

ECOSYSTEMS OF INNOVATION: FACTORS OF SOCIAL INNOVATION AND ITS ROLE IN PUBLIC POLICIES

Martha Leticia Silva Flores
Profesora Escuela de Negocios ITESO
Tlaquepaque, Jalisco, México

David Murillo
Profesor Escuela de Negocios ESADE
Sant Cugat, Barcelona, España

Abstract

This article advances in the knowledge of social innovation and the formulation of policies that promote it through understanding the factors that restrain it and its role in public policies. Thereby, contributes to the framework for studying interventions related to innovation models that emerge from ecosystems interpreted from multidisciplinary approaches.

The research question: how to overcome challenges or obstacles to social innovation in growing ecosystems? It is answered with an empirical corpus over a period of three years, which gathers the vision of the actors involved in projects and experiences of social innovation in two ecosystems during the growth stage: Guadalajara in Mexico and Barcelona in Spain.

The response recognises constraining factors for social innovation 1) the lack of critical mass for social innovation. 2) the fragmentation of the efforts of the actors in the social innovation ecosystem. And 3) citizen participation. Based on these factors and the literature review, three strategies are proposed to incorporate into public policies and break with the restrictive behaviours that block social innovation: the first refers to mechanisms that connect scientific knowledge and citizens; the second is the construction of common frameworks for action by the different actors, and the third is citizen participation in social innovation projects.

Keywords: Social innovation, innovation policy, ecosystems innovation.

1. Introduction

Social innovation is a buzzword used frequently by policymakers in the context of development and marginalisation in urban and, recently, in rural social settings (Bock, 2016). Since, it has the potential to be used to identify the factors and leverage points that foster transformative change in a society and its governance (Biggs et al., 2010).

In this sense, the role of public policy in promoting social innovation is currently essential, as strategies are needed to help overcome the challenges or obstacles faced by actors in innovation ecosystems, that promote solutions to social problems through projects that are consciously oriented towards generating a positive impact. In this respect, the key question in terms of policy is: how can the challenges or obstacles of social innovation in growing ecosystems be overcome?

Social innovation has multiple meanings; even in the article published by Edwards-Schachter and Wallace (2017), they find 252 different definitions, so any explanation that can be given about social innovation is easily refuted. However, it is necessary to ask what is meant by social innovation to answer the question of “how to overcome the challenges or obstacles of social innovation in growing ecosystems?”.

Social Innovation refers to those innovative projects promoted by ecosystem actors that break with practices and routines in the system and open up the possibility of solutions to social problems more efficiently.

This aligns with the focus of The Social Innovation in Marginalised Rural Areas (SIMRA) definition, which sees social innovation as "the reconfiguring of social practices, in response to societal challenges, which seek to enhance outcomes on societal well-being and necessarily include the engagement of civil society actors" (Polman et al., 2017).

This approach to social innovation establishes a new directionality, seeking a different and positive impact on how a problem is conventionally solved or an action is carried out and is thought to impact ecosystem change because it begins to destabilise ecosystems.

An ecosystem is understood as a confluence of interrelated actors that fulfil a social function and is distinguished by its stability. Ecosystems can be defined as configurations of actors, technologies, and institutions to fulfil social functions that form a fundamental part of modern civilisation (Schot & Geels, 2008). They include regulations, user practices, cultural meanings, infrastructure, maintenance, and supply networks.

Therefore, this study is driven by the motivation to explore the endogenous capacity of the actors in the ecosystem to promote social innovation. For this purpose, social innovation experiences in two growing ecosystems are analysed, where interpretation is made from multidisciplinary approaches (Moulart & Sekia, 2003). In order to recognise the vision of the social innovation actors who were interviewed, for formulation politics public from the experience of each one.

We consider that ecosystems in the growth stage are those in an emerging or expanding phase (Moore, 1993), because both of these phases form part of the development of ecosystems. In this respect, an examination was made of how social innovation actors interrelate and interact in an ecosystem at an expanding phase (Barcelona, Spain) and at an emerging stage (Guadalajara, Jalisco, Mexico), with the aim of comparing the critical factors that restrain the generation of social innovation and proposing strategies to facilitate it.

The above is to increase our knowledge of promoting social innovation; even though social innovation is still a hazy concept in public actions designed to promote it. Therefore, strategies from the actors' perspective are included that emphasise how to resolve the challenges of the promotion of social innovation.

The analysis of the empirical material obtained from 86 interviews and observations over three years in both ecosystems is reported in five sections: The first addresses the theoretical social innovation framework based on the conceptual elements that provide an understanding of what thinking in terms of ecosystems means, considering the contributions of various authors, such as Bloom & Dees (2008), Jackson (2011), Adner (2010; 2012); Scheel (2012), Gobble (2014) and Hwang & Mabogunje (2013).

The second section is devoted to explaining the methodological design that was implemented to compare the two ecosystems, outlining the strategy used to select sources and the process of expanding on the empirical work. The analytical model was inspired by Yin (2009), Miles & Huberman (1994), Creswell (2009) and Flick (2007).

The third section presents the findings in both ecosystems: Guadalajara (GDL) and Barcelona (BCN), pointing out that in GDL, an incipient social innovation ecosystem is established, and in BCN, an ecosystem where there is a duplication of efforts that fragment it.

The findings are made in terms of factors that arise in the relations established between the actors of each ecosystem, leading to the identification of restraints on social innovation.

The fourth section presents the discussion around the restraints on social innovation to propose strategies to favour policies that stimulate the creation of innovations with social impact and that contribute to generate public value and greater well-being in the regions. The fifth and final section presents the conclusions of the work completed, reiterating three strategies for overcoming the restraints on social innovation.

2. Common ground, prior conceptions, and accumulated knowledge

2.1 Social innovation: clarification and harmonisation of the concept

Intending to provide clarity and harmonise the concept of social innovation, we must distinguish between the terms “social entrepreneurship”, “social enterprise”, and “social innovation”, which are sometimes used indiscriminately. In this respect, their scale of action is an essential factor in differentiating them. Thus, social entrepreneurship is focused on people, whereas social enterprise is focused on organisations, and social innovation is oriented towards the system (Westley & Antadze, 2010).

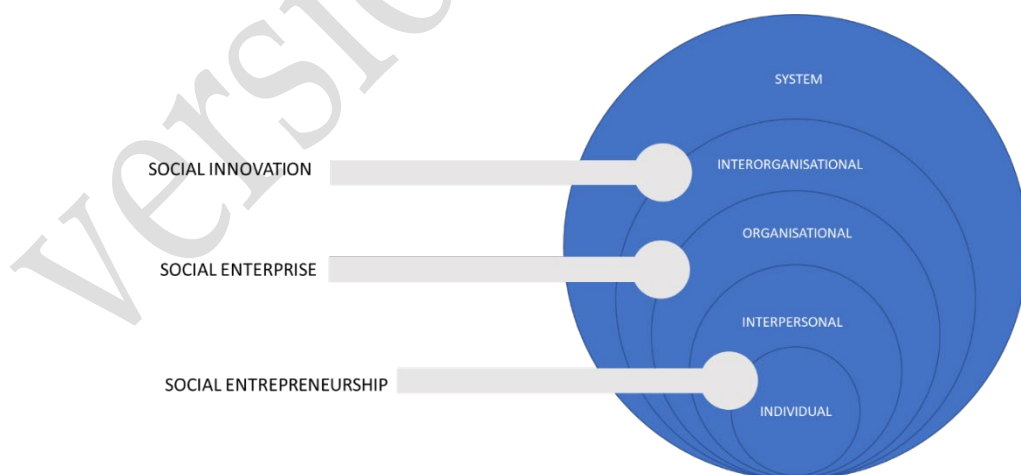


Figure 1. Adapted from Westley & Antadze (2013)

In this research, the concept of social innovation transcending the individual or organisational level and focuses on a system change to promote social solutions. Placing in relevance the said by Galego et al. (2021), Those who argue that practices that aim to satisfy neglected human needs, based on collective actions and tighter social relations, potentially generating socio-political transformations.

In this sense, social innovation proposes an approach of transformation towards a more sustainable environment, involving economic, social, ecological and political perspectives. It is, therefore, about transformations that require different actors to interact in an ecosystem.

Thus Mumford (2002), Murray, Caulier-Grice and Mulgan (2010) recognise that the concept of social innovation is related to creating new models of activity. In the same way, Moulaert & Nussbaumer (2005) position the social mission in the foreground, but they also refer to a systemic approach and the sustained participation of people, communities, organisations and institutions.

Considering the systemic vision of Moulaert & Nussbaumer (2005), the creation of new business models of Caulier-Grice and Mulgan (2010), and that the collective actions of Mumford (2002) and tighter social relations of Galego et al (2021). Is added to the analysis for this research the contribution of the Munk School of Global Affairs at the University of Toronto, which proposes an analytical framework that views social innovation as a process whose objective is social change, with creative social strategies in terms of agency and the capacity to bring about structural changes in the ecosystem (Pue, Vandergeest, & Breznitz, 2016).

2.2 Social innovation ecosystems: what does think in ecosystem terms mean?

Thinking in ecosystem terms is a relatively new and complex approach, given that it encompasses from far-reaching collaborative associations to shared infrastructure and administration of a community of innovators (Euchner, 2016). It has a similar potential used in different areas. For example: In the field of organisations, Gobble (2014) compares institutions and companies with organisms in an ecosystem that interact like a community, opening to collaboration and the exchange of knowledge. Moreover, in the field of Innovation, Granstrand and Holgersson (2019) consider an innovation ecosystem as an evolving set of actors, activities

and artefacts, as well as the institutions and relationships, including complementary and substitutive relationships, that are important for the innovative performance of an actor or a population of actors.

In contrast, in the field of social innovation, Pue et al. (2016) define the ecosystem as a complex network of individuals interacting in a given social space; it is the physical and cognitive area within which the members of a community interact. In this ecosystem, the social businessman or social entrepreneur develops a socially creative strategy; and, the actors promoting this socially creative strategy usually draw on aspects of the ecosystem.

Silva-Flores (2017) also recognises a social innovation ecosystem as a set of actors interacting with a specific purpose and role, assuming differentiated functions in social innovation. These functions can be categorised into three main categories: change agents (drivers of social innovation projects and/or experiences), enablers (capacity builders for social innovation) and beneficiaries (those who benefit from social innovation activities).

The above definitions converge in that an ecosystem is understood as interrelated actors that fulfil a social function and is distinguished by its stability. A definition that was described in 2008 by Schot & Geels, who defined ecosystem as configurations of actors, technologies, and institutions to fulfil social functions that form a fundamental part of modern civilisation (Schot & Geels, 2008). They include regulations, user practices, cultural meanings, infrastructure, maintenance, and supply networks.

For this research, a social innovation ecosystem essentially includes the processes established between the various actors in a system to promote the desired social change sustainably and effectively. Furthermore, this ecosystem has different processes depending on its stage of maturity, since ecosystems progress through four life cycle stages: birth, expansion, leadership and self-renewal or death (Moore, 1993). These stages have been adapted in high-tech sector environments by Dedehayir & Seppänen (2015) to examine their maturity.

In this article, work was done with the first two stages, birth and expansion, both part of the growth stage in an ecosystem. According to Moore (1993) and Dedehayir & Seppänen (2015), the “emerging” or birth stage is characterised by the existence of a central position in the ecosystem that is occupied by one of the actors, while the “expansion” stage is characterised by

replicating innovative experiences in other territories, consequently, the central position of the leading actor is dissolved. Considering the differences between the stages of emerging and expansion, the GDL ecosystem is recognised as being at an emerging stage and the BCN ecosystem at an expanding stage, while both are at a growth phase according to the actors' analysed processes.

2.3 Innovation policies: The relationship between social innovation and public policy

To examine how social innovations and policies interact, it is helpful to refer to the SIMRA project that has analysed the main influences of policies and policy frameworks on social innovation, which hinder and foster social innovation.

SIMRA is a United Nations Horizon 2020 project funded by the European Union, and its main objective is to advance knowledge on social innovation for the development of rural areas. SIMRA's definition of social innovation (which was given in the introduction to this article) highlights the differential element of social innovation to other types of innovation. The reconfiguration of social practices in response to social challenges necessarily includes civil society actors, and the problems they seek to solve affect a community and not just the individual. This highlights what Fabrizio, Pocztter & Zelner (2017) say that the most successful public policies come from collective action.

Through the different social innovation projects analysed by SIMRA researchers, it is recognised that policies are supported by stakeholder collaboration and participatory processes in general; and, they are mutually implicated, as Ludvig et al. (2017) note that they can be observed in terms of how policies can impact on social innovations, and social innovations can impact on policies, that can even trigger the creation of new policies or lead to improvements in existing institutional frameworks.

Also, to answer the question: how can the challenges or obstacles of social innovation in growing ecosystems be overcome? It takes into account the results of the "TEPSIE Project" (The Theoretical, Empirical and Policy Foundations for building Social Innovation in Europe), carried out between 2012 and 2014 by a consortium of prestigious research centres with the aim of designing the necessary instruments and policies to promote social innovation in Europe. One of

the project reports (Mendes et al., 2012) groups the different obstacles identified in the literature and during their research into two types of obstacles: (1) structural barriers, which refer to the context in which social innovation projects operate and which influence their development; and (2) internal barriers, which include everything related to the characteristics of the agents involved in the innovation project.

This is the typology of reference for defining policy proposals given the Science and Technology Consultative Forum publication in 2018. With proposals for the development of social innovation in Mexico distinguishes between the need to professionalise the agents that operate social innovation projects (internal barrier) and the need to develop a support structure for these projects such as support programmes, laboratories, funding programmes, business models and evaluation instruments (structural barriers).

3. Methodology

The research was in a qualitative paradigm to consider the perspectives of the different ecosystem actors, the points of contrast, tension, and consensus. For this purpose, a “case study” methodology was proposed, since it means a contemporary phenomenon can be studied in its actual context (Yin, 2009), permitting the research to be conducted where the action took place, considering the emergent and interpretative character of the object of study.

A methodological design was implemented to compare two case studies: The city of Guadalajara (GDL) as an emerging social innovation ecosystem and Barcelona (BCN) as an expanding social innovation ecosystem. These were chosen because both may be placed at growth stages that match Moore's ecosystem life cycle phases (1993), enabling the recognition of challenges and problems visualised by actors in developing ecosystems, as well as the identification of factors that can be incorporated into public policies that drive social innovation in these types of ecosystem.

The social innovation projects and/or experiences of both ecosystems were selected by meeting the five characteristics catalogued by Buckland & Murillo (2013, 2014): social impact, economic sustainability, intersectoral collaboration, scalability, and replicability. And, by

complying with the three premises of social innovation promoted by RESINDEX (Regional Index of Social Innovation) proposed by the Basque Innovation Agency (Innobasque) in collaboration with Sinnergia Social Innovation (UPV/EHU). The premises are: (1) social innovations are produced and disseminated by a wide heterogeneity of organisations. (2) Social innovations have a situated and localised character. And (3) social innovations are associated with knowledge absorption capacity.

In the BCN ecosystem, the following were selected: LabCoop¹, SoupStone², Laboratorios DAU³, Ship 2B⁴, Momentum Project⁵, Up Social⁶, Batec Mobility⁷, Güifi.net⁸, y Tandem

¹ Labcoop is a second-degree organization that is part of the cooperative group Ecos. This group was created in 2011 by eight worker cooperatives in the service sector, some of them referents of the cooperative movement in Barcelona, to strengthen the collaboration among them and promote cooperativism. Source: <http://www.ub.edu/innosogo/labcoop-grupo-ecos/>

² Stone Soup Consulting is a proactive and forward-thinking international consultancy with a social heart. That help optimise organisations and social innovation initiatives through collective processes of strategy creation and implementation, so that they achieve their greatest possible impact. Source: <https://stone-soup.net/our-story/>

³ DAU is a pharmaceutical laboratory with more than 20 years of experience dedicated to manufacturing and packaging medicines for third parties, whose mission is to work for equal opportunities in the labour insertion of people with mental disorders. Source: <https://www.laboratoridau.com/data/compromiso.php>

⁴ Ship 2B is an organization that promotes the Impact Economy with an economic model where the primary goal of startups, companies, investors and organizations is no longer to maximize their economic profitability but also their social and environmental impact. Source: <https://www.ship2b.org/fundacion-ship2b-sobre-nosotros-impulsamos-economia-impac/>

⁵ Momentum Project was an initiative of ESADE and BBVA aimed at promoting social entrepreneurship. To fulfil this purpose, Momentum had two lines of work: developing a program to consolidate and increase the impact of these ventures and creating an ecosystem to support social entrepreneurs. Source: <https://www.esade.edu/es/profesorado-investigacion/investigacion/unidades-conocimiento/instituto-innovacion-social/investigacion/emprendimientos-sociales/momentum-project>

⁶ Up Social is an organization that contributes to solving social challenges with innovations aimed at scaling their impact. It proposes to strengthen the agents of change in the face of complex challenges and to change contexts. The capacity of each actor is critical to promote innovative and scalable solutions. Source: <https://www.upsocial.org/es/quienes-somos>

⁷ Batec Mobility is a social enterprise of a collective of people with mobile disabilities who promote an inclusive, active lifestyle. They manufacture handbikes, with which they achieve a positive impact on their quality of life through improved mobility. Moreover, they employ people with and without disabilities, promoting labour inclusion. Source: <https://batec-mobility.com/es/quienes-somos>

⁸ Güifi.net is a citizen-driven technological, social and economic project that aims to create an open, accessible and neutral telecommunications network based on a commons model, promoting a model of collaborative, sustainable and proximity-based economic activity. Source: <https://guifi.net/node/20627>

Social⁹. In the GDL ecosystem, the following were selected: Social Valley¹⁰, MITef México¹¹, GDL en Bici¹², Hexal¹³ y SUNU Band¹⁴.

These projects and/or experiences of social innovation were analysed from a systemic approach, in which is possible to gain a holistic view of the object of study, and this perspective constitutes a new strain of thought about innovation (Hwang & Mabogunje, 2013) which places emphasis on the processes of innovative communities, acknowledging of human interaction is recognised as a tool for explaining how innovation ecosystems flourish (Charalabidis, Loukis, & Androustopoulou, 2014) and how they change over time (Silva-Flores & Ladrón de Guevara, 2019)

The compilation and systematisation of data were inspired by Miles & Huberman's analytical model (1994), using different sources related to the cases. And for Moulaert, Mehmood, MacCallum & Leubolt (2017), which establish that social innovation must be interdisciplinary and transdisciplinary which help in the interpretation of the data. The snowball technique was employed to select the sources and techniques that support an in-depth focus on empirical work, such as the semi-structured interview (Creswell, 2009), direct observation (Flick, 2007) and analysis of documents.

⁹ Tandem Social is a non-profit worker cooperative of social initiative. They have been working since 2011 under cooperative principles and through collective management and ownership and have implemented 55 programs for economic, social, environmental, educational, and cultural transformation. Source: <https://www.tandemsocial.coop/es/>

¹⁰ Social Valley is a community of entrepreneurs with a vocation for social entrepreneurship, which aims to create companies where success is determined by resolving a social problem and not by the money that is billed. Source: <https://www.responsabilidadsocial.net/social-valley-una-comunidad-de-emprendedores-con-vocacion/>

¹¹ El MIT Enterprise Forum (MITef) is a global organization with 17 chapters in eight countries, affiliated with the Massachusetts Institute of Technology. It was born under a collaboration and sought to attract and create networks with a vision and passion for driving innovation and regional entrepreneurship. MITef Mexico refers to the office in Mexico. Source: <http://www.mitefmexico.org/informacion>

¹² GDL en Bici, is an organization of women and men who, since 2007, have come together to work towards a common goal: to live in cities where all people have the right to urban mobility that guarantees safe, inclusive and efficient transportation in a healthy and socially just environment. Source: <https://gdlenbici.org/quienes-somos/>

¹³ Hexal is a social innovation project that promotes an intelligent device in the form of a vest illuminated by a series of LEDs to make the user-visible to any other vehicle, accompanied by luminous signals to improve communication between cyclist and driver. Source: <https://mx.socialab.com/challenges/ideasdeimpactoidea/idea/27894>

¹⁴ SUNU Band is a social innovation project that promotes a smart sonar band that improves navigation for the visually impaired. Sunu Band increases the user's awareness of personal space, reduces accidents, and improves confidence while providing the visually impaired with smoother and more enjoyable mobility. Source: <https://www.sunu.com/es/faqs.html>

Data analysis was conducted under the following premise inspired by Bloom & Dees (2008): “Mapping the ecosystem affords an understanding of the environmental conditions for the identification of critical aspects that make it difficult for innovation to develop,” and so a response can be made to the research question. What factors limit or restrain social innovation in ecosystems during the growth stage?

As an analytical scenario, the proposal and research question show: innovation ecosystems in a growth stage, including the birth stage (emergence) and expansion. As an object of study, they show the social innovation existing in these scenarios. Furthermore, as a unit of analysis, the critical factors that make the development of social innovation difficult. The cases selected show different stages in the life cycle of a social innovation ecosystem, and each represents a typical case.

In each case, the investigation was made from the actors, the role they play and the events during the birth and expansion stages of the ecosystem. Evidence was mainly obtained from observations of 2 innovation festivals, two bootcamps, 1 MEGA Startup Weekend, 1 MIT Enterprise Forum and 12 community meetings, in addition, to 86 interviews with various actors in both ecosystems, including entrepreneurs, businessmen and women, investors, government personnel and members of civil society. More than 3,000 data units were analysed from observations and interviews to categorise the challenges identified by the different actors in the ecosystems studied.

Interviews were conducted with key informants from each entity to gain access to information about social innovation in itself and its impact on the ecosystem. Following the review of the results of the round of interviews, it was decided to observe specific events to promote and expand the ecosystem. All the interviews were staged with a semi-structured framework to guide the conversation with flexibility in the dialogue. The interviews lasted between 45 minutes and one hour. The audio recordings of the interviews were transcribed, and the transcription records were systematically compiled to reveal vital information. In turn, this information was compared with the notes and observations made. In this way, triangulation was performed between various key actors in each ecosystem (Yin, 2009). This applies case study methodology to generate new theories based on empirical validation (Eisenhardt, 1989).

4. Factors of Social Innovation: Study Results

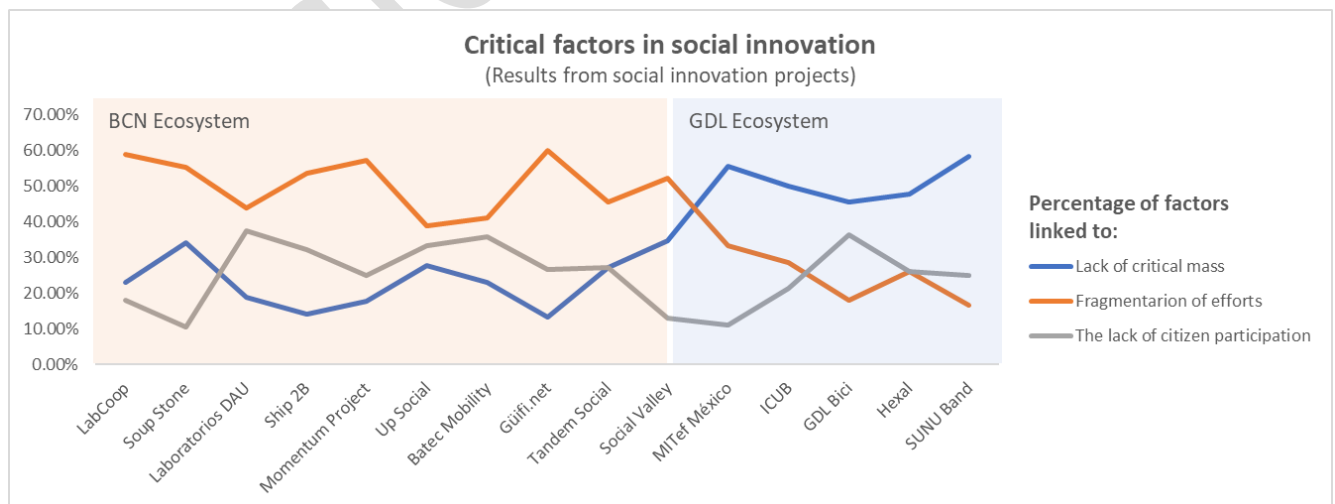
Following what was contemplated in the methodology of this article, findings start from the premise that the study of the ecosystem affords an understanding of the environmental conditions for the identification of factors that make it difficult for innovation to develop, thus allowing for the recognition of the restraints on social innovation in ecosystems.

For this purpose, first report on the results of the evidence-based empirical analysis of GDL and BCN, considering the RESINDEX Index, which links absorptive capacity of knowledge and social innovation (Unceta, Castro-Spila & García-Fronti, 2016). This to recognise the process by which actors in the ecosystem identify a social problem (causes, effects, etc.), assimilate it (based on their internal pattern of knowledge), explore solutions (products, prototypes, services, methods) and interact with each other to be part of a possible solution through a role and function within the ecosystem.

4.1 Critical factors in social innovation

Graph 1 shows the results by categories of analysis that were identified in more than 3000 data units obtained from the interviews and observations made to different actors linked to experiences and/or projects of social innovation in the GDL and BCN ecosystem. The results determine the critical social innovation factors in these ecosystems.

Graph 1. Factors in Social Innovation



Source: author's research

It is interesting what can be observed in graph 1 about the importance given by the actors to the critical factors of social innovation. For example, actors in the BCN ecosystem give greater relevance to addressing the fragmentation of efforts through policies for innovation than actors in the GDL ecosystem. On the other hand, the lack of critical mass is more relevant for GDL ecosystem actors than for BCN actors.

This can be understood by the stage of maturity in which each GDL (emerging) and BCN (expansion) ecosystem is. As described in the introduction of this article Moore (1993) and Dedehayir & Seppänen (2015), consider that the "emerging" stage of an ecosystem is characterised by the existence of a central position by an actor, which can be seen in the GDL ecosystem, where the central position is held by the Secretary of Innovation, Science and Technology of Jalisco (SICyT), which in some way orchestrates the interactions of the other actors in the social innovation ecosystem. Meanwhile, in the "expansion" stage, which is characterised by the replication of innovative experiences throughout the territory, as in the case of BCN, the different actors perceive the fragmentation of the efforts of the different projects as one of the factors that limit social innovation.

The above can be supported by what is described in Table 1. Table 1 below only includes a sample of the units of data analysed and categorised according to each interviewee's understanding. The results are shown by category:

Table 1. Restraints compiled

Restraint on innovation categories	Evidence
Lack of critical mass	<i>"There is little critical mass, it is difficult to believe, but we all seem to be doing the same thing; there are many programmes that support social entrepreneurs and there is not enough critical mass" CEO of LabCoop – BCN</i> <i>"We do not have proposals that resolve social problems through high social impact solutions" CEO MITef México</i>
Fragmentation of efforts	<i>"(...) on many occasions we compete among ourselves; I think what is missing is the creation of networks to support each other" Co-ordinator of Momentum Project</i>

	<i>“there is a certain battle in the form of a struggle, a jostling for position over who is going to accomplish things with respect to public policies and the administrative bodies, but also with respect to companies, over what the right approach to social entrepreneurship and innovation is, so everyone creates their own little chapel and has their faithful or their followers.” CEO of LabCoop</i> <i>“(…) since the training programme that brought all the actors together ceased to exist, everyone has tended to go their own way. Now, perhaps, it is a somewhat fragmented ecosystem.” Director of creativity and innovation at social organization</i> <i>“Some universities are creating their own ecosystem and they're not talking to each other; there are no common forums, common frameworks or anyone keeping a lookout and at least explaining what the others are doing; this doesn't exist!” CEO of Stone Soup</i>
The lack of citizen participation	<i>“it's always the same people at all the events... the world of social entrepreneurship is very small” Participant in Social Valley, Mexico</i> <i>“There is a lot needed for it to work, one thing being an intermediary platform, not necessarily physical or virtual... it's what we need, an intermediary service that is in communication with everyone”. Entrepreneur in the BCN ecosystem</i> <i>“(…) the lack of information is a problem, to get people to take part, in other words, something more open is needed, because what is working now are closed circuits that are manipulated by each person, and the information remains on that level, so what is required is something more open in which the information flows” CEO of Stone Soup, BCN</i>

Source: author's research

4.1.1 The lack of critical mass

The lack of critical mass in the case of GDL is noticeable due to the absence of sustainable projects that have a social impact since, according to observations and the data units analysed, the majority of the ecosystem actors limit themselves to preparing events to promote and raise awareness about social innovation. Thus, the links established between them are agreed upon for a short-term objective, for example, mentoring, event logistics, the loan or rental of installations.

In the case of BCN, the lack of critical mass is reflected in the result of proposals lacking social innovation, as noted by Ship 2B, Tandem Social and the LabCoop cooperative. Given the aforesaid, BCN can be seen as an ecosystem expanding in social innovation practices of certain successful cases such as Laboratorios DAU, but it is still seeking to expand these practices that contribute to the solution of social problems.

The insufficiency of social innovation projects in GDL and the appearance of not very innovative projects in BCN can be linked to low levels of critical mass. For example: in the GDL ecosystem, social entrepreneurs tend to be the only source of social development. In contrast, in expanding ecosystems, promoters groups and organised citizens play a more critical role in raising awareness of problems, facilitating practices to satisfy social needs, and empowering citizens.

4.1.2 The fragmentation of efforts

The fragmentation of efforts reveals the need for common frameworks for action and channels of communication, so that the efforts made by social innovation actors in the ecosystems may be harnessed. In BCN, actors aim to promote projects for social transformation, but none of these actors has initiatives where they may seek to generate co-operation between them to face the challenge together and achieve greater efficiency in their work.

According to empirical evidence and the information gathered from the actors in the ecosystem, among the strategies that should be considered in the design of a public policy to foster cohesive efforts are information channels to publicise efforts that could be complemented

among actors. For example: at first sight, all the actors who promote social enterprise do the same, but looking more closely at the processes of these actors, in the BCN ecosystem, differences can be found that place the work of each one of them in specific areas. Stone Soup specialises in impact measurement, LabCoop in collaborative economics, Ship 2B in accompanying entrepreneurs in early stages and seed round financing, and Momentum Project in accompaniment in expansion and financing stages in series A. Up Social implements already proven social innovations, accelerating the process of change. Furthermore, at Ship 2B, they work in the field of challenges. They could all complement each other and create synergies in joint assignments, a situation that rarely occurs, leading to the fragmentation of efforts.

Meanwhile, in GDL's emerging ecosystem, actors' efforts are concentrated on generating an atmosphere that enables them to be seen as an important actor for social innovation, and they seek recognition from the ecosystem. In GDL, the leading actor, SICyT, plays an active role, but, at the same time, other actors hope that it is through SICyT that social innovation is developed. This constitutes a weak element insofar as there is no evidence of successful projects, representing a restraint on the consolidation of social innovation because there are no synergies to facilitate the success of projects.

4.1.3 Citizen participation

Citizen participation is another of the differences found in the ecosystems of GDL and BCN; the groups are much stronger and more organised in BCN than in GDL. In GDL, only two groups are linked to social innovation experiences were identified, one of them is the school for blind children in Guadalajara linked with SUNU Band, a device that uses sonar technology and haptic feedback to improve the perception, orientation and navigation of the visually impaired; and the other one, is the group GDL en bici linked with HEXAL, a project whose objective is the safety of thousands of cyclists through a luminous device that makes the cyclist more visible.

In contrast, in BCN, many groups attend to a wide range of social needs. For example, there are groups linked with 80 community social service programmes, of which 56 give special attention to vulnerable groups or groups with specific social problems, and 24 provide basic social services. Each of these programmes is directly related to communities or civil

organisations that can benefit from social innovation projects, and 68 of them are related to citizen initiatives that operate in BCN.

This participation of groups and citizens in the BCN ecosystem endows the social innovation projects with more significant value; for example, the telecommunications network guifi.net is a pioneering social innovation project and one of the most important globally. With more than 2,500 telecommunication nodes, it covers the shortfall in coverage and supply that the large telecommunications companies do not cover. It does this thanks to citizens' empowerment through training in fibre optic cabling and administration of internet nodes. Thus, this social innovation succeeded in making guifi.net one of Spain's largest broadband internet companies, with a collaborative economy model that competes with Telefónica, one of the most important companies in this sector in Europe.

5. Discussion: Public policy proposals for social innovation

In the previous section, the restraints on social innovation ecosystems were identified by considering their processes, to propose strategies to develop a policy proposal focused on the vision of ecosystem actors. It was taken as a starting point the restraints which were identified in section 4 of this research. Then the discussion considers different authors to understand how to put forward a public policy based on collective action (Fabrizio, Poczter, & Zelner, 2017), the empowerment of the participating agents (Georghiou, Edler, Uyarra, & Yeow, 2014), and a deeper understanding of the human and social forces in movement (Moulaert, Mehmood, MacCallum, & Bernhard, 2017).

The above enables us to explore the economic, political, cultural, demographic and institutional systems that help to deal with deep-rooted social problems. In this respect and following the data compiled, a picture is gained of the processes of the ecosystem, as shown in Figure 2, where the processes of the social innovation ecosystem are described.

The analysis emanates from the three restraints on social innovation:

- The lack of critical mass (i) that affects the generation of social innovation projects;
- The fragmentation of efforts (ii) that limits collective impact and channels of communication between actors;
- The lack of citizen participation (iii) in collaborative spaces, such as hackerspaces, makerspaces, innovation laboratories, innovation centres and a variety of innovation events.

The identification of these elements resulted from understanding social interactions in movement, as referred to by Moulaert, Mehmood, MacCallum & Bernhard (2017); y, The review of the literature to give an overview of what has been proposed in the face of similar problems and studies. The discussion is presented in terms of establishing strategies to help solve the constraints found in both ecosystems.

Therefore, this section aims to present strategies to promote public policies that will generate lines of action to innovation and development, aiming to orient the efforts of the ecosystem actors towards greater efficiency in the generation of social innovation.

5.1 The first line of action: Connection between scientific knowledge and social agents

This first strategie has its origins in empirical evidence that shows the lack of critical mass for social innovation (Figure 2), which is visualised in the lack of projects of this kind in the GDL ecosystem. This finding is important because it allows us to recognise that capacities must be developed in the actors of social innovation and matches what Sánchez-Carreira & Peñate-Valentin (2018) report about the accurate identification of the regional singularities, resources and capabilities that centres may constitute the basis for building new capabilities and competences in the regional level.

Furthermore, the above this is supported by the work conducted by Van Wyk (2004), who notes the central role of scientific knowledge in the resolution of specific problems, and Asheim & Coenen (2005), who refer to the importance of linking this type of knowledge with social skills. Khavul and Bruton (2013) emphasise the need to involve

beneficiaries in promoting sustainable innovations, particularly in developing countries. The data compiled suggests the need to create bridges that link the scientific knowledge generated at universities or research centres with agents familiar with the social problems to be resolved.

In this respect, account must be taken of what Fontan calls “the double process in innovation”: first, it is essential to ensure the capacity of operation of a project based on its “institutionalisation”, that is to say, the efforts required to construct a social use of innovation; and then, secondly, its social and political outreach must be assured, in order to model a path on which innovation can secure social transformation (Fontan, Hamel, Morin, & Shragge, 2009). Fontan's double innovation process is seen as key to developing a policy that facilitates social innovation.

Indeed, creating means of connection between the actors that produce scientific knowledge with groups, organisations, and actors familiar with social problems is a task that must be part of a public policy that stimulates innovation.

5.2 The second line of action: Common frameworks for action

The second strategie emerges as a proposal to deal with the “fragmentation of efforts”, primarily in expanding ecosystems that reveal innovation projects arising from isolated efforts with little cohesion. This perception is shared by authors such as Arocena and Sutz (2000) and Georghiou, Edler, Uyarra & Yeow (2014), who define these types of innovation systems as strengths that are micro-innovative, but isolated and encapsulated (Arocena & Sutz, 2000).

Furthermore, evidence shows the BCN and GDL ecosystems with actors that generate social innovation individually, thanks to their talent. This encapsulation causes fragmentation and shows up the need for common frameworks in order to stimulate social innovation, for example, the European model known as "the innovative milieu", developed by GREMI, is a project that depends on the innovative skills of a specific context, which generates knowledge while building a structure for social innovation (SINGOCOM, 2007).

The GREMI proposal of work is based on analysing the relationships between the project and the physical and social environment. The “innovative milieu” model shows that common frameworks for action are possible because they harness efforts and recognise the skills of different actors to connect these and transform individual innovation skills into collective innovation skills (Proulx, 1992).

This is done in such a way that it is necessary to consider the skills of actors such as innovators, beneficiaries, research centres and universities (Dedehayir & Seppänen, 2015) to build collective skills of innovation (Silva Flores, 2017), to propose public innovation policies that avoid redundant efforts and allow for synergies between them. Even, it is recommended to incorporate a tool for measuring the implementation of grassroots product-oriented social innovations, as the one proposed IIGPOSI (Index of Implementation of Grassroots Product-Oriented Social Innovation) of Zajda & Pasikowski in 2020.

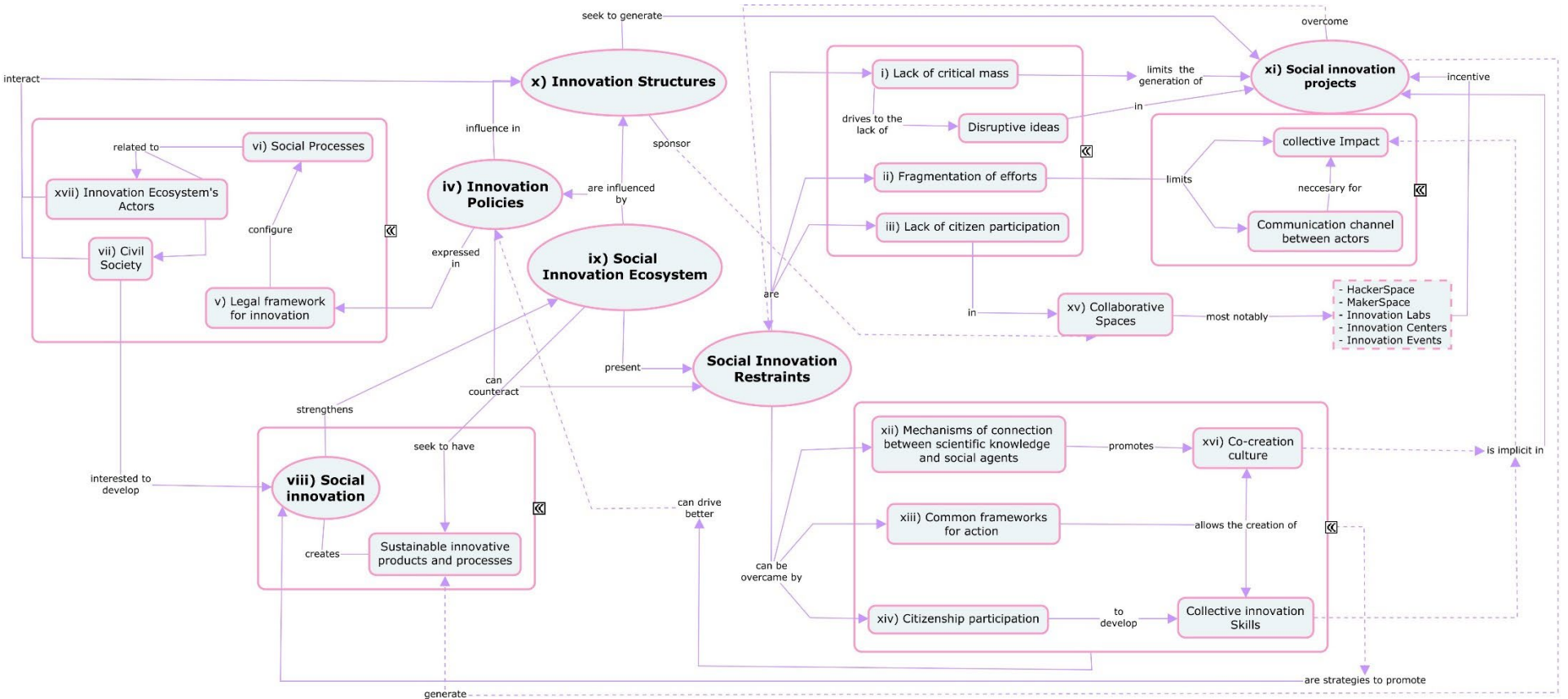
5.3 The third line of action: citizen participation

According to the data analysis, the lack of citizen participation is one of the restraints on developing innovation ecosystems. Findings show emerging ecosystems with minor citizen organisation and participation (as shown in section 4 of this article). The findings emphasise that the greater contact with groups or organisations linked with social problems, the greater the social transformation, coinciding with Von Jacobi et al. (2017) that effective social innovation depends on the citizens' participation.

Consequently, citizen participation is essential for formulating public policies; this is supported by many studies that underline the beneficial role of citizen participation in generating public solutions to social problems (Moulaert, Mehmood, MacCallum, & Bernhard, 2017). For example, the European Commission's Expert Group on Social Entrepreneurship identifies the lack of citizen participation as one of the principal obstacles to activating priorities for European social enterprise (GECES, 2016). In the same vein, the report produced by the European Economic and Social Committee (2016) observes that collaborative networks must be used to drive citizen participation in the design and management of public policies.

Other research reinforces the role of citizen participation in innovation ecosystems with the participation of companies, universities and even regions (Belussi, Sammarra, & Sedita, 2010), or other investigations that embrace ideas in networks beyond their own domain (Woiceshyn & Eriksson, 2014), or when the need to include beneficiaries of social innovation (Silva-Flores, 2017) and users in the first stages of innovation is highlighted, so that innovative ideas may be viable (Annanperä, Liukkunen, & Markkula, 2015). This leads to considering that citizen participation could accelerate social innovation (Edquist & Zabala, 2012) in emerging ecosystems and consolidate expanding ecosystems.

Figure 2. Processes involved in the social innovation ecosystem



Source: author's elaboration

Figure 2 shows the relationship between the three lines of action to suggest public policies that will promote innovation strategies with the social innovation restraints that can be overcome by: linking mechanisms between the different actors in the ecosystem (xii); common frameworks for action (xiii); and, citizen participation (xiv).

It shows that citizen participation in collaborative spaces (xv) can incentivise social innovation projects (xi), which helps ecosystems to overcome social innovation restraints. Also, the mechanisms of connection between scientific knowledge and social agents (xii), such as common action frameworks (xiii), promote a culture of co-creation (xvi) that is implicit in social innovation projects (xi).

Also, Figure 2 visualise that the social innovation ecosystem (ix) is influenced by public innovation policies (iv) expressed in the legal framework (v) that configure social processes (vi) between actors in the ecosystem (xvii) and civil society (vii); that interact in the innovation structures (x) and enable social innovation projects (xi) that encourage the social innovation ecosystem (ix).

These interactions are shown in fig 2 and propose how an ecosystem with potential for new products and projects resulting from social innovation (xi) can be developed. Projects which appear in various fields – for the case of the ecosystems studied, some examples are in the field labour (Laboratorios DAU); social inclusion (SUNU Band); and quality of life (Batec Mobility). In this way, Figure 2 also shows that innovation policies (iv) influence the structures that support social innovation (x) by promoting spaces of collaboration (xv) that are: hackerspaces, co-working spaces and innovation festivals. These interactions are necessary for promoting social innovation (Moulaert, Mehmood, MacCallum, & Bernhard, 2017).

6. Conclusions

This article has formulated policies based on the critical factors found from the vision of actors in two ecosystems BCN and GDL, both ecosystems during the growth stage. The research question is: how to overcome the challenges or obstacles of social innovation in growing ecosystems? In searching for the answer, it was recognise the strategies favouring and stimulating social innovation and consider incorporating lines of action into policies or operational

mechanisms that support the orientation of efforts towards greater efficiency and effectiveness in developing innovation ecosystems.

The work was based on the recognition of the vision of the actors in GDL and BCN ecosystem. These ecosystems were chosen because they are both in the growth stage: one is emerging (GDL), and the other is expanding (BCN). Furthermore, both the GDL and the BCN ecosystems have shown themselves to be highly dynamic recently, driving social innovation in Mexico and Spain, respectively, and demonstrating that different initiatives seek social transformation in each of their regions.

In this respect, and following the data analysed, three critical factors are reported: The first factor is the lack of critical mass for social innovation to take place, which leads to the establishment of an incipient ecosystem in the case of GDL and an ecosystem with social innovation gaps in the case of BCN. The second factor is the fragmentation of efforts by social innovation ecosystem actors, which leads to the co-existence of several micro-ecosystems, creating the demand for common frameworks for action that stimulate collaboration between actors. Moreover, the third factor is citizen participation. In the case of BCN, this represents a factor of citizen empowerment, and in the case of GDL, scant participation has a restraining effect on social innovation.

Based on these critical factors, three lines of action were proposed as strategies to be incorporated into policies focused from the perspective of the ecosystem actors. According to Fabrizio, Pocster and Zelner (2017), innovation policies focused on demand have a more significant impact than innovation policies focused on supply. These lines of action or strategies are as follows:

The first element is the connection between scientific knowledge and social agents. With this connection, the intention is to address "the absence of a critical mass" to make social innovation projects more viable. Consequently, it is proposed to generate mechanisms of connection between the actors that produce scientific knowledge (Van Wyk, 2004) and social agents (Khavul & Bruton, 2013) as a strategy to be incorporated into innovation policy.

The second element stems from the challenge to create common frameworks for action that will lead to collaboration and fortify the social innovation ecosystem. For this purpose, open innovation processes are proposed, because according to Belussi, Sammarra and Sedita (2010), these processes align the actors in a framework of action and thus help social innovation in the

region. Also, Spender et al. (2017) suggest that open innovation support the translation of innovativeness into the success of the start-ups, including not only the promoters of social innovation but also the communities of entrepreneurs, so that a robust and free-flowing connection is maintained (Stilgoe, Owen, & Macnaghten, 2013) between the social actors for the formulation of sustainable public policies.

The third element is citizen participation. We propose a common public framework to stimulate citizen participation (European Economic and Social Committee, 2016) in innovation structures (Silva Flores, 2017) supported by regulatory mechanisms and models of collective governance in democratic and participative processes (Bria, 2015).

It is thought that these three lines of action or strategies can improve the processes of social innovation that are established in ecosystems during the growth stage. Incorporating these strategies is considered viable because they have been reported and analysed in other studies (this is identified in section five of this article); because they were revealed through the interactions and connections between the actors that currently operate both in the GDL and BCN ecosystems. Furthermore, based on these, thought can be given to the pertinence of policies based on public demand as an engine for the development and diffusion of innovations (Edquist & Zabala, 2012), innovation strategies and development plans that orient the efforts of the ecosystem actors towards their region's development.

Thus, this article is a precursor in comparing two social innovation ecosystems (BCN and GDL) from the vision of their actors, facilitating the understanding of social innovation factors and their role in public policies. This is useful as a theoretical contribution to the study on interventions related to innovation models that emerge from ecosystems (Hwang & Mabogunje, 2013), where interpretations are made from multidisciplinary approaches (Moulaert & Sekia, 2003; Moulaert et al., 2017).

Bibliographic Reference

Adner, R. (2012). *The Wide Lens_ A New Strategy for Innovation*. U.S.A.: Porrfolio/Penguin.

Adner, R., & Kapoor, R. (2010). Value creation in innovation ecosystems: How the structure of technological interdependence affects firm performance in new technology generations. *Strategic Management Journal*, 31, 306-333, doi: 10.2139/ssrn.1353582.

- Annanperä, E., Liukkunen, K., & Markkula, J. (2015). Innovation in Evolving Business Ecosystem: A Case Study of Information Technology Based Future Health and Exercise Service. *International Journal of Innovation and Technology Management*, Vol. 12, No. 4, 1550015 (20 pages).
- Arocena, R., & Sutz, J. (2000). Looking at National Systems of Innovation from the South. *Industry and Innovation* 7(1), 55-75.
- Asheim, B. T., & Coenen, L. (2005). Knowledge bases and regional innovation systems: Comparing Nordic clusters. *Research Policy*, 1173-1190.
- Auvinet, C., & Lloret, A. (2015). Understanding social change through catalytic innovation: Empirical findings in Mexican social entrepreneurship. *Canadian Journal of Administrative Sciences*, Vol 32, 238-251.
- Babson University. (2014). *Report 2013*. Babson Park, Massachusetts 02457-0310: Babson Press.
- Bathelt, H., & Glücker, J. (2003). Toward a relational economic geography. *Journal of Economic Geography*, 3, 117-144.
- Belussi, F., Sammarra, A., & Sedita, S. R. (2010). Learning at the boundaries in an "Open Regional Innovation System". *Research Policy*, 710-721.
- Biggs, Reinette, Frances R. Westley y Stephen R. Carpenter (2010). "Navigating the back loop: fostering social innovation and transformation in ecosystem management", en *Ecology and Society*, 15 (2):9.
- Bloom, P., & Dees, G. (2008). Cultivate your Ecosystem. *Stanford social Innovation Review*, 47 - 53.
- Bock, B. B. (2016). Rural Marginalisation and the Role of Social Innovation; A Turn Towards Nexogenous Development and Rural Reconnection. *Sociologia Ruralis*, 56(4), 552-573. doi:10.1111/soru.12119
- Bria, F. (2015). *Growing a digital social innovation ecosystem for Europe*. Luxembourg: Nesta Publications Office.
- Buckland, H., & Murillo, D. (2013). *Vías hacia el cambio sistémico Ejemplos y variables para la innovación social*. Barcelona: Instituto de Innovación Social, ESADE Universidad Ramon Llul.
- Buckland, H., & Murillo, D. (2014). *La innovación social en América Latina: Marco conceptual y agentes*. Barcelona: ESADE.
- Camarinha-Matos, L., & Afsarmanesh, H. (2008). *Collaborative networked organizations*. Lisboa: Springer.
- Charalabidis, Y., Loukis, E., & Androustopoulou, A. (2014). Fostering Social Innovation through Multiple Social Media Combinations . *Information Systems Management*, Vol. 31, 225-239.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. EUA: Sage.
- Dedehayir, O., & Mäkinen, S. J. (2011). Determining reverse salient types and evolutionary dynamics of technology systems with performance disparities. *Technology Analysis & Strategic Management*, 23 (10), 1095-1114.
- Dedehayir, O., & Seppänen, M. (2015). Birth and Expansion of Innovation Ecosystems: A Case Study of Copper Production. *Journal of Technology management & innovation*, Vol 10, No. 2.
- Edquist, C., & Zabala, J. M. (2012). Public Procurement for Innovación as misión-oriented innovation policy. *Research Policy*, Vol 41, Issue 10, 1757 -1769.
- Edwards-Schachter, M. & Wallace, M. (2017). 'Shaken, but not stirred': sixty years of defining social innovation. *Technological Forecasting and Social Change*, Vol 119, issue C, 64-79
- Eggers, J., & Kaplan, S. (2013). Cognition and Capabilities. *The Academy of Management Annals*, 7:1, 293 - 338.

- Eisenhardt, K. (1989). Building Theories from Case Study Research. *Academy of Management Review*, Vol. 14, No. 4, 532-550.
- Euchner, J. (2016). Ecosystem Innovation. *Research Technology Management*, Vol 59 (2, 910), 9-10.
- European Commission. (2016). *Social enterprises and the social economy going forward*. Belgium: Commission Expert Group on Social Entrepreneurship (GECES).
- European Economic and Social Committee. (2016). *Opinion of the European Economic and Social Committee on 'Social innovation, networking and digital communication*. <<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014IE4902&from=EN>>: Official Journal of the European Union, 2016/C 013/16 .
- Fabrizio, K., Pocster, S., & Zelner, B. A. (2017). Does innovation policy attract international competition? Evidence from energy storage. *Research Policy*, 1106-1117.
- Flick, U. (2007). *Introducción a la investigación cualitativa*. España: Morata.
- Fontan, J. M., Hamel, P., Morin, R., & Shragge, E. (2009). Community organizations and local governance in a metropolitan region. *Urban Affairs Review*, Vol 44, Num 6, 832-857.
- FCCyT (2016). Ecosistema de Innovación Social en México. Foro Consultivo Científico y Tecnológico. México, D.F.
- FCCyT (2018a). Nuevos enfoques de la innovación: Inclusión social y sostenibilidad. Foro Consultivo Científico y Tecnológico. México, D.F.
- FCCyT (2018b). Innovación social: Desarrollo teórico y experiencias en México. Foro Consultivo Científico y Tecnológico. México, D.F.
- FCCyT (2018c). Propuestas para el desarrollo de la innovación social en México. Foro Consultivo Científico y Tecnológico. México, D.F.
- GECES. (2016). *Social enterprises and the social economy going forward* . Belgium: European Commission - Commission Expert Group on Social Entrepreneurship.
- GEM. (2013). *Monitor Global de la Actividad Emprendedora en México 2012*. Retrieved 03 26, 2014, from Global Entrepreneurship Monitor Report on Social Entrepreneurship: <http://www.gemconsortium.org/docs/376/gem-report-on-social-entrepreneurship-executive-summary>
- Georgiou, L., Edler, J., Uyarrá, E., & Yeow, J. (2014). Policy instruments for public procurement of innovation: choice, design and assessment. *Technological Forecasting and Social Change*, Volume 86, 1-12.
- Giddens, A. (2006). Estructura, sistema y reproducción social. In A. Giddens, *La constitución de la sociedad. Bases para una teoría de la estructuración* (pp. 193-253). Buenos Aires: Amorrortu.
- Giedrius, J., Juceviciene, R., Gaidelys, V., & Kalman, A. (2016). The Emerging Innovation Ecosystems and "Valley of Death": Towards the Combiantion of Entrepreneurial and Institutional Approaches. *Inzinerine Ekonomika-Engineering Economics*, 27(4), 430–438.
- Gobble, M. (2014). Charting the Innovation Ecosystem. *Research Technology Management*, 55 - 59.
- Granstrand, O. & Holgersson, M. (2020). Innovation ecosystems: A conceptual review and a new definition. *Technovation*. Vol. February. DOI:10.1016/j.technovation.2019.102098
- Guindeo, L. (2016, febrero 20). Entrevista Ecosistema de innovación social BCN. (M. L. Silva, Interviewer)

- Hulgard, L. (2010). Social Entrepreneurship. In K. Hart, J. L. Laville, & C. Cattani, *The Human Economy, a Citizen's Guide* (pp. 293-300). London: Polity Press.
- Hwang, W., & Mabogunje, A. (2013). The New Economics of Innovation Ecosystems . *Stanford Social Innovation Review*.
- Jackson, D. (2011). What is an innovation ecosystem? *Arlington, National Science Foundation*.
- Khavul, S., & Bruton, G. (2013). Harnessing Innovation for Change: Sustainability an Poverty in Developing Countries. *Journal of Management Studies* 50:2, 285-306.
- Ludvig, A.; Weiss, G.; Živojinovi'c, I.; Nijnik, M.; Miller, D.; Barlagne, C.; Perlik, M.; Hermann, P.; Egger, T.; (2017) D6.1. Social Innovation in Marginalised Rural Areas Project (SIMRA). Available online: <http://www.simra-h2020.eu/index.php/deliverables/>
- Malmberg, A., & Maskell, P. (2002). The elusive concept of localization economies: towards a knowledge-based theory of spatial clustering. *Enviroment and Planning A*, 34, 429-449.
- Mehmood, A., & Parra, C. (2013). Social innovation in a unsustainable world. In F. Moulaert, D. MacCallum, A. Mehmood, & A. Hamdouch, *The International Handbook on Social Innovation* (pp. 53-66). London, UK: MPG Printgroup.
- Mendes, A., A. Baptista, Meneses Fernandes, L. & V. Verdelho (2012). Barriers to Social Innovation. A deliverable of the project: The theoretical, empirical and policy foundations for building social innovation in Europe (TEPSIE).
- Miles, M., & Huberman, M. (1994). *Qualitative Data Analysis*. Los Angeles: SAGE Publications.
- Moore, J. F. (1993). Predators and Prey: a new ecology of competition. *Harvard Business Review*, May-June pp: 75-86.
- Moulaert, F., & Nussbaumer, J. (2005). Defining the social economy and its governance at the neighbourhood level: A methodological reflection. *Urban Studies*, 42(11), 2071.
- Moulaert, F., & Sekia, F. (2003). Territorial Innovation Models: A Critical Survey. *Regional Studies*, Vol 37, 289-302.
- Moulaert, F., MacCallum, D., & Hillier, J. (2013). Social innovation: intuition, precept, concept, theory and practice. In F. Moulaert, D. MacCallum, A. Mehmood, & A. Hamdouch, *The International Handbook on Social Innovation* (pp. 13-24). Massachusetts: Edward Elgar.
- Moulaert, F., Mehmood, A., MacCallum, D., & Bernhard, L. (2017). *Social Innovation as a Trigger for Transformations - The Role of Research*. Luxembourg: European Union.
- Moulart, F., & Sekia, F. (2003). Territorial Innovation Models: A Critical Survey . *Regional Studies*, 37, 289-302.
- Mulgan, G. (2007). *In and out of sync: The challenge of growing social innovations*. London: Nesta.
- Mumford, M. D. (2002). Social innovation: Ten cases from benjamin franklin. *Creativity Research Journal*, 14 (2), 253-266.
- Murray, R., Caulier-Grice, J., & Mulgan, G. (2010). *The open book of social innovation*. National Edowment for Science: Technology and the Art.
- Newth, J., & Woods, C. (2014). Resistance to Social Entrepreneurship: How Context Shapes Innovation. *Journal of Social Entrepreneurship*, Volumen 5, 192-213.
- OCDE. (2013). *Startup América Latina: Promoviendo la Innovación en la Región*. Estudios del Centro de Desarrollo: OECD Publishing.

- OECD/European Communities. (2005). *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*. 3d ed: OECD/EC.
- Phills, J. A., Deiglmeier, K., & Miller, D. T. (2008). Rediscovering social innovation. *Stanford Social Innovation Review*, 6, 34-43.
- Polman, N., Slee, W., Kluvánková, T., Dijkshoorn, M., Nijnik, M., Gezik, V. and Soma, K. 2017. Classification of Social Innovations for Marginalized Rural Areas, Deliverable 2.1, Social Innovation in Marginalised Rural Areas (SIMRA). pp. 32.
- Proulx, M. (1992). Milieux innovateurs et développement régional. *Revue Canadienne des Sciences Régionales*, XV:2, 143-148.
- Pue, K., Vandergeest, C., & Breznitz, D. (2016). *Toward a Theory of Social Innovation*. Canada: Innovation Policy White Paper Series 2016-1 de la Munk School of Global Affairs, University of Toronto.
- Sánchez-Carreira & Peñate-Valentin (2018). Public Procurement of Innovation. A Regional Analysis of the Spanish Experience. *Journal of Regional Research*, núm. 40, pp. 79-107
- Schaltegger, S., & Wagner, M. (2011). Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions. *Business Strategy and the Environment*, 20, 222-237.
- Scheel, C. (2012). El enfoque sistémico de la innovación: ventaja competitiva de las regiones. *Journal of Management and Economics for Iberoamerica*, Vol. 28.
- Schumpeter, J. (1969). *Teoría del Desarrollo Económico*. México: Fondo de Cultura Económica.
- Silva-Flores, M. L. (2017). *Innovación Social en las infraestructuras emergentes de innovación en países de renta media: Caso Guadalajara, Jalisco*. Guadalajara: ITESO.
- Silva-Flores, M.L. & Ladrón de Guevara-Jiménez, M. (2019). Social Innovation Policies: A Way Through Consolidating Emerging Innovation Infrastructures. *The Innovation Journal*. Vol. 24, No. 3 pp 1-19
- Schot, J. & Geels, F. (2008) Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy. *Technology Analysis & Strategic Management*, DOI:10.1080/09537320802292651
- SINGOCOM. (2007). *Social innovation, governance and community building*. Bruselas: European Communities.
- Sinnergiak. (2013). *RESINDEX, Regional Social Innovation Index*. País Vasco: Innobasque Agencia Vasca de la Innovación.
- Stilgoe, J., Owen, R., & Macnaghten, P. (2013). Developing a framework for responsible innovation. *Research Policy*, Volume 42, Issue 9, 1568 - 1580.
- Sundaramurthy, C., Musteen, M., & Randel, A. (2013). Social value creation: A qualitative study of indian social entrepreneurs. *Journal of Developmental Entrepreneurship*, Vol. 18, No 2, 1350011 (20 pages).
- Unceta, A., Castro-Spila, J. & Garcia-Fronti, J. (2016). Social innovation indicators Social innovation indicators. *Innovation The European Journal of Social Science Research*. Vol 29(2), DOI:10.1080/13511610.2015.1127137
- Van Wyk, R. J. (2004). *A template for graduate programs in management of technology (MOT)*. Report to the Education Committee, International Association for Management.
- Vander Have, R. P., & Rubalcaba, L. (2016). Social Innovation Research: An emerging area of innovation studies? *Research Policy*, 1923-1935.
- Von Jacobi, N., Nicholls, A. & Chiappero-Martinetti, E. (2017). Theorizing Social Innovation to Address Marginalization. *Journal of Social Entrepreneurship*. Vol 8(3): 265-270. DOI:10.1080/19420676.2017.1380340

- Warren, K. (2013). Chaos Theory and Complexity. *Encyclopedia of Social Workers*, Oxford University Press.
- Westley, F., & Antadze, N. (2010). Making a difference: Strategies for scaling social innovation for greater impact. *The Innovation Journal: The Public Sector Innovation Journal*, Vol 15(2), 22- 41.
- Woiceshyn, J., & Eriksson, P. (2014). How innovation systems in Finland and Alberta work: Lessons for policy and practice. *Innovation: Management policy & practice* 16:1, 19-31.
- World Bank Group & OECD. (2017). *Innovation definitions and fundamentals: Social innovation*. Retrieved 01 30, 2018, from The Innovation Policy Platform: <https://www.innovationpolicyplatform.org/content/social-innovation>
- Yin, R. (2009). *Case Study Research: Design and Methods*. Los Angeles, EUA: Sage.
- Zadja, K, Pasikowski, S. & A. Kretek-Kaminska (2020). The implementation of grassroots product-oriented social innovations by non-governmental organisations: proposal of a measurement tool. *Innovation: The European Journal of Social Science Research*. DOI: 10.1080/13511610.2020.1742668