

Article

A Dual-Axis Framework for Social Innovation: Mapping Dynamic Transitions Through 121 Social Businesses in Developing Countries

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Abstract

Previous research has placed social innovation as a static outcome or single concept, thereby not effectively capturing the dynamism of innovation over time and changes in its purpose. This study attempts to develop an analytical framework which adopts dual axes of pathways of institutional change and levels of innovation for multidimensional analysis of social innovation. Drawing on this dual-axis framework, this study examined 121 social businesses in developing countries. These businesses were operated by social innovators who had been recognized as Ashoka Fellows between 2006 and 2025. Analysis of the cases revealed that the most prevalent type of early-stage social innovation was the peripheral-user type, inducing change at the user level from the periphery of the system. Moreover, the most frequently observed type of transition was from the peripheral-user type to the integrated-service wherein the innovation became partially integrated into the system and changes at the service level. What these findings suggest is that social innovations start at the user level, expand into services, and, in some cases, reach the system level. They move step by step into deeper forms of institutional integration. This study develops a conceptually grounded typology and empirically examines dynamic patterns of this process.



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Keywords: social innovation; social business; developing country; dual-axis framework; pathway of institutional change; level of innovation

1. Introduction

Over the past few decades, social innovation has been discussed as a practical way to respond to social problems in developing countries where resources are scarce [1,2]. In many of these settings, social business has provided one of the main routes for innovation to be achieved [3,4]. These social businesses rely on self-sustaining business models, meaning they do not depend on donations for their funding. Unlike conventional for-profit businesses that aim only at financial return, the social businesses link revenue with a commitment to create social value [5,6]. This dual orientation makes them particularly relevant in environments where both financial sustainability and social outcomes are essential [5,6].

Despite these developments, academic research on social innovation still exhibits two limitations. First, much of the existing literature does not fully reflect the realities of developing countries [7–10]. Compared with advanced economies, these countries often lack well-established legal or administrative systems, and large parts of their economies

operate through the informal sector [7–10]. Applying social innovation theories built largely in the Global North directly to these contexts, without adapting to local conditions, restricts their ability to explain how social change unfolds [2]. Second, even when studies examine social innovation in developing countries, they often frame it as a one-time outcome rather than a process that evolves [11–13]. This tendency overlooks the way innovation moves through stages: beginning as small-scale experiments outside formal systems, gradually building connections with those systems, and eventually becoming institutionalized within them [14,15].

Thus, to address these limitations, this paper steps beyond the static view of social innovation. Developing countries differ significantly from developed nations because they have environmental characteristics such as institutional weakness or market disequilibrium. Thus, a model to analyze how social innovation takes place and changes within the context of developing countries is needed. This paper attempts to fill up this gap by developing and proposing an analytical framework through a literature review. The proposed framework has two axes: one representing pathways of institutional change which assesses the degree of linkage between social innovation and the society's institutions; another representing levels of innovation which determines the target of the innovation. With this lens, the paper probes into the genesis and evolution of social innovation in the context of developing economies. To this end, it empirically assesses the types of social innovation emerging from social businesses operating in developing countries by taking these social businesses as its unit of analysis.

This study proposes a 3×3 analytical framework that integrates pathways of institutional change and levels of innovation to map the dynamic development of social innovation. Building on this framework, the study raises three research questions that guide the empirical analysis, with corresponding hypotheses presented in Section 3 (Materials and Methods):

RQ1. *How can the types of social innovation observed in social businesses be categorized based on the two analytical axes of pathways of institutional change and levels of innovation?*

RQ2. *What types of social innovation are most prevalent in the early stages of social business development?*

RQ3. *What are the most common transition patterns across the pathways of institutional change and the levels of innovation through which social innovation evolves from one category to another?*

To answer these three research questions, this study first develops an analytical framework capable of categorizing social innovation through a literature review (RQ1). This analytical framework, grounded in existing multi-layered perspectives on social innovation and institutional change theory, captures the dynamic process of social innovation by structuring two axes: pathways of institutional change (degree of institutional embeddedness) and levels of innovation (scope of transformative change). To address the second research question, this analytical framework is applied to analyze actual social business cases, revealing the most prevalent form of social innovation in its initial stages (RQ2). It also explores how social innovation evolves and transforms over time from these initial emergence types (RQ3).

The cases selected for empirical analysis in this study comprise 121 social businesses led by Ashoka Fellows selected between 2006 and 2025. With the use of secondary data, a quantitative content analysis was performed to determine the types of social innovations at the initial and current stages of these cases. After the typology was established, statistical tests were applied to identify which type occurred most frequently and what the patterns of transition were among them. This study contributes to academic research on social innovation by building a framework that considers social innovation as a processual and dynamic phenomenon.

2. Theoretical Background

2.1. Defining Social Innovation

Early research on social innovation tends to understand it primarily as tangible outcomes in the form of products, services, or processes [16–18]. In this view, social innovation was defined as the creation of new ideas for solving social issues and their practical implementation [16], thus delivering concrete results rather than merely abstract concepts [16,17]. Therefore, the criterion for judging innovation is whether these new outputs result in solving the social problems [17]. For instance, this can be determined by establishing if the new product or service is more effective and sustainable compared to existing ones [17]. This perspective provides a clear framework that helps in classifying and comparing social innovation by judging it as an outcome [16–18].

However, such typologies that rely only on the form of innovation do not capture how innovations change over time [19,20]. Social innovation is not a single event in which something new appears, but rather a process that unfolds through stages: Experimentation–Scaling–Institutionalization [14,21]. For instance, microfinance originated in South Asia as a peripheral experiment but later became integrated into national regulatory frameworks and financial infrastructure. Khavul [22] argued that this trajectory represents institutional change. Existing static frameworks cannot accommodate such temporal evolution.

Beyond this temporal dimension, social innovation also emerges and develops within specific social contexts. Cajaiba-Santana [20] defined social innovation as not the result but an institutional change created by the interplay of structures and agents. He emphasizes that social innovation cannot be fully grasped without considering its institutional and cultural context [20]. However, current theories tend to overlook this contextual aspect.

A further critique of existing research is that it tends to treat the level of social innovation as fixed within a single dimension. As Westley et al. [14] observed, social innovation affects individuals, organizations, and systems by creating new pathways through their interactions. For instance, digital agriculture platforms cannot be seen purely as service innovations. While these platforms started as user-level innovations, thereby empowering farmers by facilitating information access, on the other hand, they are also service-level innovations by means of which existing agricultural support services have been digitized and delivered efficiently. Over time, they evolve into system-level innovations that reshape the entire agricultural value chain [23]. Social innovation, in this regard, often comprises multiple levels and usually develops step by step. The existing single-level framework has limitations in tracking these changes [21]. This has left previous research which has not adequately elaborated on how social innovations start as peripheral experiments, gradually institutionalize, and sometimes create a systemic change.

Transition theory and institutional change theory provide useful lenses for explaining how social innovation moves from early experiments to eventual embedding within social institutions. Among these, the multi-level perspective (MLP) has gained wide recognition as a representative analytical framework for understanding the diffusion and institutionalization of innovation [24,25]. According to MLP, niche, regime, and landscape levels are used to analyze innovation [24,25]. The niche referred to here denotes new experiments emerging at the periphery of existing systems, while the regime signifies the dominant structure of that society formed by policies or norms [24,25]. Social innovation often begins at the niche level and can be strategically linked to the regime or integrated as part of the regime through institutional learning [26,27].

Core–periphery theory similarly argues that social innovation transitions from the periphery to the center of the system [28]. This theory emphasizes that internalization is not simply the diffusion of technology or services but the integration of innovation into social and institutional networks [28,29]. Thus, social innovations which start as small

experiments at the periphery gradually increase their influence by networking with actors inside the system. They eventually move from the periphery to the core of the system and become part of the system. For instance, microloan initiatives in Bangladesh which were initiated in small villages by non-governmental organizations (NGOs) later became part of the public financial system through government participation and linkage with banking services demonstrate this example [22].

Institutional entrepreneurship theory [11] offers another lens for understanding how social innovation becomes embedded in institutions. According to this theory, institutional change is not simply driven by good ideas alone; it becomes possible only when innovative actors pursue deliberate efforts to transform existing institutions through strategic actions [11]. This implies that the process by which social innovation becomes embedded within institutions to drive change depends not only on new ideas but also on the strategic promotion of these ideas by the agents, namely innovative actors such as social businesses [11].

2.2. Social Business and Its Relationship with Social Innovation

Among the diverse actors driving social innovation, social business plays a particularly crucial role [30]. This is because social businesses are not only providers of innovative products or services but also organizational agents for transforming institutions and environment [11,31]. From this perspective, social business is distinct from social innovation: while social innovation represents the broad process of institutional change, social businesses constitute one of the organizational vehicles through which such change occurs [32].

Some academics define social business under the concept of social enterprise and describe their characteristics by the legal status or organizational form [8,33]. From this perspective, a social business can be seen as an organization creating economic profit concomitantly with the generation of social value. This approach also has its limitations in adequately explaining the dynamic and processual natures of social innovation. A focus on social businesses as structural frameworks leads scholars to treat them as fixed entities operating that framework. This overlooks aspects like the changes and gradual evolution of social innovation that manifest in real-world contexts [34].

In contrast, Yunus et al. [1] and Mair and Martí [35], among others, defined social business from a business-model perspective as a hybrid activity that employs market-based mechanisms to solve social problems. This approach allows greater analytical flexibility in tracking both the pathways and levels of business-model-unit innovation, since it is not bound by legal forms or organizational types [31,36]. For instance, digital agriculture initiatives for smallholder farms may be developed either by nonprofit organizations or by venture capital-backed startups. In both cases, such initiatives rely on market-based revenue structures to realize social value. Accordingly, this study advances a definition of social business from a business-model perspective rather than from static classifications of legal or organizational form: Social business is therefore defined as a “hybrid business model that utilizes market-based mechanisms to solve social problems while maintaining a certain level of financial self-sufficiency.” This definition shows that social business is analytically distinct from social innovation, but rather one of the mechanisms through which social innovation is realized.

2.3. Contextual Factors in Developing Countries

Social innovations and social business models emerging in developing countries are shaped by contextual factors distinct from the theoretical assumptions commonly found in developed nations [37,38]. Above all, resource constraints influence both the initial form of social innovation and its subsequent development path [39–41]. Given restricted financial

resources, human capital, and infrastructure, low-cost and high-efficiency experimental approaches typically appear before large-scale structural changes [2,6]. For example, M-Pesa began as a small niche solution to micro-payments and remittances in an environment lacking traditional financial infrastructure. It later became a core component of the national payment system, driven by regulatory and market changes [27].

In developing countries, institutional gaps and policy uncertainties frequently arise. These phenomena pose threats to the stable establishment of new attempts to create social innovation. However, they also serve as opportunities for social businesses to rapidly experiment with new models. This is because they can target areas where existing institutions need improvement or where efforts have not yet been reached. This makes social business easier to test small ideas or experiments. For this reason, even when attempting the same social innovation, the direction it develops and the pace at which it grows can vary by country or region. In some areas, small attempts at social innovation are swiftly integrated into the system and develop, while in others, they may be implemented on the periphery outside the system for a long time before gradually being integrated and internalized into the system as the need arises.

2.4. Proposing a Dual-Axis Framework for Social Innovation Typology

This study develops and presents an analytical framework for analyzing social innovation to bridge gaps identified in existing research through a literature review. This framework consists of two axes: one is the ‘pathway of institutional change’ axis, which measures the degree to which social innovation is connected to institutions; the other is the ‘level of innovation’ axis, which indicates whether the social innovation is individual, service, or system-based. This two-axis analytical framework is grounded in two theories that support the dynamic and multi-layered nature of social innovation. The first axis, the pathway of institutional change, consists of stages of periphery, integration, and internalization, grounded in institutional internalization theory and conversion theory [14,15,24]. This perspective defines innovation as a continuous process where change begins at the periphery, gradually integrates partially with the institution, and ultimately becomes internalized within it [14,15,24]. This axis highlights how innovation interacts with institutions as an ongoing process rather than a single event. The second axis, the level of innovation, draws from the MLP and studies on the multidimensional impacts of social innovation [14,23,24,42]. This axis distinguishes the scope and depth of innovation according to whether it is limited to user empowerment, involves service delivery and operational changes, or extends to system-level structural change [14,21].

By combining these two axes, this study developed a 3×3 dual-axis framework through which social innovation can be viewed along two dimensions: pathway of institutional change (peripheral–integrated–embedded) and level of innovation (user–service–system).

2.4.1. Pathway of Institutional Change: Peripheral–Integrated–Embedded

The pathway of institutional change classifies social innovation into peripheral, integrated, and embedded stages according to the density of its relationship with the institutional environment.

Peripheral Pathway of Institutional Change

At the peripheral stage, innovation occurs experimentally beyond the reach of existing institutional systems. To elaborate further, social innovation occurring through peripheral pathways refers to cases where social businesses operate autonomously outside existing institutions, without changing or linking to established rules or systems. Initiatives operating independently on the periphery, unconnected to public institutions, fall into this category. For example, early models of informal savings groups in rural Uganda represent

peripheral cases. These groups operated on community-based trust and provided access to microfinance without external institutional or policy support [43].

Integrated Pathway of Institutional Change

In the integrated pathway of institutional change stage, social innovation is created by connecting with existing institutions or utilizing institutional infrastructure. It is not fully integrated with the institutions but only partially merged, achieving harmony with the existing system and enabling innovation. Social businesses operating at this stage are either run jointly with government ministries or operated by slightly modifying and substituting existing institutions. For instance, in Kenya, M-Pesa partnered with telecommunications companies to become a preferred method of payment [27].

Embedded Pathway of Institutional Change

When social innovation is in the stage of an endogenous pathway of institutional change, it integrates with existing institutions and functions as part of the system. At this stage, social business moves beyond merely providing new services independently and becomes institutionalized within society, delivered as a public sector service. In this process, the services of social business may also be transformed into programs implemented by the government. Thus, upon reaching the embedded stage, social innovation can become a core element of public institutions which can yield greater long-term impact. For example, microfinance services originating in Bangladesh, which began in small villages centered around NGOs, later became implemented within the country's financial system itself [44]. This exemplifies the typical development along this embedded path.

2.4.2. Level of Innovation: User–Service–System

The level of innovation is categorized into user, service, and system dimensions based on its focus and scope of change.

User-Level

User-level innovation manifests as changes in individual behavior or perceptions and the strengthening of capabilities. To this end, social business programs focus on enhancing individuals' capabilities by providing various education or training opportunities or delivering services targeted at individuals. For example, one agricultural platform in India enhanced farmers' productivity and income through education and training [45].

Service-Level

Social innovation at the service level goes beyond merely improving existing services. It involves redesigning business models or service delivery mechanisms to create entirely new services. Such innovation does not simply supplement existing approaches used to solve problems. It presents entirely new methods to address them. For example, by digitizing the services which were formerly rendered only offline and then making them visible online, a business model has come into existence. This increases accessibility to users and thereby extends influence. Ghana's agricultural support platform is an example of such. Previously delivering agricultural information and advisory services through offline channels and analog means later digitized its services by building an online platform and mobile app [46].

System-Level

System-level innovation represents the most profound stage of social innovation. At this stage, social innovation moves beyond merely enhancing individual capabilities or improving service delivery models to transform societal systems. Such system-level

innovation creates new value chains within specific industrial sectors, thereby reshaping the entire industry structure. Building and operating a new financial system that can serve areas previously unserved by the existing financial system also falls under system-level innovation.

2.4.3. A Dual-Axis Framework for Social Innovation Typology

To categorize social innovation, this study divides the pathways of institutional change into three types—peripheral, integrative, and intrinsic—and divides the level of innovation into three levels—user, service, and system. By combining these, a total of nine types were derived. Table 1 summarizes these nine types of social innovation. For example, the Peripheral-User Innovation type (Type 1) occurs on the periphery, unconnected to existing institutions or systems, and primarily changes the behavior and strengthens the capabilities of individuals or members of local communities. This type does not directly change the social system but creates change by solving the problems people face through enhancing their capacity for participation or problem-solving. Because this type of change occurs outside formal institutions, its influence is relatively limited in scope. However, since it requires relatively few resources for innovation, it is commonly seen in the early stages of social innovation.

Table 1. Social innovation typology matrix.

	User-Level	Service-Level	System-Level
Peripheral pathway	Type 1. Peripheral–User Focus on individual change. Outside the institutional system Early	Type 2. Peripheral–Service Focus on service change. Outside the institutional system Early & Middle	Type 3. Peripheral–System Focus on system change. Outside the institutional system Middle & Late
Integrated pathway	Type 4. Integrated–User Focus on individual change. Partly connected to the institutional system Early & Middle	Type 5. Integrated–Service Focus on service change. Partly connected to the institutional system Early & Middle & Late	Type 6. Integrated–System Focus on system change. Partly connected to the institutional system Middle & Late
Embedded pathway	Type 7. Embedded–User Focus on individual change. Institutionalized within the system Middle & Late	Type 8. Embedded–Service Focus on service change. Institutionalized within the system Middle & Late	Type 9. Embedded–System Focus on system change. Institutionalized within the system Late

At the other end of the matrix lies embedded-system innovation, which occurs when the scope of change extends beyond users or services and targets entire systems. This involves structural reforms, such as altering value chains or market rules. Embedded-system innovation entails changes built into institutions, often enacted through government policies, laws, or public systems, and typically leads to the establishment of new structures. As the ultimate goal in the development of social business, this type represents the highest stage of social innovation. Conceptual definitions and developmental stages of the nine types are summarized in Appendix A (Table A1).

3. Materials and Methods

3.1. Research Design

This study applies the dual-axis framework introduced earlier to cases of social businesses operating in developing countries. The objective of the analysis is to test the established hypotheses and explore patterns of innovation diffusion. To this end, quantitative content analysis (QCA) was employed to map the innovation types at each case's initial and latest stages onto the framework's matrix. Frequency analysis and transition matrix analysis were then conducted, employing chi-square tests, path analysis, the Wilcoxon signed-rank test, and Fisher's exact test. This approach empirically identifies the initial distribution of innovations, assesses whether upward diffusion occurs, and determines the primary diffusion pathways. All statistical analyses and visualizations were conducted using R (v.4.3.2) and the ggpubr package (v.0.6.1, v.0.12.5). The unit of analysis was the individual social business model.

3.2. Case Selection and Data Collection

The sample was drawn from social businesses within the Ashoka Fellowship network that are based in developing countries. Founded in 1980, Ashoka is an international nonprofit organization that identifies and supports social entrepreneurs as Ashoka Fellows who develop innovative solutions to societal challenges [47]. The initial selection consisted of more than 4000 cases, which were filtered by the category "Business & Social Enterprises" and limited to those selected between 2006 and 2025. A twenty-year period is chosen to make the analysis manageable at the same time capturing a period that reflects meaningful changes over time. The focus on social businesses emanates from the conceptual framework of the study, which identifies them as the main agents advancing social innovation. All nonprofit organizations operating solely on grants and donations were excluded, leaving only those with market-based revenue models. The study also included only cases for which official information on both the initial and latest business models could be verified, resulting in a final sample of 121 cases.

These comprised 57 cases from Latin America, 32 from Asia, and 23 from Africa. Nine are Middle East/North Africa. When broken down by country, Brazil leads with 15% while Mexico and India share second place at 9% each. Colombia comes next with 5%; South Africa is close behind at 4%. Fifty-seven percent are scattered among other developing countries. It is between 2000 and 2014 that three-quarters of these businesses were established. There are 31 cases for the year range of 2000–2004; 27 cases for 2005–2009; and 34 for 2010–2014. Ashoka Fellowships followed a similar pattern. Most awards (80%) came between 2005 and 2019, and two moments stand out: 31.4% of the fellowships were granted in 2005–2009, and 33.9% in 2015–2019. Only a small group of 13 fellowships has been added since 2020. By sector, agriculture and rural development leads the pack with 30.6%. Education follows at 18.2%, environment and renewable energy come next at 9.9%, and financial inclusion at 8.3%. Rest of the cases (31.4%) falls under multiple or cross-cutting sectors.

Key data was cross-checked for currency with the use of official profiles and case reports from Ashoka.org, each organization's official website and annual reports, international development donor agencies' material, plus media and academic paper.

However, it should be noted that these cases have the limitation of 'survivorship bias.' The social businesses analyzed in this study were selected by Ashoka from social entrepreneurs who had already successfully innovated society in the market and further filtered to include only those businesses still operating today. It is therefore important to recognize that this study reports patterns among the surviving cases and does not necessarily encompass the full spectrum of social businesses.

3.3. Variable Definitions

This study defines nine types of social innovation based on earlier theoretical frameworks and analyzes the transition patterns of innovation pathways. To do so, four key variables were quantified through content analysis of each social business case: initial change pathway, final change pathway, initial innovation level, and final innovation level. The unit of analysis is the social business organization. The coding scheme for these variables was developed using leading theories of social innovation [14,16,20,40,48–50]. Appendix B (Table A2) provides coding variables, definitions, and illustrative examples. The four variables and their values are summarized in Table 2.

Table 2. Operational definitions and coding values of key variables.

Variable Name	Definition	Values
Initial pathway of institutional change	Extent to which social business relates to or works beyond the institutional systems at its origin Whether the business starts functioning on the periphery, in partial integration, or in an embedded way with existing structure	Peripheral pathway = 1 Runs outside existing systems, no degree of functional integration Integrated pathway = 2 Connected to or working together with existing systems Embedded pathway = 3 Functionally integrated into, or taking the place of, existing systems
Final pathway of institutional change	Present degree of integration with institutional systems that the social business has attained by the year 2025. This illustrates whether, across time, the business has sustained a peripheral status, undergone integration, or been implanted into formal structures	Same coding criteria as initial pathway of institutional change
Initial innovation level	Extent of innovation characterizing business at commencement, differentiating whether innovation mainly addressed individual users, organizational services, or broader systemic arrangements	User-level innovation = 1 Focuses on changes in individual capabilities, behaviors, or awareness Service-level innovation = 2 Innovates the service itself, its delivery method, or business model at the level of a specific organization, community, or market segment System-level innovation = 3 Establishes or reshapes structural systems (e.g., value chains & distribution and standardization systems) to create sustainable ecosystems involving multiple stakeholders
Final innovation level	Present degree of innovation the business displays by 2025, reflecting whether its effect remains at the user level, has developed into new services and models, or has grown through systemic change	Same coding criteria as initial innovation level

3.4. Operationalization and Coding

The study began by quantifying data through QCA. A coding manual was prepared, including definitions and guidelines for each variable to ensure consistency in the process.

Inter-coder reliability was checked with a systematic 1-in-2 sample, selecting every second case starting with Case 1, resulting in 61 of 121 cases (50.41%). Coding criteria were refined during pre-training and pilot coding. One researcher and an independent coder coded the data separately, and their results were compared for reliability. Cohen's [51] kappa coefficient (κ) was calculated for agreement across the four variables (initial change pathway, final change pathway, initial innovation level, final innovation level). The initial pathway of institutional change had $\kappa = 0.806$; the final pathway of institutional change had $\kappa = 0.749$; the initial innovation level had $\kappa = 0.787$; and the final innovation level had $\kappa = 0.754$. The overall mean was $\kappa = 0.774$, indicating a substantial level of agreement and confirming that the coding process was reliable according to Landis and Koch [52]. Any discrepancies were discussed and resolved, with agreed values assigned. For the final analysis, the remaining 60 cases were coded by one primary researcher using the manual.

One example of coding conducted in this study is as follows. A social business provided information to small-scale farmers in rural areas. Its original model sent weather forecasts and market prices on agricultural products through text messages (SMS) to the farmers. This was because small-scale farmers previously lacked access to information and could not easily obtain the data necessary for farming thus the service initially began with an aim of improving farmer's strength leading to productivity. Since this initial model provided services solely for the purpose of enhancing individual farmers' capabilities, without any linkage to public services, it can be classified as a 'peripheral-user type' based on the above definition. But later, it moved beyond these basic services. Not only did it build digital applications and add online commerce functions, but it also developed systems linked to public databases, formed partnerships with distributors and financial institutions, and restructured the agricultural value chain. Because the service is provided with partial linkage to institutions and has restructured the agricultural system, it can be classified as an 'integrated-system type'.

3.5. Coding Criteria Examples

3.5.1. Pathway of Institutional Change

Classified as peripheral, integrated, or embedded based on the density of the relationship between the organization and existing institutions. Simple collaboration or receipt of grants was not considered embedded; only cases functionally incorporated into the institutional structure qualified as embedded.

3.5.2. Level of Innovation

Categorized by the focus of change into user (enhancing individual capabilities), Service (organizational or business model innovation), and system (industrial or institutional structural innovation). For example, a basic educational program was classified as user, a new digital platform as Service, and restructuring an entire value chain as system. The coding book and dataset used for the overall analysis of this study are available in Supplementary Materials.

3.6. Hypothesis Development

As confirmed in the preceding literature review, social innovations often emerge in contexts marked by significant institutional gaps and resource constraints [14,16,41]. In such situations, with insufficient institutional support and low barriers to entry, innovation tends to manifest first at the individual or community level. Prior research indicates that social innovation in such environments begins at the peripheral-user stage, focusing on strengthening individual capacities and changing behaviors [53]. This process reflects the fact that it is difficult for early-stage social businesses to directly intervene in systems or institutions, something which can be performed with limited financial and institutional

resources [40,41]. Previous discussions have mainly focused on this tendency rather than making an empirical demonstration of whether the peripheral-user model constitutes the first phase of social innovation. To fill this gap, this study proposes the following hypothesis.

H1. *Social innovations in social businesses most often emerge through the peripheral–user type in the early stages.*

According to the literature reviewed earlier, social innovation begins at the periphery of institutions but gradually strengthens its connection with them over time, expanding its sphere of influence [50,54]. Schwarz [54] explains that even if such innovation initially starts by changing individual behavior or service delivery methods, it can ultimately lead to institutional transformation as it increasingly utilizes external resources and forms partnerships with public sector partners. This perspective aligns with the theory of multi-level transformation. This theory posits that social change originates in institutional niches, spreads through services, organizations, and institutions, and is ultimately embedded within the system [14,17,28]. Therefore, innovations originating at the periphery evolve toward integration into the institutional system. Simultaneously, the level of innovation expands from the individual to the service level and further to the institutional level. However, the actual trends of these changes have not been sufficiently empirically clarified. To verify this, the following hypothesis is proposed.

H2a. *Pathways of institutional change tend to shift upward from the initial to the later stages of social innovation.*

H2b. *Levels of innovation tend to shift upward from the initial to the later stages of social innovation.*

Previous literature reviews have confirmed that social innovation begins outside institutional frameworks, gradually linking with them before being absorbed into the institutional structure [14,17,28]. They also confirmed that the scope of social innovation can expand from the individual level to the service and system levels [14,17,28,54]. However, previous studies on social innovation have usually taken a one-sided approach. Some focus mainly on the extent to which innovations link to formal institutions. Others emphasize the level of innovation itself. Consequently, there has been insufficient research on the transition patterns of social innovation which consider both aspects simultaneously. This study attempts to analyze the development patterns of social innovation through consideration of both pathways of institutional change and levels of innovation. If the transition pattern in social innovation repeatedly moves from the peripheral-user type to the integrated-service type, or from the integrated-service type to the embedded-system type, this would suggest that certain developmental patterns are preferred within social innovation. Since the dual-axis typology proposed in this study has not yet undergone empirical verification, an exploratory approach is needed rather than directional hypotheses. Accordingly, the research question RQ3 is established.

3.7. Statistical Analysis

This study first employed descriptive statistics. A total of 121 cases were analyzed to examine the pathways of institutional change and the distribution of innovation levels during the initial and final stages of social innovation. As set forth in Hypothesis 1, cross-tabulation and frequency tables were generated to verify whether the initial distribution was skewed, as proposed in 1. To verify H2, initial and final pathway values were treated as paired data. The Wilcoxon signed-rank test was used to assess both the directionality and significance of change. This nonparametric test was appropriate because the data were

ordinal and the sample size was relatively large. Finally, this study created a transition matrix by matching the initial innovation type with the final innovation type for each case. This matrix systematically shows not only the distribution of innovation types but also the pathways of transition from one type to another over time. The results of this transition matrix analysis were visualized using a Sankey diagram and this enables the direction and scale of transitions to be easily grasped at a glance. The next section presents these analysis results.

4. Results

4.1. H1—Initial Distribution of Innovation Types

H1 posits that, at the initial stage, the change pathway of social innovations in social businesses most frequently falls into the Peripheral–User Type. A Chi-squared test was conducted to examine the association between the change pathway and the innovation level at the initial stage. The results indicate a statistically significant association between these two variables ($\chi^2 = 17.717$, $p = 1.4 \times 10^{-4}$). Figure 1 presents the cross-tabulation of the initial distribution of cases by pathway of institutional change and level of innovation. It shows that more than half of the cases (52.9%) belong to the peripheral–user type, substantially exceeding any other combination. The next most frequent types were integrated–service type at 19.0%, peripheral–service type at 14.9%, and integrated–user type at 12.4%. System-level innovations were virtually absent at the initial stage. This finding suggests that social businesses in their early phase place greater emphasis on individual capacity building and value creation in peripheral domains rather than institutional change.

Initial stage ($P = 1.4 \times 10^{-4}$)

Pathway of Change	64 (52.9%)	18 (14.9%)	1 (0.8%)	Peripheral
	15 (12.4%)	23 (19.0%)	0	Integrated
	0	0	0	Embedded
	User	Service	System	
	Level of Innovation			

Figure 1. Distribution of social innovation types in the initial stage.

Figure 2 shows the distribution of cases across the level of innovation throughout the institutional change pathways. The yellow portion of the bar graph represents peripheral cases on the institutional change pathway axis, while the blue portion indicates the integrated pathway. The embedded pathway is not shown as there were no corresponding cases. As seen in the graph, while innovation occurring at the user level, unconnected to institutions and taking place on the periphery of the institutional system, is overwhelmingly prevalent, innovation at the service level is distributed evenly across both peripheral cases and pathways where some integration with institutions occurs. This supports Hypothesis 1, which posits that early-stage social innovation will primarily exhibit the peripheral–user type.

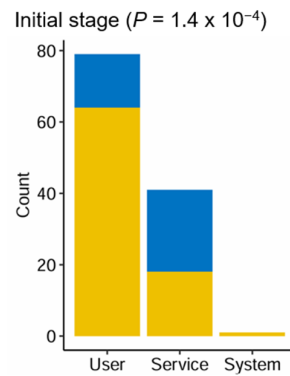


Figure 2. Frequencies of pathways of change by innovation level.

4.2. H2a & H2b—Upward Transitions in Pathway and Level

H2 proposes that social businesses will show upward change over time in both their pathway of institutional change (H2a) and their innovation level (H2b). To test H2a, the Wilcoxon signed-rank test revealed a significant positive shift in the change pathway ($Z = -9.267$, $p = 1.24 \times 10^{-24}$). Of the 121 cases, 114 (94.21%) advanced to a higher change pathway category, seven (5.79%) remained at the same level, and none regressed. Most innovations that were initially peripheral later became integrated, with some progressing to the embedded stage. This demonstrates that the integration of social business activities into institutional structures and deeper internalization typically occurs at later stages rather than early ones, reinforcing the notion of late-stage development for such processes. This pattern of transition is visually presented in the Sankey diagram in Figure 3, which allows the flow and proportions of change to be seen at a glance.

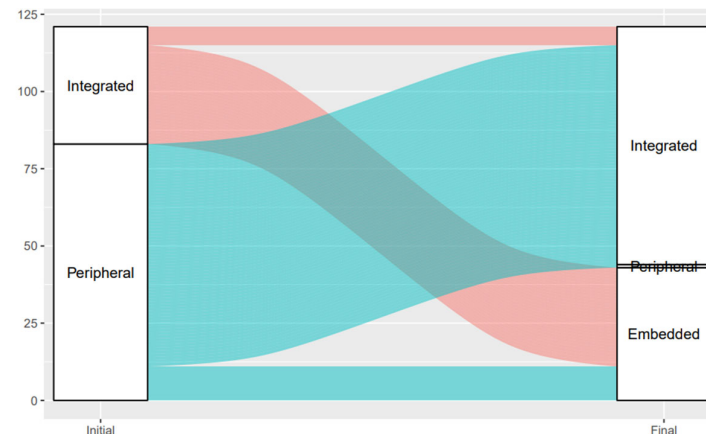


Figure 3. Transition from initial to final pathway of institutional change. The width of each flow represents the number of cases that change paths.

The Wilcoxon signed-rank test also confirmed H2b, showing a statistically significant positive change in innovation level ($Z = -8.979$, $p = 1.82 \times 10^{-22}$). Of the 121 cases, 107 (approximately 88.4%, advanced to higher innovation levels, while 14 (about 11.6%) remained at their previous level, indicating that upward progress occurs in most instances. Many cases that began at the user level innovation soon transitioned up to service-level innovation, with some even achieving system-level innovation. This finding demonstrates that micro-level changes, such as individual capacity building, can eventually expand to organizational changes and, in some instances, even trigger institutional or structural changes. The flow and magnitude of these transitions are clearly illustrated in the Sankey diagram in Figure 4.

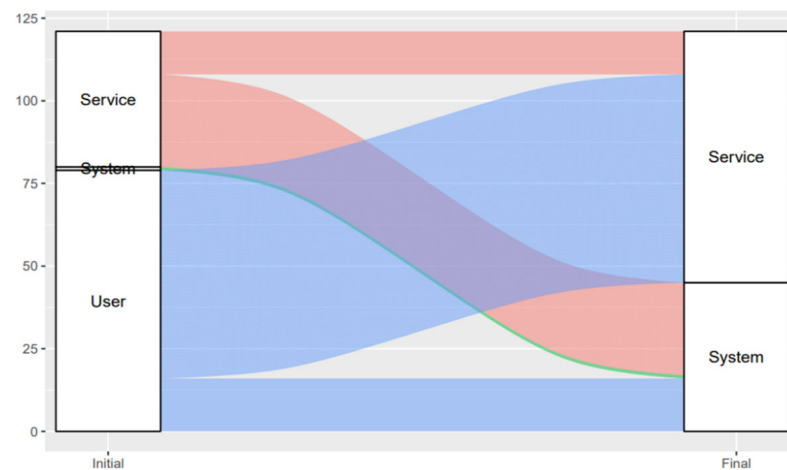


Figure 4. Transition from the initial to the final innovation level. The width of each flow represents the number of cases transitioning between innovation levels.

4.3. RQ3—Dominant Transition Patterns

RQ3 examines whether social innovations in social businesses typically transition from one type to another during the early stages. To test RQ3, all cases were divided into two groups, and Fisher's exact test was performed. The first group included cases that began as peripheral–user type innovations ($n = 64$), while the second group comprised all other cases ($n = 57$).

The results for the peripheral–user group were statistically significant (Fisher's exact test, $p = 1.29 \times 10^{-8}$). In most cases, there was a one-step increase (+1) in both pathway and innovation level, most often to the integrated–service type. This suggests a pattern of gradual, stable development (Figure 5).

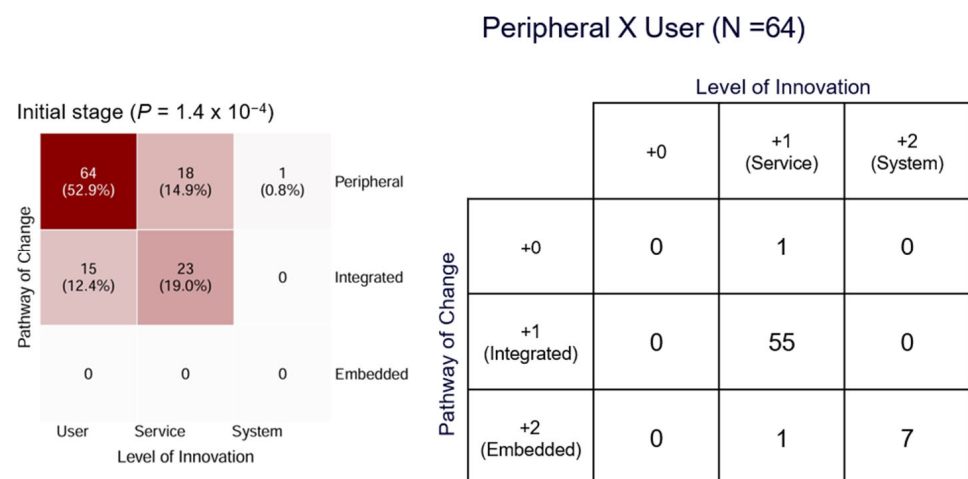


Figure 5. Transition matrix of the pathway of institutional change and the innovation level (peripheral–user group, $n = 64$). (Left) Initial distribution of cases. (Right) Transition matrix of shifts.

For the other group, Fisher's exact test was not statistically significant ($p = 0.887$). Among social businesses that did not begin as Peripheral–User Type, no single transition pattern was statistically significant. The transition matrix indicates that the most frequent movement was an upward shift in both pathway and innovation level, but this pattern lacked statistical significance (Figure 6).

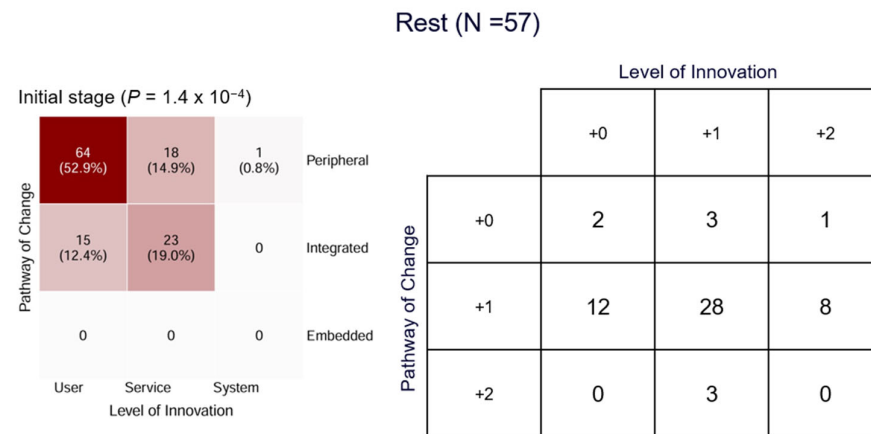


Figure 6. Transition matrix of the pathway of institutional change and the innovation level. (Rest group, $n = 57$). (Left) Initial distribution of cases. (Right) Transition matrix of shifts.

In summary, while social innovation that begins with the peripheral-user type most often progresses toward the integration-service type, other innovation types tend to transition along more diverse paths rather than following a consistent pattern. This contrast is illustrated in Figure 7's Sankey diagram which shows a more diverse range of transitions compared to Figure 4's diagram.

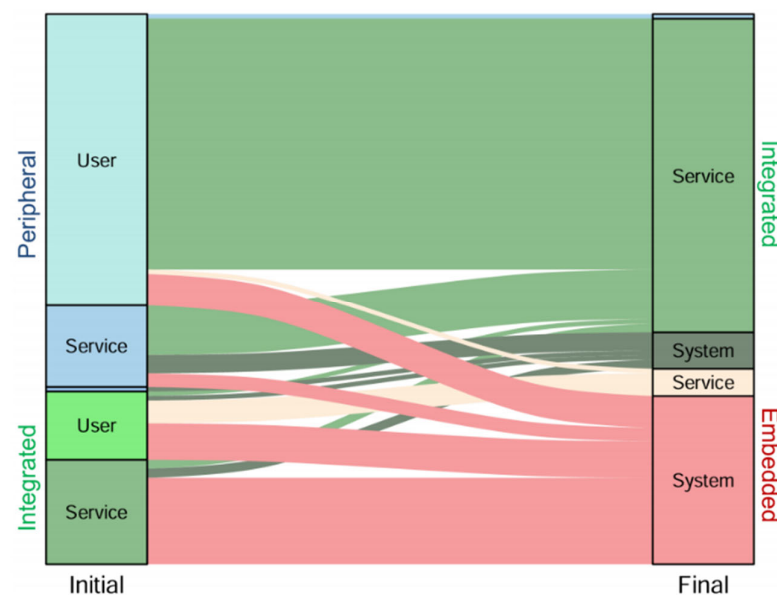


Figure 7. Transition patterns in social innovation (RQ3 results).

4.4. Summary of Key Findings

This study used a dual-axis framework to examine how social innovation emerges and develops. More than half of the cases (53.7%) began as peripheral-user types. This supports Hypothesis 1, demonstrating that many social innovations initially focus on individual capacity building and are pursued independently, regardless of existing systems. Subsequently, a significant number of cases developed toward closer integration with systems, and some cases progressed to a stage of institutionalization. Regarding the level of innovation, many innovations that started at the user level initially were later upgraded to the service level during their development process. Furthermore, innovations that began at the service level tended to develop toward the system level. These changes support the second hypothesis that social innovation is not a static phenomenon and that it ascends to higher levels as it progresses from its initial stages.

Looking at the most common patterns of change observed in the cases, peripheral-user types appeared frequently in the early stages and most of these transitioned to integrated-service types. A few cases also leaped from peripheral-user types to embedded-system types, though this was rare. These results indicate that some innovations can be institutionalized relatively quickly. Taken together, they suggest that social innovation generally begins peripherally, unconnected to institutions. Over time, however, it gradually becomes linked to and embedded within institutions. The level of innovation also tends to expand, progressing from individual to service, and in some cases, to systemic change.

5. Discussion

5.1. Overview of Key Findings

This paper proposed a framework classifying social innovation into nine types based on institutional change pathways and innovation levels. Using this analytical framework, it empirically analyzed 121 social business cases to examine the initial types of social innovation they induce and how these evolve over time.

The findings from this analysis can be summarized in three key points. First, most social innovations in their initial stages fell under the ‘peripheral–user type’. Over half of the cases began by targeting awareness changes and capacity building among individuals or small groups. This supports the existing argument [14,35] that social innovation typically starts small and experimentally outside the institutional sphere.

Second, social innovation demonstrated upward movement toward higher stages in both institutional change pathways and innovation levels. Pathways progressed from peripheral to integrated, with some advancing to the embedded stage. The level of innovation expanded from user-level to service-level, and some even reached the system stage. This pattern supports existing theories [14,20], that social innovation begins independently of institutions but gradually links with or becomes institutionalized, thereby broadening its pathway of institutional change, and that innovation is a dynamic, iterative process.

Third, the most common change in social innovation was the shift from the peripheral–user type to the integrated–service type. This indicates that many cases began as small-scale innovations targeting individuals but later evolved into service models, linked to institutions to provide services as part of the public sector. Some of these cases progressed to the embedded–system stage, resulting in implementation as a public institution and systemic change. This trend confirms existing discussions [11,24] explaining that social innovation is a process of gradual growth and ultimate integration into institutions.

5.2. Theoretical Implications

5.2.1. Social Innovation Dynamics

This study views social innovation as a process that changes and evolves over time and introduces a new analytical framework that reflects the evolving nature of social innovation. Previous studies tended to describe innovation as a new product or service [16,17] or focus on the single moment of its initial emergence [18]. Such approaches, however, do not adequately articulate how social innovation dynamically develops over time.

To deal with this limitation, this study typologized social innovation, presenting a conceptual framework that enables analysis of its developmental process from its initial stages. This analytical framework consists of two core elements of social innovation. First, as argued by scholars like Wesley et al. [14], it reflects the characteristic that social innovation initially emerges at the periphery of a society’s institutions, regardless of them, gradually integrates with those institutions, and ultimately develops into a form that is internalized within the institutions. Another component of this framework is the level of

social innovation, which reflects a multi-layered approach starting with individual change and subsequently expanding to organizations and systems [20].

The study applied this framework for analyzing the types of social innovation to actual case studies. Analysis of 121 social businesses operating in developing countries demonstrates that social innovation begins outside formal institutions at an individual level and progressively evolves to higher dimensions. This supports Wesley et al.'s [14] concept of innovation diffusion and institutionalization, as well as Cajaiba-Santana's [20] assertion that innovation evolves beyond the level of individual change. However, this study has the limitation of including only social businesses that continued operations after 2006 in its data. Organizations that disappeared or failed prior to this period were excluded from the analysis. Therefore, it is important to note that the results may be subject to the influence of 'survivorship bias.'

5.2.2. Institutional Embeddedness

This study empirically verifies the process by which innovation originates in peripheral areas and becomes embedded within institutions, intersecting with the MLP, core-periphery theory, and institutional entrepreneurship discourse. From an MLP, the peripheral-user type of social innovation presented in this study corresponds to attempting experimental changes at the niche level as described by Geels [24]. Here, a niche refers to a small space outside existing institutions, a space where innovative ideas are tested [24]. Subsequently, as these innovations gradually link with the system, they become integrated and internalized within it. This developmental trajectory mirrors the descriptions by Geels [24] and Geels and Schot [25], who explain that innovations originating in niches gradually diffuse to the regime level and are absorbed into the system. This growth pattern also connects to core-periphery theory [28,29]. According to this theory, social innovation starts at the periphery with small influence and scope, but as time passes, it becomes connected to the main networks and finally becomes part of the system. Cases that managed to move from the peripheral-user stage to the integrated-service stage were enabled by leadership, partnerships, and strategies. This is in line with Battilana, Leca, and Boxenbaum's [11] institutional entrepreneurship theory that prescribes the role of leaders and environment in shaping their environments.

5.2.3. Role of Context in Developing Countries

Contextual factors of developing countries are key to interpreting these research results. Structural factors included weak institutions, limited infrastructure, and resources as well as gaps in digital literacy and technology explains the dominance of the peripheral-user type at early stages [2]. For example, there are social businesses offering agricultural information via SMS to rural farmers who most probably do not own smartphones because first, there is low digital literacy and secondly, there is inadequate ability to use digital devices. This is important in developing economies where there is a significant digital gap. Similarly, social businesses offering small-scale microfinance services are necessary for smallholder farmers who do not have access to a bank. It enables them to acquire loans outside the formal market or institution. Then, such cases evolve into a form where the business becomes increasingly embedded within the society's systems, collaborating with the country's public sector and expanding its partners. This supports existing discussions that social innovation begins by empowering individuals and then develops by strengthening external networks and increasing resource utilization [23].

Therefore, the findings of this study support the perspective that, in the context of developing countries, social innovation often begins outside the system, focusing on individuals within constraints of institutions or resources. However, it is described as

a dynamic process where impact is expanded and growth is achieved by subsequently mobilizing resources and expanding networks.

5.3. Practical and Policy Implications

The findings of this study can be useful for both practitioners and policymakers working with social businesses. Indeed, many social businesses begin with small-scale efforts to help individuals improve their skills or confidence. These activities often take place outside formal systems and proceed without public sector support. Starting this way is common and, in many cases, essential. However, if the goal is to create broader and more lasting impact, practitioners should build more systematic service models while seeking collaboration with public agencies or other social organizations. Especially, looking at the growth stages of social innovation shows that integration with institutions becomes stronger. This means that by building social businesses in collaboration with public institutions, they can leverage their resources and reach a broader scope [55]. This fact also connects to policy implications, as it underscores the importance of an approach involving cooperation between government and businesses for social innovation to progress to its final stage: institutionalization within the mainstream system [56].

5.4. Critical Reflections and Limitations

This study contributes to the field of social innovation research by empirically clarifying that social innovation develops from its early stages to later stages. However, this study also identifies its limitations and explicitly states the need for alternative explanations.

5.4.1. Path Dependency and Structural Constraints

In some cases, social innovations did not move forward to the embedded-system stage. This was not solely because the innovations themselves were immature. Many were blocked by external conditions. Institutional barriers and limited market access often slowed down further development. These situations reflect what is known as “path dependency.” If rules or institutions are already strongly established, it takes longer for new ideas to gain acceptance and generally require more resources. Therefore, care must be taken not to view all cases of stagnation as mere stagnation. Rather, such cases should be understood in relation to the path-dependent nature of the environment and institutions.

5.4.2. Survivorship Bias

The dataset analyzed in this study includes only those social businesses operated by social innovators selected for the Ashoka Fellowship from 2006 to 2025 that are still operating successfully to date. While the Ashoka Fellowship selects social entrepreneurs who have already successfully created social innovation in the market, enterprises that failed to progress beyond the initial stage and disappeared by 2025, when the case analysis was conducted, were excluded from the sample. This ‘survivorship bias’ [57] may have led to an overestimation of the rate of upward transition from one type to another. Future research should include cases that failed or were abandoned midway to more accurately investigate the variation in outcomes when innovations succeed, stagnate, or disappear.

Furthermore, newly established social businesses may lack sufficient time to demonstrate upward diffusion, as they are still in their early stages. Therefore, this study explicitly states that this ‘survivorship bias’ [57] and the time lag effect of new cases may have led to an overestimation of the rate at which social innovations develop upward.

5.4.3. Limitation of Secondary Data Dependence and Data Bias

Limitations also arise from reliance on secondary data sources. Although the materials used (e.g., Ashoka profiles, international donor agency reports, media articles, and

interviews) are credible public sources, in some cases the records were not equally comprehensive at both the initial and final time points, which may have affected coding precision. Further, some meanings may have been simplified, or nuances lost, during the translation of multilingual materials into the languages used for analysis.

5.4.4. Economic Level as an Omitted Contextual Factor

Another limitation is that it has not taken into consideration the general economic development level of the countries in which social businesses are operating. Social innovation can take different patterns between low-income, middle-income, and high-income countries. Therefore, the general level of economic development in a country is a determinant of advancement in social innovation.

5.5. Future Research

Future research can be proposed as follows. First, panel data on social businesses should be secured for use in social innovation research. Such time-series panel data would enable a more detailed explanation of the processes by which social innovation develops, stagnates, and declines. Second, research is needed to identify the various factors influencing the development process of social innovation. This study differentiated how social innovation changes. Future studies should validate the causal effects of the factors that influence the process of change, like digital technology, partnerships, or policy environment. Third, future studies should compare countries at different economic levels. The comparison between countries at different income levels will specify how economic disparity influences the development path and degree of social innovation.

6. Conclusions

This study attempted to develop an analytical tool to analyze multi-faceted social innovation through literature review. This tool consisted of two pillars, namely the pathway of institutional change and the level of innovation. The pathway of institutional change has three stages, called peripheral, integrated, and embedded, and indicates how closely social innovation is linked to the institutions of society. The other axis, the level of innovation, comprises user, service, and system levels. From these two axes, this study formed a 3×3 matrix and thus proposed nine typologies of social innovation. This dual-axis framework can be considered an adequate instrument with which to analyze types of social innovation and their developmental patterns. Thus, this framework was used in this study to analyze 121 cases of social innovations derived from social businesses in developing countries so as to provide some empirical evidence for this theoretical concept.

Analysis of the cases revealed that the most prevalent type of early-stage social innovation was the peripheral-user type, inducing change at the user level from the periphery of the system. Moreover, the most frequently observed type of transition was from the peripheral-user type to the integrated-service wherein the innovation becomes partially integrated into the system and changes at the service level. What these findings suggest is that social innovations start at the user level, expand into services, and, in some cases, reach the system level. They move step by step into deeper forms of institutional integration. However, as previously stated, there are limitations in generalizing these results due to the possibility of survivorship bias.

This study implies that practitioners who plan or operate social businesses should work on strengthening institutional linkages to broaden their impact when pursuing changes at the service and system level-beyond individual focused approaches. For example, if a present business model teaches individuals and does not have any institutional ties,

to take it to the next level, it has to develop strategies for institutionalization by working more collaboratively with public agencies.

Though this study assumes that social innovation has a process-oriented nature of change, it does not probe into the drivers of change or the factors influencing it because they are outside the scope of this study. Future research should, therefore, be conducted in which panel data is collected at intervals during the evolution of social innovation to determine these growth factors and influencing variables. Countries with different economic levels must also be compared to see how differently formed social innovation spreads. Such follow-up research can identify the structural factors and environmental influences of social innovation that this study could not fully address, thereby contributing to a deeper understanding of social innovation.

Supplementary Materials: The supplementary data, including the coding book and dataset supporting this study, are available in Zenodo at <https://zenodo.org/records/16901521> (accessed on 7 October 2025).

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Conflicts of Interest: The author declares no conflicts of interest.

Appendix A

Table A1. Definitions and development stage of 3 × 3 typology matrix.

Typology	Description of Typology	Development Stage
Peripheral - User Innovation	- Outside existing institutions and market structures - Individual- or community-level interventions - Changing behavior, perception, and capabilities - Operating at the periphery, disconnected from policies - Positive but small-scale individual change - Improved access to information and basic skills - Short-term and temporary impact - Foundation for higher-level innovation	Stage: Early Since the focus of change is on the individual and activities take place outside institutional efforts, this results in strengthening individual capability rather than changing the system eventually. This type represents the initial stage of social innovation and can advance to the mid-stage (integrated) or late stage (embedded)
Peripheral - Service Innovation	- Developing new business models outside institutions - Peripheral market operations - Introducing new ways of solving social problems - Addressing gaps in existing service or delivery mechanism - Focusing on service delivery platform or business model level - Improving access, efficiency, and social impact - Remaining outside government policy or system - Not being part of institutional frameworks - Impact not at the level of the system or policy	Stage: Early & Middle This innovation can emerge at the early stage innovation phase. This is meant to test its marketability or propelled into a mid-stage phase through which gradual integration with institution is attained. It only affects local community levels or small markets but demonstrates a future possibility for ultimate integration with the institutional framework.
Peripheral - System Innovation	- Initiating schemes like local currency or microfinance - Lacking official recognition by institutions or policy - Aiming for system change without altering core operations - Duplicating some public institution functions - Operating informally outside formal systems - No impact on policy or institutional structures - Operating in the informal realm - Not influencing policy acceptance or institutional structures	Stage: Middle & Late At this stage, social businesses primarily emanate from early innovation and are linked to either institutions or markets. In some instances, the system becomes a necessary infrastructure at the local level, moving to the later stage of development.
Integrated - User Innovation	- Changing user behavior and enhancing capabilities - Becoming a part of existing programs or policies - Extending beyond temporary campaigns - Embedding in schools or public institutions for sustainability - Operating within existing systems - Promoting behavioral, cognitive, and capacity changes - Emerging at the early or middle stages of social business	Stage: Early & Middle Initially, such initiatives operate in partnership-less within existing systems, focusing solely on individual change. In the mid-stage, impacts gradually integrate with existing systems, expanding their scope.

Table A1. Cont.

Typology	Description of Typology	Development Stage
Integrated - Service Innovation	- Collaborating with governments or public institutions - Co-creation of new service models or operating systems - Embedding services into public systems - Redesigning existing service models without undergoing a complete structural overhaul - Introducing changes at the service-delivery level - Evolving from private-sector initiatives to public integration - Incorporating through government policies or programs - Enabling public-private collaboration for service delivery	Stage: Early, Middle, & Late This innovation can emerge at any stage of social business, most often beginning outside the system and then occurring in the middle stage. As its novelty begins to establish connections with systems, it can move on to the late stage in which novelty spreads its wings and scope.
Integrated - System Innovation	- Connecting partially with public policy, law, or formal institutions - Driving structural changes in operations or organizational structures - Extending beyond a single region, organization, or individual - Remaining limited in effect on the overall public system - Creating and managing new systems with institutional cooperation - Providing supplemental support to components of the formal system	Stage: Middle & Late This appears in the middle stage as partial linkages with policies or institutions take root, influencing the models or structures of operation. With demonstrated effectiveness, it receives institutional recognition evolving in the late stage into a supplemental but acknowledged part of a broader system increasing its structural impact and sustainability.
Embedded - User Innovation	- Developing individual capacity within public institutions - Ensuring continuity and periodicity inside formal systems - Going beyond time-bound private projects - Getting under public standards or policies - Strengthening the rights, accessibility, and status of disadvantaged groups - Creating new social norms - Initiated as private programs then formalized through partnerships and policies - Scaling programs to create permanent social impact	Stage: Middle & Late Such innovation emanates at the mid-stage when successful private initiatives start attracting public institutional support and later get formalized within the public systems as a guarantee of their future existence and ability to scale up. In the late stage, they become standard practice and wide-ranging social impact.
Embedded - Service Innovation	- Institutionalizing social business service models within public systems - Becoming a part of official public services - Evolving from private-sector models to public service standards - Incorporating into administrative manuals for sustained use - Developing gradually, not instantaneously - Accumulating results in markets and communities - Obtaining public sector recognition for system integration	Stage: Middle & Late This innovation usually develops in the middle stage. Once their effectiveness is understood, they attract public sector attention which then gets formalized as official public service standards. In the later stages, these models become part of the stable and scalable components of public services.
Embedded - System Innovation	- Embedding innovation within government policies, laws, or institutions - Driving decisive changes in core structures or operating principles - Creating new systems or orders beyond service or user levels - Altering the structure and principles of the broader system - Becoming part of national legislation or industry standards - Restructuring value chains and market rules - Achieving systemic change through official policies and laws	Stage: Late This innovation surfaces at the advanced stages of the social business resulting from considerable evidence of performance and validation of policy. Over a period, innovation upgrades from mere initial linkages to full institutional incorporation changing principles of operation, value chains, or even legislation.

Appendix B

Table A2. Coding variables, definitions, and examples.

Variable	Code & Definition	Application Criteria	Illustrative Example
Pathway of institutional change (initial/final)	Code 1 = Peripheral pathway Activities outside the institutional system operate autonomously without altering existing rules.	Initiatives not linked to public institutions, acting independently at margins.	<i>“At the age of 20, José began volunteering to support vulnerable families in rural areas, creating grassroots solutions driven by community needs.”</i>
	Code 2 = Integrated pathway Partly connected with the institutional system, aligning with existing institutions without being fully embedded.	Programs are typically co-developed with government agencies or adapted from existing institutional structures.	<i>“Over the past 20 years Marcelo has been evolving this platform, creating partnerships that link grassroots efforts to institutional frameworks for sustainable impact.”</i>
	Code 3 = Embedded pathway Institutionalized within the system, structurally absorbed into public or regulatory frameworks.	The program becomes part of a formal system or is adopted as policy.	<i>The organization continually works to promote specific legal regulation to change the status of sustainable development for rural areas to allow indigenous communities’ inclusion in disruptive and scalable industries, such as the energy and technology sectors, enabling them as business actors.”</i>
Innovation level (initial/final)	Code 1 = User level Focus on changing individual behavior, awareness, or capacity.	Training, education, or empowering individuals.	<i>“This model seeks to empower small coffee producers with knowledge and tools to improve their productivity and resilience.”</i>
	Code 2 = Service level Organizational or business model innovation delivering new services.	Introducing a platform, product, or new delivery mechanism.	<i>“They developed structured programs and partnerships that provide scalable services to communities, from technical training to market access.”</i>
	Code 3 = System level Innovation reshaping systems, markets, or institutional logics.	Establishing new value chains, financial systems, or ecosystem-wide models.	<i>“Through its collaborative platform, it is shaping systemic solutions in the Amazon, integrating value chains and influencing markets and policies.”</i>

Reliability notes: Sub-sample: 61 cases (50.41% of 121), independently coded by two coders. Cohen’s κ (mean) = 0.774, interpreted as substantial agreement [52]. Disagreements were resolved by discussion; consensus was added to the manual before using it to code the remaining.

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