

PREDICTIVE

MODELS OF SOCIAL INNOVATION IN SOCIAL ECONOMY INITIATIVES: EVIDENCE FROM ECUADOR

MODELOS PREDICTIVOS DE INNOVACIÓN SOCIAL EN INICIATIVAS DE ECONOMÍA SOCIAL: EVIDENCIA DESDE ECUADOR

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ABSTRACT

The present study aims to identify the predictors of social innovation in social economy initiatives in the city of Ibarra, Ecuador. Three types of organizations were considered, with 71 entities identified and grouped into three segments: savings and credit organizations, transportation services, and associations and production. For the analysis, three representative units from each typology were selected based on their sectoral characteristics. A two-phase data collection approach was employed: first, a pilot study was conducted to develop the scale, followed by the final analysis. The reliability of the instrument was assessed using Cronbach's Alpha, yielding a satisfactory value. Additionally, the Kolmogorov-Smirnov normality test was applied. Pearson correlation revealed significant relationships between the studied variables, with social value for customers showing the strongest correlation with social innovation. The stepwise multiple regression analysis indicated that innovation climate and social value for customers are the most robust predictors. The study highlights the importance of social capital, noting that organizations fostering solidarity and strong social relationships tend to have a greater positive impact on their clients' living conditions. Furthermore, social enterprises, by assuming financial risks, seek to generate significant social value in their communities.

Keywords: Social innovation, Social economy initiatives, Multiple regression, Social capital, Pearson correlation.

RESUMEN

El presente estudio tiene como objetivo identificar los predictores de la innovación social en las iniciativas de economía social en la ciudad de Ibarra, Ecuador. Se consideraron tres tipos de organizaciones, y se reconocieron 71 entidades agrupadas en tres segmentos: organizaciones de ahorro y crédito, servicios de transporte, y asociaciones y producción. Para el análisis, se seleccionaron tres unidades representativas de cada tipología, basándose en sus características sectoriales. Se empleó un enfoque de recolección de datos en dos fases: primero, se realizó un estudio piloto para desarrollar la escala, seguido por el análisis final. La confiabilidad del instrumento se evaluó mediante el

coeficiente Alfa de Cronbach, obteniendo un valor satisfactorio. Además, se aplicó la prueba de normalidad de Kolmogorov-Smirnov. La correlación de Pearson mostró relaciones significativas entre las variables estudiadas, destacando que el valor social para los clientes exhibió la correlación más fuerte con la innovación social. El análisis de regresión múltiple paso a paso indicó que el clima de innovación y el valor social para los clientes son los predictores más robustos. El estudio subraya la importancia del capital social, señalando que las organizaciones que fomentan la solidaridad y relaciones sociales sólidas tienden a tener un mayor impacto positivo en las condiciones de vida de sus clientes. Asimismo, las empresas sociales, al asumir riesgos financieros, buscan generar un valor social significativo en sus comunidades.

Palabras clave: Innovación social, Iniciativas de economía social, Regresión múltiple, Capital social, Correlación de Pearson

INTRODUCTION

Social innovation and its different theoretical and methodological foundations

Recently studies related to social innovation (SI) have spread around the world. Under this term the diffusion of social ventures and experiments in social organization which involve actors from government, business and civil society are often simultaneously labeled as social innovation.

SI has been gaining centrality and relevance in the discourses and practices promoted by social and political agents, even though it is recognized as a multidimensional and highly complex phenomenon (Nicholls et al., 2016). This growing interest has oriented the discussion and debate towards various areas among which can be cited: economics and social entrepreneurship; governance, including public policy and local participation; civil society and empowerment; and collective action; corporate social responsibility, social challenges and changes, and urban development strategies.

The first line of studies focuses on the main academic debates, which increasingly form an intricate network of projects, studies, conferences, and publications. In practice, the SI phenomenon is conceptualized in a flexible and open way. For some it is an ambiguous concept, covering both theoretical contributions, originating in a diversity of approaches and disciplines, and a great heterogeneity of practices originating in everyday social life. This situation poses a series of difficulties (not to say impossibilities) in establishing the theoretical and methodological foundations necessary to carry out rigorous research.

Advances in identifying three dominant positions in the process of conceptualizing Social Innovation (SI) have emerged. The first position focuses on non-technical innovations within the organizational context (Heap et al., 2008). The second emphasizes the connection between SI and technological innovation. The third examines SI as a new social practice.

In general, SI is understood as a way to create new and more effective responses to the challenges facing the world today. It is a field with no limits, it can be developed in all sectors, whether public or private, for-profit or non-profit, and where the most effective initiatives take place when there is collaboration among different areas, stakeholders, and beneficiaries. It is usually defined as “a novel solution to a social problem that is more effective, efficient (...) than existing solutions and for which the value created corresponds primarily to society as individuals rather than private individuals” (Phills et al., 2008, p. 39).

The Organization for Economic Co-operation and Development (OECD), while relating the SI to the identification and delivery of services that improve the quality of life of individuals and communities, has focused its attention on the need to advance in its understanding, particularly due to the recognition of the multiple nature of these processes and the absence of a consolidated definition and therefore the desirability of one (OECD, 2015). In such a way that part of the academic literature on the subject (Phillips et al., 2019), recovers the proposal elaborated by defining it as “... a group of strategies, concepts, ideas and organizational patterns with a view to expanding and strengthening the role of civil society in response to the diversity of social needs (education, culture, health)” (OECD, 2015, p. 13). Social needs and problems that have been inadequately and unsuccessfully addressed by both governments and the market.

Situated between theoretical analyses and pragmatic approaches aimed at transforming the social space is the second line of study identified by the authors, which focuses on measuring Social Innovation (SI). This line involves the development of indicators that consolidate the concept and enable the identification of such initiatives, as well as quantifying the capacity to innovate in social terms.

Associated with this line the research that leads to the present text is developed, whose objective is to determine the predictors for SI in social economy initiatives (SEI) in the city of Ibarra, capital of the Province of Imbabura in Ecuador. The predictors that were developed are oriented to the variables: climate of innovation, economic value, social value for clients, and social value for the community

in the SEI of this territory. According to Buckland & Murillo (2013), it is necessary to understand and address the urgencies in the most immediate context, and for this "... proven, tested and working initiatives are needed, which provide some kind of social impact - local or global - that is measurable..." (p. 6).

The text is structured as follows. The analytical framework related to the SI is identified, and its link with the SEI proposals is analyzed. Predictors for the SI in SEIs linked to the city of Ibarra are determined for the variables of climate for innovation, economic value, social value for the client and social value for the community. To achieve this objective, multiple linear regression is used to determine whether the explained variable (SI in SEIs) is correlated with the regressor variables (environment for innovation, economic value, social value for the client and social value for the community).

Social Innovation and Social Economy. Convergences

In the context of the crisis and the questioning of the global development paradigm, a third institutional sector of the economies, located between the State and the private for-profit sector, has gained in value. Called social economy (SE), it integrates private economic initiatives, controlled by the community and at the same time benefiting the social groups that compose them. Although it is not considered a new sector, since cooperatives and other associations have their origins in the 19th century, its potential has become more evident today.

Just like with IS, the literature on ES is abundant in terms of definitions and elements that comprise it. However, it is possible to find authors who manage to identify common features. Inglada et al., (2020), point out, for example, "the preeminence of the person over capital, the preponderance of the social object over particular benefits, the concurrence between particular and common interests, the respect for the principles of solidarity and responsibility, and the promotion of sustainable development." (p. 3).

Among the studies linking Social Innovation (SI) and Social and Environmental Initiatives (SEIs) are those that, in general terms, show the following results: (i) the social objectives of economic activity are prominently present in SEIs, (ii) SEI practices are highly active in innovation, and (iii) they contribute to social welfare. This sector fulfills macroeconomic and microeconomic corrective functions of different imbalances and substantive problems, of an economic and social nature (Stiglitz, 2009).

Although some authors consider the studies that have analyzed the review of the synergies generated between both fields as scarce, if the previous analysis is taken as a

starting point, it is possible to advance the thesis of convergence between SI and SE, by recognizing that both have a social mission, i.e., they provide social value to economic activity. This assumption is made concrete by considering that both can address social needs by providing innovative solutions capable of producing a change in social relations based on the inclusion of the most vulnerable groups and their participation in decision-making and access to sources of resources.

Another element that contributes to the effort to make these perspectives work together is the fact that the SI offers novel ways of addressing the unmet needs of the collectivity, often through the emergence of new forms of organization (EU, 2014). For their part SEIs, as an institutional form of the third sector, are characterized as inherently innovative in solving challenging social and economic problems (Monroe & Zook, 2018). This is aided by their ability to elicit all types of relationships with social actors of diverse backgrounds and characteristics, as well as their propensity to generate management models of a friendly and inclusive nature (Anheier et al. 2014).

The research is consistent with the second line of study identified, which lies between theoretical proposals and pragmatic approaches. The importance of determining the predictors is that they allow for measuring how Social and Environmental Initiatives (SEIs) in the city of Ibarra address social needs by offering innovative solutions, thereby demonstrating their capacity to foster Social Innovation (SI). This will enable the consolidation of a conceptual framework that relates SI to SEIs and quantifies how it materializes in practice.

The city of Ibarra, capital of the province of Imbabura, was identified as the context for the research. This city is recognized as a multicultural canton, with great ethnic diversity, so the issue of inclusion of the most vulnerable groups is a priority (López et al., 2019).

The hypotheses proposed for the study are:

H_0 : The combined model of Multiple Linear Regression of the variable construct does not positively correlate with social innovation in SEIs.

H_1 : The combined model of Multiple Linear Regression of the variable construct positively correlates with social innovation in SEIs.

MATERIALS AND METHODS

For the development of this research, three types of organizations that are generated from SE were considered,

that is, three forms of SEI. They are solidary economic initiatives, new forms of organization (Presta, 2020), and social initiatives.

Under these criteria, 71 organizations are registered in the city of Ibarra by the Superintendence of Popular and Solidarity Economy, which are structured in three segments: savings and credit organizations, transportation services, and associations and production. Three units of analysis were selected, one for each identified typology. The selection was based on the fact that, due to their sectoral characteristics, they can develop substantial processes for the organization, such as the process of social innovation.

Other aspects taken into consideration were the capacities generated for the creation of new solutions, coverage of social needs and creation of new types of relationships. Table 1.

Table 1. Organizations of popular and solidarity economy in the territory.

Types of popular and solidarity economy organizations	Number of organizations	Total selected unit of analysis	% Of participation in the study
Savings and loan organizations	13	1	30%
Transportation service organizations	47	1	30%
Production organizations and associations	11	1	40%
Totals	71	3	100%

Source: own elaboration.

A purposive sampling was used. Solano et al., (2021), consider that this is used on the basis that “the researcher decides, according to the objectives, the elements that will make up the sample, considering those units that are supposedly typical of the population to be known” (p. 232). The sample consisted of 100 people related to the organizations in which the study was carried out.

The three organizations are registered as SEIs in the city of Ibarra. The segments surveyed were managers (6%), employees (20%) and customers (73%).

In order to pilot the questionnaire used (Ahuja et al., 2020; Phillips et al., 2019), a panel of experts made up of academics and professionals was used (Bulut et al., 2013). The scale was constructed after a detailed analysis of definitions and propositions that appeared and were identified in the literature. It consisted of 20 items structured in five variables that measured social innovation, innovation climate, economic value, and social value for clients and for the community (Basantes-Andrade et al., 2023).

The design of the items took into account the different proposals collected in the literature, such as the correspondence between types of social economy organizations and manifestations of social innovation; the creation of new solutions, coverage of social needs and creation of new types of relationships; social impact, economic sustainability, type of innovation, intersectoral collaboration, and the scarcity and replicability of the innovation (Buckland & Murillo, 2013). The proposal includes indicators for sustainability, social innovation, social impact, social orientation, networks, scale, replicability, governance, participation, and heritage vectors. It also covers social impact, economic sustainability, types of innovation, cross-sector collaboration, scalability, and replicability. The “Experiences in Social Innovation in Latin America and the Caribbean” project, an initiative derived from ECLAC with the support of the W. K. Kellogg Foundation, took these criteria into account for the application, evaluation, and awarding of projects.

The responses to the questionnaire were marked by the subjects on a Likert-type scale (Ruíz et al., 2020). Cronbach's Alpha was assessed to obtain the reliability and construct validity of the instrument developed.

Afterwards, multiple linear regression was performed (Phillips et al., 2019), specifically, stepwise multiple regression analysis, aimed at identifying the predictive level for social innovation in social economy initiatives of the variable's innovation climate, economic value, social value for customers, and social value for the community.

- Dependent Variable.

Social Innovation.

Social innovation is a dynamic process driven by citizens to address social challenges. It prioritizes collective achievements and shared purpose, distinguishing it from private innovation. Social innovation varies in approach, scale, and direction based on the specific context. It generates value for society as a whole, not just individuals. These innovations enhance society's capacity to act and are driven by affected communities to meet their needs. They embody social values and aim to benefit society at large.

- Independent Variables.

Climate of Innovation

The approach to organizational climate must have a reference point to achieve its true purpose. A specific climate could enhance the social innovation developed by organizations. The innovative climate in social economy initiatives facilitates creativity and change, while empowering employees' independence in the search for new ideas. These aspects undoubtedly promote the development of innovations, regardless of their type.

Economic Value.

One of the fundamental objectives of social economy initiatives is to create value for the community and society at large, while also contributing to gaining competitive advantages. It is acknowledged that these organizations enhance economic effectiveness by generating innovations and strengthening their visibility within the environment and competition. This, in turn, reaffirms the creation of value and its corresponding economic sustainability. Additionally, these initiatives have a social goal of finding solutions to social problems.

Social Value for Customers.

Social value is a complex and integrative construct that encompasses the economic and social benefits generated by an organization, which enhance the lives of individuals or society as a whole. It is one of the most important variables in this study, closely aligned with the mission of social economy initiatives. Such organizations have a significant impact on territorial and social cohesion, which are fundamental pillars for societal development. For social economy organizations, creating social value for customers and the community is a central aspect of their operations. Despite the limited research on this aspect, evidence suggests a positive relationship between the performance of these organizations and the value they create for society.

Social Value for the Community.

It refers to the positive and tangible impact that an initiative, project, or organization has on the community in which it operates. It encompasses the social benefits generated

through activities and practices that address specific issues and needs of the community, enhancing their well-being and quality of life. It involves the ability of an initiative to generate significant and sustainable changes in areas such as social inclusion, equality, community cohesion, local economic development, environmental preservation, cultural promotion, and other aspects relevant to the community's well-being.

RESULTS AND DISCUSSION

The data collection method involved two steps: (1) a pilot study to develop the scale and (2) a final analysis (Bulut et al., 2013). A coefficient alpha ($\alpha=.70$) or higher was considered acceptable for the scale's reliability. The KMO index value was found to be 0.698, and the Bartlett's test of sphericity showed a p-value of < 0.000 , indicating that the 20 items structured across the five variables had a good fit. During the analysis, items that reduced the alpha value were eliminated, and this process was stopped once the desired alpha value was achieved. The final alpha value obtained was .739, which is quite satisfactory according to the established criteria. See Table 2.

Table 2. Reliability statistics.

Reliability statistics	
Cronbach's alpha	Number of items
.739	

Source: own elaboration.

We proceeded to assess whether a data sample follows a specific distribution. For this purpose, the Kolmogorov-Smirnov normality test was applied, considering a sample size of ($n=100$). The results indicated that there is no normal distribution of the data under the assumption of ($p \leq 0.05$) for all variables. Table 3.

Table 3. Normality tests: Kolmogorov-Smirnova.

Normality tests			
	Kolmogorov – Smirnova		
	Statistical	gl	Sig.
Y_Social innovation	0,309	100	0,000
X1_Innovation climate	0,457	100	0,000
X2_Economic value	0,422	100	0,000
X3_Social value for customers	0,378	100	0,000
X4_Social value for the community	0,357	100	0,000
a. Lilliefors significance correction			

Source: own elaboration.

A Pearson correlation was performed between the scales used. As shown in Table 4, all variables show a statistically significant relationship, with the variable 'social value for customers' exhibiting a strong correlation with social innovation ($R = .441$). On the other hand, 'economic value' and social innovation show a weak association ($R = .250$). The remaining variables show moderate relationships.

Table 4. Pearson correlation matrix between variables.

Correlations						
		Y	X1	X2	X3	X4
Y_Social innovation	Pearson correlation	1				
X1_Innovation climate	Pearson correlation	,329**	1			
X2_Economic value	Pearson correlation	,250*	,369**	1		
X3_Social value for customers	Pearson correlation	,441**	,507**	,433**	1	
X4_Social value for the community	Pearson correlation	,389**	,377**	,338**	,394**	1
** The correlation is significant at the 0.01 level (two-tailed)						
* The correlation is significant at the 0.05 level (two-tailed)						

Source: own elaboration.

The present study aimed to investigate the predictor variables of social innovation in SEIs in the city of Ibarra. In this regard, the identified hypotheses and established objective contributed to clarifying this issue.

This result is consistent with hypothesis H_1 : The combined multiple linear regression model of the construct of variables positively correlates with social innovation in SEIs. It is accepted. The multiple correlation coefficient is positive, showing significance.

The result is consistent with other studies that interrelate social entrepreneurship, leadership, social capital, organizational climate, social innovation, and both financial and social outcomes. In these proposals, organizational climate is highlighted as a fundamental organizing element, as it fosters a favorable environment for communication and participation, and facilitates the transmission of the project's vision, objectives, and essential values.

Another element of integration that highlights the result achieved corresponds to the ecosystem approach of the SI. It suggests that the SI usually arises in an ecosystem composed of individuals and organizations of various sectors and types. Social capital can be understood as the relationships and information flows, as well as the resources necessary for this ecosystem to be alive and operating (Buckland & Murillo, 2013, p.37). This interaction includes the creation of social value for both the customer and the community, which finds its description and support in the literature. In addition, organizations are oriented to conceive objectives of a social nature.

The other related variable concerns the economic performance of the Social and Environmental Initiative (SEI) and the adoption of innovative actions, which will improve its outcomes. The role of the social orientation of organizations is reinforced. It is highlighted that the social component in Social Innovation (SI) is combined with changes in social interactions, benefiting disadvantaged and socially excluded members of society.

Studies show that Social Innovation (SI) processes integrate human, financial, administrative, and technological resources. Additionally, they require the development of a combination of capacities and skills that enable initiatives or projects to be sustainable over time and generate favorable social transformations.

Once the reliability of the scales used has been analyzed and their correlation shown, we proceed to perform the step-by-step multiple linear regression analysis, using the forward method, to differentiate the contribution of each variable to the problem-solving test score. As can be seen in Table 5, the multiple correlation coefficient was positive ($R = .504$) and explains 22 percent of the adjusted variance (adjusted R^2).

In the first step of the analysis, economic value was included as a predictor in the equation ($R = 0.250$), explaining 0.5 percent of the adjusted variance (adjusted $R^2 = 0.053$) ($p \leq 0.05$) and serving as the baseline. In the second step, innovation climate was included as a predictor in the equation, followed by social value for the community and social value for customers. Each variable added to the model increased the predictive value of the predictor variables. Social value

for customers was recognized as the strongest predictor of social innovation in higher education institutions, explaining up to 25 percent (adjusted $R^2=0.223$) ($p \leq 0.05$). Table 5.

Table 5. Correlation matrix of predictor variables and dependent variables.

Summary of the model				
Model	R	R-squared	Adjusted R-squared	Standard error of the estimate
1	,250 ^a	0,062	0,053	1,129
2	,357 ^b	0,128	0,110	1,094
3	,460 ^c	0,211	0,186	1,046
4	,504 ^d	0,254	0,223	1,022
a. Predictors: (Constant), X2_Economic Value b. Predictors: (Constant), X2_Economic Value, X1_Innovation Climate c. Predictors: (Constant), X2_Economic Value, X1_Innovation Climate, X3_Social Value Customers d. Predictors: (Constant), X2_Economic Value, X1_Innovation Climate, X3_Social Value Customers, X4_Social Value Community				

Source: own elaboration.

Another approach to innovations recognizes that, at the organizational level, the success and effectiveness of changes depends on the overall effort made by the organization. Organizations that present a work environment characterized by initiative and psychological safety show a higher probability that their innovations will be implemented effectively. At the individual level, in addition to the relationship between innovation climate and work attitudes such as commitment, in recent decades its relationship with different levels of behavior, such as innovative and collaborative behaviors, has also been analyzed.

The results achieved by the organization, in general, are appreciated as an indicator of the viability of the initiatives developed. In the study conducted, this aspect has become more important for SEIs. These organizations have developed the characteristics of other institutions participating in the market. This may be caused by approaches to social enterprises (organizations that have a goal in common with social economy initiatives: to generate social value), and that try, to some extent, to justify or make it clear that this type of organization has a significant level of economic risk. Those who found a social enterprise assume all or part of the risk inherent in the initiative. Unlike most public institutions, the financial viability of social enterprises depends on the efforts of their members and workers to secure adequate resources. In addition, it should be considered that of the SEIs used in the study universe, two present a profit motive, even though they are in this indicated economic segment.

The literature on social capital shows that organizations that consider solidarity and existing social relationships, and seek to reinforce them through their intervention methods, establish a more reliable relationship with their target population and have a more positive impact on their

clients' living conditions. This is achieved through products designed and adapted to the specific needs of these clients (women, youth, ethnic minorities, unemployed, etc.) within their context (urban, rural), taking into account the size of the group, the diversity of activities among group members, their physical proximity, the quality of leadership, and the type of non-financial services proposed by the institution. In this regard, methods that promote training and information reinforce trust and create social capital. As shown in several case studies, the creation of social value is the most important characteristic of social organizations. It is about pursuing social progress by removing barriers to inclusion, assisting those temporarily weakened or lacking a voice of their own, and mitigating the undesirable side effects of economic activity.

CONCLUSIONS

Innovation as a complex social process has been performing for several years the task of facing the social difficulties to which various sectors of society are exposed. It has emerged as a systematic practice that places collective rather than individual results at its epicenter. In general, there is a regularity in the central aspects of the definitions that have been presented in this regard, although it is important to note the multiplicity and complexity of the proposals. All of them are directed towards the presentation of new solutions that the communities involved themselves develop to satisfy their needs and alleviate the broad difficulties they may present. This aspect gives it the dimension of being social both in its means and, more importantly, in its ends as well.

The different experiences that have been carried out express a variety in their manifestations being coherent with the multiplicity of definitions. These are interrelated with

aspects at the theoretical level, which makes it possible to consolidate a referential framework of theoretical and methodological scope. In addition, there are approaches to measurement and evaluation indicators. Finally, the recognition of the different initiatives will allow a knowledge of their functioning by discerning their characteristics and ways of acting.

The aforementioned aspects lead the debate towards the recognition of a variety of experiences with open and flexible foundations that allow the identification of a range of initiatives whose importance lies in allowing the analysis to be located in a heterogeneity of practices and proposals that are articulated with different theoretical and methodological foundations. Nevertheless, there are, as mentioned above, regularities especially in their social purpose.

With peculiarities similar to those described for the SI, the heterogeneity of proposals and scopes of SE is broad. The studies that address the convergences between both proposals, even though the synergies between both approaches, already described, are clear, are not widely systematized in the published scientific literature. If it is a question of recognizing and determining similarities, the role of the social in their projection must be made very clear. A wide range of studies linking both proposals have been examined, which provided the basis and orientation for the present research as a frame of reference. These, in general, made clear the socially oriented objectives in economic activities, the innovation functions that SEIs develop as a performance exercise, and a now recurrent aspect, the collective orientation of the purposes of both proposals, specifically social welfare. In other words, both can be oriented towards social needs.

The determination of the predictors as a result of the present research made it possible to consolidate the conceptual framework that interrelates the SI in SEIs, and to specify the variables that make it possible to measure how the three units of analysis of SEIs in the city of Ibarra, selected for the study, meet social needs by providing innovative solutions that account for their capacity to develop SI.

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