

The Relational Foundations of Social Entrepreneurship: Community Capacity, Innovation, and Social Capital

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ABSTRACT

Purpose – This study examines the relationships between Community Empowerment, Social Innovation, Social Capital, and Social Entrepreneurship, focusing on the mediating role of Social Capital in explaining how community capacity and innovative solutions contribute to social entrepreneurial activities.

Design/methodology/approach – A quantitative cross-sectional survey was conducted among 377 respondents involved in Indonesian social entrepreneurship initiatives, including founders/managers, operational members, and beneficiaries. Data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM), including measurement assessment, bootstrapped mediation tests, predictive assessment, and robustness analysis across respondent roles.

Findings – Community Empowerment and Social Innovation positively influence Social Capital and Social Entrepreneurship, while Social Capital also positively influences Social Entrepreneurship. Social Capital significantly mediates both relationships, indicating complementary partial mediation. The model demonstrates positive predictive relevance, with measurement invariance supported across respondent roles and selected role-specific differences involving beneficiaries.

Originality/Value – This study clarifies the distinct roles of Community Empowerment as existing community capacity, Social Innovation as novelty in social solutions, Social Capital as relational resources, and Social Entrepreneurship as hybrid entrepreneurial enactment. It further positions Social Capital as a complementary relational mechanism that connects community capacity and innovation with social entrepreneurship.

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1. Introduction

Social entrepreneurship has become an important organisational response to persistent social problems that are not fully addressed by conventional public interventions or purely profit-oriented business models. By combining entrepreneurial activity with an explicit social mission, social enterprises seek to create social value while maintaining sufficient economic viability to sustain their activities over time (Lashitew et al., 2022; Maseno & Wanyoike, 2022). This dual mission distinguishes social entrepreneurship from both conventional commercial ventures and traditional non-profit organisations and requires social enterprises to align their organisational practices with social and economic objectives (Ko & Liu, 2021). However, the existence of a social mission alone does not guarantee that social entrepreneurial activities will be sustained or effectively embedded within the communities they serve. Social enterprises frequently depend on community participation, access to local resources, stakeholder involvement, organisational support, and collaborative relationships to maintain their social activities (Desiana et al., 2022; Jørgensen et al., 2021). The relevant question is therefore not only whether social entrepreneurship creates social value, but also which community, innovative, and relational conditions are associated with stronger enactment of social entrepreneurial practices. The original manuscript similarly recognises that social entrepreneurial initiatives operate within wider community and stakeholder ecosystems rather than through entrepreneurial action alone.

Community Empowerment is particularly important in this discussion, although its theoretical position requires careful distinction. Previous studies frequently conceptualise Community Empowerment as an outcome of Social Entrepreneurship, whereby social entrepreneurial initiatives improve participation, access to resources, collective capacity, and community welfare. This perspective is theoretically valid and remains relevant to the broader literature. However, the present study does not conceptualise Community Empowerment as the realised impact or final outcome of a social enterprise programme. Instead, it operationalises Community Empowerment as existing community capacity, reflected in the ability of community members to mobilise productive resources, participate and express their views in collective activities, develop self-reliance, apply local knowledge and skills, and undertake collective action. This distinction is important because communities may possess different levels of capacity and agency while participating in social entrepreneurial ecosystems, and these existing capacities may be associated with how social entrepreneurial practices are organised and sustained. Accordingly, the exogenous position of Community Empowerment in the present model represents a theoretically specified contemporaneous association rather than a claim that empowerment necessarily occurs temporally before Social Entrepreneurship. This interpretation is also consistent with the revised instrument, which measures active community processes and capacities rather than retrospective programme outcomes.

A second relevant condition is Social Innovation. Although Social Innovation and Social Entrepreneurship are closely related, they should not be treated as interchangeable constructs. Social Innovation concerns the development and implementation of novel responses to unmet social needs, including new products or services, improved processes, experimentation, co-creation, and new institutional arrangements. Prior research indicates that openness, user involvement, experimentation, knowledge exchange, and collaboration with external actors can facilitate the development of social innovation within social-enterprise settings (de Souza João-Roland & Granados, 2023; Hagedoorn et al., 2023; Sanzo-Pérez & Álvarez-González,

2022; Tuckerman et al., 2023). Social Entrepreneurship, by contrast, concerns the enactment of an entrepreneurial organisational model that combines social-value creation with market-based activity and organisational continuity. A novel social solution may therefore exist without necessarily being organised as a sustained social entrepreneurial practice. This conceptual separation is reflected in the measurement instrument: Social Innovation captures novelty in products, services, processes, experimentation, co-creation, and institutional arrangements, whereas Social Entrepreneurship captures observable enactment of a hybrid social and entrepreneurial mission.

Community capacity and innovative solutions, however, may not be sufficient on their own. Their relevance to Social Entrepreneurship may depend partly on the relational structures through which actors coordinate resources and collective action. Social Capital provides such a relational foundation through trust, bonding and bridging networks, reciprocity, shared norms, and repeated interaction among community members and external stakeholders. These relational resources can facilitate coordination, reduce uncertainty, improve information exchange, support access to knowledge and resources, strengthen legitimacy, and enable collaboration among actors involved in social entrepreneurial activities (Daskalopoulou et al., 2023; Dudley, 2021; Mohiuddin & Yasin, 2023; Vu et al., 2023). Social Capital is therefore more than an additional contextual characteristic; it offers a plausible mechanism through which community capacities and innovative activities become connected with organised social entrepreneurial practice. The distinction is also clear at the measurement level: the Social Capital indicators assess trust, bonding, bridging, reciprocity, and shared understanding rather than community agency, innovation novelty, or entrepreneurial business enactment. The earlier manuscript already recognised that trust, networks, reciprocity, legitimacy, and stakeholder collaboration may determine whether community and organisational resources can be mobilised effectively.

These relationships reveal three more specific gaps in the literature. First, a conceptual gap remains concerning how Community Empowerment may be incorporated as an exogenous community condition without conflating it with the social impact produced by Social Entrepreneurship. Existing research more commonly treats empowerment as an outcome, leaving the role of existing community capacity less clearly specified. Second, a mechanism gap remains because Community Empowerment and Social Innovation are often discussed through partial or direct relationships, while the relational process through which these conditions are connected with Social Entrepreneurship is less consistently integrated into a single explanatory framework. Reviews of the field indicate that Social Capital may operate as an antecedent, mediator, moderator, or mechanism in social entrepreneurship, yet its mediating role between community capacity, innovation, and entrepreneurial enactment remains theoretically fragmented (Bhardwaj et al., 2023; Mohiuddin & Yasin, 2023). Third, a measurement and construct-boundary gap arises because Social Entrepreneurship is frequently described simultaneously as a process, organisational form, innovation mechanism, social-value outcome, and agent of community change. Such breadth risks conceptual overlap with Community Empowerment, Social Innovation, and Social Capital. The present study therefore adopts more sharply bounded constructs: Community Empowerment represents community capacity and agency; Social Innovation represents the novelty of social solutions; Social Capital represents relational resources; and Social Entrepreneurship represents the observable enactment of a hybrid entrepreneurial model directed towards social value

creation. This directly addresses the conceptual ambiguity identified by the reviewer regarding what the dependent construct actually measures.

Against this background, this study examines the associations of Community Empowerment and Social Innovation with Social Entrepreneurship, both directly and indirectly through Social Capital. The study makes three focused contributions. Theoretically, it develops Social Capital as a relational mechanism that helps explain how community capacity and innovative activity are associated with social entrepreneurial enactment rather than treating relational resources merely as an additional predictor. Conceptually, it establishes clearer boundaries among community capacity, innovation, relational resources, and Social Entrepreneurship, thereby reducing the risk of explaining the dependent construct with conceptually embedded dimensions. Empirically and methodologically, the study evaluates these relationships using PLS-SEM with a comprehensive assessment of reliability and validity, mediation, explanatory and predictive performance, and respondent-role robustness through measurement invariance assessment and multigroup analysis. The model is intentionally interpreted as a set of theoretically specified cross-sectional associations rather than as evidence of temporal causality. In this way, the study seeks to provide a more parsimonious and conceptually disciplined explanation of how community and relational conditions are associated with Social Entrepreneurship.

2. Literature Review & Hypothesis Development

2.1 Social Entrepreneurship: Construct Definition and Boundary

Social Entrepreneurship (SE) is commonly described as an entrepreneurial process, an organisational form, a social-value creation mechanism, or a strategic orientation. These perspectives are related, but using them interchangeably makes it difficult to determine what the construct actually represents. Research on social enterprises consistently shows that a social mission needs to be translated into organisational practices that combine social-value creation with economic activity and sufficient continuity to sustain the organisation (Lashitew et al., 2022; Maseno & Wanyoike, 2022).

This study therefore uses a narrower definition. Social Entrepreneurship refers to the organisational enactment of a hybrid entrepreneurial model that integrates explicit social-value creation with market-based economic activity and organisational continuity. The construct focuses on observable entrepreneurial practice rather than on the existence of a social problem, an innovative idea, community participation, or stakeholder relationships. In operational terms, the five indicators capture the visible combination of earned-income activity and a social mission, the prioritisation of social benefits, social problem-solving alongside programme continuity, the use of goods or services to support social activities, and the reinvestment of generated income in community programmes.

This definition also establishes clear construct boundaries. Community Empowerment (CE) represents community capacity and collective agency; Social Innovation (SI) represents novelty in social solutions, processes, and institutional arrangements; and Social Capital (SC) represents relational resources embedded in trust, networks, reciprocity, and shared norms. SE, in contrast, represents the enactment of socially oriented entrepreneurial activity through a hybrid organisational model. Keeping these domains separate reduces the risk of explaining Social Entrepreneurship with indicators that are already conceptually embedded in the dependent construct.

2.2 Theoretical Foundation

The theoretical core of this study is Social Capital Theory. The theory explains how relationships among actors create access to resources that cannot be reduced to individual capabilities alone. Trust, shared norms, reciprocity, and network ties can support cooperation, information exchange, collective action, and access to external resources. These functions are especially relevant in social entrepreneurial settings, where organisations depend on communities, beneficiaries, public institutions, private partners, and other stakeholders whose interests and resources need to be coordinated. Reviews of the Social Entrepreneurship literature show that Social Capital can operate as an antecedent, mediator, moderator, or broader mechanism through which social value is developed and sustained.

A resource and capability perspective provides a supporting explanation. The argument is not that community attributes are resources owned by the social enterprise. Rather, communities and social entrepreneurial ecosystems contain distributed capacities, including local knowledge, participation, problem-solving ability, innovative capability, and access to productive resources. These capacities become more useful when actors are able to mobilise and coordinate them through relationships and collaborative structures. The theoretical logic of the model can therefore be summarised as community and innovation capabilities → relational mobilisation → social entrepreneurial enactment. Because the study uses cross-sectional data, this structure represents theoretically specified directional associations rather than proof of temporal ordering.

2.3 Community Empowerment and Social Capital

Community Empowerment is treated in this study as an existing pattern of community capacity and collective agency rather than as the final impact of a social enterprise programme. It includes the ability of community members to mobilise productive resources, participate in planning and decision-making, strengthen self-reliance, apply local knowledge, and take collective action. These capacities increase opportunities for repeated interaction and joint problem-solving, both of which are important for building relationships within a community. Repeated participation allows community members to exchange information, recognise shared interests, and develop mutual commitments. Cooperative experiences can strengthen trust, reciprocal expectations, and shared norms, while local knowledge and collective action can support the formation of wider links with external organisations. Collective social entrepreneurship research similarly highlights the importance of community mobilisation and participation in creating the relational conditions needed for coordinated social action (Jørgensen et al., 2021). The present model does not claim that empowerment necessarily occurs before Social Capital in time; it tests whether stronger existing community capacity is associated with stronger relational resources.

H1: *Community Empowerment is positively associated with Social Capital.*

2.4 Social Innovation and Social Capital

Social Innovation refers to the development and implementation of novel responses to unmet social needs. In this study, it includes new products or services, improved processes, experimentation, co-creation, and new institutional arrangements. The emphasis is therefore on novelty and problem-solving rather than on the hybrid social-commercial structure that defines Social Entrepreneurship. Research on social enterprises shows that user involvement, experimentation, openness, and cooperation with external actors are closely related to the development of Social Innovation (de Souza João-Roland & Granados, 2023).

Innovation also has a relational dimension. Co-creation requires actors to communicate, share knowledge, negotiate different expectations, and work together under uncertainty. Repeated

interaction can strengthen network ties and shared understanding, while collaboration may connect social initiatives with government, universities, non-profit organisations, and private-sector partners. The relationship may also operate in the reverse direction, because strong Social Capital can facilitate innovation. The present hypothesis simply specifies the directional association examined in this model.

H2: *Social Innovation is positively associated with Social Capital.*

2.5 Social Capital and Social Entrepreneurship

Social enterprises rarely operate as isolated organisations. Their activities often depend on community acceptance, cooperation among managers and beneficiaries, relationships with government and non-government organisations, access to information and resources, and sufficient legitimacy to maintain both social and commercial activities. Social Capital provides a theoretical explanation for these conditions because it captures resources embedded in relationships and networks.

Trust can reduce uncertainty and make cooperation easier. Reciprocity can support continued contributions even when benefits are not exchanged immediately. Bonding ties strengthen relationships within communities, while bridging ties connect social enterprises with external knowledge, institutional support, financing, and collaborative opportunities. Shared norms can also reduce coordination difficulties by creating common expectations around collective goals. Previous studies therefore link Social Capital with access to resources, entrepreneurial opportunities, stakeholder support, and the development of social enterprise activities (Daskalopoulou et al., 2023).

H3: *Social Capital is positively associated with Social Entrepreneurship.*

2.6 Community Empowerment and Social Entrepreneurship

The relationship between Community Empowerment and Social Entrepreneurship requires particular caution. Much of the literature treats Community Empowerment as an outcome of Social Entrepreneurship. Social enterprises can improve participation, access to resources, local capabilities, employment, and collective welfare, and this direction is theoretically plausible. The present study does not reject that pathway. Instead, it separates realised empowerment outcomes from existing community capacity.

Communities differ in their existing ability to mobilise resources, participate in collective decisions, use local knowledge, act with a degree of self-reliance, and cooperate around shared problems. These capacities may provide a more supportive environment for social entrepreneurial enactment by giving social initiatives access to contextual knowledge, local legitimacy, potential collaborators, and collective resources. The relationship may therefore be reciprocal over time: Social Entrepreneurship may contribute to later Community Empowerment, while stronger community capacity may also support current social entrepreneurial practice. The cross-sectional design cannot identify this temporal feedback process, so the hypothesis refers only to the contemporaneous association represented in the model (Ali et al., 2023).

H4: *Community Empowerment is positively associated with Social Entrepreneurship.*

2.7 Social Innovation and Social Entrepreneurship

Social Innovation and Social Entrepreneurship share a concern with social problems, but they represent different organisational phenomena. Social Innovation concerns what is new in a solution or process, whereas Social Entrepreneurship concerns how social-value creation is organised and enacted through entrepreneurial and market-based activity. A community organisation may introduce an innovative service without adopting a hybrid entrepreneurial

model, while an established social enterprise may continue to operate even when not every activity is novel.

Novel products, processes, experimentation, and institutional arrangements can nevertheless support Social Entrepreneurship by helping an organisation respond to unmet needs, adapt its activities, develop new forms of social value, and improve the way its hybrid model operates. Empirical work on social enterprises also shows that Social Innovation varies across organisations and is shaped by specific organisational and collaborative practices rather than being identical to Social Entrepreneurship itself (Vu et al., 2023).

H5: *Social Innovation is positively associated with Social Entrepreneurship.*

2.8 The Mediating Role of Social Capital

The direct associations proposed above do not fully explain how community capacity and innovative activity may become connected with social entrepreneurial practice. Social Capital provides the relational mechanism in the model. From a Social Capital Theory perspective, resources do not become collectively useful simply because they exist. Actors must be sufficiently connected to exchange information, coordinate activities, develop trust, establish reciprocal expectations, and mobilise resources around shared objectives.

For Community Empowerment, participation, local knowledge, self-reliance, resource mobilisation, and collective action create opportunities for repeated interaction. These interactions can develop into trust, reciprocity, shared norms, and wider networks. Such relational resources may then make it easier for communities, social enterprise actors, and external stakeholders to organise entrepreneurial activity around a social mission. The proposed indirect association is therefore Community Empowerment → Social Capital → Social Entrepreneurship.

For Social Innovation, co-creation, experimentation, knowledge exchange, and institutional innovation require interaction among actors with different knowledge and resources. These interactions can create or reinforce relational ties, while stronger relational resources can support legitimacy, stakeholder commitment, information flows, and continued cooperation around an innovative solution. Social Capital may therefore help connect innovative activity with the enactment of a viable social entrepreneurial model. The term mediation is used here in a statistical and theoretical sense. With cross-sectional data, the indirect relationships are consistent with the proposed mechanism but do not establish temporal causal transmission.

H6: *Social Capital mediates the association between Community Empowerment and Social Entrepreneurship.*

H7: *Social Capital mediates the association between Social Innovation and Social Entrepreneurship.*

Table 1. Structured Literature Gap

Study	Context	Constructs / focus	Method	Key finding	Remaining gap addressed by this study
Jørgensen et al. (2021)	Community-based collective social entrepreneurs hip	Social entrepreneurs hip, community mobilisation,	Qualitative case study	Collective social entrepreneurs hip can mobilise communities	Focuses mainly on SE → community outcomes; does not

Study	Context	Constructs / focus	Method	Key finding	Remaining gap addressed by this study
		social transformation		and support social transformation.	examine existing community capacity as an exogenous condition or SC mediation.
Sanzo-Pérez & Álvarez-González (2022)	Social enterprise partnerships	Social innovation, collaboration, external actors	Empirical study	Partnerships combine knowledge and stakeholder resources that can support Social Innovation.	Does not test SI → SC → SE or distinguish relational mediation in an integrated structural model.
Desiana et al. (2022)	Indonesian social enterprises	Ecosystem, innovation, organisational sustainability	Quantitative study	Ecosystem conditions and organisational capabilities are relevant to the sustainability of social enterprises.	Focuses on organisational sustainability rather than SE enactment and does not place SC as the mediator.
de Souza João-Roland & Granados (2023)	UK social enterprises	Social innovation, user involvement, experimentation, cooperation	Quantitative study	User-centred practices, cooperation and experimentation are associated with stronger Social Innovation.	Explains variation in SI but not its direct and indirect association with SE through SC.

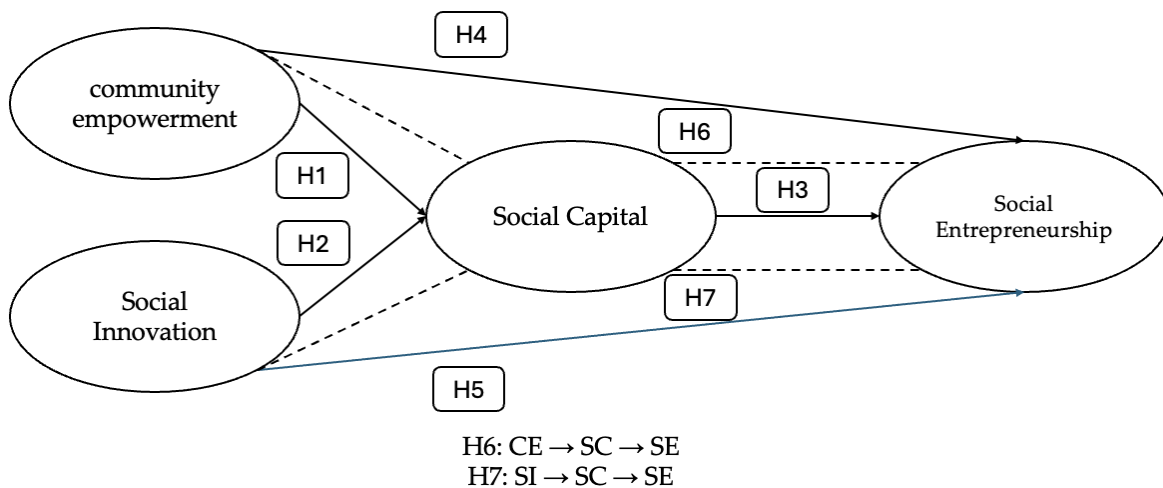
Study	Context	Constructs / focus	Method	Key finding	Remaining gap addressed by this study
Daskalopoulou et al. (2023)	International Social Entrepreneurs hip literature	Social entrepreneurs hip and Social Capital	Literature review	SC appears as an antecedent, mediator, moderator and mechanism across SE research.	Shows theoretical fragmentation and supports the need for a clearly specified mediation model.
Bhardwaj et al. (2023)	Social entrepreneurial ecosystems	Ecosystems, entrepreneurs hip, stakeholder conditions	Review / conceptual synthesis	SE research increasingly recognises ecosystem and relational conditions around entrepreneurial activity.	Relationships among community capacity, innovation, SC and SE remain only partially integrated.
Dudley (2021)	Entrepreneurial and community settings	Social Capital, resource access, entrepreneurial opportunities	Empirical / conceptual evidence	Networks can widen access to information, resources and entrepreneurial opportunities.	Does not jointly examine CE and SI as conditions associated with SE through SC.
Widiastuti et al. (2024)	Village-Owned Enterprises, Indonesia	Social Capital, social entrepreneurs hip orientation, organisational outcomes	Quantitative study	SC is positively related to organisational and entrepreneurial outcomes in community-based enterprises.	Performance is the final outcome; SC mediation towards SE enactment is not examined.

Source: Authors' synthesis based on the cited literature.

Taken together, the literature does not suggest an absence of relationships among Community Empowerment, Social Innovation, Social Capital, and Social Entrepreneurship. Instead, it shows fragmentation in how these relationships are defined and ordered. Community

Empowerment is commonly examined as an outcome of Social Entrepreneurship; Social Innovation is variously treated as a capability, antecedent, component, or outcome; and Social Capital occupies several theoretical positions across studies. This study addresses that fragmentation by distinguishing existing community capacity from realised empowerment outcomes, separating innovation novelty from entrepreneurial enactment, and specifying Social Capital as a relational mediator linking Community Empowerment and Social Innovation with Social Entrepreneurship.

Figure 1. Revised Conceptual Framework



3. Methodology

3.1 Research Design

This study employed a quantitative cross-sectional survey design to examine the theoretically specified associations among Community Empowerment, Social Innovation, Social Capital, and Social Entrepreneurship. Partial least squares structural equation modelling (PLS-SEM) was used because the revised model contains simultaneous direct and indirect relationships and because the analysis combines explanatory assessment with out-of-sample predictive evaluation. The model therefore focuses on the strength, statistical uncertainty, and predictive relevance of the proposed relationships rather than on establishing a temporal sequence of events. The cross-sectional design permits assessment of theoretically specified associations but does not establish temporal causality.

The unit of observation was the individual respondent, whereas the unit of assessment was the focal social entrepreneurship initiative or organisation with which that respondent was actively involved. This distinction is important because the questionnaire captures respondents' perceptions of community-level capacities, innovation practices, relational conditions, and organisational enactment rather than individual personality traits.

3.2 Research Context and Unit of Analysis

The study was situated in the context of Indonesian social entrepreneurship initiatives operating across economic, health, environmental, educational, and socio-cultural activities and represented by respondents from both rural and urban settings. The focal initiatives included mission-driven activities in which community actors, organisational members, and

beneficiaries interacted around social problem-solving and entrepreneurial activity. The analytical focus was therefore not a single legal form of social enterprise, but the social entrepreneurial initiative or organisation that respondents knew through their direct involvement.

Respondents evaluated the initiative from one of three positions: founder/manager, operational member, or beneficiary. Items referring to Social Entrepreneurship were deliberately expressed as observable or perceptual organisational practices rather than as audited financial facts. Accordingly, responses were interpreted as informed perceptions of the focal initiative. Community Empowerment captured the surrounding community's current capacity and collective agency; Social Innovation captured novelty in solutions and processes; Social Capital captured relational resources; and Social Entrepreneurship captured the observable enactment of a hybrid social and market-oriented organisational model.

3.3 Population, Sampling, and Eligibility

The target respondents were actors actively involved in social-based entrepreneurial activities. Purposive sampling was used to reach individuals with direct involvement in the focal initiatives, consistent with the eligibility basis documented in the original study. The final analytical sample comprised 377 respondents. No additional tenure threshold is imposed retrospectively in this revision; duration of involvement is instead reported and used to assess respondent familiarity with the initiative.

Sample adequacy was reassessed in the revision using a power-based benchmark rather than the conventional 10-times rule. The most complex endogenous equation in the revised model contains three predictors of Social Entrepreneurship. Using a noncentral-F power calculation with $\alpha = .05$, statistical power of .80, three predictors, and a conservative small-to-moderate effect size of $f^2 = .05$ gives a minimum requirement of approximately 222 observations. The achieved sample of 377 therefore exceeds this benchmark and is also adequate relative to the modest complexity of the revised four-construct model, which contains 20 reflective indicators, five direct structural paths, and two specific indirect relationships.

3.4 Respondent Characteristics and Knowledgeability

The sample combined three respondent roles: 115 founders/managers (30.50%), 149 operational members (39.52%), and 113 beneficiaries (29.97%). Duration of involvement also varied: 41 respondents (10.88%) had been involved for less than six months, 67 (17.77%) for six to twelve months, 124 (32.89%) for one to two years, and 145 (38.46%) for more than two years. These tenure data provide an additional basis for evaluating whether respondents had sufficient familiarity with the initiatives they assessed.

Knowledgeability was considered particularly important because the three roles differ in their proximity to organisational decision-making. The role-coded dataset shows that all founders/managers had at least 13 months of involvement. Among beneficiaries, 103 of 113 (91.2%) had been involved for at least one year, with a minimum observed involvement of six months. Operational members included a larger proportion of shorter-tenure respondents, but their role involved direct participation in day-to-day activities. The measurement instrument further reduced the need for privileged managerial information by asking about practices that could be observed or experienced, rather than internal accounting figures or confidential performance measures.

Because familiarity does not by itself establish measurement comparability, respondent-role robustness was examined formally. Measurement invariance of composite models (MICOM) was assessed before multigroup analysis (MGA), with pairwise comparisons of

founders/managers, operational members, and beneficiaries. This procedure allowed the pooled model to be evaluated rather than assuming a priori that all respondent roles interpreted the constructs and structural relationships identically.

3.5 Measurement Instrument

Data were collected using a structured questionnaire with a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The analytical model comprised four reflective constructs: Community Empowerment (X1), Social Innovation (X2), Social Capital (Z), and Social Entrepreneurship (Y), each measured using five indicators.

The construct definitions were aligned with the content of the administered items to maintain clear conceptual boundaries and minimise potential overlap among constructs. Community Empowerment was conceptualised as existing community capacity and collective agency; Social Innovation as novelty in social solutions and processes; Social Capital as relational resources embedded in trust, networks, reciprocity, and shared norms; and Social Entrepreneurship as the observable enactment of a hybrid social and entrepreneurial organisational model.

Table 2 presents the exact Bahasa Indonesia wording administered to respondents together with the specific measurement focus of each indicator. The provenance of the instrument, its literature-informed development, and the content-validation procedures used to assess item relevance, clarity, representativeness, and construct boundaries are described in Section 3.6.

Table 2. Measurement Items and Domains

Construct	Code	Exact administered item	Measurement focus
CE	X1.1	Masyarakat secara aktif didorong untuk memanfaatkan sumber daya produktif (seperti lahan, modal, atau informasi) yang ada di lingkungan sekitar.	Productive-resource mobilisation
CE	X1.2	Warga memiliki kesempatan yang terbuka luas untuk berpartisipasi dan menyuarakan pendapat dalam setiap perencanaan kegiatan di lingkungan ini.	Participation and community voice
CE	X1.3	Warga di lingkungan ini secara terus-menerus berupaya membangun kemandirian untuk memecahkan masalah sosial dan ekonominya secara swadaya.	Self-reliance and local agency
CE	X1.4	Masyarakat secara rutin mengaplikasikan pengetahuan dan keterampilan lokal mereka ke dalam berbagai kegiatan keseharian yang produktif.	Application of local knowledge and skills
CE	X1.5	Warga komunitas senantiasa membiasakan diri untuk bergotong royong dan mengambil tindakan bersama demi kepentingan lingkungan sekitar.	Collective action
SI	X2.1	Inisiatif ini menghasilkan produk atau layanan baru yang secara spesifik dirancang untuk mengatasi masalah sosial yang belum tertangani sebelumnya.	Product/service novelty

SI	X2.2	Terdapat pembaruan pada proses atau metode kerja yang membuat penyelesaian masalah di masyarakat menjadi jauh lebih efektif.	Process innovation
SI	X2.3	Organisasi terbuka dalam mengadopsi ide-ide baru dan melibatkan berbagai pihak (co-creation) untuk menciptakan solusi bersama.	Openness and co-creation
SI	X2.4	Tersedia ruang yang cukup bagi pelaksana atau pengelola untuk melakukan eksperimen dan uji coba terhadap pendekatan baru dalam menangani isu sosial.	Experimentation
SI	X2.5	Program ini mampu menciptakan bentuk kerja sama atau aturan main (tatanan kelembagaan) baru yang mempermudah pemenuhan kebutuhan sosial.	Institutional innovation
SC	Z.1	Terdapat tingkat kepercayaan (trust) yang sangat kuat antara pengelola inisiatif sosial, anggota masyarakat, dan para pemangku kepentingan lainnya.	Trust
SC	Z.2	Terjalin jaringan komunikasi informal yang erat dan saling mendukung antar sesama anggota komunitas lokal (bonding).	Bonding social capital
SC	Z.3	Organisasi memiliki jejaring kerja sama yang luas dengan aktor eksternal (pemerintah, swasta, LSM, institusi pendidikan) untuk mendukung tujuan (bridging).	Bridging social capital
SC	Z.4	Terdapat budaya saling tolong-menolong dan hubungan timbal balik (reciprocity) yang konsisten dalam ekosistem kewirausahaan ini.	Reciprocity
SC	Z.5	Seluruh pihak yang terlibat telah berbagi kesamaan pemahaman mengenai norma, nilai, serta pentingnya memajukan kesejahteraan bersama.	Shared norms and values
SE	Y.1	Inisiatif/organisasi ini secara konsisten menunjukkan upaya untuk mencari pendapatan secara mandiri sekaligus menjalankan misi sosialnya di masyarakat.	Dual mission: earned income and social purpose
SE	Y.2	Inisiatif/organisasi ini terlihat lebih mengutamakan pemberian manfaat sosial bagi masyarakat luas daripada sekadar mencari keuntungan untuk diri/kelompoknya sendiri.	Priority given to social value
SE	Y.3	Kegiatan operasional inisiatif ini dirasakan mampu membantu memecahkan permasalahan warga sekaligus mampu menjaga kelangsungan programnya secara mandiri.	Social problem-solving and continuity

SE	Y.4	Inisiatif ini menawarkan produk atau layanan (barang/jasa) yang hasil penjualannya terlihat digunakan untuk mendukung kegiatan sosial mereka di masyarakat.	Market-based support for social activities
SE	Y.5	Inisiatif/organisasi ini mengarahkan kembali pendapatan yang mereka peroleh untuk terus memperluas program bantuan atau pemberdayaan bagi masyarakat.	Reinvestment in social programmes

3.6 Instrument Adaptation and Content Validation

The study employed 20 researcher-developed, literature-informed indicators measuring Community Empowerment, Social Innovation, Social Capital, and Social Entrepreneurship. The items were originally formulated and administered in Bahasa Indonesia rather than adopted verbatim from a single established foreign-language scale; therefore, no formal forward/back-translation procedure is claimed. The construct domains were defined to maintain conceptual separation among community capacity and agency, novelty in social solutions, relational resources, and hybrid social–entrepreneurial enactment.

Because the available study records do not establish a separate pre-survey pilot test, no pilot-testing procedure is claimed retrospectively.

To assess content adequacy and construct boundaries, eight experts with relevant expertise in social entrepreneurship, community development, social innovation, social capital, entrepreneurship, programme evaluation, psychometrics, and research methods independently evaluated all 20 items. Each item was rated for relevance, clarity, and construct representativeness using four-point scales, and experts also classified each item according to its primary construct and identified potential cross-construct overlap. Content validity was assessed using the Item-Level Content Validity Index (I-CVI) and Scale-Level Content Validity Index/Average (S-CVI/Ave), with acceptance thresholds of .78 and .90, respectively (Polit et al., 2007).

All 20 items met the content-validity criterion, with I-CVI values ranging from .875 to 1.000 and an overall S-CVI/Ave of .981. Construct-level S-CVI/Ave values were .950 for Community Empowerment, 1.000 for Social Innovation, 1.000 for Social Capital, and .975 for Social Entrepreneurship, while intended-construct classification agreement reached 96.9%. Although minor conceptual adjacency was identified for several items, no systematic overlap was found that required item deletion or construct reassignment. This expert assessment provides content-level support for the instrument and complements, without altering, the original responses of the 377 participants or the previously reported PLS-SEM results.

Table 3. Reported PLS-SEM

Construct	Conceptual domain / boundary	Provenance & language	S-CVI/Ave	Clarity	Represent.	Boundary agree.
CE	Community capacity and collective agency: productive resources, participation/voice, self-reliance, local	Researcher-developed, literature-informed; Bahasa Indonesia; no direct scale	.950	.975	.950	.950

	knowledge, collective action. Not innovation, relational resources, or the hybrid business model.	adoption/back-translation claimed.				
SI	Novelty in social solutions: new products/services, process innovation, co-creation, experimentation, institutional innovation. Not trust/networks or market-based enactment.	Researcher-developed, literature-informed; Bahasa Indonesia; no direct scale adoption/back-translation claimed.	1.000	.950	1.000	.975
SC	Relational resources: trust, bonding, bridging, reciprocity, shared norms/values. Not community agency, innovation novelty, or market activity.	Researcher-developed, literature-informed; Bahasa Indonesia; no direct scale adoption/back-translation claimed.	1.000	1.000	1.000	.975
SE	Hybrid entrepreneurial enactment: social-commercial mission, social-value priority, continuity, market-based activity, reinvestment. Not synonymous with innovation or social capital.	Researcher-developed, literature-informed; Bahasa Indonesia; no direct scale adoption/back-translation claimed.	.975	.975	.975	.975
Overall	20 reflective indicators; limited item-level conceptual adjacency but no majority overlap flag.	Original administered responses retained; revision-stage validation only.	.981	.975	.981	.969

Overall, the expert assessment supported satisfactory content validity and clear construct boundaries across the four constructs. Minor conceptual adjacency was identified for several items, but no systematic overlap was found that warranted item deletion or construct reassignment.

3.7 Common Method Bias and Procedural Controls

All focal constructs were measured through the same cross-sectional questionnaire, so common-source and common-method risks cannot be ruled out. The instrument itself separated the constructs into clearly labelled sections and used observable or perceptual wording rather than technical accounting information, reducing ambiguity about what respondents were being asked to assess. However, the available survey records do not provide sufficient evidence to claim additional procedural remedies such as randomised item ordering, temporal separation, a marker variable, or specific anonymity instructions; no such procedures are added retrospectively.

A full-collinearity variance inflation factor (VIF) assessment was therefore used as a supplementary statistical diagnostic of common-source collinearity. Consistent with a cautious interpretation, the diagnostic is treated as supplementary evidence against severe common-source collinearity rather than as proof that common method bias is absent (Kock, 2015). Residual common-method risk is consequently retained as a limitation of the cross-sectional self-report design.

3.8 PLS-SEM Analytical Procedure

The revised model was estimated using PLS-SEM with reflective Mode A measurement and a path-weighting scheme. The analytical dataset contained complete responses for all 377 cases on the 20 indicators retained in the four-construct model, with no missing or out-of-range Likert values in those indicators. The assessment proceeded in five stages so that measurement quality was established before the structural relationships were interpreted (Hair et al., 2022; Henseler et al., 2015; Sarstedt et al., 2021).

Stage 1 - Measurement model. Indicator reliability was assessed using outer loadings, while internal consistency was evaluated using Cronbach's alpha, ρ_A , and composite reliability (ρ_C). Convergent validity was assessed through average variance extracted (AVE). Discriminant validity was evaluated primarily using the heterotrait-monotrait ratio (HTMT), supported by bootstrapped 95% confidence intervals; the Fornell-Larcker criterion and cross-loadings were retained as supplementary diagnostics (Henseler et al., 2015).

Stage 2 - Structural model. Before interpreting the path coefficients, inner-model collinearity was assessed using VIF. The structural relationships were then evaluated using standardised path coefficients, standard errors, *t* statistics, *p* values, and percentile 95% bootstrap confidence intervals. The analysis also reported f^2 effect sizes, R^2 , and adjusted R^2 for the endogenous constructs. Statistical inference used 5,000 bootstrap subsamples.

Stage 3 - Mediation. Mediation was assessed by reporting the direct effect, the specific indirect effect through Social Capital, and the corresponding total effect for each focal relationship. Significance was evaluated from bootstrapped 95% confidence intervals rather than from the significance of component paths alone. Because the data are cross-sectional, a statistically significant indirect effect is interpreted as evidence consistent with the proposed mediating association, not as proof of temporal causal transmission.

Stage 4 - Predictive assessment. Out-of-sample predictive relevance was examined using Q^2_{predict} and $PLSpredict$. Prediction was evaluated through 10-fold cross-validation with 10 repetitions. Indicator-level root mean squared error (RMSE) from the PLS predictions was

compared with the linear-model benchmark, allowing predictive relevance to be distinguished from claims of predictive superiority (Shmueli et al., 2019).

Stage 5 - Respondent-role robustness. Role-based comparability was assessed before interpreting between-group differences. The MICOM procedure examined configural invariance, compositional invariance, and equality of composite means and variances across founders/managers, operational members, and beneficiaries (Henseler et al., 2016). Compositional invariance and equality tests used 5,000 permutations. Once measurement invariance had been evaluated, pairwise differences in direct and specific indirect relationships were examined using permutation-based MGA and bootstrap PLS-MGA. The same measurement specification, indicator coding, and structural model were used across all groups.

Stage 6 – Initiative-level clustering sensitivity - Because multiple respondents could evaluate the same social entrepreneurship initiative, an additional sensitivity analysis was conducted to assess possible within-initiative dependence. The 377 respondents were nested within 78 distinct initiatives, with a mean cluster size of 4.83 respondents, a median of 4.50, and a range of 1–9 respondents per initiative. Intraclass correlation coefficients [ICC(1)] were estimated from construct composite scores formed as the mean of the five corresponding indicators. Approximate design effects were subsequently calculated to assess the magnitude of clustering.

As a further robustness check, standardised construct composite scores were analysed using regression models corresponding to the two endogenous equations in the structural model. Inference was based on standard errors clustered at the initiative level across the 78 initiatives. This analysis was treated as a sensitivity assessment rather than as a replacement for the primary PLS-SEM estimation. Its purpose was to determine whether the substantive conclusions of the pooled structural model were sensitive to potential correlation among respondents evaluating the same initiative.

4. Result

4.1 Respondent Characteristics

The final sample comprised 377 respondents involved in social entrepreneurship initiatives. Table 3 summarises the demographic, involvement, and initiative-level profile of the sample. The largest age group was 25–34 years (40.32%), and 71.35% of respondents had been involved in social entrepreneurship activities for at least one year. Operational members represented the largest respondent group (39.52%), followed by founders/managers (30.50%) and beneficiaries (29.97%). The sample represented 78 distinct social entrepreneurship initiatives, with a mean of 4.83 respondents per initiative, a median of 4.50, and a range of 1–9 respondents per initiative. In addition, 369 respondents (97.88%) indicated that all of their questionnaire responses referred to the same focal initiative, supporting the consistency of the initiative-level assessment.

Table 4. Respondent Profile

Variable	Category	n	%
Gender	Man	211	55.97
	Woman	166	44.03
Age	<25 years	97	25.73
	25-34 years	152	40.32
	35-44 years	85	22.55

Education	≥45 years	43	11.41
	Junior high school	22	5.84
	Senior high/vocational (SMA/SMK)	102	27.06
	Diploma	65	17.24
	Bachelor's degree (S1)	148	39.26
	Postgraduate (S2/S3)	40	10.61
Duration of involvement	<6 months	41	10.88
	6-12 months	67	17.77
	1-2 years	124	32.89
	>2 years	145	38.46
Role in social entrepreneurship	Operational Member	149	39.52
	Founder/Manager	115	30.50
	Beneficiary	113	29.97
Social sector	Economy	77	20.42
	Health	90	23.87
	Environment	71	18.83
	Education	72	19.10
	Socio-cultural	67	17.77
Domicile	Rural	151	40.05
	Urban	226	59.95
Initiative representation	Total respondents	377	
	Distinct initiatives	78	
	Mean respondents per initiative	4.83	
	Median respondents per initiative	4.50	
	Respondents per initiative, range	1–9	
Focal-assessment consistency	All responses referred to the same focal initiative	369	97.88
	Responses did not refer consistently to one focal initiative	8	2.12

Note. The distribution of initiative cluster sizes was: 1 respondent = 3 initiatives; 2 = 4; 3 = 13; 4 = 19; 5 = 10; 6 = 14; 7 = 8; 8 = 2; and 9 = 5 initiatives.

Source: Primary data processed using SmartPLS, 2026.

4.2 Measurement Model Assessment

The reflective measurement model was evaluated before interpreting structural relationships. All retained indicators loaded strongly on their intended constructs, with loadings ranging from 0.792 to 0.846. Internal consistency and convergent validity were also satisfactory: Cronbach's alpha, rho_A, and composite reliability (rho_C) exceeded 0.80 for every construct, while all average variance extracted (AVE) values exceeded 0.65.

Table 5. Measurement Model

Construct	Indicator	Loading	α	rho_A	rho_C	AVE
CE (X1)	X1.1	.801	.874	.877	.909	.665

	X1.2	.792				
	X1.3	.846				
	X1.4	.827				
	X1.5	.812				
SI (X2)	X2.1	.828	.873	.874	.908	.663
	X2.2	.822				
	X2.3	.814				
	X2.4	.794				
	X2.5	.813				
SC (Z)	Z.1	.839	.873	.875	.908	.664
	Z.2	.830				
	Z.3	.800				
	Z.4	.796				
	Z.5	.809				
SE (Y)	Y.1	.794	.867	.868	.904	.654
	Y.2	.823				
	Y.3	.821				
	Y.4	.804				
	Y.5	.800				

Note: CE = Community Empowerment; SI = Social Innovation; SC = Social Capital; SE = Social Entrepreneurship. Reliability statistics are reported once per construct.

4.3 Discriminant Validity

Discriminant validity was assessed using the heterotrait-monotrait ratio (HTMT) together with bootstrapped 95% confidence intervals. All six HTMT ratios were below 0.85. The highest HTMT ratio was 0.666, and all upper confidence bounds remained below the conservative threshold. These results support empirical distinctiveness among Community Empowerment, Social Innovation, Social Capital, and Social Entrepreneurship. The Fornell-Larcker criterion and cross-loading assessment are reported in the supplementary material.

Table 6. HTMT with Bootstrapped Confidence Intervals

Construct pair	HTMT	2.5% CI	97.5% CI	Assessment
X1-X2	.083	.063	.138	Pass
X1-Z	.386	.261	.503	Pass
X1-Y	.452	.336	.551	Pass
X2-Z	.472	.343	.587	Pass
X2-Y	.426	.318	.529	Pass
Z-Y	.666	.575	.748	Pass

Source: Primary data processed using SmartPLS, 2026.

As a supplementary common-method diagnostic, full-collinearity VIF values ranged from 1.334 to 1.730. These values provide supplementary evidence against severe common-source collinearity, but they are not interpreted as proof that common method bias is absent.

4.4 Structural Model Assessment

The structural model was evaluated after the measurement criteria had been satisfied. Inner VIF values ranged from 1.005 to 1.443, indicating that collinearity among the predictor constructs was not a material concern. All five direct relationships specified in the revised model were positive and statistically significant. Social Innovation showed the largest unique

association with Social Capital ($\beta = 0.439$), while Social Capital was the strongest direct correlate of Social Entrepreneurship ($\beta = 0.391$).

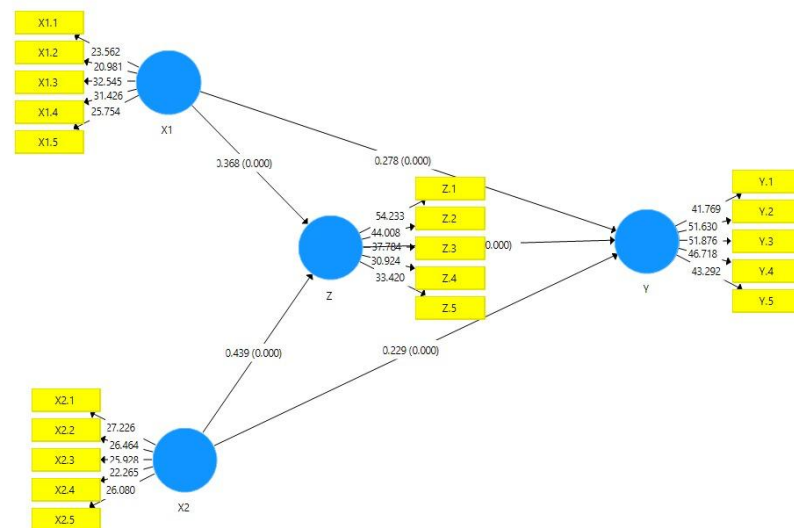
Table 7. Direct Structural Relationships

Hyp	Relationship	β	SE	t	p	95% CI	VIF	f ²	Decision
H1	X1 $\rightarrow$ Z	.368	.057	6.499	<.001	[.255, .478]	1.005	.195	Supported
H2	X2 $\rightarrow$ Z	.439	.056	7.872	<.001	[.326, .543]	1.005	.277	Supported
H3	Z $\rightarrow$ Y	.391	.061	6.412	<.001	[.268, .503]	1.443	.183	Supported
H4	X1 $\rightarrow$ Y	.278	.052	5.375	<.001	[.176, .379]	1.200	.112	Supported
H5	X2 $\rightarrow$ Y	.229	.054	4.268	<.001	[.123, .335]	1.283	.071	Supported

Note: Two-tailed bootstrap inference based on 5,000 subsamples. All five direct hypotheses were statistically supported.

Source: Primary data processed using SmartPLS, 2026.

Figure 2. Final Structural Model



4.5 Explanatory and Predictive Assessment

The model explained 30.7% of the variance in Social Capital and 42.2% of the variance in Social Entrepreneurship, with adjusted R^2 values of .303 and .417, respectively. The mean Q^2_{predict} values were .194 for Social Capital and .199 for Social Entrepreneurship. More importantly, all ten endogenous indicator-level Q^2_{predict} values were greater than zero, indicating positive out-of-sample predictive relevance.

Table 7B provides the complete indicator-level PLSpredict results. For Social Capital, the PLS-SEM RMSE values were lower than the corresponding linear-model benchmark for all five indicators, indicating favourable predictive performance relative to the benchmark. For Social Entrepreneurship, all indicator-level Q^2_{predict} values remained positive; however, the PLS-SEM RMSE values exceeded the linear-model benchmark for all five indicators. Accordingly, the model demonstrates positive predictive relevance for Social Entrepreneurship, but predictive superiority over the linear-model benchmark is not established. This distinction

avoids interpreting positive Q^2_{predict} values as evidence of uniformly superior predictive performance.

Table 8. Explanatory and Predictive Relevance

Endogenous construct	R^2	Adjusted R^2	Mean Q^2_{predict}	Predictive interpretation
Social Capital (Z)	.307	.303	.194	Positive predictive relevance; PLS RMSE lower than LM for 5/5 indicators
Social Entrepreneurship (Y)	.422	.417	.199	Positive predictive relevance; superiority over LM not established

Source: Primary data processed using SmartPLS, 2026.

Table 9. Indicator-Level PLSpredict Assessment

Indicator	Q^2_{predict}	PLS-RMSE	LM-RMSE	PLS vs LM	Predictive relevance
Z.1	.263	.913	.929	PLS lower	Positive
Z.2	.179	1.026	1.048	PLS lower	Positive
Z.3	.214	.931	.938	PLS lower	Positive
Z.4	.140	.987	.999	PLS lower	Positive
Z.5	.173	.984	1.003	PLS lower	Positive
Y.1	.191	.865	.850	PLS higher	Positive
Y.2	.221	.841	.834	PLS higher	Positive
Y.3	.210	.870	.850	PLS higher	Positive
Y.4	.209	.871	.845	PLS higher	Positive
Y.5	.167	.830	.807	PLS higher	Positive

Source: Primary data processed using SmartPLS, 2026.

4.6 Mediation Analysis

Both specific indirect effects through Social Capital were positive and statistically significant. For Community Empowerment, the indirect association through Social Capital was 0.144, while the direct association with Social Entrepreneurship remained significant at 0.278. The resulting total association was 0.422. For Social Innovation, the indirect association through Social Capital was 0.172 and the direct association remained significant at 0.229, producing a total association of 0.401. Because the direct and indirect associations were significant and pointed in the same direction in both cases, the mediation pattern was classified as complementary partial mediation.

Table 10. Direct, Specific Indirect, and Total Effects

Relationship	Direct	95% CI	Indirect t	95% CI	Total	95% CI	Mediation
X1 → Z → Y	.278	[.176, .379]	.144	[.089, .206]	.422	[.319, .515]	Complementary partial
X2 → Z → Y	.229	[.123, .335]	.172	[.109, .238]	.401	[.305, .494]	Complementary partial

Source: Primary data processed using SmartPLS, 2026.

4.7 Respondent-Role Robustness: MICOM and MGA

Measurement invariance was assessed before comparing structural relationships across founders/managers, operational members, and beneficiaries. Configural invariance was established because the same indicators, data treatment, model specification, and estimation procedure were applied across all respondent groups. Compositional invariance was then evaluated using 5,000 permutations. As shown in Table 9A, the original composite correlations exceeded the corresponding 5% permutation quantiles for all constructs and group comparisons, supporting compositional invariance. Equality of composite means and variances was subsequently assessed as shown in Table 9B. None of the mean or variance comparisons was statistically significant, supporting full measurement invariance across respondent roles.

Table 11. MICOM Step 2: Compositional Invariance

Group comparison	Construct	Original c	5% quantile	Permutation p	Compositional invariance
F/M vs OM	X1	0.9930	0.9924	.068	Supported
F/M vs OM	X2	0.9994	0.9921	.943	Supported
F/M vs OM	Z	0.9993	0.9967	.728	Supported
F/M vs OM	Y	0.9993	0.9971	.643	Supported
F/M vs B	X1	0.9970	0.9920	.402	Supported
F/M vs B	X2	0.9986	0.9935	.697	Supported
F/M vs B	Z	0.9995	0.9978	.745	Supported
F/M vs B	Y	0.9992	0.9979	.418	Supported
OM vs B	X1	0.9961	0.9898	.398	Supported
OM vs B	X2	0.9987	0.9908	.803	Supported
OM vs B	Z	0.9993	0.9975	.587	Supported
OM vs B	Y	0.9996	0.9979	.796	Supported

Source: Primary data processed using SmartPLS, 2026.

The permutation MGA did not identify any significant direct-path difference at the 5% level. However, the bootstrap PLS-MGA sensitivity analysis identified selected role-specific patterns involving beneficiaries. The direct association between Social Innovation and Social Entrepreneurship was weaker for beneficiaries than for founders/managers, while the Social Capital-Social Entrepreneurship association was stronger for beneficiaries than for both founders/managers and operational members. For the specific indirect association $X1 \rightarrow Z \rightarrow Y$, the operational-member and beneficiary groups also differed in both the permutation and PLS-MGA procedures. These differences are treated as robustness findings rather than as a replacement for the pooled model.

Table 12. MICOM Step 3: Equality of Composite Means and Variances

Group comparison	Construct	Mean Δ	95% permutation interval	p (mean)	Log variance Δ	p (variance)	Full invariance
F/M vs OM	X1	0.030	[-0.242, 0.243]	.813	0.207	.503	Supported

Group comparison	Construct	Mean Δ	95% permutation interval	p (mean)	Log variance Δ	p (variance)	Full invariance
F/M vs OM	X2	-0.017	[-0.244, 0.240]	.890	0.102	.787	Supported
F/M vs OM	Z	-0.073	[-0.242, 0.239]	.551	0.157	.432	Supported
F/M vs OM	Y	0.031	[-0.249, 0.242]	.794	-0.146	.352	Supported
F/M vs B	X1	-0.026	[-0.259, 0.262]	.851	0.359	.343	Supported
F/M vs B	X2	-0.012	[-0.261, 0.267]	.928	-0.129	.743	Supported
F/M vs B	Z	0.059	[-0.262, 0.269]	.660	-0.108	.599	Supported
F/M vs B	Y	0.071	[-0.262, 0.264]	.604	-0.225	.187	Supported
OM vs B	X1	-0.068	[-0.241, 0.243]	.586	0.140	.681	Supported
OM vs B	X2	0.000	[-0.236, 0.250]	.999	-0.237	.541	Supported
OM vs B	Z	0.132	[-0.241, 0.245]	.291	-0.265	.172	Supported
OM vs B	Y	0.044	[-0.241, 0.241]	.716	-0.079	.573	Supported

Source: Primary data processed using SmartPLS, 2026.

The MICOM results provide numerical support for pooling the three respondent groups. Across all 12 construct-by-group comparisons, the original composite correlations exceeded their respective 5% permutation quantiles. In Step 3, all differences in composite means fell within the corresponding 95% permutation intervals, and none of the mean or variance permutation tests was significant at the 5% level. Full measurement invariance was therefore supported across founders/managers, operational members, and beneficiaries, providing a measurement-level basis for subsequent multigroup comparisons and for retaining the pooled model as the primary analysis.

Table 13. Multigroup Analysis of Direct Structural Relationships

Group comparison	Path	β A	β B	$\Delta\beta$	Permutation p	PLS-MGA p	Evidence
F/M vs OM	X1 $\rightarrow$ Z	.454	.294	.160	.220	.097	No
F/M vs OM	X2 $\rightarrow$ Z	.390	.474	-.084	.536	.733	No
F/M vs OM	X1 $\rightarrow$ Y	.307	.333	-.027	.839	.597	No
F/M vs OM	X2 $\rightarrow$ Y	.359	.234	.125	.369	.167	No
F/M vs OM	Z $\rightarrow$ Y	.302	.301	.000	.999	.511	No
F/M vs B	X1 $\rightarrow$ Z	.454	.410	.044	.762	.371	No
F/M vs B	X2 $\rightarrow$ Z	.390	.459	-.069	.633	.678	No
F/M vs B	X1 $\rightarrow$ Y	.307	.204	.103	.466	.237	No
F/M vs B	X2 $\rightarrow$ Y	.359	.109	.250	.060	.021	PLS-MGA only
F/M vs B	Z $\rightarrow$ Y	.302	.574	-.272	.099	.959	PLS-MGA only
OM vs B	X1 $\rightarrow$ Z	.294	.410	-.117	.426	.804	No
OM vs B	X2 $\rightarrow$ Z	.474	.459	.015	.910	.443	No

Group comparison	Path	β A	β B	$\Delta\beta$	Permutation p	PLS-MGA p	Evidence
OM vs B	X1 $\rightarrow$ Y	.333	.204	.130	.288	.136	No
OM vs B	X2 $\rightarrow$ Y	.234	.109	.125	.354	.158	No
OM vs B	Z $\rightarrow$ Y	.301	.574	-.273	.068	.966	PLS-MGA only

Source: Primary data processed using SmartPLS, 2026.

The permutation MGA did not identify a statistically significant difference in any of the direct structural paths at the 5% level. The bootstrap PLS-MGA sensitivity analysis, however, detected three selected differences involving beneficiaries. The Social Innovation–Social Entrepreneurship relationship was weaker among beneficiaries than among founders/managers ($\beta = .109$ versus $.359$; PLS-MGA $p = .021$), although the corresponding permutation test narrowly exceeded the .05 threshold ($p = .060$). In contrast, the Social Capital–Social Entrepreneurship relationship was stronger among beneficiaries than among founders/managers ($\beta = .574$ versus $.302$; PLS-MGA $p = .959$) and operational members ($\beta = .574$ versus $.301$; PLS-MGA $p = .966$). The corresponding permutation comparisons were not significant ($p = .099$ and $.068$, respectively). These differences are therefore interpreted as sensitivity evidence rather than as uniformly confirmed group differences across both MGA procedures.

Table 14. Multigroup Analysis of Specific Indirect Relationships

Group comparison	Indirect path	Effect A	Effect B	Δ effect	Permutation p	PLS-MGA p	Evidence
F/M vs OM	X1 $\rightarrow$ Z $\rightarrow$ Y	.137	.088	.048	.459	.252	No
F/M vs OM	X2 $\rightarrow$ Z $\rightarrow$ Y	.118	.143	-.025	.728	.634	No
F/M vs B	X1 $\rightarrow$ Z $\rightarrow$ Y	.137	.235	-.099	.279	.858	No
F/M vs B	X2 $\rightarrow$ Z $\rightarrow$ Y	.118	.263	-.146	.111	.948	No
OM vs B	X1 $\rightarrow$ Z $\rightarrow$ Y	.088	.235	-.147	.036	.975	Both methods
OM vs B	X2 $\rightarrow$ Z $\rightarrow$ Y	.143	.263	-.120	.161	.913	No

Note. For permutation MGA, significance is indicated by $p < .05$. Under the two-tailed PLS-MGA convention, significance is indicated by $p < .05$ or $p > .95$.

Source: Primary data processed using SmartPLS, 2026.

For the specific indirect relationships, only the Community Empowerment $\rightarrow$ Social Capital $\rightarrow$ Social Entrepreneurship pathway differed consistently across both MGA procedures. The indirect association was stronger among beneficiaries ($\beta = .235$) than among operational members ($\beta = .088$), with permutation $p = .036$ and PLS-MGA $p = .975$. No other specific indirect group comparison reached the corresponding significance criterion.

Overall, the MICOM results establish full measurement invariance across respondent roles, supporting the use of pooled estimates as the primary analysis. The permutation MGA did not identify significant direct-path differences, whereas the PLS-MGA sensitivity analysis detected selected beneficiary-related differences. One indirect-path difference was supported by both MGA procedures. Accordingly, the pooled structural model is retained as the primary

representation of the relationships, while respondent-role heterogeneity is treated as a secondary robustness finding and interpreted cautiously.

4.8 Initiative-Level Clustering Robustness

The respondent structure indicated that observations were nested within 78 distinct social entrepreneurship initiatives. The mean number of respondents per initiative was 4.83, the median was 4.50, and cluster sizes ranged from 1 to 9 respondents. The detailed distribution was as follows: three initiatives were represented by one respondent, four by two respondents, 13 by three respondents, 19 by four respondents, 10 by five respondents, 14 by six respondents, eight by seven respondents, two by eight respondents, and five by nine respondents. Potential within-initiative dependence was therefore examined using ICC(1), approximate design effects, and an initiative-clustered sensitivity analysis.

Table 15. Initiative-Level Clustering Diagnostics

Construct		ICC(1)	Approx. effect	design	Interpretation
Community Empowerment (CE)		.069	1.263		Low clustering
Social Innovation (SI)		-.016 (≈ 0)	1.000		Negligible clustering
Social Capital (SC)		.045	1.171		Low clustering
Social Entrepreneurship (SE)		-.019 (≈ 0)	1.000		Negligible clustering

The ICC(1) estimates were small across all four constructs. Community Empowerment showed the largest ICC at .069, followed by Social Capital at .045, whereas the estimated ICCs for Social Innovation and Social Entrepreneurship were slightly negative and were therefore interpreted as approximately zero. The corresponding design effects ranged from 1.000 to 1.263. These results indicate relatively limited within-initiative dependence, although clustering was not assumed to be completely absent.

Table 16. Initiative-Clustered Sensitivity Analysis

Relationship	Primary SEM β	PLS-Cluster-robust β	Robust SE	95% CI	p	Assessment
CE $\rightarrow$ SC	.368	.367	.045	[.277, .457]	<.001	Consistent
SI $\rightarrow$ SC	.439	.437	.042	[.354, .520]	<.001	Consistent
CE $\rightarrow$ SE	.278	.278	.056	[.166, .389]	<.001	Consistent
SI $\rightarrow$ SE	.229	.230	.055	[.121, .339]	<.001	Consistent
SC $\rightarrow$ SE	.391	.392	.063	[.265, .518]	<.001	Consistent

The cluster-robust sensitivity analysis produced the same substantive pattern as the primary PLS-SEM model. All five structural relationships remained positive and statistically significant at $p < .001$ after allowing the regression errors to be correlated among respondents evaluating the same initiative. The cluster-robust coefficients were also very close to the corresponding PLS-SEM estimates: CE $\rightarrow$ SC (.367 versus .368), SI $\rightarrow$ SC (.437 versus .439), CE $\rightarrow$ SE (.278

versus .278), $SI \rightarrow SE$ (.230 versus .229), and $SC \rightarrow SE$ (.392 versus .391). The maximum absolute difference between the primary and sensitivity coefficients was approximately .002.

Taken together, the relatively small ICC values, modest design effects, and stability of the structural coefficients under initiative-clustered inference indicate that the principal findings are not materially sensitive to the observed respondent nesting. The pooled PLS-SEM model is therefore retained as the primary analysis, while the cluster-adjusted results provide an additional robustness check on possible within-initiative dependence.

4.8 Discussion

4.8.1 Overall Pattern of Findings

The revised model presents a coherent pattern in which Community Empowerment and Social Innovation are both associated with Social Entrepreneurship directly and indirectly through Social Capital. Rather than suggesting that community capacity or innovation operates in isolation, the findings indicate that social entrepreneurial practice is embedded in a wider social and relational setting. Community participation, local agency and innovation appear to matter alongside the trust, networks, reciprocity and shared norms that connect actors around a social initiative. This pattern is consistent with the broader view that social enterprises depend not only on organisational capabilities but also on ecosystem relationships and stakeholder involvement (Desiana et al., 2022). It also aligns with the literature that treats Social Capital as a potentially important mechanism in the creation and development of social value within social entrepreneurship (Daskalopoulou et al., 2023).

A central implication is that Social Capital should not be interpreted as a substitute for Community Empowerment or Social Innovation. The significant direct relationships remain alongside the indirect relationships through Social Capital. In substantive terms, this suggests that existing community capacity and innovative activity may be connected with social entrepreneurial enactment in their own right, while relational resources provide an additional pathway through which those conditions become more effectively coordinated. The overall result is therefore better understood as a relationally embedded model of Social Entrepreneurship than as a simple sequence in which one factor fully transmits the influence of another.

4.8.2 Community Empowerment as Community Capacity

The relationship involving Community Empowerment requires careful interpretation because much of the previous literature examines empowerment as an outcome of Social Entrepreneurship. Collective social entrepreneurial initiatives have been shown to mobilise local communities and contribute to social transformation (Haloho & Sirait, 2026). Evidence from Indonesia likewise presents Social Entrepreneurship as an approach through which community empowerment and social welfare can be strengthened (Singgalen et al., 2022). The present findings do not challenge that literature. Instead, they address a different conceptual position by treating Community Empowerment as existing community capacity rather than as the realised impact of an entrepreneurial programme.

Under this interpretation, X1 reflects the capacity of community members to participate, express their views, mobilise resources, apply local knowledge, develop self-reliance and undertake collective action. Communities displaying these characteristics may offer a more supportive setting for social entrepreneurial activity because local actors are better positioned to contribute knowledge, participate in implementation, mobilise resources and engage with organisations pursuing a social mission. The association with Social Capital is also

theoretically meaningful: repeated participation and collective action create opportunities for interaction, which may help develop trust, reciprocal expectations and stronger networks.

This interpretation also establishes an important boundary condition. The model does not demonstrate that Community Empowerment temporally precedes Social Entrepreneurship. A reciprocal or reinforcing relationship is plausible: social entrepreneurial initiatives may strengthen community capacity over time, while stronger existing community capacity may simultaneously provide a more favourable environment for those initiatives to develop and operate. The cross-sectional design cannot separate these feedback processes. Accordingly, the contribution lies in showing that Community Empowerment can be modelled as a contemporaneous community condition without denying the well-established possibility that Social Entrepreneurship can itself generate later empowerment. Longitudinal or multi-wave research would be required to determine how these two processes evolve over time.

4.8.3 Social Innovation and Social Entrepreneurship

The revised results also clarify the position of Social Innovation. In contrast to the earlier specification, Social Innovation is positively associated with Social Entrepreneurship even after the other relationships in the revised model are considered. This finding is conceptually important because it does not require Social Innovation and Social Entrepreneurship to be treated as the same construct. Social Innovation captures novelty in products, services, processes, experimentation, co-creation and institutional arrangements, whereas Social Entrepreneurship captures the enactment of a hybrid organisational model that combines a social mission with market-based activity and continuity.

Previous research supports the relevance of innovation capability within social-enterprise settings. de Souza João-Roland and Granados (2023), studying UK social enterprises, found that cooperation with communities and universities, user-centred practices and intrapreneurial behaviour were associated with stronger social-innovation performance. Similarly, Sanzo-Pérez and Álvarez-González (2022) showed that close partnerships between Spanish social enterprises and non-profit organisations can foster social innovation, highlighting the value of collaboration in hybrid organisational settings. Indonesian evidence also indicates that innovation and ecosystem conditions are important to the sustainability of social enterprises (Desiana et al., 2022). Together, these studies support the view that innovative capability can strengthen how a social enterprise responds to unmet needs and adapts its activities, while remaining conceptually distinct from the organisation's social entrepreneurial model itself.

The significant indirect relationship through Social Capital adds a second layer to this interpretation. Innovation often involves experimentation, knowledge exchange, co-creation and engagement with actors outside the organisation. These activities can generate repeated interaction and broaden collaborative ties, creating relational resources that may support the implementation and acceptance of innovative solutions. The present findings therefore do not support the old interpretation that Social Innovation is connected with Social Entrepreneurship only through Social Capital. Instead, Social Innovation has both a direct association with social entrepreneurial enactment and an additional indirect association through relational resources.

4.8.4 Social Capital as a Complementary Relational Mechanism

Social Capital occupies the central relational position in the revised model. Its association with Social Entrepreneurship is consistent with the argument that trust, networks, reciprocity and shared norms can reduce coordination problems, improve information exchange, facilitate

access to resources and strengthen cooperation among actors involved in social-value creation. Daskalopoulou et al. (2023) show that Social Capital has been assigned several roles in the Social Entrepreneurship literature, including antecedent, mediator and moderator, which reflects the continuing importance of relational resources in explaining how social initiatives generate and sustain value.

The mediation results provide a more specific interpretation. Social Capital partially mediates both the Community Empowerment-Social Entrepreneurship and Social Innovation-Social Entrepreneurship relationships, while the corresponding direct relationships remain statistically supported. This pattern is consistent with complementary partial mediation. It means that Social Capital adds an important relational pathway but does not replace the substantive roles of community capacity or innovation. An empowered community can still be associated with social entrepreneurial enactment through its agency, participation and resource mobilisation, and Social Innovation can still contribute through the novelty and adaptability of social solutions. Social Capital strengthens these relationships by providing the relational infrastructure through which actors can coordinate, exchange knowledge, develop legitimacy and mobilise collective support.

This distinction is theoretically useful because it avoids treating Social Capital as a full causal transmission channel. The cross-sectional evidence is more appropriately interpreted as being consistent with a complementary relational mechanism. Such wording also recognises that the relationships among empowerment, innovation, networks and entrepreneurial activity may develop jointly and recursively rather than in a fixed one-way sequence.

4.8.5 Role-Based Heterogeneity

The role-based robustness analysis adds an important qualification to the pooled findings. Measurement invariance was supported across founders/managers, operational members and beneficiaries, indicating that the four constructs were measured in a sufficiently comparable way across respondent roles. The primary permutation-based comparisons did not identify statistically significant differences in the direct structural paths at the 5 per cent level. However, the bootstrap PLS-MGA sensitivity analysis indicated selected differences involving beneficiaries, particularly for the Social Capital-Social Entrepreneurship relationship and the Social Innovation-Social Entrepreneurship relationship. The indirect Community Empowerment-Social Capital-Social Entrepreneurship relationship was also stronger among beneficiaries than among operational members in the permutation comparison.

These patterns should be interpreted as role-sensitive evidence rather than as proof of distinct models for each respondent group. The stronger Social Capital-Social Entrepreneurship association among beneficiaries may reflect the aspects of social entrepreneurship that are most visible from the beneficiary position. Beneficiaries are likely to experience an initiative through interpersonal trust, reciprocity, community networks, participation and the continuity of relationships around the programme. By contrast, founders and managers may have greater exposure to the innovation process, organisational design and market-facing aspects of the enterprise. This may help explain why the direct Social Innovation-Social Entrepreneurship association appears stronger from the founder/manager perspective than from the beneficiary perspective.

The finding also reinforces the value of reporting respondent role rather than treating heterogeneous stakeholders as interchangeable informants. At the same time, the supported measurement invariance and the broadly stable direct relationships justify retaining the pooled model as the primary analysis. The MGA results are therefore best viewed as a

robustness finding that reveals where the salience of particular mechanisms may vary across organisational positions.

4.8.6 Theoretical Contributions

The study makes three focused theoretical contributions. First, it clarifies the boundaries among four concepts that are frequently discussed together in the Social Entrepreneurship literature. Community Empowerment represents existing community capacity and collective agency; Social Innovation represents novelty in social solutions and processes; Social Capital represents relational resources; and Social Entrepreneurship represents the enactment of a hybrid entrepreneurial model directed towards social value creation. This separation reduces the risk of explaining Social Entrepreneurship with indicators that simply reproduce elements of the dependent construct.

Second, the study provides a more defensible way of positioning Community Empowerment in an exogenous role. Rather than claiming that empowerment is a temporally prior outcome that has been reversed into an antecedent, the model treats it as a contemporaneous community capacity. This framing accommodates the established literature in which Social Entrepreneurship generates empowerment (Jørgensen et al., 2021; Singgalen et al., 2022) while also recognising that pre-existing participation, agency, local knowledge and collective action may form part of the context in which social entrepreneurial activity is enacted. The theoretical contribution therefore concerns reciprocal compatibility rather than directional replacement.

Third, the findings strengthen the interpretation of Social Capital as a complementary relational mechanism. Community capacity and innovation remain directly associated with Social Entrepreneurship, but both are also connected with it through Social Capital. The role-based analysis adds a further boundary condition by suggesting that the salience of this relational mechanism may differ according to the respondent's position in the social-enterprise ecosystem. This extends a generic claim that "social capital matters" by showing more precisely how it complements other conditions and where its perceived importance may be strongest.

4.8.7 Managerial and Practical Implications

For social enterprise managers, the findings suggest that organisational development should not focus on innovation or market activity alone. Managers need to maintain mechanisms that build trust, support repeated interaction and connect the enterprise with community and external stakeholders. Participatory planning, regular communication, transparent engagement and collaborative problem solving can help preserve the relational conditions that support social entrepreneurial activity. At the same time, innovation capability should be maintained through experimentation, user involvement and openness to new solutions. The implication is not to choose between innovation and relationships, but to develop both in parallel.

For community organisations, the findings emphasise the importance of strengthening local agency before and during participation in social entrepreneurial initiatives. Activities that expand community voice, practical use of local knowledge, collective decision-making and mobilisation of local resources can improve the capacity of residents to engage meaningfully with social enterprises. This is particularly relevant because Community Empowerment in the present study is not treated simply as an impact delivered to passive beneficiaries; it reflects active community capacity that can coexist with and support social entrepreneurial practice.

For policymakers and support agencies, the results indicate that financial support to individual social enterprises may be insufficient when it is disconnected from the surrounding ecosystem. Policy instruments can also support network infrastructure, cross-sector

collaboration, community participation and co-creation between social enterprises, local communities, non-profit organisations, educational institutions and public agencies. Evidence from Indonesian social enterprises similarly points to the importance of ecosystem conditions and innovation for organisational sustainability (Desiana et al., 2022). The practical priority is therefore to create conditions in which community capabilities, innovation and relational resources can reinforce one another, while recognising that the relative importance of these mechanisms may differ across stakeholder groups.

5. Conclusion

This study examined how Community Empowerment and Social Innovation are associated with Social Entrepreneurship, both directly and indirectly through Social Capital. The findings indicate that stronger community capacity and more developed social innovation are each positively associated with the enactment of Social Entrepreneurship. Both relationships also operate indirectly through Social Capital. Taken together, the results suggest that social entrepreneurial practice is linked not only to what communities are able to mobilise and how organisations develop novel social solutions, but also to the relational conditions that connect actors around those activities.

The theoretical conclusion is therefore relational rather than substitutional. Social Capital complements, rather than replaces, Community Empowerment and Social Innovation. Community agency, participation, local resource mobilisation, and innovative activity retain their own associations with Social Entrepreneurship, while trust, networks, reciprocity, and shared norms provide an additional relational infrastructure through which these capacities can be coordinated and supported. This interpretation also preserves the construct boundaries developed in this study: Community Empowerment represents current community capacity, Social Innovation represents novelty in social solutions, Social Capital represents relational resources, and Social Entrepreneurship represents the observable enactment of a hybrid entrepreneurial model directed towards social value creation.

These conclusions should be interpreted within the boundaries of the research design and setting. The study is cross-sectional, relies on purposively selected respondents involved in social entrepreneurial initiatives, and uses perceptual measures of organisational and community practices. The findings therefore describe theoretically specified associations within the sampled context rather than establishing temporal causality or universal relationships. Even so, the revised model provides a parsimonious account of how community capacity, innovation, and relational resources are jointly associated with Social Entrepreneurship while recognising that some relationships may vary according to respondent role.

6. Limitations and Future Research

Several limitations define the scope of these findings. First, the cross-sectional design captures the focal constructs at a single point in time and therefore cannot establish temporal ordering. This limitation is particularly important for the relationship between Community Empowerment and Social Entrepreneurship. Although the present model specifies Community Empowerment as an exogenous form of existing community capacity, the reverse pathway is also theoretically plausible: social entrepreneurial activity may strengthen participation, agency, access to resources, and collective action over time. The observed

association may therefore form part of a reciprocal or reinforcing process that cannot be identified using a single-wave survey.

Second, the focal constructs were measured from the same survey source. The statistical diagnostics did not indicate severe common-source collinearity, but this should be treated only as supplementary evidence rather than as proof that common method bias is absent. The Social Entrepreneurship construct is also perceptual: respondents evaluated observable manifestations of a hybrid social and entrepreneurial model rather than audited financial flows or independently verified organisational performance. This approach was appropriate for including actors occupying different positions around the initiatives, but it limits the extent to which the measures can be interpreted as objective organisational records.

Third, purposive sampling limits statistical generalisation beyond the respondents and initiatives represented in the study. The sample also combines founders/managers, operational members, and beneficiaries. Measurement invariance supported the comparability of the four constructs across these groups and therefore provided a basis for pooled estimation; however, the sensitivity multigroup analysis identified selected differences involving beneficiaries. The pooled relationships should consequently be interpreted as average associations across respondent roles rather than as evidence that every structural relationship is identical for all stakeholder groups.

Future research can address these boundaries in several ways. Longitudinal and multi-wave designs are needed to test whether community capacity, relational resources, innovation, and social entrepreneurial enactment reinforce one another over time and to distinguish temporal ordering from contemporaneous association. Multi-source designs could pair founder or manager assessments of organisational practices with beneficiary assessments of social value and community experience, while matched manager-beneficiary dyads would allow perceptual convergence to be examined directly. Where feasible, survey measures should also be complemented with objective organisational records, programme documentation, revenue or reinvestment information, and independently observed community outcomes. Replication across regions, organisational forms, and countries would further establish whether the relational mechanism identified here is stable under different institutional and socio-economic conditions.

A further consideration concerns the nesting of respondents within social entrepreneurship initiatives. The 377 respondents represented 78 distinct initiatives, meaning that some observations were not organisationally independent. Initiative-level ICC estimates were low and the cluster-robust sensitivity analysis reproduced the direction, magnitude, and statistical significance of all five primary structural relationships. Nevertheless, the primary model remains a respondent-level PLS-SEM analysis rather than a multilevel structural model. Future studies with larger numbers of respondents within each initiative could employ explicitly multilevel SEM designs to separate individual-level perceptual variation from initiative-level variation.

Declarations And Ethical Statements

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Conflict of Interest

The authors declare that they have no conflicts of interest that could have influenced the research, analysis, interpretation, or reporting of the findings.

Data Availability Statement

The de-identified data supporting the findings of this study are available from the corresponding author upon reasonable request. Access to the data is subject to appropriate safeguards to protect respondent confidentiality.

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