	.916

Note. Diagonal values are square roots of AVE; off-diagonal values are correlations.

Discriminant validity was examined using the complementary evidence reported in Tables 3 and 4. As indicated by the HTMT matrix in Table 3, all construct pairs recorded values well below the conservative .85 threshold (Henseler et al., 2015). The highest HTMT value was .156, suggesting that the lower-order constructs were empirically distinct. This conclusion was reinforced by the Fornell–Larcker results in Table 4: each diagonal value, representing the square root of AVE, was greater than the corresponding inter-construct correlations.

Table 5. Formative Higher-Order Measurement Assessment

HOC	Lower-Order Construct	VIF	Outer Weight	t	p	BC 95% CI
Social Entrepreneurship	Process	1.004	.730	6.588	<.001	[.477, .909]
	Results	1.004	.639	5.339	<.001	[.369, .842]
Organisational Performance	Financial Perspective	1.005	.501	4.876	<.001	[.287, .689]
	Internal Business Process	1.010	.621	5.683	<.001	[.392, .813]
	Quality of Care	1.012	.501	4.144	<.001	[.239, .712]

Table 5 reports the formative assessment of the higher-order constructs. VIF values ranged from 1.004 to 1.012, indicating no problematic collinearity among the formative dimensions. Process (outer weight = .730, $p < .001$) and Results (outer weight = .639, $p < .001$) contributed significantly and distinctly to Social Entrepreneurship. Organisational Performance was formed significantly by Financial Perspective (outer weight = .501, $p < .001$), Internal Business Process (outer weight = .621, $p < .001$) and Quality of Care (outer weight = .501, $p < .001$). The confidence intervals excluded zero in every case, confirming the relevance of all five dimensions to their respective higher-order constructs.

Structural Model Assessment

After establishing the adequacy of the reflective and formative measurement models, the structural model was examined to test the hypothesised relationship between Social Entrepreneurship and Organisational Performance. The assessment considered predictor collinearity, the magnitude and significance of the structural coefficient, the bootstrap confidence interval, effect size, explained variance and out-of-sample predictive relevance. Tables 6 and 7 report the structural-model results, followed by their interpretation.

Table 6. Structural Path and Hypothesis-Test Results

Relationship	β	t	p	BC 95% CI	f^2	Decision
Social Entrepreneurship → Organisational Performance	.118	2.454	.014	[.022, .211]	.015	Reject H_{01}

Note. The confidence interval is reported from the final bias-corrected bootstrap output; 5,000 resamples were used.

As shown in Table 6, Social Entrepreneurship was positively associated with Organisational Performance ($\beta = .118$, $t = 2.454$, $p = .014$, BC 95% CI [.022, .211]). The confidence interval excluded zero; therefore, H_{01} was rejected. The f^2 value of .015 indicated a small incremental contribution after Strategic Orientation and Hospital Level were accounted for. Inner-model VIF values ranged from 1.077 to 1.139, confirming that predictor collinearity did not affect interpretation of the structural relationship. The supplementary composite-score regression with hospital-clustered standard errors yielded $\beta = .104$, cluster-robust SE = .049, $t(82) = 2.147$, $p = .035$, 95% CI [.008, .201]. The random-intercept null model estimated significant between-hospital variance of .03297 ($p = .026$) and residual variance of .28730, producing ICC = .103; thus, 10.3% of the initial variation in Organisational Performance lay between hospitals. In the adjusted mixed model, Social Entrepreneurship remained positive and statistically significant ($B = .08479$, SE = .03824, $t = 2.217$, $p = .027$, 95% CI [.00962,

.15997]) after accounting for Strategic Orientation, Hospital Level and respondent nesting. Strategic Orientation ($B = .27791$, $p < .001$) and Hospital Level ($F = 4.165$, $p = .019$) were also significant. The residual random-intercept variance approached zero after these predictors were entered, indicating negligible remaining between-hospital variance, although this boundary estimate was interpreted cautiously. Across both sensitivity analyses, the direction and statistical conclusion for Social Entrepreneurship were unchanged.

Table 7. Explanatory and Predictive Performance

Outcome	R ²	Adjusted R ²	Q ² predict	RMSE	MAE	Interpretation
Organisational Performance	.166	.160	.141	.931	.770	Predictive relevance above the mean benchmark

Table 7 summarises the model's explanatory and predictive performance. Strategic Orientation, Social Entrepreneurship and Hospital Level collectively explained 16.6% of the variance in Organisational Performance ($R^2 = .166$; adjusted $R^2 = .160$). This explained variance relates to the complete predictor set and should not be attributed to Social Entrepreneurship alone. Organisational Performance recorded $Q^2_{\text{predict}} = .141$, while the corresponding prediction errors were $RMSE = .931$ and $MAE = .770$. The positive Q^2_{predict} value demonstrated out-of-sample predictive relevance relative to the naïve mean benchmark (Shmueli et al., 2019; Liengaard et al., 2021). CVPAT provided additional evidence that the model generated significantly lower prediction loss than the indicator-average benchmark (average loss difference = $-.053$, $t = 3.421$, $p = .001$). However, its prediction loss did not differ significantly from that of the linear-model benchmark (average loss difference = $-.006$, $t = .900$, $p = .368$). The findings therefore support predictive relevance but do not establish predictive superiority over the linear model. The estimated model also yielded an SRMR of .037, which was treated as supplementary information.

DISCUSSION OF FINDINGS

The positive coefficient indicates that respondents reporting stronger Social Entrepreneurship processes and results also tended to report better multidimensional hospital performance. This association was reliable in the primary PLS-SEM model, the hospital-clustered regression and the random-intercept mixed model. The mixed model further showed that the conclusion remained stable after explicitly partitioning respondent- and hospital-level variation. Nevertheless, the small PLS-SEM effect size means that the practical difference attributable uniquely to Social Entrepreneurship was limited.

The direction of the relationship is consistent with Palacios-Marqués et al. (2019) and Basri et al. (2023), who linked socially entrepreneurial orientation and organisational processes with performance-related outcomes. The present evidence extends that general pattern to public referral hospitals, but the small incremental effect provides a more restrained conclusion: social purpose becomes organisationally useful when supported by implementation, learning and sustainability, yet it remains only one influence within a complex performance system.

The healthcare evidence also helps interpret why the observed effect was positive but small. The service models and cross-sector governance arrangements identified by Lokman and Chahine (2021) and Chandra et al. (2022) illustrate how socially directed innovation can mobilise resources and organise responses to unmet needs. However, Bärnreuther (2023) demonstrates that entrepreneurial financing may widen delivery options while transferring risk to vulnerable participants, and Santa et al. (2025) show that a diverse provider ecosystem may still have weak and fragmented collaboration. These findings are consistent with treating Social Entrepreneurship as a complementary capability: innovation and partnerships can support performance, but their value depends on coordination, safeguards, public resources and implementation capacity. Because the cited studies concern

different healthcare systems and did not test the present structural model, they inform interpretation rather than establish the mechanism in Kenyan referral hospitals.

Kenyan evidence points in the same direction. Lihanda et al. (2023) associated social entrepreneurship strategies with livelihood resilience, while Mukhongo et al. (2023) linked strategic partnerships with organisational performance. These settings differ from public hospitals, but they support the relevance of socially directed action and complementary resource relationships in constrained environments.

The study's distinct contribution is therefore contextual and methodological rather than a claim of a large practical effect. It tests Social Entrepreneurship inside mainstream public referral hospitals, represents Process and Results as formative dimensions of one higher-order capability, and relates that capability to performance formed by financial stewardship, internal processes and quality of care. This specification shows what the association covers and, through f^2 , how little additional explanatory power it contributes after the other predictors are considered.

The distinction between statistical and practical significance is central. The non-zero coefficient and confidence interval support rejection of H01, whereas $f^2 = .015$ shows that Social Entrepreneurship added only a small amount of explanatory power. It should therefore be treated as a complementary capability, not a major determinant of hospital performance and not a remedy for inadequate financing, workforce capacity, medicines, equipment, infrastructure or governance.

RDT explains how collaboration can give hospitals access to resources, expertise and legitimacy that they cannot generate internally (Pfeffer & Salancik, 1978; Hillman et al., 2009). Stakeholder Theory adds that these relationships should be directed towards legitimate patient, employee and community needs (Freeman, 1984). Together, the theories support a sequence in which hospitals identify stakeholder needs, organise collaborative responses, mobilise complementary resources and convert them into socially valuable results. The study did not separately test those mechanisms, so this sequence remains a theory-grounded interpretation rather than a demonstrated causal process.

The result should nevertheless be interpreted as an association within a cross-sectional structural model. It does not show that an increase in Social Entrepreneurship necessarily precedes or causes later performance improvement. Longitudinal data and objective hospital indicators would be needed to establish that temporal claim.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Social Entrepreneurship had a positive and statistically significant structural relationship with Organisational Performance among public referral hospitals in the LREB. The main PLS-SEM result supported rejection of H01, and both the hospital-clustered regression and random-intercept mixed model produced the same directional and statistical conclusion. The mixed model identified meaningful initial between-hospital variation ($ICC = .103$), while the adjusted model retained a positive Social Entrepreneurship coefficient after accounting for Strategic Orientation, Hospital Level and respondent nesting. Nevertheless, $f^2 = .015$ showed that the incremental PLS-SEM contribution was small. Social Entrepreneurship should therefore be understood as one useful, complementary element within a much wider hospital-performance system.

The higher-order specification clarified the nature of this capability. Social Entrepreneurship was formed by Process and Results: hospitals needed both the practices through which social problems were addressed and the social and organisational outcomes arising from those practices. Organisational Performance likewise reflected financial stewardship, internal processes and quality of care rather than a single financial outcome.

The findings support the complementary use of RDT and Stakeholder Theory. RDT explains how partnerships and networks can help hospitals manage external resource dependence. Stakeholder Theory explains how socially entrepreneurial activity directs those relationships towards patient, community, employee and public-sector value. The theories together offer a coherent explanation of why Social Entrepreneurship can contribute to hospital performance.

Theoretical, Methodological and Practical Implications

Theoretically, the study extends Resource Dependence and Stakeholder explanations into a public referral-hospital setting. It shows that external resource relationships and stakeholder-centred value creation can be connected through Social Entrepreneurship rather than treated as separate organisational concerns.

Methodologically, the study demonstrates a reflective-formative operationalisation in which Social Entrepreneurship is formed by Process and Results and hospital performance is formed by Financial Perspective, Internal Business Process and Quality of Care. This approach preserves the conceptual distinction among dimensions while estimating one higher-order structural relationship.

Practically, hospitals should treat Social Entrepreneurship as an organisational capability, not as a label for isolated donor projects. Management can support it by creating formal procedures for identifying unmet needs, evaluating proposed innovations, coordinating stakeholders, documenting results and sustaining effective initiatives. Because the estimated effect was small, these practices should complement adequate public financing, infrastructure, medicines, equipment and staffing.

Recommendations

Hospital management should institutionalise Social Entrepreneurship within strategic planning and performance review. Proposed initiatives should state the social problem, expected beneficiaries, partners, resource requirements, implementation responsibilities and measurable financial, process and quality-of-care outcomes.

Public referral hospitals should strengthen partnerships with county governments, universities, research institutions, community organisations, development partners and the private sector. Such partnerships should be governed transparently, aligned with public priorities and evaluated for their contribution to service delivery rather than measured only by the value of resources mobilised.

Hospitals should establish safe channels for staff and communities to propose context-appropriate innovations. Priority may be given to practical improvements such as patient-flow redesign, referral coordination, preventive outreach, better use of existing equipment and knowledge-sharing arrangements that can be sustained after initial external support ends.

The Ministry of Health and county governments should develop policies that institutionalise social innovation, stakeholder collaboration, organisational learning and sustainable resource mobilisation in public referral hospitals. These measures should sit alongside, not replace, commitments to predictable financing and adequate human and physical resources.

Limitations and Suggestions for Further Research

The research used cross-sectional perceptual responses from five purposively selected managerial and clinical key informants in each hospital. Their positions provided informed organisational assessments, but the responses may not fully represent objectively verified hospital performance and self-report bias cannot be excluded. Future studies should triangulate such assessments with audited financial statements, patient waiting times, service-utilisation records, mortality and other clinical outcomes, staffing levels, medicine availability and verified quality-of-care indicators. Longitudinal measurement would also be needed to determine whether changes in Social Entrepreneurship precede subsequent performance changes.

Five respondents were structurally nested within each of the 83 hospitals. The primary SmartPLS analysis did not itself estimate hospital-level variation or directly apply cluster-robust standard errors. This limitation was addressed partly through a hospital-clustered composite-score regression and a supplementary random-intercept mixed model. The latter estimated respondent- and hospital-level variance and retained the positive Social Entrepreneurship coefficient after Strategic Orientation and Hospital Level were included. However, the mixed model used respondent-level higher-order scores and did not estimate the reflective-formative measurement structure separately at individual and hospital levels. With only five respondents per facility and weak aggregation reliability, the study therefore does not claim a full multilevel latent-variable SEM. Future research should recruit more respondents within facilities and apply multilevel SEM, multilevel PLS-SEM or another hierarchical latent-variable approach capable of assessing measurement and structural relations at both levels.

The study covered public referral hospitals in six LREB counties. Research in lower-level facilities, private hospitals and faith-based institutions would show whether the relationship changes with ownership, governance, service scope or financing. Longitudinal studies are also needed to determine whether Social Entrepreneurship precedes subsequent performance change.

Further work could examine the mechanisms and boundary conditions omitted from the present model, including leadership capability, organisational culture, public financing, innovation capability, stakeholder trust and environmental uncertainty. Researchers could also compare the separate contributions of Process and Results where theory and sample size justify disaggregated structural paths.

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Data Availability

The data supporting the findings of this study are not publicly available because they contain confidential responses from healthcare professionals. An anonymised dataset may be made available by the corresponding author upon reasonable request, subject to ethical approval and applicable institutional requirements.