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Designing an Innovative Social Entrepreneurship Model in Knowledge-Based Companies

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Abstract

This study aimed to design an innovative social entrepreneurship model for knowledge-based companies in Iran. From a paradigmatic perspective, the study adopted an interpretivist approach during the model exploration stage and a positivist approach during the model testing stage; overall, it was grounded in pragmatism with an applied orientation. The research employed an exploratory mixed-methods approach. Accordingly, in-depth semi-structured interviews were conducted with 20 experts, and grounded theory, supported by MAXQDA software, was employed as the strategy for exploring the model. The validity and reliability of the qualitative phase were confirmed through coding–recoding, yielding an agreement coefficient of 86.5%. For quantitative data collection, a questionnaire was developed based on the themes extracted from the qualitative phase. Using G*Power software, with an error level of 0.15 and statistical power of 0.95, the final sample size was determined as 216 managers and experts from knowledge-based companies. The structural relationships of the explored model were tested using the variance-based structural equation modeling algorithm with SPSS and SmartPLS software. The findings indicated that the final model consisted of six principal categories: causal factors, including social entrepreneurial intention, social entrepreneurial self-efficacy, social entrepreneurial human capital, and social entrepreneurial support; the core phenomenon, including social value creation and entrepreneurial innovation; contextual conditions, including entrepreneurial maturity, social market dynamism, and innovative entrepreneurial opportunities; intervening conditions, including social institutional entrepreneurship, entrepreneurial infrastructure, and innovative entrepreneurial culture; strategies, including entrepreneurial resilience and social entrepreneurial interaction; and consequences, including entrepreneurial sustainability and enhancement of social well-being. The results of structural equation modeling indicated that all hypothesized relationships were statistically significant at the 95% confidence level.

Keywords: innovative social entrepreneurship; knowledge-based companies; exploratory mixed-methods approach

1. Introduction

Social entrepreneurship has increasingly emerged as a distinctive domain of entrepreneurship in which economic activity is deliberately combined with the creation of social value, the resolution of societal problems, and the pursuit of sustainable development. Unlike conventional entrepreneurship, which is predominantly evaluated through indicators such as profitability, market share, and firm growth, social entrepreneurship incorporates social impact, stakeholder well-being, inclusion, and long-term societal transformation into the definition of entrepreneurial success. The growing prevalence of unemployment,



inequality, poverty, environmental degradation, unequal access to education and technology, and the marginalization of vulnerable groups has strengthened the strategic relevance of social entrepreneurship in both developed and emerging economies. Contemporary scholarship consequently views social entrepreneurship not merely as a philanthropic extension of business activity but as an organizational and institutional mechanism capable of combining innovation, resource mobilization, and entrepreneurial action to generate measurable social outcomes (Aparicio et al., 2024; Farroñán et al., 2024; Miah et al., 2024). This perspective is particularly important in contexts where public institutions and traditional market mechanisms alone are unable to respond adequately to complex social needs.

The strategic significance of social entrepreneurship is also closely connected to sustainable development. Social enterprises can address societal problems while developing financially viable mechanisms that allow their interventions to continue beyond temporary grants or charitable support. Recent studies have emphasized that entrepreneurship can support sustainable development when innovation, financing, social orientation, and institutional support are appropriately aligned (Hamad, 2026; Omri & Almoshaigh, 2025). Similarly, the capacity of entrepreneurial organizations to scale their social impact depends on the interaction among resources, innovation performance, and sustainability orientation rather than on growth in economic output alone (Mrożewski, 2025). Research on green startups likewise indicates that sustainable entrepreneurial success requires the simultaneous development of organizational, environmental, technological, and ecosystem-related attributes (Oliveira et al., 2025). Therefore, an effective model of innovative social entrepreneurship must explain not only how socially oriented ventures are initiated, but also how they acquire resources, institutional legitimacy, innovative capacity, resilience, and sustainable mechanisms for producing long-term social value.

This requirement becomes even more significant in knowledge-based companies. Such companies operate through the generation, acquisition, transformation, and commercialization of knowledge and technological capabilities, making innovation one of their principal sources of competitive advantage. In the context of social entrepreneurship, knowledge-based firms can use technological solutions, digital platforms, data-driven services, artificial intelligence, and scalable business models to address unmet social needs. Digital platforms, in particular, can expand entrepreneurial opportunity recognition, facilitate market access, connect dispersed stakeholders, and reduce the costs associated with delivering products and services (Y. Wang, 2025). At the same time, emerging technologies are transforming employment structures and the future of work, creating both opportunities for new entrepreneurial models and risks associated with technological inequality and labor-market exclusion (Chigbu, 2026). Generative artificial intelligence may also exert a dual influence on sustainable entrepreneurial intentions, depending on whether technological adoption strengthens opportunity recognition and innovative capability or creates dependency, uncertainty, and perceived displacement (Kong, 2025). Consequently, innovative social entrepreneurship in knowledge-based companies must be understood within an increasingly digital and technologically dynamic environment.

Opportunity recognition is a central component of this process because social entrepreneurial activity begins with the ability to identify unmet needs that can be transformed into feasible and socially valuable entrepreneurial opportunities. Social entrepreneurs often recognize opportunities through prior experience, social awareness, exposure to community problems, personal values, networks, and sensitivity to institutional deficiencies (Viswanath & Reddy, 2024). In contemporary entrepreneurial ecosystems, opportunity recognition is also increasingly affected by digital resources, technological change, access to information, and the ability to connect social problems with scalable solutions. Youth entrepreneurship research has similarly emphasized the interaction among innovation, economic conditions, strategic action, and social objectives in explaining how young entrepreneurs identify and pursue opportunities capable of producing broader societal benefits (Alzate et al., 2024). For knowledge-based companies operating in youth-related fields, recognizing such opportunities may involve identifying gaps in employment, skills development, digital inclusion, education, access to services, and participation in emerging markets.

However, recognizing an opportunity does not necessarily result in entrepreneurial action. Social entrepreneurial intention represents an important motivational antecedent of entrepreneurial behavior and reflects the individual's willingness and commitment to initiate activities directed toward social value creation. Research on entrepreneurial intention has demonstrated that attitudes, subjective norms, entrepreneurial awareness, motivation, perceived behavioral control, and social expectations can substantially shape whether individuals intend to engage in social entrepreneurship (Kadyan & Jaiswal, 2026; Saufi &



[Hong, 2024](#)). Extensions of the theory of planned behavior also suggest that entrepreneurial motivation can alter the strength of the relationship between intention and actual behavior, particularly in emerging economies where uncertainty and resource constraints are substantial ([Nayak, 2025](#)). Likewise, proactive personality influences entrepreneurial decision-making by strengthening individuals' readiness to identify opportunities and convert intentions into action ([Wang, 2025](#)). These findings imply that intention must be embedded within a broader system of individual competencies, environmental conditions, and organizational resources.

Among these individual competencies, social entrepreneurial self-efficacy occupies a central position. Self-efficacy reflects individuals' confidence in their capacity to recognize opportunities, mobilize resources, design solutions, manage uncertainty, and implement entrepreneurial activities effectively. Evidence indicates that social entrepreneurial role models can strengthen both social entrepreneurial self-efficacy and entrepreneurial intentions and can thereby contribute to actual entrepreneurial action, particularly when moral obligation reinforces the perceived importance of social outcomes ([Maziriri et al., 2024](#)). Moreover, entrepreneurship is not only a matter of willingness but also of competence. Sustainable entrepreneurship depends on the development of entrepreneurial competencies and on the extent to which institutional support enables individuals and firms to apply those competencies effectively ([Uddin, 2026](#)). Thus, self-efficacy should be examined alongside human capital, institutional support, and access to entrepreneurial resources.

Human capital encompasses the knowledge, skills, education, experience, and professional capabilities that enable entrepreneurs to evaluate opportunities and develop viable social innovations. In knowledge-based firms, human capital is especially important because technological entrepreneurship requires specialized knowledge, interdisciplinary collaboration, learning capability, and the ability to integrate commercial and social objectives. Youth capability ecosystems further demonstrate that sustainable development outcomes depend not merely on individual skills but on the strategic alignment of capabilities with market segmentation, ecosystem resources, and business models ([Amit, 2025](#)). Entrepreneurship education can likewise strengthen socially responsible behavior and increase awareness of the relationship among business practices, corporate social responsibility, and sustainable outcomes ([Ahmed et al., 2024](#)). These findings reinforce the importance of conceptualizing human capital as an enabling mechanism through which entrepreneurial intention is translated into innovative social action.

Institutional and entrepreneurial support constitutes another essential element of social entrepreneurship. Access to finance, supportive policies, accelerators, innovation centers, mentoring, tax incentives, business development services, and regulatory facilitation can substantially influence the establishment and survival of entrepreneurial ventures. Financial exclusion, social segregation, and moral constraints may push certain groups toward entrepreneurial activity while simultaneously limiting the resources available for venture development ([Avdukić & Khaleel, 2025](#)). The availability of alternative financing arrangements may therefore become especially important for entrepreneurial activities that combine social missions with financial sustainability ([Solodoha, 2026](#)). More broadly, access to financial resources can enhance the contribution of entrepreneurship to sustainable development, particularly when finance supports innovation and productive entrepreneurial investment ([Omri & Almoshaigh, 2025](#)). This suggests that innovative social entrepreneurship cannot be adequately explained without incorporating institutional support and entrepreneurial infrastructure into the analytical model.

Institutional context also affects the legitimacy and acceptance of social enterprises. Social entrepreneurship often occupies a hybrid organizational space between commercial enterprise and socially oriented institutions, creating challenges related to legitimacy, stakeholder expectations, regulatory recognition, and accountability. Legitimacy therefore influences access to resources, stakeholder trust, organizational survival, and the social acceptance of entrepreneurial activities ([Huyler et al., 2024](#)). Institutions can similarly shape the relationship between social entrepreneurship and individual economic well-being by determining whether entrepreneurs operate within supportive or restrictive regulatory and normative environments ([Aparicio et al., 2024](#)). From an organizational perspective, entrepreneurial structures and routines also evolve before and during formal organization, suggesting that the processes through which entrepreneurial initiatives become institutionalized are important for understanding organizational emergence and adaptation ([Powell, 2024](#)). Accordingly, institutional entrepreneurship and entrepreneurial maturity should be regarded as integral components of a comprehensive social entrepreneurship model.



The relevance of institutional and cultural factors is particularly pronounced in Muslim-majority and Islamic economic contexts. Islamic entrepreneurship integrates economic activity with ethical principles, social responsibility, justice, community welfare, and spiritual considerations. Research has shown that Islamic entrepreneurship can be conceptualized through both business and spiritual dimensions, emphasizing values that extend beyond conventional economic performance (Raza, 2023). Islamic identity can also shape entrepreneurial behavior by influencing motivations, networks, consumption patterns, social obligations, and perceptions of legitimate business activity (Kunaifi, 2024). Similarly, entrepreneurial intentions in Muslim communities may be strengthened by behavioral and ethical orientations consistent with Maqasid al-Shariah and inclusive social objectives (Sarhan & Aziz, 2024). Recent frameworks of Islamic entrepreneurship further emphasize inclusivity and sustainability as important policy and organizational principles (Sukmana, 2026). Such considerations are highly relevant to social entrepreneurship in Iran, where cultural values, institutional arrangements, and ethical expectations interact with entrepreneurial decision-making.

Islamic financial institutions and socially oriented financial mechanisms may also affect entrepreneurial development. Islamic banking can influence entrepreneurial activity through financing mechanisms that are linked to principles of risk sharing, ethical investment, and socially responsible economic participation (Farzanegan & Badreldin, 2025). Research on corporate social responsibility within Islamic banking similarly demonstrates the importance of integrating responsibility, diversity, ethical governance, and stakeholder considerations into institutional business strategies (Brescia, 2025). At the community level, Islamic social enterprises have demonstrated potential for empowering rural youth by combining entrepreneurial activity with social development objectives (Hati, 2023). These findings indicate that social entrepreneurship models developed for Islamic contexts should account for both economic and normative institutions rather than assuming that entrepreneurship is shaped exclusively by market incentives.

A further issue concerns the importance of innovative entrepreneurial culture and organizational learning. Innovation in social entrepreneurship may involve new products, services, processes, digital delivery mechanisms, organizational arrangements, or business models. An innovative culture encourages experimentation, learning from failure, collaboration, risk-taking, and the continuous development of solutions that respond to evolving societal problems. Studies of community-based development demonstrate that local engagement and business innovation can contribute to the achievement of sustainable development goals by combining local capacities with entrepreneurial initiatives (Sulaiman et al., 2024). Indigenous knowledge systems can similarly strengthen entrepreneurial resilience and sustainability when they are incorporated into contemporary business strategies rather than displaced by standardized managerial approaches (Aluko, 2025). This implies that innovation should not be limited to technological novelty but should include culturally embedded, socially responsive, and institutionally adaptive forms of entrepreneurship.

Social entrepreneurship also has a major role in inclusion and empowerment. Studies of women's social entrepreneurship demonstrate that socially oriented ventures can expand economic participation, strengthen agency, and create new opportunities for groups that have historically experienced structural disadvantages (Nidhan et al., 2024). Research on entrepreneurship among disabled communities likewise illustrates how social entrepreneurial models can facilitate empowerment through productive participation, enterprise development, and the creation of sustainable economic opportunities (Jasiyah & Suriadi, 2024). Similarly, social entrepreneurship has been connected to green development and to socioeconomic and environmental improvements when entrepreneurial activities simultaneously address livelihood needs and ecological objectives (Harsono, 2024). These findings underscore that social value creation should be operationalized through measurable changes in employment, capabilities, access, inclusion, well-being, and social participation.

The digital environment adds another dimension to social entrepreneurial interaction. Digital advocacy can increase awareness, mobilize networks, communicate social missions, and create new pathways for digital social entrepreneurship, but it can also produce barriers or unintended effects depending on the quality of online engagement and the surrounding institutional environment (Herani & Pranandari, 2024). For knowledge-based companies, digital platforms can enable collaboration with universities, investors, civil society organizations, government agencies, beneficiaries, and other entrepreneurial firms, thereby supporting both resource acquisition and scalability. However, digitalization also intensifies



competition, accelerates changes in market expectations, and requires continuous technological adaptation. This highlights the importance of social market dynamism, digital infrastructure, and entrepreneurial resilience in explaining the success or failure of innovative social ventures.

Entrepreneurial resilience becomes particularly important in uncertain and resource-constrained environments. Social enterprises frequently operate under financial uncertainty, changing regulations, unstable demand, technological disruption, and competing stakeholder expectations. Resilience refers to the capacity to adapt to disturbances, maintain the social mission, modify strategies, diversify resources, and recover from setbacks. The capacity to achieve sustainable entrepreneurial success is increasingly associated with organizational adaptability, strategic use of resources, and sustainable business practices (Aluko, 2025). At the same time, the development and scaling of social impact require organizations to maintain innovation performance while preserving sustainability orientation (Mrożewski, 2025). Thus, resilience should be viewed as a strategic capability connecting environmental uncertainty to entrepreneurial sustainability.

Social entrepreneurial interaction is equally important because social problems are rarely solved by a single firm acting independently. Collaboration with government agencies, universities, private firms, nongovernmental organizations, investors, local communities, and beneficiaries can expand access to expertise, legitimacy, data, financial resources, and implementation capacity. Research on the actions of social entrepreneurship participants has shown that both enabling factors and practical challenges influence whether socially oriented intentions result in sustained entrepreneurial engagement (Otache et al., 2024). Community engagement similarly strengthens the capacity of entrepreneurial initiatives to produce locally relevant and sustainable development outcomes (Sulaiman et al., 2024). Consequently, interaction and network formation should be treated as strategic dimensions of social entrepreneurship rather than as peripheral activities.

Ultimately, innovative social entrepreneurship should generate outcomes that are both socially meaningful and organizationally sustainable. Social enterprises must maintain sufficient financial and operational capacity to survive while continuing to produce social value. This dual requirement distinguishes sustainable social entrepreneurship from temporary social projects. Social entrepreneurship can contribute to poverty reduction, employment creation, community empowerment, and sustainable development when social and economic mechanisms are appropriately integrated (Miah et al., 2024). The broader literature also emphasizes the contribution of social entrepreneurship to the common good and its potential to address complex societal challenges through entrepreneurial innovation (Farroñán et al., 2024). Sustainable entrepreneurship orientation and sustainable innovation may therefore operate together to strengthen long-term organizational and societal outcomes (Hamad, 2026). In this sense, entrepreneurial sustainability and enhancement of social well-being represent complementary rather than competing consequences.

Despite the expansion of research in this field, important conceptual gaps remain. Existing studies have frequently examined isolated determinants such as entrepreneurial intention, self-efficacy, education, institutional support, financing, digital platforms, legitimacy, or sustainability, whereas fewer studies have integrated these dimensions into a comprehensive model that explains the process through which innovative social entrepreneurship develops in knowledge-based companies. The literature on social entrepreneurial intentions continues to identify the need for more integrated frameworks connecting individual motivations with organizational and contextual mechanisms (Kadyan & Jaiswal, 2026). Similarly, the movement from entrepreneurial orientation to actual action requires measurement frameworks that capture behavioral implementation and resource mobilization rather than relying solely on attitudinal constructs (Solodoha, 2026). Research concerning green entrepreneurial ecosystems and sustainable startups likewise confirms that entrepreneurial performance results from combinations of internal capabilities and ecosystem conditions rather than from any single antecedent (Oliveira et al., 2025). These gaps are especially relevant in emerging economies, where institutional uncertainty, financial constraints, rapidly changing markets, and distinctive cultural conditions may alter the relationships established in other contexts.

Within knowledge-based companies, these issues are further complicated by the need to simultaneously manage technological innovation, market uncertainty, human capital, regulatory requirements, social expectations, and resource dependence. Sustainable entrepreneurial development requires a bridge between institutional support and entrepreneurial competence (Uddin, 2026), while opportunity identification increasingly depends on digitally mediated markets and platform-based entrepreneurial ecosystems (Y. Wang, 2025). Youth-oriented ventures must also align entrepreneurial business models



with the evolving capabilities, needs, and segmentation of younger populations (Amit, 2025). At the same time, socially responsible educational and organizational environments can strengthen sustainability-oriented behavior and entrepreneurial awareness (Ahmed et al., 2024). Therefore, an integrative approach is needed to explain how causal conditions, contextual factors, intervening conditions, strategic responses, the core entrepreneurial phenomenon, and organizational and social consequences interact within the distinctive environment of knowledge-based firms.

Accordingly, the aim of the present study was to design and validate an innovative social entrepreneurship model for knowledge-based companies in Iran by identifying the causal conditions, core phenomenon, contextual and intervening conditions, strategies, and consequences that shape social entrepreneurial development and sustainability.

2. Methods and Materials

The present study is situated within the pragmatist paradigm. Given the principal objective of the study, an exploratory mixed-methods design provides the necessary methodological capacity. Accordingly, in terms of purpose, the study is applied; in terms of approach, it is exploratory mixed-methods (qualitative–quantitative); and in terms of reasoning logic, it is inductive–deductive. In this regard, the qualitative phase was first conducted to extract categories, identify relationships among them, and develop the initial research model, followed by the quantitative phase aimed at testing, assessing the fit of, and validating the extracted model (Tashakkori & Teddlie, 2010). In the first phase, qualitative data were collected through in-depth semi-structured interviews with experts and specialists in the relevant fields. The qualitative data were analyzed using grounded theory based on the systematic approach of Strauss and Corbin (1998). In this study, the data analysis process was conducted through three main stages: open coding, axial coding, and selective coding. Relationships among causal conditions, contextual conditions, intervening conditions, strategies, and consequences were identified; during selective coding, the categories were integrated around the core category, resulting in the formation of the final research model. In the qualitative phase, 20 experts were selected through purposive and theoretical sampling. Descriptive findings indicated that the participants exhibited acceptable demographic diversity. In terms of gender, the experts were evenly distributed, comprising 10 men (50%) and 10 women (50%), which enabled the inclusion of diverse perspectives in the data analysis process. Regarding educational level, 7 participants (35%) held master's degrees and 13 participants (65%) held doctoral degrees, indicating the predominance of participants with postgraduate education and demonstrating the sample's appropriate academic and professional expertise. In terms of academic discipline, 9 participants (45%) specialized in business management, 7 (35%) in entrepreneurship, and 4 (20%) in social sciences and economics. Table 1 presents the distribution of the demographic characteristics of the experts.

Table 1. Distribution of the Demographic Characteristics of Experts Participating in the Qualitative Phase

Variable	Category	Frequency	Percentage
Gender	Male	10	50
	Female	10	50
Education	Master's degree	7	35
	Doctoral degree	13	65
Academic discipline	Business management	9	45
	Entrepreneurship	7	35
	Social sciences and economics	4	20

Moreover, to assess coding reliability and evaluate the objectivity of the analysis, the inter-coder agreement method (kappa coefficient) was employed. For this purpose, a researcher familiar with qualitative analysis methods and the fields of social entrepreneurship and governance participated in the analysis process as the second coder. After the conceptual framework of the study was explained and coding instructions were provided, four selected interviews were independently analyzed by the principal researcher and the second coder. Subsequently, agreement between the two coders was calculated as the ratio of the number of agreed-upon units to the total number of coded units. Of all codes extracted, 150 codes were examined to assess reliability, the results of which are presented in Table 2.

Table 2. Inter-Coder Reliability in the Qualitative Phase

Indicator	Value
Number of interviews examined	4
Total number of codes evaluated	150



As shown in Table 2, four selected interviews were independently examined by two coders, and the level of agreement across the 150 evaluated codes was satisfactory; specifically, the inter-coder reliability coefficient was calculated at 86.7%. Given that this value is within an acceptable range, it can be concluded that the coding process demonstrated adequate stability and that the qualitative findings of the study possess the required level of dependability. Furthermore, several strategies were employed to assess the validity of the qualitative findings. First, interpretive and content validity were established through the review of coding results by selected participants and experts to ensure that the extracted categories and themes corresponded with the experts' experiences and perceptions. Second, the internal coherence of the analysis was assessed through constant comparison of the data and continuous examination of relationships among concepts and categories. Third, repeated reviews of the analytical process contributed to reducing bias and strengthening the conceptual credibility of the findings. In the second, quantitative phase of the study, structural equation modeling (SEM) was employed to empirically test and validate the model derived from the qualitative phase. This phase was conducted using a descriptive-survey approach, and the indicators and components obtained from the qualitative analysis constituted the primary basis for developing the questionnaire. The statistical population of the quantitative phase consisted of managers and experts working in knowledge-based companies in the youth sector. Given the need for a representative and generalizable sample, simple random sampling was used. The sample size for the quantitative phase was determined by considering four principal criteria: the acceptable level of error, expected effect size, statistical power, and degree of generalizability of the findings (Neuman, 2014; Hall, 2019). Accurate determination of sample size is of considerable importance because an inadequate sample can reduce statistical power and compromise the validity and generalizability of the findings (Hall, 2019). In the present study, the sample size was determined according to the number of observed and latent variables identified during the qualitative phase using G*Power software. Based on the output of G*Power software, considering an error level of 0.15, statistical power of 0.95, and the identification of 16 selective codes (latent variables) and 150 open codes (observed variables) in the conceptual model, the required sample size for the quantitative phase was estimated to be 216 participants. Furthermore, to assess the validity and reliability of the instrument in the quantitative phase, the face and content validity of the questionnaire were initially evaluated. At the first stage, a group of experts examined and revised the questionnaire in terms of the clarity, relevance, and comprehensibility of the items. Subsequently, the Content Validity Ratio (CVR) and Content Validity Index (CVI) were calculated for the items to determine their necessity, relevance, and clarity. Following confirmation of validity, instrument reliability was evaluated using Cronbach's alpha and composite reliability (CR). The values obtained for these indices were within acceptable ranges, indicating that the research instrument possessed sufficient internal consistency and stability for measuring the model constructs.

3. Findings and Results

In the qualitative phase of the study, data analysis was conducted based on Strauss and Corbin's systematic grounded theory approach. In the first step, relevant documents and scholarly texts were collected and reviewed. Subsequently, semi-structured interviews were conducted with the selected experts, and the data were analyzed concurrently with data collection. The results of this process are presented in Table 3.

Table 3. Research Coding Process

Selective Code	Axial Code	Open Code
Social entrepreneurial intention	Motivation to solve social problems	Willingness to identify unmet needs of young people
		Commitment to reducing unemployment and inequalities in employment opportunities
	Decision to establish a social enterprise	Prioritizing social value creation alongside profitability
		Firm intention to launch a startup with a social mission
		Practical planning for implementing social entrepreneurial ideas
Readiness for entrepreneurial action		Allocation of personal time and resources to socially impactful projects
		Active search for entrepreneurial opportunities with social impact
		Willingness to accept financial risk to achieve social objectives
		Persistent efforts to transform an idea into an operational business



Social entrepreneurial self-efficacy	Confidence in opportunity-identification capability	Belief in the ability to identify solvable social problems	
		Confidence in the ability to design technological solutions for social needs	
	Confidence in implementation skills	Belief in the ability to assess the feasibility of social opportunities	
		Belief in the ability to manage young multidisciplinary teams	
		Confidence in skills for attracting financial resources and social investment	
		Belief in the ability to develop knowledge-based products with social applications	
	Tolerance of ambiguity and failure	Ability to make decisions under conditions of uncertainty in the social market	
		Psychological resilience when confronting initial failures	
		Flexibility in changing strategy without losing the mission	
	Entrepreneurial human capital	Relevant specialized knowledge	University education in technological or social disciplines
Awareness of emerging technologies applicable to solving social problems			
Practical entrepreneurial experience		In-depth understanding of challenges facing the youth population and labor market	
		Previous participation in startups or innovative projects	
		Experience of voluntary work in social organizations or NGOs	
Professional networks		Previous exposure to the challenges of business establishment and growth	
		Access to academic networks and relevant faculty members	
		Connections with social investors and innovation funds	
		Membership in the startup ecosystem and young entrepreneurs' community	
Social entrepreneurial support		Institutional and legal support	Access to special facilities for knowledge-based companies
	Support provided through youth employment policies		
	Financial resources	Tax and insurance incentives for social enterprises	
		Receipt of grants and research funding from innovation funds	
		Attraction of investment from social and impact investment funds	
	Infrastructure and training	Access to low-interest loans for social startups	
		Membership in accelerators and social innovation centers	
		Access to mentors specializing in social entrepreneurship	
	Social value creation	Youth empowerment	Use of coworking spaces and university laboratories
			Enhancement of occupational and professional skills among the target youth group
Creation of sustainable employment opportunities for young people			
Alleviation of social deprivation		Strengthening self-confidence and entrepreneurial spirit among the younger generation	
		Reducing the digital access gap in disadvantaged regions	
		Provision of educational or healthcare services to vulnerable groups	
		Improved access to resources and opportunities for marginalized groups	
Measurable social impact		Number of direct beneficiaries of a product or service	
		Percentage improvement in quality-of-life indicators within the target community	
		Persistence and sustainability of changes created in the community	
Entrepreneurial innovation	Product or service innovation	Development of new technological solutions to social problems	
		Design of digital services to facilitate young people's access to opportunities	
		Development of affordable products for low-income groups	
	Innovation in the delivery of knowledge-based products and services	Use of online platforms to expand access	
		Design of participatory processes involving direct engagement of the target community	
		Utilization of emerging technologies to reduce service delivery costs	
	Business model innovation	Integration of commercial revenue generation with a social mission	
		Design of cross-subsidy models to serve low-income groups	
		Establishment of multilateral collaboration networks for resource mobilization	



Entrepreneurial maturity	Intellectual and strategic maturity	Clarity of the long-term vision for social impact
		Ability to analyze the environment and anticipate changes in the social market
	Process maturity	Integration of the social mission into all strategic decisions
		Standardization of operational and service-delivery processes
Social market dynamism	Organizational maturity	Implementation of performance and impact measurement systems
		Continuous optimization of work methods and resource productivity
		Clear definition of team roles and responsibilities
		Institutionalization of a culture of learning and continuous feedback
	Variability of needs	Establishment of transparent and accountable governance in decision-making
		Rapid changes in young people's priorities regarding employment and skills
		Emergence of new needs resulting from technological and economic developments
		Diversity and complexity of social problems across different groups
	Competitive pressure	Increase in the number of social startups operating in similar fields
		Rapid changes in competitors' and service providers' strategies
Innovative entrepreneurial opportunities	Changes in the youth entrepreneurship ecosystem	Declining competitive differentiation in saturated markets
		Frequent changes in government support policies for startups
		Fluctuations in financial resources and social investment priorities
		Emergence of new technologies with potential social applications
	Gaps in existing services	Unmet educational and skills-related needs among young people
		Weaknesses in existing systems connecting young people to the labor market
		Limited access to growth opportunities for young people in disadvantaged regions
		Potential use of artificial intelligence for service personalization
	Technological opportunities	Potential use of digital platforms for scalability
		Access to open data for analyzing social needs
Social institutional entrepreneurship	Collaboration potential	Opportunities for collaboration with universities to develop knowledge-based solutions
		Opportunities for cooperation with large companies through corporate social responsibility
		Capacity for networking with NGOs and governmental organizations
		Improvement of the process for obtaining knowledge-based company certification
	Innovation in institutional regulatory structures	Compliance with product and service quality and safety standards
		Compliance with data protection and user privacy regulations
		Recognition and credibility among the target youth community
		Acceptance by stakeholders and beneficiary groups
	Institutional acceptance	Positive reputation within the startup and entrepreneurship ecosystem
		Alignment with the social and cultural values of the target community
Innovative entrepreneurial culture	Institutional value	Transparency in reporting social and financial impacts
		Commitment to ethical principles and social responsibility
		Encouraging team members to propose unconventional ideas
		Acceptance of failure as part of the learning process
	Creative and risk-taking mindset	Flexibility in modifying approaches based on community feedback
		Willingness to launch pilots and product prototypes
		Systematic collection of feedback from users and stakeholders
		Investment in research and development of social solutions
	Experimentation and learning	Exchange of knowledge and experiences with other social startups
		Participation in collective learning events and networks
Technological infrastructure	Collaboration and knowledge sharing	Utilization of open innovation and interorganizational collaboration
		Access to technological equipment and tools
		Stable access to the Internet and communication networks
		Technological physical spaces
	Hardware and network infrastructure	
	Software infrastructure and digital platforms	

		Access to software and development tools
	Knowledge infrastructure and technical support	Digital service-delivery platforms
		Digital security and privacy infrastructure
		Access to technological educational and knowledge resources
		Technical support and consulting services
		Knowledge-exchange networks and technological communities
Entrepreneurial resilience	Strategic flexibility	Ability to adapt rapidly to changes in policies and regulations
		Agility in modifying the business model without compromising the mission
		Diversification of products and services to reduce dependency
	Crisis management	Ability to proactively identify environmental threats and risks
		Preparedness for rapid responses to financial and market shocks
		Capacity to recover operations following unforeseen crises
	Robustness of entrepreneurial resources	Diversification of revenue sources and avoidance of dependence on a single source of financing
		Creation of financial reserves and liquidity buffers for crisis conditions
		Strengthening support networks involving partners and investors
Social entrepreneurial interaction	Collaboration with governmental institutions	Cooperation with ministries in youth empowerment programs
		Coordination with municipalities in implementing local social programs
		Receiving support from the Vice Presidency for Science and Technology and science and technology parks
	Partnership with the private sector	Attracting investment and support from large companies
		Development of win-win collaboration models with traditional businesses
		Utilization of private-sector resources and expertise for growth
	Interaction with civil society	Collaboration with NGOs and charitable organizations
		Collaboration with universities for knowledge-based research and development
		Direct involvement of local communities in designing and implementing solutions
Entrepreneurial sustainability	Financial self-sufficiency	Generation of sustainable revenue through the sale of products or services
		Long-term balance between costs and revenues
		Reduced dependence on grants and temporary support
	Operational efficiency	High productivity in the use of human and financial resources
		Maintenance of service quality during growth and expansion
		Scalability without diminishing social impact
	Continuity of impact	Persistence of positive effects on the target community over time
		High levels of stakeholder and user satisfaction and loyalty
		Transparent reporting of social and financial performance
Enhancement of social well-being	Improvement in employment status	Increase in sustainable employment rates within the target community
		Increased income and economic security among beneficiary youth
		Reduced duration of unemployment and facilitated entry into the labor market
	Human capital development	Improvement of young people's technical and soft skills
		Increased knowledge and awareness of employment and entrepreneurial opportunities
		Strengthening individual self-confidence and self-efficacy
	Social cohesion	Strengthening young people's social relationships and networks
		Increased social participation and sense of community belonging
		Reduced feelings of exclusion and social isolation among vulnerable groups

The results presented in Table 3 indicate that, in the present study, 150 open codes were extracted from the qualitative data and categorized into 50 axial codes and 16 selective codes. Subsequently, exploratory factor analysis was employed to validate



the extracted factor structure (Table 4). The results of this analysis, presented in the following table, confirmed the validity and reliability of the factor structure.

Table 4. Exploratory Factor Analysis of the Model

Variable	KMO	Bartlett's Test (Sig.)	Test Result
Social entrepreneurial intention	0.815	0.000	Confirmed
Social entrepreneurial self-efficacy	0.841	0.000	Confirmed
Entrepreneurial human capital	0.952	0.000	Confirmed
Social entrepreneurial support	0.710	0.000	Confirmed
Social value creation	0.743	0.000	Confirmed
Entrepreneurial innovation	0.796	0.000	Confirmed
Entrepreneurial maturity	0.825	0.000	Confirmed
Social market dynamism	0.720	0.000	Confirmed
Innovative entrepreneurial opportunities	0.816	0.000	Confirmed
Social institutional entrepreneurship	0.742	0.000	Confirmed
Innovative entrepreneurial culture	0.768	0.000	Confirmed
Entrepreneurial resilience	0.801	0.000	Confirmed
Social entrepreneurial interaction	0.729	0.000	Confirmed
Entrepreneurial sustainability	0.839	0.000	Confirmed
Enhancement of social well-being	0.722	0.000	Confirmed

The results presented in Table 4 confirm the adequacy of the sampling and the suitability of the data for subsequent structural analyses. As shown, the KMO values for all variables are at a highly satisfactory level (above 0.70), indicating an adequate sample size and sufficient correlations among the indicators of each factor. Furthermore, Bartlett's test of sphericity was statistically significant for all variables at $\alpha < .05$ ($p < .001$). Moreover, a systematic, multistage approach was employed to specify the relationships among the constructs extracted in this study. This process was conducted in four principal steps: In the first step, qualitative analysis was performed through open, axial, and selective coding. This stage established the foundation for developing the model components and conceptual relationships among them. In the second step, the relationships among the selective constructs derived from the qualitative analysis were examined using path analysis. At this stage, statistical diagnostic indicators, particularly multicollinearity diagnostics, were used to ensure the independence of the predictor constructs and thereby strengthen the validity of the model structure. In the third step, the researcher continuously consulted with the study experts to review the findings. These expert consultations enabled more precise interpretation of the relationships among the constructs and facilitated theoretical and empirical refinement of the exploratory model. In the fourth step, convergence between the qualitative and quantitative findings was examined. Comparison of the model derived from the three-stage coding process with the path analysis results confirmed consistency between the two approaches. Figure 1 presents the final exploratory model of the study.

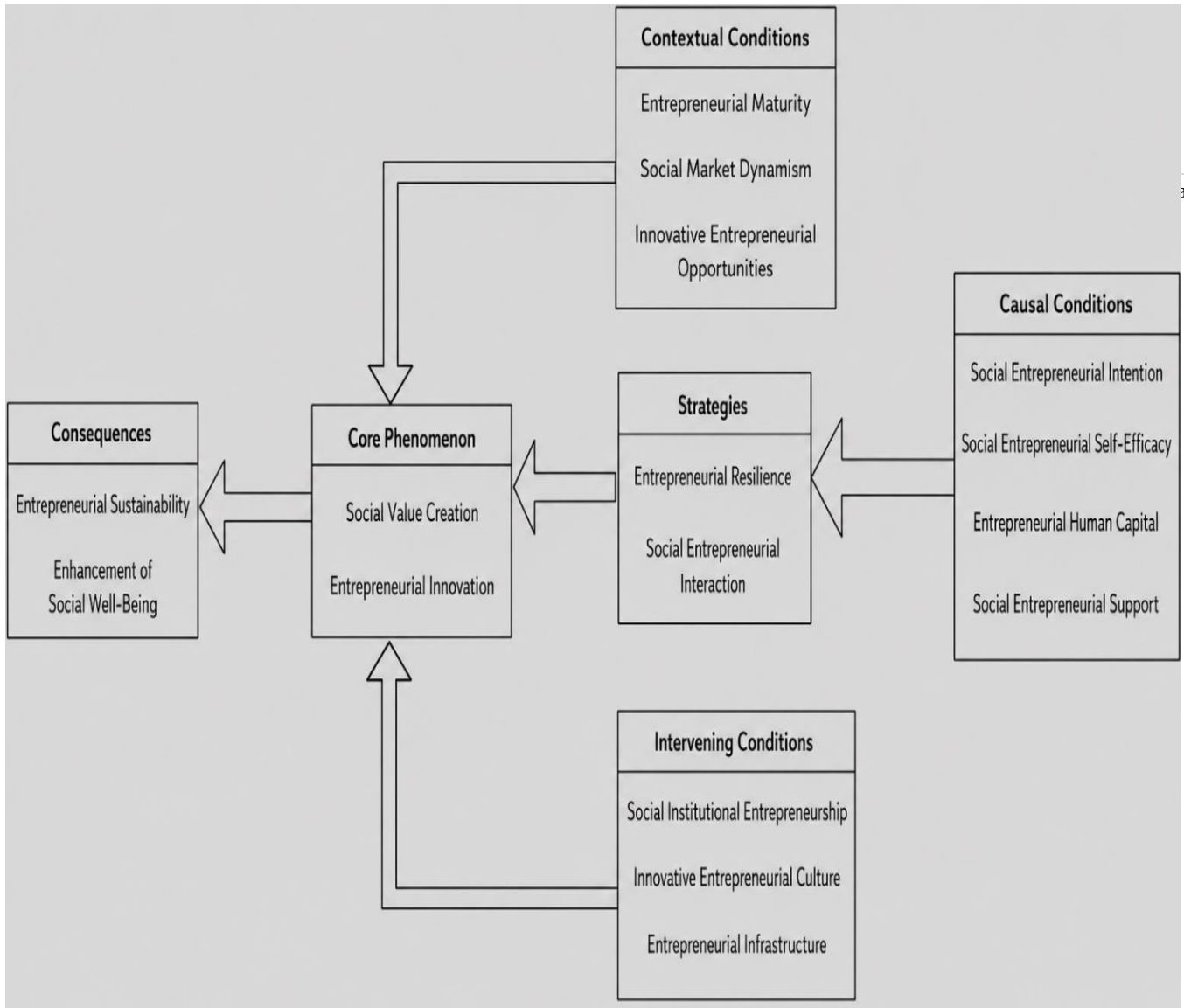


Figure 1. The Exploratory Model Derived from the Study

Following the qualitative analysis, variance-based structural equation modeling was used to test and analyze the path relationships of the model based on the approach proposed by Hair (2009). The measurement model was assessed as part of the structural equation modeling algorithm. In accordance with the PLS algorithm, reflective measurement models were estimated based on the correlations and validity of the indicators and observed measures. Figure 2 illustrates the standardized research model. This model enabled the assessment of the factor loadings of the variable indicators, as well as construct validity indices—including convergent and discriminant validity—and model reliability indices, including composite reliability, shared reliability, and Cronbach's alpha coefficient (Ringle et al., 2008). Subsequently, reliability was validated based on the standardized model. The results are presented in Table 5.

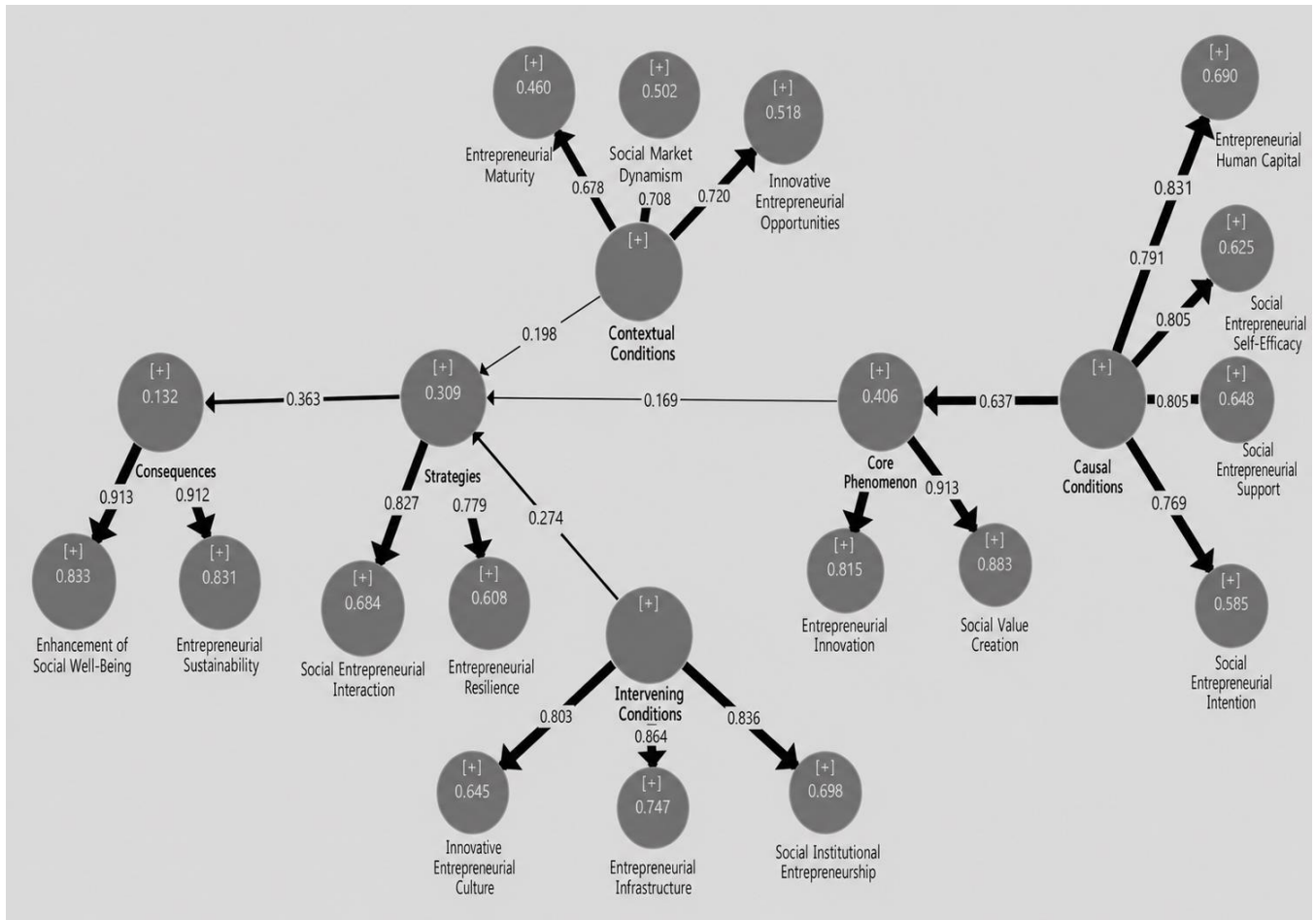


Figure 2. Standardized Research Model

Table 5. Standardized Model and Reliability Indices

Cronbach's Alpha	Spearman Reliability	Composite Reliability	Shared Reliability	Confirmatory Factor Analysis (Factor Loading)	Research Latent Variables
0.83	0.85	0.88	0.61	0.769	Social entrepreneurial intention
0.85	0.87	0.80	0.63	0.791	Social entrepreneurial self-efficacy
0.87	0.89	0.92	0.66	0.831	Social entrepreneurial human capital
0.82	0.84	0.87	0.59	0.805	Social entrepreneurial support
0.90	0.92	0.94	0.69	0.913	Social value creation
0.89	0.91	0.83	0.68	0.903	Entrepreneurial innovation
0.79	0.81	0.85	0.55	0.678	Entrepreneurial maturity
0.80	0.82	0.86	0.57	0.708	Social market dynamism
0.81	0.83	0.87	0.58	0.720	Innovative entrepreneurial opportunities
0.86	0.88	0.91	0.64	0.836	Social institutional entrepreneurship
0.84	0.86	0.89	0.62	0.864	Entrepreneurial infrastructure
0.83	0.85	0.88	0.60	0.803	Innovative entrepreneurial culture
0.81	0.83	0.87	0.58	0.779	Entrepreneurial resilience
0.84	0.86	0.89	0.62	0.827	Social entrepreneurial interaction
0.91	0.93	0.95	0.70	0.912	Entrepreneurial sustainability
0.90	0.92	0.94	0.69	0.913	Enhancement of social well-being

As shown in Table 5, all research constructs satisfy the required criteria for confirmation. The results indicate that the extracted factor loadings for the latent variables are generally above the standard threshold of 0.70, and Cronbach's alpha coefficients for all study variables exceed 0.70. Consequently, the reliability of the variables is confirmed according to this criterion. Furthermore, the composite reliability coefficients for all variables exceed 0.70; therefore, the composite reliability of the model is confirmed. The shared reliability values for all shared indicators are also above 0.50, thereby confirming the shared reliability of the model. Moreover, according to Hair et al. (2014), the recommended criteria are $AVE \geq 0.50$ and $CR \geq 0.70$. In addition, CR is greater than AVE. Therefore, the convergent validity of the model is confirmed (Ringle, 2015). Subsequently, construct validity was assessed as part of the structural equation modeling algorithm. Construct validity was evaluated through two components: convergent validity and discriminant validity. Convergent validity was assessed using the Average Variance Extracted (AVE) based on the shared reliability results. Discriminant validity was evaluated using the Fornell–Larcker criterion and the heterotrait–monotrait approach. The Fornell–Larcker criterion presented in Table 6 was used to assess the correspondence between the structure of the research model and the observed data. Furthermore, Henseler et al. (2015), by extending the Fornell–Larcker criterion, proposed a more reliable and comprehensive index for establishing discriminant validity. Accordingly, the heterotrait–monotrait matrix was examined to ensure the absence of critical correlations among construct indicators in the model. The HTMT criterion was therefore used to assess discriminant validity.

Table 6. Fornell–Larcker Criterion

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.862															
2	0.541	0.896														
3	0.508	0.419	0.815													
4	0.282	0.316	0.222	0.863												
5	0.270	0.389	0.262	0.293	0.813											
6	0.411	0.535	0.325	0.305	0.349	0.850										
7	0.383	0.489	0.244	0.187	0.238	0.507	0.871									
8	0.438	0.574	0.340	0.303	0.386	0.532	0.399	0.862								
9	0.426	0.550	0.372	0.296	0.357	0.591	0.530	0.632	0.800							
10	0.350	0.378	0.231	0.147	0.411	0.330	0.281	0.439	0.396	0.785						
11	0.369	0.464	0.369	0.241	0.410	0.502	0.353	0.545	0.474	0.408	0.896					
12	0.310	0.473	0.248	0.171	0.413	0.461	0.496	0.532	0.509	0.424	0.424	0.841				
13	0.471	0.648	0.389	0.277	0.361	0.421	0.348	0.449	0.470	0.350	0.479	0.389	0.796			
14	0.664	0.497	0.692	0.219	0.292	0.404	0.365	0.446	0.481	0.311	0.377	0.282	0.511	0.762		
15	0.196	0.381	0.227	0.175	0.320	0.324	0.227	0.336	0.280	0.261	0.352	0.324	0.220	0.176	0.870	

According to Henseler et al. (2009), the AVE of each variable should exceed its squared correlation with every other variable. The software output presented in Table 6 indicates that discriminant validity is supported according to the Fornell–Larcker criterion; therefore, discriminant validity is confirmed. In accordance with the structural equation modeling algorithm, after assessing the measurement model, the research hypotheses were examined through path analysis using the significance coefficients (Ringle, 2015). Figure 3 presents the model in the significance-coefficient mode and illustrates the analysis of the hypotheses and theories explored in this study.

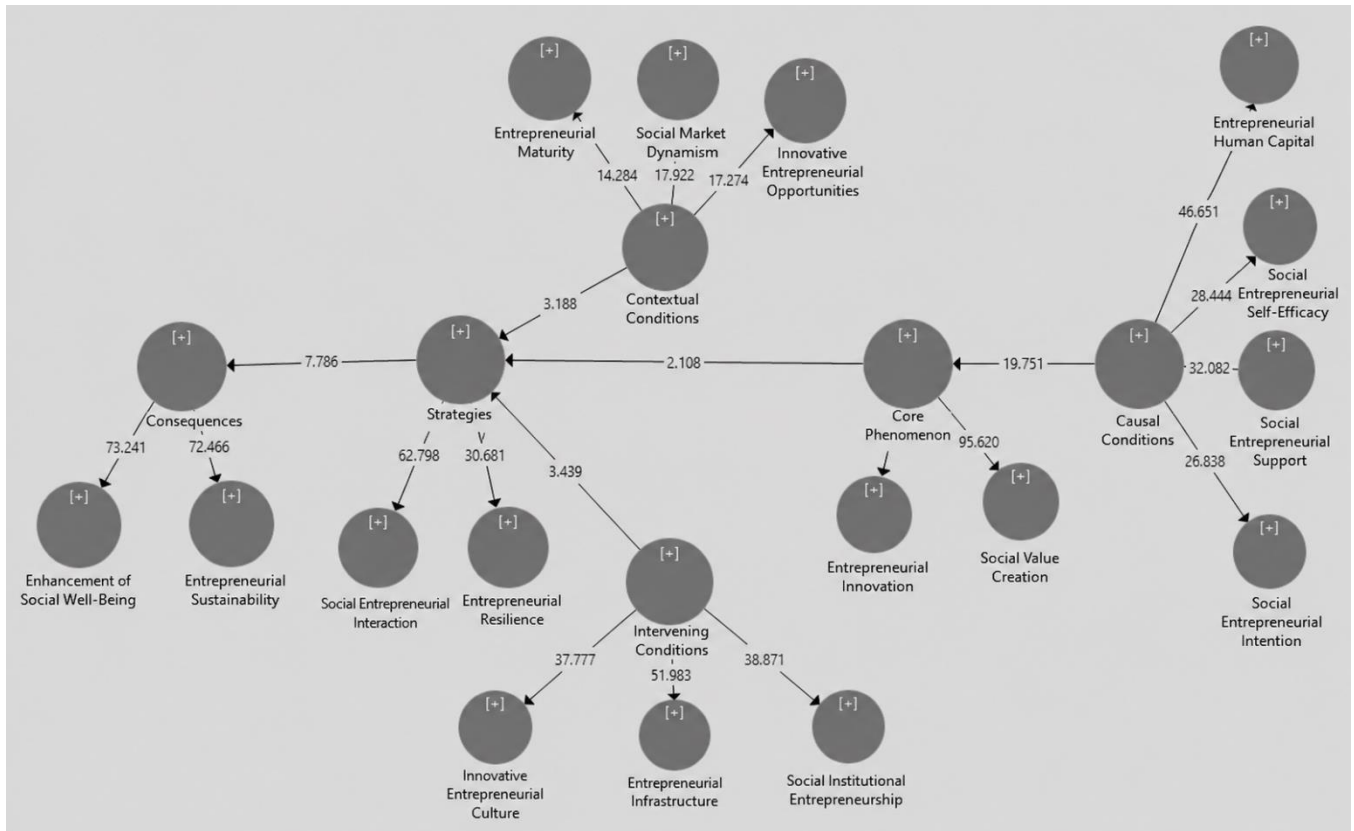


Figure 3. Research Model in the Significance-Coefficient Mode

To determine the fit of the measurement model, the measurement quality of the model was assessed in accordance with Hair (2012). This test serves as an alternative to conventional goodness-of-fit indices used in covariance-based structural equation modeling software. The results are presented in Table 7.

Table 7. Quality of the Research Measurement Model

Variables	Model Quality Coefficient	Evaluation
Social entrepreneurial intention	0.421	Strong
Social entrepreneurial self-efficacy	0.443	Strong
Social entrepreneurial human capital	0.461	Strong
Social entrepreneurial support	0.388	Strong
Social value creation	0.472	Strong
Entrepreneurial innovation	0.456	Strong
Entrepreneurial maturity	0.312	Strong
Social market dynamism	0.334	Strong
Innovative entrepreneurial opportunities	0.367	Strong
Social institutional entrepreneurship	0.448	Strong
Entrepreneurial infrastructure	0.319	Strong
Innovative entrepreneurial culture	0.395	Strong
Entrepreneurial resilience	0.341	Strong
Social entrepreneurial interaction	0.408	Strong
Entrepreneurial sustainability	0.479	Strong
Enhancement of social well-being	0.465	Strong

The results presented in Table 7 indicate that the measurement model quality coefficients for all research constructs were evaluated as strong. These coefficients ranged from 0.312 for entrepreneurial maturity to 0.479 for entrepreneurial sustainability. According to this criterion, values above 0.360 are considered strong, values above 0.250 are considered moderate, and values above 0.10 are considered weak. Among the constructs, entrepreneurial sustainability (0.479), social value creation (0.472), and enhancement of social well-being (0.465) exhibited the highest quality coefficients, indicating highly satisfactory fit of these constructs within the measurement model. This finding is consistent with the nature of these

variables because entrepreneurial sustainability and social value creation, as the principal outcomes of the paradigmatic model, were measured using items with high factor loadings. In contrast, entrepreneurial maturity (0.312) and entrepreneurial infrastructure (0.319) had the lowest quality coefficients in the model. Nevertheless, both constructs remain within the strong range and are meaningfully above the moderate threshold of 0.250. The comparatively lower values of these coefficients may be attributed to the multidimensional and context-dependent nature of these two variables, whose precise measurement within the context of Iranian knowledge-based companies involves greater complexity. Other variables, including social entrepreneurial human capital (0.461), entrepreneurial innovation (0.456), social institutional entrepreneurship (0.448), and social entrepreneurial self-efficacy (0.443), also exhibited high quality coefficients, indicating satisfactory coherence and fit of these constructs within the measurement model.

4. Discussion and Conclusion

The present study aimed to design and validate an innovative social entrepreneurship model for knowledge-based companies in Iran. The qualitative findings resulted in the extraction of 150 open codes, 50 axial codes, and 16 selective codes, which were organized within the paradigmatic structure of causal conditions, the core phenomenon, contextual conditions, intervening conditions, strategies, and consequences. The causal conditions comprised social entrepreneurial intention, social entrepreneurial self-efficacy, social entrepreneurial human capital, and social entrepreneurial support. The core phenomenon consisted of social value creation and entrepreneurial innovation. Entrepreneurial maturity, social market dynamism, and innovative entrepreneurial opportunities constituted the contextual conditions, whereas social institutional entrepreneurship, entrepreneurial infrastructure, and innovative entrepreneurial culture represented the intervening conditions. Entrepreneurial resilience and social entrepreneurial interaction were identified as the principal strategies, and entrepreneurial sustainability and enhancement of social well-being emerged as the principal consequences. The quantitative findings also supported the proposed structure. The KMO values were above acceptable thresholds, Bartlett's tests were statistically significant, reliability coefficients were satisfactory, and convergent and discriminant validity were supported. The measurement-model quality coefficients were also evaluated as strong, with entrepreneurial sustainability, social value creation, and enhancement of social well-being exhibiting particularly favorable values. Collectively, these findings suggest that innovative social entrepreneurship in knowledge-based companies is a multidimensional phenomenon that is produced through the interaction of individual entrepreneurial capacities, institutional and market conditions, innovation mechanisms, organizational capabilities, and stakeholder relationships.

One of the central findings was the role of social entrepreneurial intention as a causal condition of innovative social entrepreneurship. This finding indicates that the development of social enterprises begins with a deliberate willingness to identify social problems, create social value, and commit resources to entrepreneurial action. In the present model, intention was not conceptualized merely as a psychological preference; rather, it involved practical planning, opportunity seeking, willingness to accept risk, and persistence in transforming ideas into operational ventures. This finding is consistent with research showing that social entrepreneurial intention is shaped by attitudes, subjective norms, awareness, and perceived capacity for action (Saufi & Hong, 2024). It also accords with systematic evidence emphasizing that social entrepreneurial intention is a critical antecedent of subsequent entrepreneurial behavior and should be studied in relation to contextual and motivational mechanisms (Kadyan & Jaiswal, 2026). The present findings further support the proposition that entrepreneurial motivation affects the intention-behavior relationship, particularly in emerging economies in which uncertainty and constraints can prevent intentions from being translated into action (Nayak, 2025). Likewise, proactive personality has been associated with entrepreneurial decision-making, suggesting that initiative and action orientation strengthen the movement from opportunity recognition toward entrepreneurial commitment (Wang, 2025).

Social entrepreneurial self-efficacy was also identified as an important causal factor. Participants emphasized confidence in identifying solvable social problems, designing technological solutions, evaluating the feasibility of opportunities, managing multidisciplinary teams, mobilizing financial resources, and tolerating uncertainty and failure. This result suggests that innovative social entrepreneurship requires perceived competence across both social and commercial domains. It is consistent with evidence demonstrating that social entrepreneurial role models can increase social entrepreneurial self-efficacy, intention, and actual entrepreneurial action (Maziriri et al., 2024). The finding is also supported by research emphasizing the importance



of entrepreneurial competencies when institutional support is expected to produce sustainable entrepreneurial outcomes (Uddin, 2026). Thus, self-efficacy can be understood as a mechanism through which entrepreneurs transform external opportunities into perceived actionable possibilities. In knowledge-based companies, where technological complexity and uncertainty are substantial, confidence in managerial, innovative, and resource-mobilization capabilities may be especially important.

Page | 17 Another significant finding concerned social entrepreneurial human capital. Specialized knowledge, entrepreneurial experience, familiarity with emerging technologies, understanding of youth-related social problems, and professional networks were identified as essential components. This finding reflects the knowledge-intensive nature of the firms examined in the study. Knowledge-based companies cannot produce socially innovative solutions solely through altruistic motivation; they require technical competence, market understanding, entrepreneurial learning, and access to knowledge networks. This result aligns with the concept of youth capability ecosystems, according to which entrepreneurial outcomes depend on the interaction among capabilities, business models, market structures, and ecosystem conditions (Amit, 2025). It is also compatible with findings indicating that entrepreneurship education and social responsibility-oriented learning can strengthen sustainable behavior and improve individuals' understanding of socially responsible enterprise development (Ahmed et al., 2024). Accordingly, human capital in social entrepreneurship should be understood as a combination of technical knowledge, social awareness, entrepreneurial experience, and relational capacity.

The results further demonstrated that social entrepreneurial support is a causal condition encompassing institutional support, legal facilitation, financing, innovation grants, low-interest credit, accelerators, mentors, and access to entrepreneurial infrastructure. This finding confirms that socially oriented entrepreneurs do not operate independently of institutional arrangements. Rather, the feasibility of social innovation depends partly on whether entrepreneurs can access resources and whether policy frameworks reduce or intensify the barriers associated with venture creation. Previous research has shown that exclusion from conventional financial systems can affect entrepreneurial behavior while simultaneously restricting growth opportunities (Avdukić & Khaleel, 2025). Alternative financing mechanisms may therefore be important for moving from entrepreneurial orientation to actual entrepreneurial activity (Solodoha, 2026). The present finding is also consistent with evidence that innovation-led entrepreneurship contributes more effectively to sustainable development when adequate financial support is available (Omri & Almoshaigh, 2025). In addition, Islamic banking and related financing structures may create alternative mechanisms for supporting entrepreneurial activity in Muslim-majority environments (Farzanegan & Badreldin, 2025). These findings collectively support the inclusion of social entrepreneurial support as a major causal component of the proposed model.

At the center of the model were social value creation and entrepreneurial innovation. The positioning of these constructs as the core phenomenon is theoretically meaningful because social entrepreneurship is distinguished from conventional entrepreneurship by its simultaneous concern with innovation and social impact. In the present study, social value creation involved youth empowerment, sustainable employment, reduction of deprivation, improved access to resources, and measurable improvements in the conditions of target communities. Entrepreneurial innovation involved new products, digital services, technological solutions, participatory processes, cost-reducing technologies, and innovative business models. This result is consistent with scholarship describing social entrepreneurship as an emerging mechanism for creating common good through entrepreneurial methods (Farroñán et al., 2024). It also corresponds with evidence that social entrepreneurship can contribute to poverty alleviation and sustainable development when social objectives are embedded within viable entrepreneurial mechanisms (Miah et al., 2024). Moreover, sustainable entrepreneurship orientation has been linked with sustainable innovation, reinforcing the idea that social value and innovation are mutually reinforcing rather than independent dimensions (Hamad, 2026).

The identification of entrepreneurial maturity, social market dynamism, and innovative entrepreneurial opportunities as contextual conditions further indicates that innovative social entrepreneurship is highly dependent on its surrounding environment. Entrepreneurial maturity included strategic clarity, process standardization, performance measurement, organizational learning, and transparent governance. Such characteristics provide the organizational stability necessary to transform innovative intentions into sustained impact. At the same time, social market dynamism reflected rapidly changing



youth needs, competitive pressure, technological developments, and policy fluctuations. Innovative opportunities emerged from unmet service needs, weaknesses in labor-market connections, unequal access to opportunities, and the availability of technologies such as artificial intelligence and digital platforms. These findings correspond with research showing that digital platforms increasingly shape entrepreneurial opportunities by altering access to information, markets, customers, and networks (Y. Wang, 2025). They also align with evidence that opportunity recognition among social entrepreneurs is influenced by experience, social awareness, networks, and sensitivity to unmet needs (Viswanath & Reddy, 2024). Research on youth social entrepreneurship similarly emphasizes the importance of strategy, innovation, and changing economic conditions in determining entrepreneurial possibilities (Alzate et al., 2024).

The role assigned to technological opportunities is particularly relevant given the accelerating influence of artificial intelligence and automation. Knowledge-based social enterprises are increasingly able to use digital technologies to personalize services, increase scale, reduce costs, and reach underserved populations. However, these technologies can also produce uncertainty, skill displacement, and new forms of inequality. This interpretation is consistent with research on automation and artificial intelligence indicating that technological transformation may widen or reduce socioeconomic divides depending on access, institutional readiness, and human capability development (Chigbu, 2026). Similarly, generative artificial intelligence has been shown to have both enabling and inhibiting effects on sustainable entrepreneurial intentions (Kong, 2025). Therefore, the finding that technological opportunity is embedded within a dynamic social market is important: technology does not automatically create social entrepreneurship; its effects depend on entrepreneurial capacity, strategic use, and alignment with genuine social needs.

The intervening conditions identified in the study—social institutional entrepreneurship, entrepreneurial infrastructure, and innovative entrepreneurial culture—also provide an important explanation of how external and internal conditions affect entrepreneurial processes. Social institutional entrepreneurship included regulatory innovation, institutional acceptance, legitimacy, transparency, and ethical responsibility. This is consistent with previous work emphasizing that legitimacy is fundamental to social enterprises because hybrid organizations must satisfy multiple institutional audiences and secure stakeholder trust (Huyler et al., 2024). Institutional arrangements can also influence whether social entrepreneurship improves economic well-being by facilitating or constraining entrepreneurial action (Aparicio et al., 2024). The present findings therefore suggest that social entrepreneurs must not only innovate in products and services but may also need to influence institutional structures, build legitimacy, and demonstrate accountability.

The importance of innovative entrepreneurial culture likewise supports a broader understanding of innovation as an organizational and social process. Participants emphasized experimentation, prototype development, learning from failure, feedback collection, knowledge sharing, and open innovation. This finding is consistent with evidence that local community engagement and business innovation can jointly contribute to sustainable development outcomes (Sulaiman et al., 2024). It also aligns with research suggesting that indigenous knowledge systems and culturally embedded strategies can increase entrepreneurial resilience and sustainable success (Aluko, 2025). Accordingly, innovative culture in knowledge-based social enterprises should encourage technological experimentation while remaining responsive to community knowledge, stakeholder feedback, and local social realities.

The findings concerning social institutional entrepreneurship and ethical legitimacy may also be interpreted in light of the cultural and Islamic context in which Iranian knowledge-based firms operate. Islamic entrepreneurship frameworks emphasize social justice, inclusion, responsibility, and sustainable economic participation rather than unrestricted profit maximization (Sukmana, 2026). Islamic entrepreneurial identity can shape how individuals define appropriate business behavior and understand the relationship between commercial activity and moral responsibility (Kunaifi, 2024). Similarly, business and spiritual dimensions have been incorporated into Islamic entrepreneurship measurement, suggesting that entrepreneurial excellence may include both economic and value-based criteria (Raza, 2023). Research grounded in Maqasid al-Shariah has also connected ethical behavioral characteristics with inclusive entrepreneurial intentions (Sarhan & Aziz, 2024). These perspectives reinforce the present finding that institutional value, ethical responsibility, and social legitimacy are integral rather than peripheral dimensions of social entrepreneurship.



The two strategies identified in the study were entrepreneurial resilience and social entrepreneurial interaction. Entrepreneurial resilience reflected strategic flexibility, crisis management, diversification of revenue, financial buffers, and strong support networks. This finding is particularly important for knowledge-based firms operating under unstable economic, technological, and regulatory conditions. Entrepreneurial resilience enables firms to alter business models while preserving their social mission. This interpretation is consistent with research emphasizing the importance of sustainable strategies and resource adaptability for resilient entrepreneurial success (Aluko, 2025). It also complements evidence indicating that impact scaling depends on resources, innovation performance, and sustainability orientation (Mrożewski, 2025). Resilience may therefore serve as the mechanism through which social enterprises remain operational while continuing to pursue long-term social objectives.

Social entrepreneurial interaction was characterized by collaboration with governmental agencies, private companies, universities, NGOs, charities, investors, and local communities. This finding demonstrates that social entrepreneurship functions through networks rather than through isolated organizational action. Such collaboration provides access to financial capital, knowledge, legitimacy, beneficiaries, and implementation resources. Previous research has identified a range of enabling factors and challenges that determine whether members of socially entrepreneurial initiatives convert intention into action (Otahe et al., 2024). Digital advocacy may also facilitate or inhibit social entrepreneurial development depending on how effectively online networks are translated into meaningful entrepreneurial engagement (Herani & Pranandari, 2024). The role of partnerships is further supported by evidence concerning community empowerment through Islamic social enterprise (Hati, 2023), social entrepreneurship for disabled communities (Jasiyah & Suriadi, 2024), and women's empowerment through socially entrepreneurial initiatives (Nidhan et al., 2024). Thus, interaction can be regarded as both a strategic resource and a mechanism for improving inclusiveness.

Finally, entrepreneurial sustainability and enhancement of social well-being were identified as the ultimate consequences of the model. Entrepreneurial sustainability included financial self-sufficiency, operational efficiency, scalability, stakeholder loyalty, and continuity of social impact, while social well-being included improved employment, income security, human capital development, participation, belonging, and social cohesion. The strong measurement-model quality coefficients obtained for these constructs further indicate their centrality to the model. These findings are consistent with the fundamental proposition that social entrepreneurship should produce both organizational continuity and societal benefit. Research on green development has similarly associated social entrepreneurship with socioeconomic and environmental improvements (Harsono, 2024). Studies of sustainable startups have emphasized that durable entrepreneurial success requires a combination of ecosystem support and organizational attributes (Oliveira et al., 2025). Corporate social responsibility research in Islamic financial contexts likewise highlights the importance of combining organizational performance with stakeholder responsibility and inclusive practices (Brescia, 2025). The findings therefore support the view that the success of innovative social entrepreneurship should not be assessed exclusively through venture survival or profitability but through its capacity to maintain operations while creating measurable improvements in social welfare.

Overall, the model developed in this study extends existing research by integrating individual, organizational, institutional, technological, cultural, and strategic dimensions into a single explanatory framework. Existing theories often concentrate on entrepreneurial intentions, individual competencies, or organizational outcomes separately, whereas the present findings demonstrate a sequential and interconnected process through which causal conditions shape the core phenomenon, contextual and intervening conditions influence entrepreneurial action, strategies facilitate adaptation and collaboration, and these processes ultimately produce entrepreneurial sustainability and social well-being. This systemic interpretation is consistent with organizational approaches emphasizing that entrepreneurial entities evolve through interacting processes, resources, and inducement–contribution mechanisms rather than through isolated variables (Powell, 2024). It also reinforces the broader proposition that sustainable entrepreneurial development requires simultaneous attention to institutional competence, innovation, resources, and social purpose. Accordingly, innovative social entrepreneurship in knowledge-based companies can be regarded as an ecosystem-dependent process in which technological capability acquires meaningful value only when it is aligned with social needs, entrepreneurial competence, institutional legitimacy, resilience, and collaborative action.

The present study has several limitations that should be considered when interpreting the findings. First, the qualitative component relied on a purposively selected group of experts, and although theoretical saturation was achieved and satisfactory inter-coder reliability was obtained, expert interpretations may still reflect contextual and professional perspectives specific to the participants. Second, the quantitative phase was conducted among managers and experts of knowledge-based companies, which may limit the generalizability of the model to conventional enterprises, nonprofit organizations, early-stage informal ventures, or organizations operating outside the Iranian institutional context. Third, the cross-sectional design of the quantitative phase does not permit strong conclusions regarding temporal causality or the evolution of the identified relationships over time. Fourth, several constructs in the proposed model, such as entrepreneurial maturity, institutional entrepreneurship, innovative culture, and social well-being, are multidimensional and may be influenced by contextual characteristics that cannot be fully captured through standardized questionnaire items. Finally, the use of self-report measures may have introduced common-method bias, social desirability effects, or overly positive assessments of organizational capabilities and social outcomes.

Future research is recommended to test the proposed model in different industries, geographical regions, organizational sizes, and institutional settings to determine its external validity and contextual stability. Longitudinal studies could examine how social entrepreneurial intention, innovation, resilience, and sustainability develop across different stages of the organizational life cycle and whether the strength of the proposed relationships changes as firms mature. Comparative research could also examine knowledge-based companies across different countries or economic systems and identify the institutional, cultural, and regulatory conditions that strengthen or weaken specific pathways in the model. Future studies may employ multilevel modeling to distinguish individual-level characteristics of entrepreneurs from firm-level capabilities and ecosystem-level influences. Additional research could also incorporate objective indicators of social impact, employment creation, revenue sustainability, innovation output, digital reach, and beneficiary outcomes alongside perceptual measures. Experimental and quasi-experimental studies may further evaluate whether interventions targeting entrepreneurial self-efficacy, digital capability, institutional networking, or resilience generate measurable improvements in innovative social entrepreneurial performance.

Managers and decision-makers in knowledge-based companies should treat innovative social entrepreneurship as an integrated organizational system rather than as a collection of isolated social responsibility activities. Companies should establish formal mechanisms for identifying unmet social needs, evaluating technological opportunities, measuring social impact, and integrating social objectives into strategic and operational decision-making. Investment in entrepreneurial human capital, multidisciplinary teams, mentoring, technological infrastructure, and continuous learning should be accompanied by mechanisms that strengthen entrepreneurial self-efficacy and encourage experimentation. Policymakers and innovation-support institutions should facilitate access to financing, accelerators, laboratories, low-cost technological resources, regulatory guidance, and partnerships between companies, universities, public institutions, investors, and civil-society organizations. Knowledge-based companies should also diversify their financing sources, develop contingency plans, strengthen liquidity reserves, and establish adaptive business models to improve entrepreneurial resilience. Finally, social impact indicators—including employment creation, skills development, inclusion, beneficiary satisfaction, and improvement in social well-being—should be incorporated into organizational performance systems so that economic sustainability and social value creation are managed simultaneously rather than as competing priorities.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.



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