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The Social Impact Value Chain and Driving Factors of the Social Innovation Project to Promote the Social Solidarity Economy: A Study in the Pilot Area of Central Thailand

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Abstract

In this study the social impact value chain (SIVC) is utilized as a framework to portray and evaluate processes in social projects from their inception to completion. Focus centers on the overall process of 9 social innovation projects in a pilot area located in central Thailand. The objective is to answer research questions concerning how the components of the SIVC of these social innovation project's function, and what factors drive them towards promoting a social solidarity economy. Data were collected from documents and in-depth interviews with key informants, including 9 project leaders and 27 beneficiaries, yielding 36 participants. The results of the SIVC analysis revealed 5 dimensions that significantly influenced the outcomes of the social innovation projects and their transformative effects at the initial stages: 1) health and safety; 2) income generation; 3) capacity building and community empowerment; 4) local cultural preservation; and 5) pollution reduction and environmental friendliness. These dimensions reflect the social impact in terms of social, economic, environmental, and cultural aspects. Additionally, the research findings indicate that there are important driving factors for social innovation projects to create a social solidarity economy, including psychological ownership, which includes: 1) ethical consciousness; 2) participation in investment and expenses; and 3) participation in developing of human-centered innovations. Businesses and organizations interested in social innovation should prioritize and implement these factors to create sustainable social impacts.

Keywords

Social Innovation, Social Impact Value Chain, Social Solidarity Economy

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Introduction

Currently, all sectors of society are beginning to take an interest in conducting operations using social innovation concepts, especially among entrepreneurs who use social innovation to elevate economic value while addressing social and environmental issues through the implementation of social innovation projects that increasingly respond to the needs and concerns of stakeholders (Portales, 2019). These often necessitate utilizing resources from various sectors, including government, private enterprises, and civil society, such as budget allocations, knowledge assets, and human resources. Additionally, once these projects are put into practice over a period, it becomes imperative to conduct assessments to evaluate the progress of the projects. The evaluation is essential to provide project implementers, stakeholders, budget supporters, and other relevant parties with insights into the successes or potential setbacks that may occur during project implementation. This feedback is a crucial aspect, as it offers valuable information for refining and enhancing project efficiency, as well as contributing to the success of related country policies.

Thailand has established national development policies based on its 13th National Economic and Social Development Plan (2023-2027). This plan sets objectives to transform the structure of production and services towards an innovation-based economy. It aims to utilize innovation, technology, and creativity to develop local economies and small-scale entrepreneurs within the value chain of production and services (NESDC, 2023). The National Innovation Agency (NIA) was an organization responsible for managing funds allocated from the National Science, Research and Innovation Fund (NSRF) for FY 2022. Its primary mission is to elevate innovation skills and capabilities for targeted groups by supporting mechanisms that develop innovative businesses beneficial to the public and local communities. The agency places significant emphasis on developing social innovation through the Social Innovation Driving Unit mechanism. (National Innovation Agency, 2020). Puey Ungphakorn School of Development Studies, Thammasat University, was appointed by the NIA as the "Social Innovation Driving Unit of Central Thailand". The primary objective of this unit is to enhance the capabilities of entrepreneurs interested in addressing societal issues and promoting social development through new products, services, or processes. The main role of the Social Innovation Driving Unit of Central Thailand is to cultivate knowledge related to social innovation for entrepreneurs or organizations. The unit carries out processes to select social innovation projects proposed by entrepreneurs or organizations with the potential to receive budgetary support and knowledge through the consultation system. This process enables the development of social innovations that address the needs of target groups and society, ultimately leading to socially equitable and

sustainable solutions aligned with the Sustainable Development Goals (SDGs) and the 13th National Economic and Social Development Plan (2023-2027) (NESDC, 2023).

From the operations of the Social Innovation Driving Unit of Central Thailand FY 2022, there were 12 social innovation projects supported by budget allocations. For this research, 9 specific and focused analytical projects were selected. These projects fall into 3 categories: people and cities (4 projects), environment (2 projects), and agriculture, food, and food processing (3 projects). These social innovation projects were experimented and piloted in 9 designated areas from May 2022 to April 2023. The results from implementing these social innovation projects in the pilot areas show they have effectively addressed the identified problems. They demonstrate the development of innovations based on the active participation of those directly affected, including problem owners who receive positive benefits from these initiatives. Additionally, they showcase initial positive effects on the target groups in various social dimensions besides the economic benefits, such as improved quality of life, increased supplementary income, social inclusion, and sustainable environmental solutions. In sum, the 9 social innovation projects conducted by community enterprises, social enterprises, and limited companies have exemplified a working process that positively impacts society. They also align with the concept of the Social Solidarity Economy (SSE), emphasizing organizations with specific characteristics that produce goods and services to address social issues with new knowledge and a human-centered development approach. These projects create equitable and resilient communities (International Labour Organization, 2019).

To illustrate the social impact pathway that the 9 social innovation projects have created transformative changes and values for the target groups and communities in the initial phase, this research aims to analyze the components of the social impact value chain (SIVC) of the social innovation projects and study the driving factors behind the projects to build the SSE. The scope of the study focuses on the pilot areas in the central region of Thailand. The recommendations from this study will be beneficial for the development and promotion of the social innovation process for community enterprises, social enterprises, and limited companies, resulting in sustainable benefits for both communities and businesses. Furthermore, it will contribute to enhancing the effectiveness of the Social Innovation Driving Unit of Central Thailand in the coming years.

Literature Review

Social Innovation

The word "innovation" comes from the Latin root "innovare," which means "to make something new happen." Over the past few decades, the term "innovation" has been widely used and defined by numerous scholars, generally with a consistent meaning. For instance,

Luecke and Katz (2003) explain that innovation refers to creating new ways of doing things by collecting, combining, or synthesizing knowledge into valuable products, processes, or services. Similarly, Smith (2010) defines innovation as an invention introduced to the market for commercial purposes, leading to distribution and acceptance in society. Additionally, Schilling and Kluge (2008) have summarized the important components of innovation as follows: 1) novelty, 2) economic benefits - both monetary and non-monetary, and 3) the use of knowledge and creative ideas.

Regarding the types of innovation, there are various classifications depending on the criteria and objectives of the categorization. Schilling and Kluge (2008) categorize innovation types according to the goals of innovation and explain that they can be divided into 2 types: (1) Product Innovation: This refers to new products or services that meet the needs of consumers or the market. It involves creating new forms of goods or services; and (2) Process Innovation: This involves the application of new ideas or methods in the production or service processes to improve efficiency and effectiveness in operations.

Social innovation has gained significant importance as a tool for problem-solving and social development. This concept harnesses the benefits of innovation to elevate the quality of life, alleviate poverty, and address social challenges in a sustainable development context. Social innovation has been increasingly discussed worldwide in the past decade. Data from the Scopus online database covering the period from 2010 to 2020 revealed that "social innovation" appeared in 25,014 academic peer-reviewed articles, compared to approximately 2,153 mentions from 1990 to 1999 (Satalkina & Steiner, 2022). From various academic perspectives, the definition of social innovation can be described as the creative inception of new things, such as products, services, organizational structures, or activities, as novel approaches that respond to societal needs. It fosters social relationships and effectively solves social problems, ultimately leading to positive and sustainable behavioral and societal changes (Moulaert et al., 2013; Hölsgens, 2016).

Therefore, social innovation involves the creative development of new products as goods or services, as well as new processes or methods that arise from applying innovative ideas in the social dimension. Its objective is to generate positive impacts in problem-solving and societal development across various dimensions, including income, health, education, and access to government services and welfare.

Social Solidarity Economy (SSE)

The concept of the SSE has gained interest and expanded globally. The interpretation or definition of this concept may vary in different countries. According to the UNTFSSE (2014), the SSE principles and practices involve organizations or businesses creating an economic system that is fair and includes participation and solidarity among workers, producers, and consumers. It aims to promote democracy within the workplace and

enables organizations to manage themselves. The SSE often operates in cooperatives, associations, community enterprises, and social enterprises. This aligns with the definitions provided by OECD (2018) and the International Labour Organization (2019) emphasizing SSE's focus on organizational practices that address social and environmental issues. Examples of such organizations include community-based enterprises, cooperatives, associations, foundations, and social enterprises, which have distinctive characteristics in producing goods and services using modern knowledge. They are guided by principles of shared benefits and participation from all parties, a common purpose, and democratic processes within the organization. In essence, these businesses strive for sustainable profitability while building strong communities and societies.

The International Labour Organization (2022) has presented the characteristics of SSE Organizations and Enterprises (SSEOEs) in the report "Advancing the 2030 Agenda through the Social and Solidarity Economy." It consists of 4 components: 1) Economically: Refers to the role of organizations or enterprises in facilitating income and fair access to wages for the workforce in communities. They promote and develop the local and community economies, foster business incubation for alternative production of goods and services that meet market and social demands and create sustainable economic activities; 2) Socially: Involves the mission of organizations or enterprises in addressing problems faced by target groups in the community or locality where the business is established. For example, aiding with alleviating poverty, expanding social protection, building trust and cohesion in the community, and more; 3) Environmentally: Encompasses the role of organizations or enterprises in promoting sustainable production and consumption practices through activities and innovative developments that contribute to the conservation, restoration, or management of natural resources. They adopt environmentally friendly practices and standards in their operations; and 4) Culturally and Philosophically: Signifies the importance given by organizations or enterprises to the roles of ethics, justice, and democratic principles. They promote cultural diversity and value various cultural aspects.

In sum, the concept of SSE is a new framework that describes organizing production and distributing benefits based on principles of cooperation, mutual assistance among members, and democratic decision-making. Implementing SSE can have a positive impact on creating an inclusive society that drives sustainability and social justice forward.

Theory of Change (ToC)

The ToC originates from theory-driven evaluation (Chen, 1990; Chen, 1996; Coryn et al., 2011), which gained popularity in the 1990s. It has evolved into a tool used for assessing and studying the pathways leading to the impacts or objectives of a project. It explains the connections between inputs, activities, outputs, outcomes, and impacts. The ToC framework reveals that to progress towards the set objectives, there must be

specific processes or activities that lead to significant short-term outcomes and plausible causal relationships that can truly bring about long-term impacts. Social scientists have defined 2 forms of change: 1) Outcome-focused change, which emphasizes the significance of project outputs. 2) Process-focused change, which views change as a continuous sequence of outcomes resulting from project outputs, with the ultimate goal being the intended project impact (Brest, 2010; Brow, 2020).

Brow (2020) has categorized the ToC into 4 types, as follows: 1) Articulating Goals: This type defines a proposal and focuses on outcome-oriented changes; 2) Demonstrating Feasibility: This type relies on well-supported theoretical definitions and emphasizes outcome-focused changes; 3) Identifying Best Practices: This type aims to evaluate the effectiveness of project implementation and design processes that maximize positive outcomes; and 4) Presenting the Logic Model: This type emphasizes process-focused changes to create a Logic Model, which is another tool for expanding the ToC. It highlights the cause-and-effect relationships between each activity and the resulting outputs and changes. It has been mentioned that a ToC provides a broad overview of a project's operations concerning stakeholders and beneficiaries. It depicts the pathways of change resulting from project implementation, explaining what changes occur, how they happen, and to what extent. This is represented in the Logic Model, which serves as a framework for project implementers and stakeholders (Allen, Cruz, & Warburton, 2017). In other words, the ToC answers questions such as "What value does the project bring to society?" or "If the project did not exist, would the intended social impact still occur?" Typically, the ToC is presented in conditional or logical sentences, such as "If program A with specified inputs and activities is implemented, it will lead to these outcomes, and utilizing these outcomes will result in the intended impact " (Epstein & Yuthas, 2014).

From the ToC mentioned above, it can be observed that the first part consists of causal statements, which indicate the inputs, activities, and outputs that will result from the project. The second part consists of effect statements, which demonstrate the intended outcomes of the project. These outcomes should reflect the "change" expected or believed to occur within the specified timeframe.

Logic Model

The Logic Model is an evaluation that emphasizes the use of information to make systematic decisions and illustrates the process leading to the achievement of project objectives rationally. It involves presenting images or text to demonstrate the interrelationships between input factors or resources, activities or processes, outputs, outcomes, and the impact of programs or projects, which may be subject to changes. The Logic Model enhances the completeness of the planned transformation theory. By defining the transformation theory, it explains the expected outcomes and impacts

resulting from project implementation. However, the Logic Model helps expand the understanding of project implementers to know how to proceed with activities starting from identifying input factors, through activities, and creating outputs. Only then can the desired outcomes be achieved, and the impact of the project can be realized. The Logic Model can also be referred to as an impact chain of reasoning or if-then statements which connect the project's parts. It consists of 2 main sections divided into 5 steps: Section 1: Your Planned Work: Step 1: Inputs include the necessary project resources such as personnel, budget, organizations, and community resources that the project needs to operate according to the plan; Step 2: Activities involve crucial processes and actions that lead to the intended changes or expected outcomes of the project. Section 2: Your Intended Results: Step 3: Outputs are the direct results of activities in the project; Step 4: Outcomes are the changes that occur to the project's beneficiaries in terms of behavior, knowledge, skills, status, and level of functioning. The short-term outcomes are expected to happen within 1-3 years, while the long-term outcomes should occur within 4-6 years; and Step 5: Impact refers to the expected or unexpected changes resulting from the project. The anticipated short-term and long-term impacts should be observable within approximately 7-10 years (W.K. Kellogg Foundation, 2004; Epstein & Yuthas, 2014).

Social Impact Value Chain (SIVC)

The analysis of the SIVC follows the principles referenced from the crucial components of the Logic Model. This involves distributing and specifying the details of inputs/resources and applying the 4M framework (Man, Money & Material, Method, and Machine) in the production process for the study. It includes identifying activities or main process steps to make the planned transformation theory a reality. Subsequently, the outputs are defined as tangible and measurable products that can reflect the potential for creating social outcomes. Therefore, in the context of outputs, indicators of the project must be established to enable the project to produce outcomes, which are changes in the beneficiaries' behavior, knowledge, skills, status, or level of functioning that align with the set goals. The expected outcomes should occur within 1-3 years, while the social impact refers to the anticipated or unexpected changes resulting from the project's outputs (Epstein & Yuthas, 2014). Therefore, the SIVC will be presented in the form of a social impact pathway, which links the events that occur from the beginning of the project to the ultimate target event. Additionally, it demonstrates the relationships between relevant organizations and all beneficiaries of the project expected to benefit from it. The analysis of the impact chain involves the following steps: 1) Reviewing project documents and interviewing project leaders to gather fundamental data, including inputs, activities, and outputs that occur throughout the project. Also, studying information related to the problems and obstacles encountered during project implementation, along with beneficial suggestions for project progress. 2) Conducting

in-depth interviews or focus group discussions with beneficiaries of the project's outputs to gather data on the results that reflect changes in social, economic, and environmental dimensions; and 3) Analyzing the SIVC by categorizing and sequencing essential data into the social impact pathway.

Therefore, in this study, we utilize the concept of social innovation, which discusses the characteristics and types of social innovation, to examine all 9 social innovation projects and apply the ToC, which presents the pathways of change resulting from project implementation. This is done according to the components of the Logic Model, which include inputs, activities, outputs, outcomes, and impacts resulting from project implementation. These are analyzed to study the overall SIVC of the social innovation projects. Additionally, we also apply the concept of SSE, which discusses the roles and important features of organizations or businesses that aim to create a fair economic, social, and environmental system. It comprises dimensions of economic operations, social operations, environmental operations, and cultural operations as a framework to study the driving factors of the social innovation projects aimed at creating the SSE. The research results will be beneficial for future applications in the development of social innovation projects.

Conceptual Framework

From the literature review, we applied the ToC and the concept of SIVC, referencing essential components of the Logic Model and the SSE approach, to establish the framework for analyzing the social impact pathway for social innovation projects, as depicted in Figure 1. In this study, we set objectives to investigate the comprehensive implementation of all 9 social innovation projects in a broad format using the conditional sentence format to create assumptions for predicting the pathways of change for the expected outcomes and social impacts.

This study assumes that if there are 9 social innovation projects that utilize resources such as human capital, budget, knowledge, materials, equipment, and conduct activities based on the plans, with the active participation of stakeholders, it will enable the projects to develop social innovations that address the problems and needs of the target groups or beneficiaries. As a result, the target groups in each area will experience behavioral changes and an improved, sustainable supplementary income. This will help reduce inequality, environmental issues, and enhance the quality of life, creating stronger and more resilient communities. Furthermore, sustainable income generation from the sales of new products and services by businesses will be achieved.

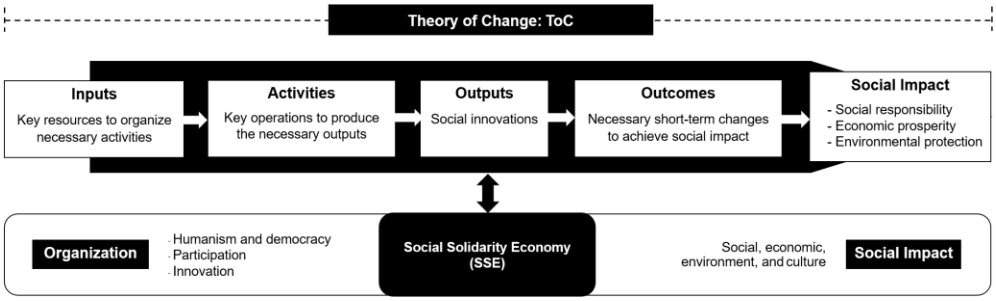

Figure 1 Conceptual Framework

Source: By authors

Methodology

Research Design

The analysis of the SIVC of social innovation projects under the SSE approach in the pilot areas is a comprehensive study of the pathways leading to the impacts of social innovation projects initiated by entrepreneurs who received knowledge and budget support from the Social Innovation Driving Unit of Central Thailand in FY 2022. We selected specific and targeted projects as analytical units for the research objectives, resulting in 9 projects. The details are presented in Figure 2.

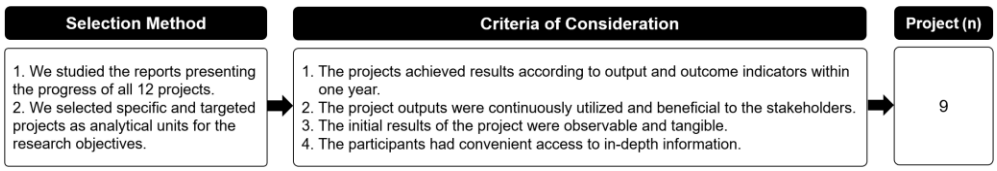

Figure 2 Project Selection

Source: By authors

This study utilizes analyzing the SIVC, referencing important components of the Logic Model, and applying the concept of the SSE as a collaborative framework to investigate the project implementation process from inception to completion. Additionally, the study examines the driving factors behind social innovation projects promoting the SSE.

Research Participants

The selection of key informants was done using purposive sampling based on the following criteria: 1) They are directly involved stakeholders of the project; 2) They possess detailed knowledge of the project and have been actively engaged in it from the beginning, staying updated with project information; 3) They have convenient access to in-depth information; and 4) They willingly and enthusiastically collaborate in providing data. For the

research, the main data providers consisted of 9 project leaders, and the target beneficiary group of the social innovation projects in the pilot area comprised of 3 individuals per project. This number is sufficient to obtain comprehensive data in line with the research objectives. In total, there were 36 key informants.

Data Collection

The data collection for this research took place from May to June 2023. The data were collected by conducting document reviews of reports on the progress of 9 social innovation projects carried out by entrepreneurs. The content scope included the project's background and significance, the process of social innovation development, success indicators of the project, project outcomes, and social impacts of the project. Additionally, the data collection included information on the challenges and success factors of the projects. Moreover, primary data was gathered through in-depth interviews with key informants, including project leaders and target beneficiaries who had benefited from the social innovation projects in the pilot areas across all 9 areas. The in-depth interviews were conducted using a semi-structured interview guide with questions about the components of the SIVC of the social innovation projects and factors that drive the projects towards promoting a social solidarity economy.

Data Analysis

The data analysis is based on the descriptive phenomenology approach (Photisita, 2019) and consists of 7 key study areas: 1) General characteristics of social innovation projects carried out by entrepreneurs; 2) Roles and benefits related to the projects for stakeholders; 3) Project processes from inception to completion, following the analysis framework of the social impact pathway, referencing the key components of the Logic Model; 4) Social impacts, analyzing changes in attitudes, knowledge, skills, and behaviors of stakeholders; 5) Economic impacts, analyzing changes in economic value as a financial proxy or direct value; 6) Environmental impacts, analyzing changes in quantity and quality of observed and measured environmental resources; and 7) Drivers of social innovation projects, analyzing and synthesizing success factors supporting social innovation projects to promote the SSE.

After collecting all data, content analysis was conducted to categorize significant content according to the analysis framework of the social impact pathway. The research results were then presented as an overview of all 9 projects.

Analysis of the Overall Social Impact Value Chain of the Project

This research involves analyzing the key components of the Logic Model, including inputs, important activities and processes, outputs, and expected short-term outcomes within

one year. Additionally, the analysis includes the assessment of social impact, which refers to the anticipated changes in the future. The detailed results are as follows:

Inputs

For supporting and driving the development of social innovation projects that align with the problems and needs of the pilot area, it is essential to consider 5 crucial factors as follows: 1) Human resources: This includes project leaders, consultants, or experts, team members involved in project development, and stakeholders who directly or indirectly benefit from the project, such as community enterprise members, local residents, customers, tourists, small-scale traders, and relevant personnel and organizations within the area, such as educational institutions, local authorities, and government agencies; 2) Budget: The budget comes from the support provided by the Social Innovation Driving Unit of Central Thailand, not exceeding 300,000 Baht per project. Additionally, there are contributions from entrepreneurs and communities within the pilot area, which may be in the form of monetary support or in-kind contributions, such as investments in meeting venues or organizing activities, as well as investments in materials or resources for innovation development; 3) Materials or Resources: Depending on each project, there are specific materials or resources used for social innovation development; 4) Knowledge and Methodology: Knowledge includes expertise in product and service design, marketing communication, food research and development, electrical engineering, mechanical engineering, computer science, community history, cultural data, and local wisdom; and 5) Tools and Machinery: Relevant tools and machinery are essential for the development of social innovations. The study considers these 5 factors to ensure the effective and sustainable development of social innovation projects that address the specific problems and requirements of the pilot area.

Activities

The key process that drives the development of social innovation involves using a design thinking approach as a framework for innovation development. This approach was used across all 9 projects. The overview of the important steps and activities in this process can be summarized in 9 stages: 1) Studying the problems and needs of stakeholders in the pilot area; 2) Conducting meetings to present project details and gather feedback from stakeholders in the pilot area; 3) Gathering input and involving stakeholders in the co-design of social innovations that address the problems and needs of the target groups; 4) Managing budgets and procuring materials and equipment for innovation production; 5) Providing training on innovation usage for community enterprise members and target groups in the projects; 6)Testing and implementing the innovations with target groups in the pilot area; 7) Collecting data, testing effectiveness, and monitoring the outcomes and benefits of the innovations in the 9 pilot areas; 8) Using feedback from stakeholders to improve and

enhance the efficiency of the innovation; and 9) Organizing promotional activities to create networks and marketing events to launch new products and services resulting from the social innovation projects.

Outputs

From the study's results, it was found that all projects could achieve their output targets quantitatively. These outputs can be categorized into 3 types of social innovations as follows: 1) Innovations related to people and cities**:** Consisting of 4 innovations, namely: (1) Automated Hydroxyl Radical Disinfection Fumigation System for Ambulance, 2 units; (2) Community Cultural Data Set, 1 data set, and 4 new tourism routes in the community; (3) Model for Forest Elephant Monitoring and Management, 1 model, and Community-based Conservation Tourism Development Plan in alignment with the local development plan, 1 plan; and (4) Eco-print Fabric Products, 20 products; 2) Innovations related to the environment: Comprising of 2 innovations: (1) Solar-powered Electric Boats for Community Tourism, 3 boats; (2) Online Clothing Repair and Upcycling Fashion Product Manufacturing Service, 1 service model; 3) Innovations related to agriculture, food and food processing: Comprising of 3 innovations: (1) Vegetable Jelly Product, 1 product; (2) Seaweed Spirulina Skin Scrub Product, 3 products; and (3) NIR Technology to Check the Quality of Durian Meat, 2 machines. The details are presented in Figure 3.

Code	Social Innovation Project	Type of Organization	Type of Innovation	Code of the Pilot Area
People and Cities				
SID-01	Automated hydroxyl radical disinfection fumigation system for ambulance	LC	PDI	A1-BKK [Bangkok]
SID-02	Cultural data collection to enhance the potential in creating community-based tourism routes	SE	PCI	A2-BKK [Bangkok]
SID-03	Strengthening the monitoring system for managing wild elephants and community-based tourism	CE	PCI	B-CTI [Chanthaburi]
SID-04	Eco-print fabric	CE	PDI	C-TRT [Trat]
Environment				
SID-05	Solar-powered electric boats for community-based tourism	CE	PDI	D-SPB [Suphanburi]
SID-06	Online clothing repair and customization services, and fashion product manufacturing from recycled materials	SE	PCI	A3-BKK [Bangkok]
Agriculture, food, and food processing				
SID-07	Vegetable jelly	CE	PDI	E-KRI [Kanchanaburi]
SID-08	Skincare products made from spirulina seaweed	CE	PDI	F-CBI [Chonburi]
SID-09	NIR technology to check the quality of durian Meat	LC	PDI	A4-BKK [Bangkok]
Note: PDI stands for Product Innovation, PCI stands for Process Innovation. CE refers to Community Enterprise, SE refers to Social Enterprise, LC refers to Limited Company.				

Figure 3 Details of Social Innovation Projects, Totaling 9 Projects

Source: By authors

Outcomes

By applying social innovations, 9 innovations were tested and benefited target user groups in pilot areas across 9 different areas. This led to various positive changes in behavior, accessibility to innovations, satisfaction, safety, income, and production costs. It also led to reduced operational time, reflecting efficiency and effectiveness. Furthermore, it highlighted the benefits of social innovations in improving quality of life and uplifting a

community's economy, as hypothesized in this study. These results were evident in the initial phase, effectively addressing the needs and requirements of the target user groups, benefiting 1,002 individuals, as detailed in Figure 4.

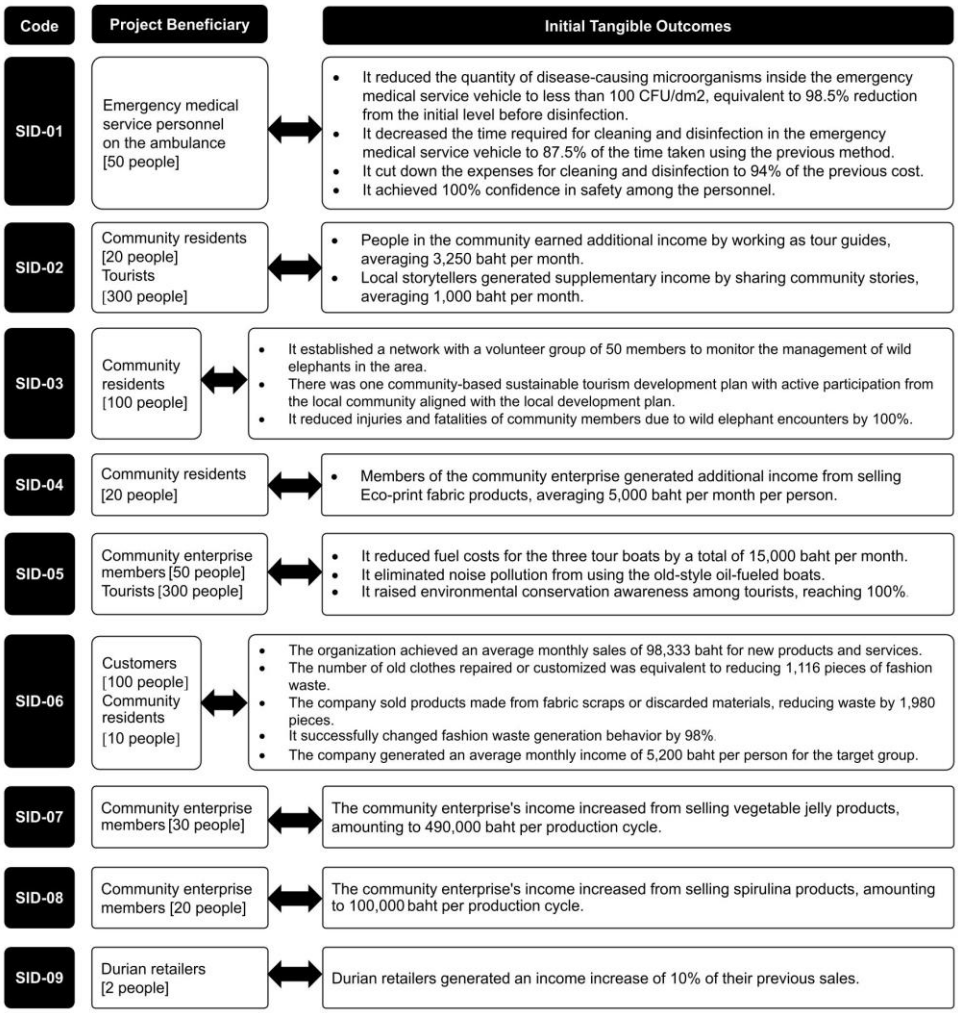

Figure 4 Initial Results from Piloting the Innovations for Practical Benefits in Selected Areas

Source: By authors

Social Impact

The social impact of the 9 social innovation projects can be summarized by explaining the changes resulting from the initial outcomes. This analysis is based on data from the results, combined with feedback from stakeholders who have been impacted by the changes created for themselves and society. The study utilizes the Triple Bottom Line

(Elkington, 1997) to examine the impact in 3 dimensions of sustainable development, namely:

1) Social: From the analysis conducted to study the social impact of the 9 social innovation projects, it was found that these projects have created value in human and social development, including: (1) Creating awareness and promoting behaviors that reduce social and environmental impacts, such as supporting the use of clean energy and reducing fashion waste; (2) Target groups are motivated, inspired, and see value in themselves; (3) Reducing inequality in accessing knowledge and developing vocational skills, leading to lifelong learning and accessing fair income sources for people in the communities; (4) Target groups have improved quality of life, safety in daily life, and work environments; (5) Communities are self-reliant, have networks for learning and cooperation, and foster partnerships among the government, private sector, and civil society to drive sustainable development; and (6) Communities preserve and adapt cultural heritage to the current era.

2) Economic: From the study, it was found that the social innovation projects in the pilot area of the 9 projects created economic value, including: (1) Continuous economic growth was stimulated by distributing appropriate income to target groups and community cooperative members, leading to significant increases in their supplementary income. (2) Reducing work processes and time resulted in cost savings and increased efficiency in operations. (3) Sustainable development of innovative businesses was fostered, as prototype innovations could be further developed into commercial products and services, generating revenue for the businesses; and (4) Value creation and added value were generated throughout the value chain, from upstream to downstream, in line with the principles of the BCG Economy (Bio-Circular-Green Economy).

3) Environment: From the study, it was found that the social innovation projects in the pilot area of the 9 projects created environmental value, including: (1) Communities gained access to sustainable and environmentally friendly energy sources, leading to a reduction in greenhouse gas emissions, air pollutants, and noise pollution, contributing to mitigating the effects of climate change; (2) Waste and by-products from the production processes were given added value, effectively reducing the amount of waste disposed of in the environment; and (3) The environment and ecosystems in the community and society were balanced, leading to the conservation of forests and wildlife, as well as the protection of natural resources and climate conditions for future generations.

Changes in the Perspective of Stakeholders

The study's result on the opinions of key stakeholders, both beneficiaries and users of the social innovation projects in all 9 initiatives, reflected 5 dimensions of changes and values that occurred for themselves and society. The summarized dimensions are as follows:

Dimension 1 Health and Safety

The study results revealed that the social innovation projects that stood out in creating value in terms of safety and health dimensions are as follows: 1) SID-01: From the perspective of the beneficiaries, it was noted that there is confidence in the effectiveness of the automatic disinfection system on emergency medical service vehicles. The system can rapidly kill germs on surfaces and in the air, reducing steps and time in the cleaning process and lowering the risk of infections during cleaning. Additionally, it helps reduce expenses related to disinfection, creating a safer working environment for personnel and motivating them in their duties. 2) SID-03: From the viewpoint of beneficiaries, the monitoring and management system for wild elephants helps reduce agricultural losses caused by elephants encroaching on farmland. Moreover, it prevents injuries and fatalities of community members resulting from encounters with wild elephants in the area.

Dimension 2 Income Generation

The study findings revealed that the social innovation projects that increased income were SID-02, SID-04, SID-05, SID-06, SID-07, SID-08, and SID-09. From the beneficiaries' perspective, all these projects have improved the quality of life for the villagers, providing them with more opportunities to generate additional income. Both community members and community enterprise members received fair compensation, which helped alleviate family expenses and instilled a sense of pride and acceptance in their community. Additionally, from the perspective of project leaders across all 9 initiatives, they agreed that the social innovation projects have added value to local resources and products, resulting in higher prices and increased income and profits for their organizations or businesses.

Dimension 3 Capacity Building and Community Empowerment

The study found that the social innovation projects that excelled in developing and promoting community capacity are as follows: 1) SID-02: From the beneficiaries' perspective, it was evident that people in the community developed their skills and confidence in presenting and communicating community stories. This led to increased participation in community tourism activities among people of all ages, including children, youth, and older people. Consequently, community members felt more connected and attached to their community, reducing the generation gap. 2) SID-03: From the viewpoint of the beneficiaries, the project contributed to the development of leadership skills among community leaders and villagers in managing issues in the area using new knowledge and modern technology. The involvement of community members in voluntary efforts to monitor and manage wild elephants improved relationships between community members; and 3) SID-08: According to the beneficiaries, the project provided opportunities for community enterprise members to learn how to increase the value of local plants. They received training in producing skincare

products using local plant ingredients, leading to collaboration in pushing the products to the market. This fostered a sense of close-knit camaraderie within the community and created a support network for developing community products from educational institutions and state enterprises engaged in CSR activities.

Dimension 4 Local Cultural Conservation

The study found that the social innovation projects that excelled in conserving local culture are as follows: 1) SID-02: From the beneficiaries' perspective, the project successfully promoted the collection of historical data, including hundreds of stories from elderly community members. This led to the creation of the first-ever community historical database, encompassing information on traditional customs, food, ancient desserts, important places, local wisdom, and significant community figures. This initiative can be considered as rejuvenating, preserving, and adding value to the community's treasures through modern communication in the development of community-based tourism; and 2) SID-05: According to the beneficiaries' viewpoint, the innovation of solar-powered tour boats represents an integration of clean technology with the contemporary era and aligns with the country's development direction. This project preserved the riverside way of life while promoting eco-friendly water tourism that does not disturb the environment or cause discomfort for riverside residents. This approach helps maintain the community's unique identity.

Dimension 5 Pollution Reduction and Environment Friendliness

The study found that the social innovation projects that excelled in reducing pollution and being environmentally friendly are as follows: 1) SID-03: From the beneficiaries' perspective, the project successfully contributed to conserving natural resources and wildlife. It reduced damage to farmers' fruit gardens caused by wild elephants and minimized injuries and fatalities resulting from encounters with wild elephants in the area; 2) SID-05: According to the beneficiaries' viewpoint, the innovation of solar-powered boats helped eliminate noise pollution and reduced the release of odors and smoke into the air, which are contributing factors to global warming. This initiative promoted a green economy that addresses pollution issues and decreased expenses from expensive fuel; and 3) SID-06: From the beneficiaries' perspective, the innovation of repairing and customizing old clothing promoted a Circular Economy and encouraged the prolongation of the lifespan of old or damaged garments. Refurbishing old clothing added value and significance to the garments, making them beautiful and usable. This approach significantly reduced the amount of fashion waste and allowed customers to take pride in contributing to reducing global warming causes.

Driving Factors of the Social Innovation Projects to Promote the SSE

From the analysis of the SIVC of the social innovation projects in the pilot area of the 9 projects, it was found that the success in creating positive impacts in the initial phase of the social innovation projects to promote the SSE is influenced by key factors. These factors include the sense of ownership, which consists of 3 sub-factors: 1) Ethical consciousness, reflected through the commitment of all 9 organizations in addressing social issues and taking responsibility for the community and society by utilizing their business knowledge and capabilities to develop innovations for the benefit of stakeholders; 2) Participation in investment and expenses, reflected through the collaborative allocation of resources and assets, such as people, knowledge, materials, locations, and equipment necessary for innovation development. Notably, participation in budgeting and expenses is vital, including both monetary contributions and the equivalent value of in-kind contributions from stakeholders to jointly develop social innovations that respond to local needs; and 3) Participation in innovation development, reflected through providing opportunities for stakeholders to be involved in problem identification, listening to their ideas, collaborating in designing problem-solving methods, and continuously tracking and evaluating the results of innovation implementation to obtain feedback for improvements and efficiency. These factors are essential for fostering a sense of ownership and empowering stakeholders to be actively involved in the development and implementation of social innovations that serve their needs.

The three factors mentioned above serve as essential foundations for crucial practices in creating the SSE, with a central focus on Human-Centered Design (HCD), emphasizing participation and close collaboration with stakeholders who directly benefit or are affected by the projects. When considering the psychological ownership factors in the 3 sub-factors, which are the core components of enhancing the SSE, they are comparable to those in the SIVC. Both processes are interconnected in input allocation, activity design, and innovation development. They establish principles and methods for resource planning and project implementation that consider the involvement of stakeholders at every stage. This fosters a sense of collective ownership and unity between businesses and communities. Through the analysis of the outcomes of the initial changes occurring in stakeholders in all 9 projects, it was found that each project could generate positive impacts in the dimensions of health and wellbeing, reducing disparities in opportunities and income, preserving, and adding value to local culture, caring for the environment, becoming an exemplary model of communities using clean energy practices, and disseminating good practices to other communities. Additionally, these projects created resilient communities, accompanied by sustainable business outcomes from the revenue generated by new products and services. This aligns with the SSE concept, which positively impacts society and drives sustainability, as depicted in Figure 5.

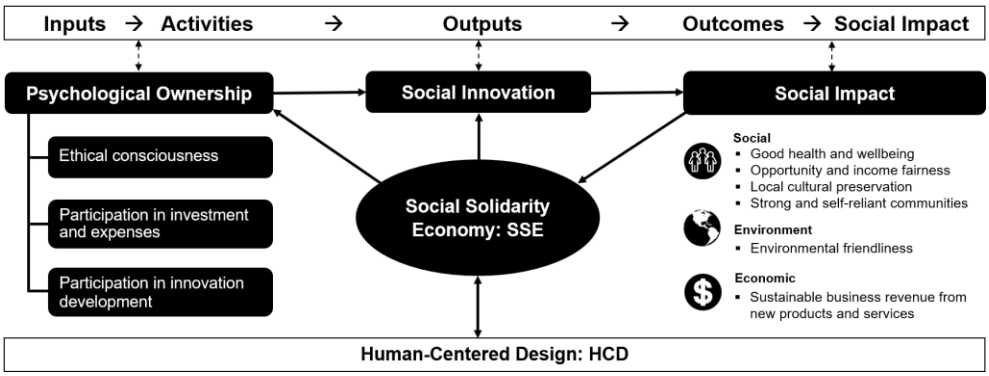

Figure 5 Factors Related to Advocacy for Social Innovation to Promote the SSE

Source: By authors

Discussion

From the analysis of the SIVC of the social innovation projects, it was found that in all 9 projects, the identification of inputs, activities, outputs, short-term expected outcomes, and future social impacts align with the components of the Logic Model. In each step, the participation of relevant stakeholders, especially the target groups who are beneficiaries and directly affected by the social innovation projects, is emphasized. This ensures that each project understands the real needs of stakeholders and has appropriate problem-solving strategies according to the requirements of the target group and the context of the area. This is consistent with the findings of Abuzeinab and Arif (2014), who emphasized that stakeholder involvement is a crucial driver of organizational success. Similarly, the study by Ramachandran (2020) found that organizations that use innovation in their operations have a competitive advantage over others. Therefore, the opportunity to develop new products or services must pay attention to understanding the needs and desires of stakeholders to create sustainable value for the organization.

Principles of operation that emphasize the involvement of stakeholders as mentioned above follow the principles of Human-Centered Design (HCD), which aligns with Kelley (2020) who found HCD is often used in the process of designing products and services to address technical problems, particularly in improving customer experiences. Therefore, organizations should promote the innovation process through collaborative work among all relevant parties. The principles of HCD serve as a foundation and practical approach to work in conjunction with Design Thinking (DT) tools, as highlighted by Rao and Kalyani (2021), who emphasize the importance of human-centered innovation by understanding problems, identifying issues, and constantly seeking solutions that meet the changing needs of customers. This approach has been crucial in the experiences of companies like Infosys, Microsoft, and Apple, as they focus on human-centric innovation.

All 9 social innovation projects are developed based on the principles of stakeholder involvement and the HCD, ensuring that they are contextually aligned with the specific needs and requirements of each area. The initial success of the project is reflected in the expected outcomes, such as positive changes in health and safety, increased revenue, capacity building, and strengthened communities. Moreover, the innovations also focus on preserving local culture and reducing pollution while adhering to the BCG Economy concept, which consists of 3 main economies: Bio-Economy, Circular Economy, and Green Economy. This project heavily relies on well-funded and appropriately budgeted innovation and development initiatives. Additionally, it emphasizes the importance of building international and regional networks to strengthen its impact and reach. The approach aligns with the findings of Edyvean et al. (2023), which supports the significance of the BCG Economy in generating income and improving the population's wellbeing. This social innovation is seen as a powerful tool for driving social change and creating long-term impacts on societal development. Grilo and Moreira (2022) also support the notion that social innovation is at the heart of societal progress. Businesses with social missions are vital for success in generating innovative solutions that add value to society, foster positive outcomes, and respond to societal needs. Overall, social innovation has the potential to fulfill societal demands, strengthen social bonds, and address social, economic, and environmental challenges effectively, while also promoting positive behavior change in individuals and communities.

From the analysis of the SIVC, it was found that there are components aligned with the concept of SSE, which emphasizes the importance of organizations or businesses operating in response to social and environmental issues. Management is focused on the principles of stakeholder involvement and creating shared benefits for all parties involved. This means that businesses can sustainably generate profits while building strong communities. In this research, it was discovered that the driving factors behind social innovation projects for the SSE are as follows: 1) Factors related to ethical considerations; 2) actors related to investment and expenditure participation; and 3) Factors related to involvement in innovation based on human-centered principles. We refer to these groups of factors as "psychological ownership factors," which involve the sense of belonging and ownership that individuals have towards something. This could be the feeling of ownership within an organization they are a member of, in their area, or towards ideas, inventions, or social innovations they create. These psychological ownership factors are considered social capital that fosters cooperation and drives organizations or communities towards resilience and sustainability (Diop, Al Ansari, Al Ali Mustafa, & Kien, 2020). These findings are consistent with the study by Santoso (2020), which demonstrates a significant relationship between psychological ownership factors, innovation factors, and organizational business growth. The sense of psychological ownership among organizational members positively

influences the organization's capacity-building and innovation, leading to increased competitiveness.

Regarding the study's findings, it is found that ethical considerations are significant drivers in creating the SSE. Organizations with well-governed operations tend to work with transparency and emphasize stakeholder involvement. They develop innovations to address customer needs sustainably and consider social and environmental dimensions while promoting business growth. These findings align with Prabawani, Hadi, Wahyudi, and Ainuddin (2023), who suggest that companies should utilize innovation as a strategy to develop their social responsibility activities, leading to benefits for both communities and businesses. Similarly, Csedő, Magyari, and Zavarkó (2022) conclude that organizations with ethical considerations operate according to the principles of ESG (environment, social, and governance) and drive their organizations with innovation, networking, and readiness to adapt to global changes, resulting in sustainable outcomes aligned with economic, social, and environmental dimensions.

Moreover, the study finds that factors related to investment and expenditure participation are another significant factor in creating a sense of ownership. Organizational leaders and members in community enterprises, social enterprises, and limited companies, as well as communities that benefit from innovation, participate in decision-making and investment concerning budgeting and expenditure for innovation development. This contributes to organizations, businesses, and communities feeling that they are co-creators in innovation and part of the responsibility for nurturing, developing, and continuously improving it to derive sustained benefits. These findings are consistent with the concept of participatory budgeting (PB), as explored by Williams (2022), which indicates that PB is a tool that allows people to participate in the design, decision-making, and resource allocation in society to create social innovations and generate shared value effectively. Also, Zhou et al. (2022) point out that fostering customer psychological ownership through studying customer fit in terms of cognitive, emotional, and behavioral aspects has a positive impact on creating shared value for businesses.

Overall, these findings emphasize the importance of ethical considerations and stakeholder involvement in driving social innovation for the SSE. Organizations that actively engage in these factors tend to develop innovations that cater to customer needs while simultaneously addressing social issues, leading to a mutual sense of ownership between businesses and communities. This aligns with ESG, participatory budgeting, and customer psychological ownership, which all contribute to creating shared value for both organizations and the communities they serve.

Conclusions and Suggestions

The results of this study demonstrate that the 9 social innovation projects can operate according to the components of the SIVC and create positive value in the social, economic, and environmental dimensions. The outcomes and social impacts of these projects align with the concept of SSE. This new framework uses ethical principles, cooperation, mutual aid among members, social justice, and democratic decision-making. By implementing social innovation projects to create the SSE, the focus should be on putting people at the center of business and innovation development.

Community enterprise entrepreneurs, social enterprise owners, limited companies, or corporations interested in social innovation development should utilize tools such as the ToC, the SIVC, and the concept of SSE to incorporate them into the planning and implementation of social innovation projects from initiation to completion. Additionally, these tools should be used to assess project outcomes after completion. Furthermore, those undertaking social innovation projects should prioritize creating participation with stakeholders. This forms the foundation for good business governance and enables project implementers to understand the expectations, needs, concerns, and anticipated impacts on stakeholders. These processes can minimize negative impacts and maximize positive and sustained effects on stakeholders and the target community, making them more efficient and effective.

For the Social Innovation Driving Unit of Central Thailand, as a supporter of knowledge and budget allocation for the development of social innovation to address community issues in the target area, it is essential to proactively promote opportunities for community enterprise entrepreneurs, social enterprise owners, limited companies, or other corporate entities interested in solving social problems to enhance their capabilities in social innovation development. This can be achieved by providing support in the form of initial funding for social innovation development, fostering knowledge-sharing principles, supporting experts in providing consultation, and guidance to monitor project progress. These efforts will ensure that social innovation projects in the pilot area can consistently produce tangible results and social impacts in alignment with the objectives outlined in the operational plan.

Limitations

This study explores the SIVC of the 9 social innovation projects in their initial phase. The study took one year to examine the results and expected short-term impacts of social innovation projects. Therefore, for future studies, data on the long-term results and social impacts should be collected for approximately 4-6 years. The Social Return on Investment (SROI) tool may be employed to assess the returns from investing in the social innovation projects, acting as an analytical unit for the study. This will enable a more precise

projection of the social impact pathway, showcasing both the observed results and the expected social impacts more comprehensively.

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