

How social impact and innovation have been related in the academic literature?

MARY FERNANDA DE SOUSA DE MELO
UNIVERSIDADE DE SÃO PAULO (USP)

RODRIGO TROTTA YARYD
UNIVERSIDADE DE SÃO PAULO (USP)

ROBERTA DE CASTRO SOUZA PIÃO
UNIVERSIDADE DE SÃO PAULO (USP)

WILLERSON LUCAS CAMPOS-SILVA
UNIVERSIDADE DE SÃO PAULO (USP)

BEATRIZ DOS SANTOS BEZERRA

HOW SOCIAL IMPACT AND INNOVATION HAVE BEEN RELATED IN THE ACADEMIC LITERATURE?

1. INTRODUCTION

The globalization and the advancements in the technological and informational fields, together with the development of the emerging economies, involve a range of societal challenges. These challenges show up in different areas, from health and well-being, which incorporate issues related to food security, sustainable agriculture and forestry, going through transport, migrations, climate action, environment and resource efficiency, which raises questions concerning freedom and security of the population (Grimm, Fox, Baines, & Albertson, 2013).

Every challenge involves an opportunity to be solved. Technology plays a role in this sense, as increases the capability of identifying social needs and, throughout this, increases the low-cost possibilities to solve specific social issues. Some examples of the integration of technology to solve new economic paradigms are: sharing economy (Hamari, Sjöklint, & Ukkonen, 2016), circular economy (Ghisellini, Cialani, & Ulgiati, 2016) and inclusive economy (Hall, Matos, Sheehan, & Silvestre, 2012).

When combining societal challenges with technological opportunities, arises the concept of social innovation, that in this article is construed in accordance with Mulgan (2006, p. 146) as “innovative activities and services that are motivated by the goal of meeting a social need”. Practical effort of social innovation can be found in different sectors and countries, as: communication system (e.g. Pedius in Italy), solar energy systems (e.g. We Care Solar in California); bank sector (e.g. Banco Palmas and Banco Pérola in Brazil); training (e.g. Albergo Etico in Italy); food system (e.g. Hot Bread Kitchen in New York); consultancy and training (e.g. Timewise Foundation in London), medical center (e.g. Dr Consulta in Brazil); among others.

Nevertheless, despite the existence of many social issues, all the disparity created through the market failures and the performance of organizations with the intention to act in these gaps through “social innovation”, there is no consolidated definition for this concept in the literature (Bignetti, 2011; de Bruin & Stangl, 2013; Pol & Ville, 2009). This vagueness is due to the junction of two complex words (“social” and “innovation”), that carry, according to (de Bruin & Stangl, 2013), “interpretive challenges”.

As Cajaiba-Santana (2014) points out that, until now, the literature related to social innovation evidences that the research about this topic is still based, mostly, on case studies and anecdotal evidence (Mulgan, 2006; Murray, Caulier-Grice, & Mulgan, 2010). This fact leads to a fragmented characteristic of the theme that is spread through different fields such as urban and regional development (Moulaert, Martinelli, Swyngedouw, & Gonzalez, 2005), public policy (Guth, 2005; Klein, Tremblay, & Bussi res, 2010), management (Clements & Sense, 2010; Drucker, 1987), social psychology (Mumford, 2002) and social entrepreneurship (Lettice & Parekh, 2010; Short, Moss, & Lumpkin, 2009).

Based on Heeks, Foster, and Nugroho (2014) vision that the use of innovation to improve the wealth of higher income consumers and the productivity of formal enterprises only aiming the economic development contributes to the perpetuation of an innovation of inequality, it is formulated the following question: which subjects emerges when integrating “social impact” and “innovation” in the scientific literature? In this context, it was developed a systematic review of literature of articles published in the Web of Science database followed by a bibliometric network analysis.

2. SOCIAL INNOVATION: AN OVERALL IDEA OF THE CONCEPT

According to Phills, Deiglmeier, and Miller (2008) approach, is understood that to get across in a better way the term “social innovation”, is required the definition, in an independently way, of the separated words “social” and “innovation”, with a subsequent junction.

Schumpeter, seen as the “father” of innovation, “stated that economy expansion is directly dependent on innovation” (Medeiros, Ribeiro, & Cortimiglia, 2014, p. 76). In line with his ideas, it is considered innovation as the deployment of a product (good or service), process or business practice that is new or significantly enhanced (Camisón & Monfort-Mir, 2012; Gopalakrishnan & Bierly, 2001). And since the beginning, innovation was seen as a way through which companies achieved competitive advantage, having a strategic importance (Porter & Kramer, 2011).

Bearing in mind the types of innovation, it is detailed in the Table 1 present and exemplify the social innovation types and some examples through the Table 1 Caulier-Grice et al. (2012).

Table 1
Typology of Social Innovation

Types of social innovation		Examples
i)	New products	Assistive technologies developed for people with disabilities (voice synthesizers)
ii)	New services	Mobile banking (MPesa in Kenya)
iii)	New processes	Peer-to-peer collaboration and crowdsourcing
iv)	New markets	Fair Trade or time banking
v)	New platforms	New legal or regulatory frameworks or platforms for care
vi)	New organizational forms	Community interest companies
vii)	New business models	Social franchising, or just in time models applied to social challenges

Note. Adapted from “Social innovation overview: a deliverable of the project: “The theoretical, empirical and policy foundations for building social innovation in Europe” (TEPSIE),” by J. Caulier-Grice, A. Davies, R. Patrick, and W. Norman, 2012, European Commission - 7th framework program. European Commission, DG Research, Brussels.

Social innovation is being perceived as the merge of the “innovation” definitions that consider products, services and business models new or importantly improved, and that, at the same time, meet the social needs of the society in a more efficient way than the existing ones (Murray et al., 2010). Stemming from the charity vision, and becoming a profitable way of doing business and providing market-based solutions for social problems, the social innovation changes the way that business sees social change, introducing a new opportunity for doing business (Saul, 2011).

With the aim of facilitating the definition of an action as socially innovative, (Caulier-Grice et al., 2012, p. 19) propose the following five elements:

- a) Novelty: Social innovations do not need to be completely original or unique. However, they do have to be new in some way to qualify as a social innovation – either new to the field, sector, region, market or user, or to be applied in a new way. Perceived novelty to the unit of adoption is a critical feature of our working definition;

- b) From ideas to implementation: there is a distinction between the formulation of a new idea and the practical implementation and application of that idea into a financially sustainable service or initiative (an innovation);
- c) Meets a social need: social innovation is that it is explicitly designed to meet a social need (being those things which can cause serious harm or socially recognizable suffering when not met);
- d) Effectiveness: social innovation should be more effective than existing solutions. That is, it should create a measurable improvement in terms of outcomes;
- e) Enhances society's capacity to act: Empowers beneficiaries by creating new roles and relationships, developing assets and capabilities and/or better use of assets and resources.

To summarize the characteristics that define a social innovation, Table 2 is presented.

Table 2

Common features of social innovation

Common features	Description
a) Cross-sectoral	Occur at the interfaces between sectors and involve actors from across sectors
b) New social relationships and capabilities	Social innovations are developed 'with' and 'by' users and not delivered 'to' and 'for' them. They can be identified by the type of relationships they create with and between their beneficiaries
c) Open, collaborative and experimental	Production by the masses - large numbers of people working independently on collective projects without normal market structures and mechanisms
d) Prosumption and co-production	Blurred boundary between producers and consumers
e) Grass-roots, bottom-up	Distributed systems where innovation and initiative are dispersed to the periphery and connected by networks
f) Mutualism	Notion that individual and collective well-being is obtainable only by mutual dependence
g) Better use of assets and resources	Recognition, exploitation and coordination of latent social assets
h) Development of capabilities and assets	Participatory approach enabling beneficiaries to meet needs over the longer term

Note. Adapted from "Social innovation overview: a deliverable of the project: "The theoretical, empirical and policy foundations for building social innovation in Europe" (TEPSIE)," by J. Caulier-Grice, A. Davies, R. Patrick, and W. Norman, 2012, European Commission - 7th framework program. European Commission, DG Research, Brussels.

Because this is a new field of study, still can be found overlaps of terms and definitions towards the social innovation slope. Among them, there is the proximity to the definition of "inclusive innovation", that, according to (George, McGahan, & Prabhu, 2012, p. 663), is "the development and implementation of new ideas which aspire to create opportunities that enhance social and economic wellbeing for disenfranchised members of society".

To illustrate the advances of the discussions and the consequential definitions of "social innovation", since 1970, Table 3 is presented.

Table 3

Definitions of social innovation according to several authors.

Author	Definition
Taylor (1970)	Enhanced ways of action, new ways of doing businesses, new social inventions.
Dagnino e Gomes (2000)	Knowledge – intangible or incorporated to people and equipment, tacit or codified – with the aim of increasing effectiveness of processes, services and products related to social needs fulfillment.
Cloutier (2003)	A new answer, defined in the action and with lasting effect, to a social situation considered unsatisfactory, that aims to achieve of individuals and/or communities' welfare.
Stanford Social Innovation Review (2003)	The process of inventing, supporting and implementing new solutions to problems and social needs.
Goldenberg (2004)	Social innovation is the development and application of new/improved activities, initiatives, services, processes or products developed to overcome the social and economic challenges faced for individuals and communities.
Novy e Leubolt (2005)	Social innovation results mainly from: fulfillment of human basic needs; increase of political involvement of marginalized groups; increase of the sociopolitical capacity and the access to resources needed to reinforce rights that lead to human needs fulfillment and involvement.
Rodrigues (2006)	Changes in the way individuals recognize themselves in the world and in their mutual expectations, arising from approaches, practices and interventions.
Mulgan (2006)	Innovative activities and services that are motivated by the goal of meeting a social need.
Moulaert et al. (2007)	Tool to an alternative vision of urban development, focused on the fulfillment of human needs (and empowerment) through innovation in the neighborhood relations and community governance.
Mulgan et al. (2007)	New ideas that work in the satisfaction of social goals; innovative activities and services driven by the goal of social need fulfillment and that are mainly developed and diffused through organizations whose primary intentions are social.
Geoff, Simon, and Skoll (2007)	New ideas that work in meeting social goals.
Phills, Deiglmeier, and Miller (2008)	A novel solution to a social problem that is more effective, efficient, sustainable or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals.
Pol e Ville (2009)	New idea with potential to improve life quality or quantity.
Hochgerner (2009)	Social innovations are new concepts and actions accepted by affected social groups that are applied to overcome social challenges.
Murray, Caulier-Grice, and Mulgan (2010)	Innovations that are social in both their means and their ends.
Howaldt e Schwarz (2010)	A social innovation is a new combination and/or a new configuration of social practices in certain fields of action or social context promoted by certain players with the aim of better fulfilling or answering to the society's problems and needs.
Franz, Hochgerner, and Howaldt (2012)	Is the intention to use social practices which distinguishes social innovation from mere social change
Moulaert (2013)	New concepts and partnerships to improve efficiency on one hand and meeting social needs on the other hand

Voorberg, Bekkers, and Tummers (2015).	The creation of long-lasting outcomes that aim to address societal needs by fundamentally changing the relationships, positions and rules between the involved stakeholders, through an open process of participation, exchange and collaboration with relevant stakeholders, including endusers, thereby crossing organizational boundaries and jurisdictions.
Zebryte and Jorquera (2017)	Specific practices that are legitimized by their intrinsic ability to resolve social and environmental problems.

Note. Adapted from “Social innovation: ideas, tendencies and research possibilities,” by L. P. Bignetti, 2011, *Ciências Sociais Unisinos*, 47, 1 and “Social innovation: perspectives and challenges,” D. P. Juliani, J. P. Juliani, J. A. Souza, and E. M. Harger, 2014, *Revista ESPACIOS*, 35, 5.

Considering what is exposed in Table 3, one of the highlights is that social innovation switched from a more individual passive character, to a more active one, where there is empowerment of the society through this new concept. Nonetheless, the definitions aforementioned do not convey if there is a stratification of the society that will be directly benefited from this social innovation, leaving a gap in the clarification of the term. Therefore, in order to analyze the innovation that generates a direct positive impact to society, will be considered to the analysis the terms “innovation” and “social impact”.

3. METHODOLOGY

This research is characterized as a systematic literature review. According to Waddington et al. (2012, p. 360) “a systematic review has a clear protocol for systematically searching defined databases over defined time period, with transparent criteria for the inclusion or exclusion of studies, as well as the analysis and reporting of study findings”.

The criteria used to compile the survey were as it follows (Tranfield, Denyer, & Smart, 2003):

- a) chronological: it did not have search period of restriction to reach all possible work referred on the subject, so it was used throughout the range of databases Web of Science (1900-2018);
- b) terminology: the construction of the search string was made from the selection of key terms in the literature that matched the base "social impact" AND "innovation";
- c) databases: the basis chosen for the search of articles was the Web of ScienceTM Core Collection (Affeldt & Vanti, 2009; Cruz et al., 2015; Vitorino Filho et al., 2015);
- d) document types: it was chosen to check for articles and reviews, because it works peer reviewed;
- e) language: it was decided to search for articles in English only.

3.1. Exclusion Criteria

The articles found through search terms were submitted to the following exclusion criteria in order to refine the sample. Initially refinement was performed by reading the abstracts, being considered the following exclusion criteria: those works that did not address the two main themes of this research - “innovation” and “social impact”. The refined sample from these exclusion criteria underwent read the full text to perform the steps of the data analysis. However, if the study did not present adherence to the research topic as well as the absence of the necessary elements for their classification, it would also be deleted.

3.2. Data Analysis

Data analysis was done in two stages. In the first stage, called as “descriptive analysis of articles”, data were analyzed using one of content analysis techniques, known as categorical analysis (Bardin, 1977; Govindan, Rajendran, Sarkis, & Murugesan, 2015). Studies were classified into some specific categories: nationality of the authors, main authors, main journals of publication, year of publication, number of citations and most important articles in the sample. Besides that, the VOSviewer software was used in to analyze the co-word maps.

The VOSviewer software was developed in order to create, visualize and explore bibliometric maps of science (Van Eck & Waltman, 2010). According to (Morris & Van der Veer Martens, 2008; Van Eck & Waltman, 2010) an important research topic in the bibliometric analysis field is the science mapping, as it has as objective to display the dynamic and structural aspects of scientific research (Börner, Chen, & Boyack, 2003; Morris & Van der Veer Martens, 2008; Noyons, Moed, & Luwel, 1999).

In this work, will be explored the co-word analysis, that, as (Callon, Courtial, Turner, & Bauin, 1983) explains, when the conceptual structure of the research field is studied through the keywords of the documents from the sample.

4. ANALYSIS OF RESULTS

All the data collection was done in January 2018 in order to include all the articles published until 2017. The Table 4 illustrates the search results step by step.

Table 4
Sample selection process

Steps of Exclusion	Papers
(=) Topic: "Innovation" AND "Social Impact"	155
(=) Document Type: Article or Review	107
(=) Languages: English	97
(-) Papers eliminated by reading the abstract	(17)
Total Papers	80

After the collection of the 155 papers initial sample, the evaluation process of the sample was performed. The first step was to limit the works to articles and reviews and by doing that the sample changed to 107 works. Right after that, the step was to limit the language as only English and the sample was reduced to 97 works. To the last step, the titles were analyzed and for those that seemed not to fit to the aim of this research, the abstract was read in order to evaluate that. Those studies that did not fit into the aim of this article were discarded.

In the end, 75 works were excluded, and the final sample consisted in 80 articles for analysis.

4.1. Descriptive Analysis of Articles

This article analyzed, in this first part, as posted by Govindan et al. (2015) and Jabbour (2013), all the data related to: authors nationality, researchers with most publications, journals, year of publication, and citations.

The first point of analysis was the nationality of the author. This information was considered important, once it reflects how much attention each country is giving to the research focused in innovation with social impact. The collected data is presented in Figure 1, and shows that most of the authors (18%) are from England, followed by the United States (16%).

The percentage of authors in these two countries represents more than one third of all the sample (34%), which indicates that the studies in this field are still a bit concentrated in these two countries and starting to spread through the rest of the world, as the smaller percentages are more similar between the other countries, as it can be seen.

One explanation for this movement is the presence of studies centers in important universities in these countries, as the Cambridge Center for Social Innovation and the Center for Social Innovation - Stanford School that gives more attention to these topics.

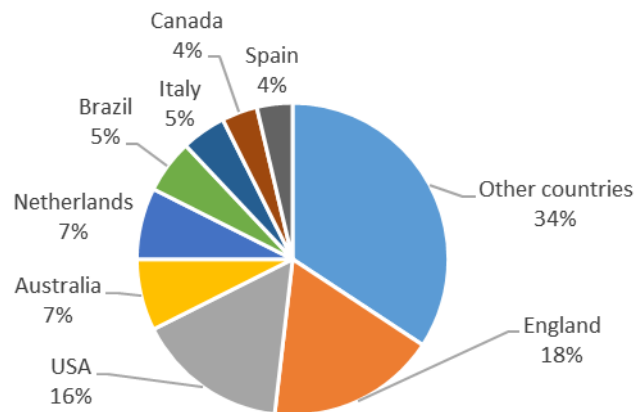


Figure 1. Authors nationality.

When analyzing the articles for each author of the sample, almost all the authors have only one article published in the field, what can be seen as an indicative of an emerging subject in the literature. Although that, four of the authors have provided a quantitative production superior to the others and Table 5 provides the names and absolute quantities of articles of each author, with the year of publication and the field of study.

Table 5

Main researchers sample

Researchers	Title	Quantity of Papers	Years	Field of Study
Fox, C.	Author	2	(2011) (2015)	Criminal justice sector
Franks, DM.	Author	2	(2012) (2013)	Mining industry
Rosa, JCS.	Author	2	(2015) (2016)	Mining industry
Vanclay, F.	Author/ Co-author	2	(Franks, DM., 2013)/ (2015)	Mining industry/ Tourism industry

When analyzing the journals of the publications of the sample, a huge dispersion can be seen, which reinforces the idea that this subject is still emerging and not concentrated in any specific source. Of all the sample, 77.5% of the articles were published in different

journals, while the other 22.5% of the sample was concentrated in 7 journals. The relation of the publications and main journals in descending order of representativeness, with the respective absolute values of articles, can be seen in the Table 6.

When we give a look at Table 6, it can be seen a that the publications are widely spread through different fields, what has already been said by Cajaiba-Santana (2014). Most of the journals are related to subjects involving entrepreneurship, environmental and social issues, even marketing, but one that stands out is the Criminology Criminal Justice. Concerning the theme related to social innovation and taking a deep look in the field of criminal justice, it can be said that key to the social innovation is the use of the social relations and is often an answer to the most urgent social needs (Fox & Grimm, 2015).

In this sense, arise some different fields of study that integrate social innovation and the criminal justice, and that justifies the presence of this journal in the sample, as for example, the concept of Community Justice that Karp and Clear (2000) proposes, bringing together themes as: restorative justice, prevention and early intervention and community strengthening and self-determination, to reduce the criminal behavior.

Table 6
Main journals sample

Journal	Number of publications
Technological Forecasting and Social Change	4
Environmental Impact Assessment Review	3
Journal of Social Entrepreneurship	3
Criminology Criminal Justice	2
Journal of Cleaner Production	2
Journal of Public Policy Marketing	2
Voluntas: International Journal of Voluntary and Nonprofit Organizations	2

Even with no restriction to the period of the publications, the distribution of the articles per year was only significant starting from 2012. Before that, there were only two articles published in 2004 and 2005, and other two published in 2010. Until the date of the search made for this article, 10th of January 2018, four articles had been published, more than all the years previous 2012. This data proves the idea that the field is new and has not been studied since long. Figure 2 shows the distribution of articles per year.

possible to do a deeper analysis of each cluster, as it follows. A detailed description of each cluster can be found in the Table 7.

Table 7

Clusters description of co-word analysis

Color	Yellow	Red	Blue	Green	Pink
Items	sustainable development	social impact investment	social impact bond	stakeholders	higher education
	social impact assessment	rural	payment by results	innovation	policy
	corporate social responsibility	India	social impact bonds	strategy	
		social enterprise		scenarios	
		social innovation		community	
		social change		social impact	
		social entrepreneurship		risk	
		latin america		sustainability	

To better understand the fields of study that arise, is important to develop a deep analysis of each cluster, identifying main topics.

The first cluster is the yellow one. The items presented in this cluster are seeking models that social innovation can show up in businesses. Since corporate social responsibility, performed by companies that do not have the social issue in its core business (Porter & Kramer, 2011), to the sustainable development, which addresses a wider understanding, not only to organizations, but also to the development of public policies throughout the world (Elkington, 1998). In the discussion about sustainable development is also important the Sustainable Development goals established by United Nations for the whole society. The set of goals were created in September 2015, and they are related to end poverty, protect the planet and ensure prosperity for the whole society. In this sense, multinationals and small and medium enterprises have an important function in addressing these goals and to bring benefits for the society from their practices (Kolk, Kourula, & Pisani, 2017).

The second, and one of the largest clusters, is the red, in which emerges the idea of social enterprise, that according to George, McGahan, and Prabhu (2012) arises with the intention of reducing a social problem or a market failure. The name of emerging countries do not show up by accident, after all, when the topic are social problems, these are the countries that are in the top of the list and, because of that, it is necessary that social entrepreneurs act in order to solve this problems and create social value.

The third cluster is the blue, and it addresses the financial aspect of social innovation, and can be named as “social finance” cluster, bringing definitions of ways that this can be performed. It is reinforced, thus, the need of implementing ideas with financial return in order to be a social innovative practice. As Fox and Grimm (2015) addresses, the innovation in financing is really common through social innovators, and, for example, in UK, Social Impact Bonds are catching a lot of attention as its considered an innovative financial instrument in the social innovation field (Arena, Bengo, Calderini, & Chiodo, 2016). It can be also related to the fact that England had 18% of the publications of the sample.

The second-to-last cluster is the green one, and it refers to the management of social innovations, where highlights the importance of the stakeholders, the adequate definition of a strategy that considers the risks, the scenario analysis based on innovation, social impact and sustainability.

Finally, the last cluster is the pink one. It brings some of the fronts social innovation can act on, obviously not restricted to them. Stick out that the emphasis on education is reflected on the social entrepreneurship, where can be found new ways of helping young students, since the learning of foreign languages with low-cost (eg. 4you2 in Brazil), to the preparation to the entry in university (eg. Geekin in Brazil).

Analyzing all these clusters, we can see that the terms that show up corroborates with the idea that “social enterprise,” “social entrepreneurship,” and “social innovation” are the three main topics that arise. Together with them there is the concept of “social finance”, in this case illustrated as “social impact investment” and “social impact bonds” are often used interchangeably with “social innovation”, proposed by Westley and Antadze (2010).

4.3. QUALITATIVE ANALYSIS

The qualitative analysis aims to deepen the analysis of the selected papers for bibliometrics, analyzing the theories presented in the papers of the sample, the concepts of social impact used, as well as what are the innovations used for social impact. For this, a new selection was made within the paper’s sample, by the calculation of the article impact factor (AIF), which is calculated by the following equation:

$$AIF = \text{Yearly average citation} * (1 + JCRIF)$$

According to Homrich, Galvão, Abadia, and Carvalho (2018, p. 530), this calculation allows the selection of “core papers, using both yearly citation and journal relevance in the analysis”. The use of this calculation and not the total number of citations is justified by the possible impact factor and citations over the years, where, when using the average citation, there is a lower sensitivity to yearly variations.

Table 8 highlights the top papers considering the combined impact factor as a proxy of relevance in the sample, emphasizing their research themes and journals.

Table 8

List of the most cited papers

Authors	Paper title	Journal	AIF
Annarelli, Battistella, and Nonino (2016)	Product service system: A conceptual framework from a systematic review	Journal of Cleaner Production	53.631
Franks and Vanclay (2013)	Social Impact Management Plans: Innovation in corporate and public policy	Environmental Impact Assessment Review	34.317
Rosa and Sánchez (2015)	Is the ecosystem service concept improving impact assessment? Evidence from recent international practice	Environmental Impact Assessment Review	17.649
Boons, Baumann, and Hall (2012)	Conceptualizing sustainable development and global supply chains	Ecological Economics	15.217
Herrera (2016)	Innovation for impact: Business innovation for inclusive growth	Journal of Business Research	12.516
Weerawardena and Mort (2012)	Competitive Strategy in Socially Entrepreneurial Nonprofit Organizations: Innovation and Differentiation	Journal of Public Policy & Marketing	11.610
Fox and Albertson (2011)	Payment by results and social impact bonds in the criminal justice sector: New challenges for the concept of evidence-based policy?	Criminology & Criminal Justice	11.401
Bhattacharyya et al. (2010)	Innovative health service delivery models in low and middle-income countries - what can we learn from the private sector?	Health Research Policy and Systems	11.096
Shiller (2013)	Capitalism and Financial Innovation	Financial Analysts Journal	10.895
Farr (2016)	Co-production and value co-creation in outcome-based contracting in public services	Public Management Review	8.616

Among the top 10 papers of the sample, only two (Bhattacharyya et al., 2010; Shiller, 2013) have similar theoretical bases, focused on the financial area. The rest range from product service system to competitive strategy, without a consolidated basis of authors and theories.

When analyzing the definitions of social impact used by the top 10 papers, it was observed that half of them do not describe the definition they are using, another two define "social impact bond" in their analysis, an article uses the definition of social impact assessment, and only two make the definition. The first to define social impact in his research is the paper of Rosa and Sánchez (2015), which brings the work of Slootweg et al. (2003) saying there are two kinds of social impacts.

Firstly, those social impacts that result directly from the project through a social change process, e.g. those associated with involuntary resettlement. Secondly, the social impacts that result from change on ecosystems or biophysical environment. An example of this second type is water pollution causing the decrease of fish population and diversity and consequently affecting the income and sources of food of human communities (Rosa & Sánchez, 2015, p. 136).

The second work that defines the term social impact is the Bhattacharyya et al. (2010, 2), which brings the concept of "positive social impact", being understood by the authors as the one who "improve affordability, accessibility and/or quality of health services for the poor, particularly those that had expanded beyond pilots, and had detailed descriptions of their strategies".

Finally, a topic that emerged from the analysis of the top 10 papers was the financial question behind the practical combination of the two themes. The examples of financial innovations with a focus on positive social impact reinforce the fact that when the social entrepreneur agrees to take on challenges for impact generation, it takes much more than pre-existing theoretical knowledge about business management. According to Herrera (2016, 1725) innovation for impact "involves breakthrough changes in how businesses operate, providing a lens for understanding and addressing underserved markets, and leveraging approaches focusing on the market to address social concerns".

5. FINAL CONSIDERATIONS

This paper contributes to the literature by exploring the intersection between "social impact" and "innovation". The bibliometric analysis shows the importance of developed countries in the research about the issue. This fact opens room for more investigation of the phenomenon in emerging countries, where most of corporate social responsibility is philanthropic (Cuypers, Koh, & Wang, 2015). Besides, it would be important to analyze the practices of social enterprises in emerging countries and the importance of this kind of enterprise for the whole economy. There are indications that the investment for social innovation mentioned in the Red Cluster, could vary hugely from one country to another.

Based on the co-word network map, stands out the importance the theme social entrepreneurship has had in academic papers, where the new challenge of measuring the socio-environmental results of these businesses is a concern (Arena, Azzone, & Bengo, 2015).

Our research question was: what subjects emerges when integrating "social impact" and "innovation" in the scientific literature? Based on this, it should be noted that the main subject that emerges from the analysis was the financial question. Both in the bibliographic and in the qualitative analysis of the 10 top papers, it was noticed that as a theoretical basis and practical example of social impact innovation, the financial innovations stands out. It is observed that there is a need for a change in both: financial paradigm and in the way of doing business, to create a business ecosystem that allows the social impact to happen.

6. REFERENCES

- Affeldt, F. S., & Vanti, A. A. (2009). Alinhamento estratégico de tecnologia da informação: análise de modelos e propostas para pesquisas futuras. *Journal of Information Systems and Technology Management*, 6(2), 203–226.
- Annarelli, A., Battistella, C., & Nonino, F. (2016). Product service system: A conceptual framework from a systematic review. *Journal of Cleaner Production*, 139, 1011–1032.
- Arena, M., Azzone, G., & Bengo, I. (2015). Performance measurement for social enterprises. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 26(2), 649–672.
- Arena, M., Bengo, I., Calderini, M., & Chiodo, V. (2016). Social impact bonds: blockbuster or flash in a pan? *International Journal of Public Administration*, 39(12), 927–939.
- Bardin, L. (1977). *Análise de conteúdo*. Lisboa: Edições 70.
- Bhattacharyya, O., Khor, S., McGahan, A., Dunne, D., Daar, A. S., & Singer, P. A. (2010). Innovative health service delivery models in low and middle income countries-what can we learn from the private sector? *Health Research Policy and Systems*, 8(1), 24.
- Bignetti, L. P. (2011). Social innovation: ideas, tendencies and research possibilities. *Ciências Sociais Unisinos*, 47(1).
- Boons, F., Baumann, H., & Hall, J. (2012). Conceptualizing sustainable development and global supply chains. Elsevier.
- Börner, K., Chen, C., & Boyack, K. W. (2003). Visualizing knowledge domains. *Annual Review of Information Science and Technology*, 37(1), 179–255.
- Cajaiba-Santana, G. (2014). Social innovation: Moving the field forward. A conceptual framework. *Technological Forecasting and Social Change*, 82, 42–51.
- Callon, M., Courtial, J.-P., Turner, W. A., & Bauin, S. (1983). From translations to problematic networks: An introduction to co-word analysis. *Information (International Social Science Council)*, 22(2), 191–235.
- Camisón, C., & Monfort-Mir, V. M. (2012). Measuring innovation in tourism from the Schumpeterian and the dynamic-capabilities perspectives. *Tourism Management*, 33(4), 776–789.
- Caulier-Grice, J., Davies, A., Patrick, R., & Norman, W. (2012). Social innovation overview: a deliverable of the project: “The theoretical, empirical and policy foundations for building social innovation in Europe” (TEPSIE), European Commission–7th framework programme. *European Commission, DG Research, Brussels*.
- Clements, M. D. J., & Sense, A. J. (2010). Socially shaping supply chain integration through learning. *International Journal of Technology Management*, 51(1), 92–105.
- Cruz, D. F., Sakaya, A. Y., Ferreira, M. G. G., Forcellini, F. A., Anjos, S. J. G., de Abreu, A. F., & Miguel, P. A. C. (2015). Inteligência competitiva em organizações de serviços: uma revisão sistemática da literatura. *Revista Produção Online*, 15(1), 50–77.
- Cuyper, I. R. P., Koh, P.-S., & Wang, H. (2015). Sincerity in corporate philanthropy, stakeholder perceptions and firm value. *Organization Science*, 27(1), 173–188.
- de Bruin, A. M., & Stangl, L. M. (2013). The social innovation continuum: Towards addressing definitional ambiguity.
- Drucker, P. F. (1987). Social innovation—management’s new dimension. *Long Range Planning*, 20(6), 29–34.
- Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental Quality Management*, 8(1), 37–51.
- Farr, M. (2016). Co-production and value co-creation in outcome-based contracting in public services. *Public Management Review*, 18(5), 654–672.
- Fox, C., & Albertson, K. (2011). Payment by results and social impact bonds in the criminal

- justice sector: New challenges for the concept of evidence-based policy? *Criminology & Criminal Justice*, 11(5), 395–413.
- Fox, C., & Grimm, R. (2015). The role of social innovation in criminal justice reform and the risk posed by proposed reforms in England and Wales. *Criminology & Criminal Justice*, 15(1), 63–82.
- Franks, D. M., & Vanclay, F. (2013). Social Impact Management Plans: Innovation in corporate and public policy. *Environmental Impact Assessment Review*, 43, 40–48.
- George, G., McGahan, A. M., & Prabhu, J. (2012). Innovation for inclusive growth: Towards a theoretical framework and a research agenda. *Journal of Management Studies*, 49(4), 661–683.
- Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, 114, 11–32.
- Gopalakrishnan, S., & Bierly, P. (2001). Analyzing innovation adoption using a knowledge-based approach. *Journal of Engineering and Technology Management*, 18(2), 107–130.
- Govindan, K., Rajendran, S., Sarkis, J., & Murugesan, P. (2015). Multi criteria decision making approaches for green supplier evaluation and selection: a literature review. *Journal of Cleaner Production*, 98, 66–83.
- Grimm, R., Fox, C., Baines, S., & Albertson, K. (2013). Social innovation, an answer to contemporary societal challenges? Locating the concept in theory and practice. *Innovation: The European Journal of Social Science Research*, 26(4), 436–455.
- Guth, M. (2005). Innovation, social inclusion and coherent regional development: A new diamond for a socially inclusive innovation policy in regions. *European Planning Studies*, 13(2), 333–349.
- Hall, J., Matos, S., Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and innovation at the base of the pyramid: a recipe for inclusive growth or social exclusion? *Journal of Management Studies*, 49(4), 785–812.
- Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology*, 67(9), 2047–2059.
- Heeks, R., Foster, C., & Nugroho, Y. (2014). New models of inclusive innovation for development. Taylor & Francis.
- Herrera, M. E. B. (2016). Innovation for impact: Business innovation for inclusive growth. *Journal of Business Research*, 69(5), 1725–1730.
- Homrich, A. S., Galvão, G., Abadia, L. G., & Carvalho, M. M. (2018). The Circular Economy Umbrella: Trends and Gaps on Integrating Pathways. *Journal of Cleaner Production*.
- Jabbour, C. J. C. (2013). Environmental training in organisations: From a literature review to a framework for future research. *Resources, Conservation and Recycling*, 74, 144–155.
- Juliani, D. P., Juliani, J. P., Souza, J. A., & Harger, E. M. (2014). Social innovation: perspectives and challenges. *Revista ESPACIOS*, 35(5).
- Karp, D. R., & Clear, T. R. (2000). Community justice: A conceptual framework. *Boundaries Changes in Criminal Justice Organizations*, 2, 323–368.
- Klein, J.-L., Tremblay, D.-G., & Bussi eres, D. R. (2010). Social economy-based local initiatives and social innovation: a Montreal case study. *International Journal of Technology Management*, 51(1), 121–138.
- Kolk, A., Kourula, A. E., & Pisani, N. (2017). Multinational enterprises and the Sustainable Development Goals: what do we know and how to proceed?
- Lettice, F., & Parekh, M. (2010). The social innovation process: themes, challenges and implications for practice. *International Journal of Technology Management*, 51(1), 139–158.

- Medeiros, J. F., Ribeiro, J. L. D., & Cortimiglia, M. N. (2014). Success factors for environmentally sustainable product innovation: a systematic literature review. *Journal of Cleaner Production*, 65, 76–86.
- Morris, S. A., & Van der Veer Martens, B. (2008). Mapping research specialties. *Annual Review of Information Science and Technology*, 42(1), 213–295.
- Moulaert, F., Martinelli, F., Swyngedouw, E., & Gonzalez, S. (2005). Towards alternative model (s) of local innovation. *Urban Studies*, 42(11), 1969–1990.
- Mulgan, G. (2006). The process of social innovation. *Innovations*, 1(2), 145–162.
- 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 endowment for science, technology and the art London.
- Noyons, E. C. M., Moed, H. F., & Luwel, M. (1999). Combining mapping and citation analysis for evaluative bibliometric purposes: A bibliometric study. *Journal of the Association for Information Science and Technology*, 50(2), 115.
- Phills, J. A., Deiglmeier, K., & Miller, D. T. (2008). Rediscovering social innovation. *Stanford Social Innovation Review*, 6(4), 34–43.
- Pol, E., & Ville, S. (2009). Social innovation: Buzz word or enduring term? *The Journal of Socio-Economics*, 38(6), 878–885.
- Porter, M., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1/2), 62–77.
- Rosa, J. C. S., & Sánchez, L. E. (2015). Is the ecosystem service concept improving impact assessment? Evidence from recent international practice. *Environmental Impact Assessment Review*, 50, 134–142.
- Saul, J. (2011). Book highlight—Corporate social innovation. *Global Business and Organizational Excellence*, 30(5), 78–87.
- Schumpeter, J. A. (1934). *The theory of economic development*. London: Oxford University Press.
- Shiller, R. J. (2013). Capitalism and financial innovation. *Financial Analysts Journal*, 69(1).
- Short, J. C., Moss, T. W., & Lumpkin, G. T. (2009). Research in social entrepreneurship: Past contributions and future opportunities. *Strategic Entrepreneurship Journal*, 3(2), 161–194.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207–222.
- Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538.
- Vitorino Filho, V. A., Pires, S. R. I., Neto, M. S., da Silva, E. M., de Camargo Júnior, J. B., & Mendonça, J. C. A. (2015). A produção acadêmica internacional em gestão de operações: um estudo bibliométrico. *Revista Produção Online*, 15(1), 21–49.
- Weerawardena, J., & Mort, G. S. (2012). Competitive strategy in socially entrepreneurial nonprofit organizations: Innovation and differentiation. *Journal of Public Policy & Marketing*, 31(1), 91–101.
- Westley, F., & Antadze, N. (2010). Making a difference: Strategies for scaling social innovation for greater impact. *Innovation Journal*, 15(2).