

## INNOVATION OF IMPACT BUSINESS MODELS: A BIBLIOMETRIC STUDY OF SCIENTIFIC PRODUCTION ON THE WEB OF SCIENCE

*Inovação de modelos de negócio de impacto: um estudo bibliométrico de produção científica na web da ciência*

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### ABSTRACT

The business model innovation to insert sustainability has been approached as a strategic point of view about social and environmental concerns, integrating itself with the objectives of organizations. In this context, impact businesses represent the effective proposal to attract part of private capital to solutions that act directly on social, environmental, and technological challenges. Because of the relevance of the impact business model, this study aims to identify the main characteristics of international scientific production related to this theme in the last ten years. Therefore, a bibliometric investigation was developed, using the Web of Science database, integrating the terms “social impact”; “social entrepreneurship”; “impact business”; “innovation”; and “business models”. A significant increase in the production associated with the theme from 2015 can be highlighted, with a continuous evolution until 2020, which denotes the emergence of the theme. Concerning thematic areas, business and management presented the highest number of publications related to the researched topics, standing out with 395 and 251 publications, respectively. The United States of America leads the ranking of countries that publish the topics of impact and innovation business model. However, England and Spain also stand out in the surveys. Among the three institutions that publish the most on the topics, the University of London, the University of Groningen, and Harvard University published the most frequently. Yet, it was possible to determine, through a sociometric analysis, the words with the highest number of occurrences, the average number of citations per document of authors who have at least five articles published, and the documents that had the highest number of citations.

**Keywords:** Innovation; Impact business model; Bibliometric study; Business model

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## **INOVAÇÃO DE MODELOS DE NEGÓCIO DE IMPACTO: UM ESTUDO BIBLIOMÉTRICO DE PRODUÇÃO CIENTÍFICA NA WEB DA CIÊNCIA**

*Innovation of impact business models: a bibliometric study of scientific production on the web of science*

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### **RESUMO**

A inovação do modelo de negócios para inserir a sustentabilidade tem sido abordada como um ponto de vista estratégico sobre as preocupações sociais e ambientais, integrando-se aos objetivos das organizações. Nesse contexto, os negócios de impacto representam a proposta efetiva de atrair parte do capital privado para soluções que atuem diretamente nos desafios sociais, ambientais e tecnológicos. Pela relevância do modelo de negócios de impacto, este estudo tem como objetivo identificar as principais características da produção científica internacional relacionada a esse tema nos últimos dez anos. Para tanto, foi desenvolvida uma investigação bibliométrica, utilizando a base de dados Web of Science, integrando os termos “impacto social”; “empreendedorismo Social”; “Impacto nos negócios”; “inovação”; e “modelos de negócios”. Destaca-se um aumento significativo da produção associada ao tema a partir de 2015, com uma evolução contínua até 2020, o que denota o surgimento do tema. Nas áreas temáticas, negócios e gestão apresentaram o maior número de publicações relacionadas aos temas pesquisados, destacando-se com 395 e 251 publicações, respectivamente. Os Estados Unidos da América lideram o ranking dos países que publicam os temas impacto e inovação modelo de negócios. No entanto, Inglaterra e Espanha também se destacam nas pesquisas. Entre as três instituições que mais publicam sobre o tema, a University of London, a University of Groningen e a Harvard University publicaram com maior frequência. Ainda, foi possível determinar, por meio de uma análise sociométrica, as palavras com maior número de ocorrências, o número médio de citações por documento dos autores que possuem pelo menos cinco artigos publicados e os documentos que tiveram o maior número de citações.

**Palavras-chave:** Inovação; Modelo de negócios de impacto; Estudo bibliométrico; Modelo de negócios.

## INTRODUCTION

Sustainability has increasingly integrated the business agenda, being a factor of competitive advantage. In this way, the innovation of the business model to insert sustainability has been approached as a strategic point of view about social and environmental concerns, integrating itself with the organizations' objectives (Baldassarre et al., 2020). With this, new business behaviors are being perceived from the adoption of sustainable practices, resulting in new products, processes, and business models.

The engagement of companies for a more environmentally conscious posture allows them to trigger the development of sustainable solutions with competitive advantages, and these actions arise through positive impacts on the performance of companies, which may be through the redesign of products and/or the reformulation of the provision of services (Baldassarre et al., 2020). According to the same author, another factor that has driven transformations has been the combination of growing consumption and production at current standards, which has shown unwanted and unsustainable signs, motivating the need for change.

Research on business model innovation considers three major strategic moves: challenging conventional wisdom, achieving an appropriate configuration, and enabling continued innovation through experimentation (Yunus et al., 2010). When innovation is inserted in the business model, one of the objectives is to redesign the organization's concept and project sustainability at various levels, from the strategic to the product design (Bocken et al., 2015).

Described by the Impact Investments and Business Alliance (2015), impact businesses emerged as a form of socio-economic intervention, integrating the different impacted or impacting actors, in the search for innovation, social transformation, and financial performance. The performance is wide and covers topics such as quality of education, health services, urban mobility, and reduction of carbon emissions, among other social needs.

Barki (2014) emphasizes the emergence of impact businesses because of combinations of competencies in the private sector combined with the management of the Third Sector, resulting in models of hybrid organizations, which aim to solve social problems using market mechanisms.

Impact businesses represent the effective proposal to attract part of the private capital to solutions that act directly on social, environmental, and technological challenges (Fonseca & Hollerback, 2019). And for that, the focus of the business model is on the generation of social value, with the creation of economic value as an extra element to make the company's financial situation viable (Mair & Martí, 2006).

Because of the relevance of the impact business model, this study aims to identify the main characteristics of international scientific production related to this theme in the last ten years. Therefore, a bibliometric study was developed, using the Web of Science database, relating the terms “social impact”; “social entrepreneurship”; “impact business”; “innovation”; and “business models”. We sought to identify and analyze the most relevant studies on this topic, through a survey of the most cited studies throughout this period.

To achieve the proposed objective, the study starts with a theoretical-conceptual overview of innovation. Afterward, concepts about the business model and impact business are presented. Then, the study method is described and, subsequently, the results obtained in the analysis of the scientific production involving the research themes and the final considerations are described.

## 1 THEORETICAL REFERENCE

This section aims to present, through the selected bibliography, some relevant concepts structured in three subsections, characterized as innovation, business models, and finally, impact business.

### 1.1 Innovation

New ways of managing companies arise from increased competition and pressure for better results. For Carvalho et al. (2011) innovation management emerges from the rethinking of processes in the company, being one of the solutions to improve the competitiveness and profitability aspects of organizations. Schumpeter (1982) was one of the first to link economic development with innovations.

The Organization for Cooperation and Development (OECD, 2009, p. 55), conceptualizes innovation as “the implementation of a new or significantly improved product (good or service), or a process, or a new marketing method, or a new method organization in business practices, in the organization of the workplace or external relations”.

According to Carvalho et al. (2011) innovating requires knowledge of the company's products and processes. In this way, companies can use the information to reach knowledge. Once innovation is constituted with knowledge, organizations that innovate depend on the attitude of managers and employees in seeking new demands, in daring to meet the wishes and needs of customers. Even if there is an external dependence on innovation, such as, incentive policies, government stimuli, fostering technologies, much of the process depends on the organization's internal posture.

Innovation can be classified as open or closed, the latter being more characteristic of companies that adopt strict limits for the development of new businesses. Open innovation is considered an important alternative for companies, as knowledge is not only within the company but also outside it, in laboratories, in research centers. Also, to be innovative, the idea or project does not need to be developed internally in the company, the idea can arise externally, through research and development in partnership with other companies, universities, laboratories. Finally, open innovation can be characterized as:

the innovation process in which industries and organizations promote open ideas, thoughts, processes, and research to improve the development of their products, provide better services to their customers, increase efficiency and reinforce added value. It is the combination of internal and external ideas, as well as internal and external paths to the market, to advance in the development of new technologies in products and processes (USP, 2014).

Table 1 presents the main differences between closed and open innovation.

**Table 1 – Closed vs. Open Innovation**

| <b>Principles of closed innovation</b>   | <b>Principles of open innovation</b>   |
|--|--|
| Competent people work for us   | Not all competent people work for us. We need to work with competent people inside and outside the company.                        |
| To make a profit through R&D, we need to make discoveries, develop them, and market them ourselves.  | External R&D can create significant value, and internal R&D can claim a portion of that value.                                     |
| If we make the discoveries ourselves, we will be able to be the first to market.                     | We don't necessarily have to create the Survey to profit from it.  |
| The company that puts an innovation on the market first wins.  | Building a business model is better than getting to market first.  |
| We will win if we create the best ideas in the company.  | We will win if we make the best use of internal and external ideas.  |
| We must control our IP (Intellectual Property) so that our competitors do not profit from our ideas. | We must profit from other uses of our IP and we must acquire other IP as long as they contribute to advancing our business models. |

Source: Universidade de São Paulo - USP, (2014)

It is observed that open innovation starts from a change in the attitude of companies about the human element, as well as in the attitude of the individual concerning organizations. The company that innovates beyond internal borders is open to internal and external knowledge, exercises learning, and works in partnership with research, teaching, and education institutions to develop new products and services.

The results of investments in innovation can be measured using criteria indicated by Carvalho et al. (2011): the increase in demand for products and services by the company that is recognized for innovating, that is, new markets are created, quality is perceived and differentiation increases when compared to competitors in the same segment. By increasing this perception, the company's products become more difficult to be copied, plagiarize, or imitated.

The organization starts to have a certain exclusivity in its product to the competitors' product, at least for a longer time. Another aspect is that innovative companies have reduced production costs, as their processes hold more information, being dynamic and efficient so that errors are often minimized. Also, if the product is not easily

imitated by the competition, its pricing is up to the organization, which can work with advantageous margins and have a greater profit. Finally, the company increases its competence to innovate, since it starts to constantly launch new products, develops its skill, and values knowledge about innovation (Carvalho et al., 2011).

Therefore, innovation is essential to leverage competitiveness in companies, and innovation management will help organizations achieve their goals. Thus, the following is about how innovation takes place in impactful business models.

## 1.2 Business model

The simplified representation of the value proposition, value creation, and delivery and value capture elements as well as the interactions between these elements of an organization is how Geissdoerfer, et al. (2018) conceptualize the business model. For Massa et al., (2017), the business model is a description of how the organization works to achieve its goals, such as profitability, growth, and social impacts. The concept of business model became popular, from the 90s, with the advent of the Internet, which triggered the interest of companies to try new ways of achieving their goals (Massa et al., 2017).

Thus, to analyze these new forms of business, the first concepts on the subject emerged at the end of the 20th century. Teece (2010, p. 174) describes that a “good business model generates value propositions that are unavoidable for customers, reduces cost and risk with advantageous structures and allows the capture of significant value by the business that generates and provides products and services”. The aforementioned author also states that such model is “the design or architecture of value creation, the mechanisms for capturing the value used”. (Teece 2010, p. 179).

According to Boons and Lüdeke-Freund (2013) business model is used as a plan that specifies how a new venture can become profitable. As for Osterwalder and Pigneur (2009, p. 15), it is “a model for a strategy to be implemented through organizational structures, processes, and systems”.

According to Arend (2013) the concept of a business model is useful when there is a renewed interest in implementing strategies, especially by companies with new technologies that had the challenge of monetization. Another usefulness is how the tool can be viewed. Using the idea of this model makes all components explicit and real (Arend, 2013). Thus, the idea of the business model is a device that allows for better decisions in these areas of activities (Hacklin & Wallnöfer, 2012).

For companies to profit through innovation, the design of the business model needs to be highlighted, understanding how needs and trajectories need to be dynamic (Teece, 2010). The author states that the design of the business model requires market segmentation, the creation of new value propositions for each segment, and, in addition, the discovery of isolation mechanisms so that there is no competition imitation.

Business model innovation, according to Vils et al. (2017) refers to the creation and acquisition of value by companies, based on the organization of their processes and external relations with stakeholders. The authors consider that internal and external processes are organized in a unique and market-appropriate way, composing potential sources of competitive advantage.

Petrini et al. (2016) researched the business model with social impact, aiming to propose a social business model that would help identify its elements. With this, the authors compiled several existing models, proposing a new model definition, which presents itself as a new reorganization and inclusion of elements that can compose a social impact business model, based on the Canvas model and, with a rereading from studies by Yunus et al. (2010).

In this sense, business model innovation is a way of rethinking how business is done, whether in a well-structured way or not, with changes that require reaction or adaptation (Vils et al., 2017).

## 1.3 Impact Business

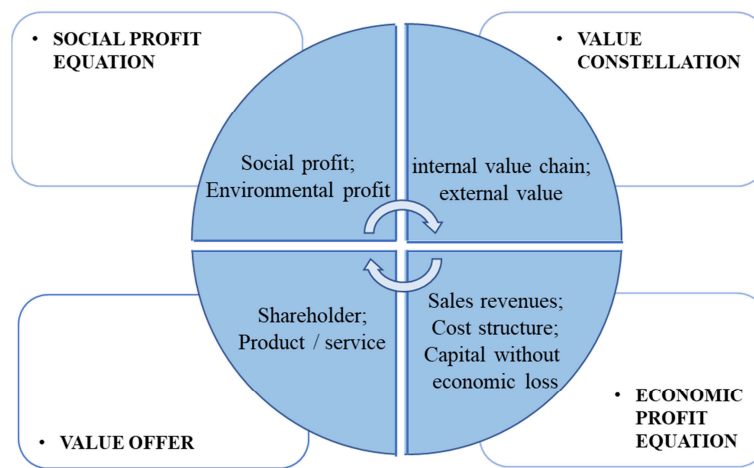
With an orientation considered innovative, impact businesses are expanding, and the trend is that traditional companies start to readjust to this new type of model. According to Barki (2014), the emergence of businesses with some type of impact is due to combinations of private sector competencies combined with third sector management, resulting in models of hybrid organizations, which aim to solve social problems using market mechanisms.

These projects have the characteristic of seeking solutions to solve some type of social, economic, and/or environmental problem that affects the life of society, encompassing different areas such as health, education, sanitation, housing, technology, the environment, among numerous other problems generated by the evolution of human beings (Ortega, 2010; Barki, 2015).

Impact businesses, then, emerge as a response to some dilemmas created by capitalism, such as the increase in unemployment and the precariousness of work (Barki, 2015). The authors explain that, in the organizational structure, this new form of business is the same as the one that maximizes profit in traditional companies: while seeking to achieve their social and/or environmental objectives, companies need to recover their full costs.

Thus, impact businesses are financially self-sustaining, and generally, economic viability and social impact should have equal weight in the business plan. This is what makes them different from NGOs and civil society organizations, which demand strength and energy to raise money for their actions. According to Barki (2015), impact businesses use market mechanisms in the search for financial sustainability, not depending on donations or other financial support to survive. Another relevant feature of impact businesses is that their methods can be replicable. Figure 1 represents the four components of a social business model.

Figure 1 - Components of a social business model



Source: Yunus et al. (2010).

This is the business model structure suggested by Yunus, et al. (2010) based on experiences with the Grameen Group, with small adjustments from the traditional business model to a social structure. Changes occur in the focus of stakeholders; in this case, it changes from the client only to all interested parties. Profits also contain a broader view of the ecosystem, in a social profit equation. And, in economic profit, the objective is to have full cost and capital recovery, without maximizing financial profit.

## 2 RESEARCH METHODOLOGY

The study was based on bibliometric research, contemplating a quantitative data analysis that presents the main authors, the institutions to which they are linked, the years with the highest number of publications. Additionally, a sociometric analysis was performed using Nvivo 20 and VOSviewer 1.6.16 softwares.

The research sought to expand the knowledge regarding publications related to Innovation of the Impact Business Model. Bibliometrics aims to analyze the scientific or technical activity through the quantitative study of publications (Silva, 2004). For Guedes and Borschiver (2005), bibliometrics uses mathematical and statistical methods to investigate, quantify, describe, and predict the processes of written communication, presenting authors, publications, journals, and citations, among others.

For this purpose, a search was performed in the Web of Science (WoS) database, delimiting the period from 2011 to 2020. Data collection took place between January and February 2021. The research used the keywords

linked to the theme: “social impact”, “social entrepreneurship”, “business impact, innovation and “business model.” 1690 publications were found. To combine the researched terms, the Boolean operators “and” and “or” were used in a way to generate the formula: TITLE: (“social impact”) OR TITLE: (“social entrepreneurship”) OR TITLE: (“business impact”) AND TITLE: (“business model”) AND TITLE: (“innovation”).

According to Chueke and Amatucci (2015), the bibliometric analysis contributes to the systematization of what one wants to research in each area, identifying what has already been investigated and what are the gaps for future research. Bibliometrics also allows articles to be found according to the authors who publish the most, the origin of the research countries, the institutions that stand out, the intellectual area, the years of publication, among other relevant information in the academic field. Table 2 presents the conceptual model of the bibliographic analysis.

**Table 2 - Conceptual model for bibliometric analysis**

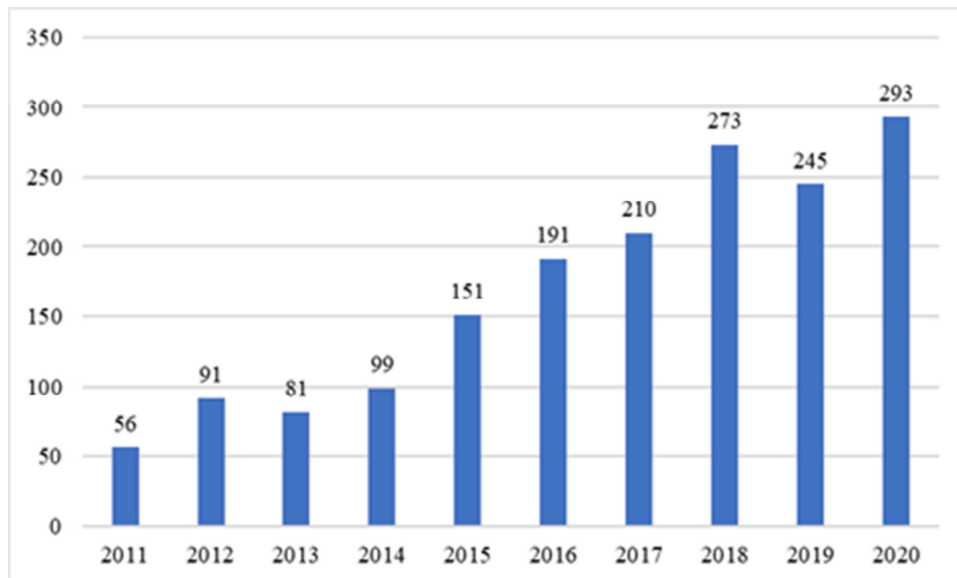
| General characteristics of publications |              |
|---|--------------|
| Year of the publications                | Institutions |
| Types of documents                      |              |
| Thematic areas                          |              |
| Authors                                 |              |
| Countries                               |              |

Source: Prepared by the authors (2022)

### 3 RESULTS AND DISCUSSION

Based on the search performed on the Web of Science (WoS) database, this chapter seeks to present the main characteristics of the 1690 publications found. Scientific production showed considerable growth, with 124 publications in 2011 to 826 studies in 2020, as shown in Figure 2.

**Figure 2 - Evolution of scientific production over the years**



Source: Web of Science (2021)

According to Figure 2, there is a significant increase from the year 2014, with continuous evolution, reaching the year 2020, with 293 publications. The last five years, 2016 to 2020, concentrate 71.76% of publications, with 31.83% being published in 2019 and 2020. These data demonstrate that the topic is on the rise and that researchers' interest in the subject is current and growing. Next, Table 1 presents the types of documents published.

**Table 1 - Main types of published documents**

| Type of document             | Number of publications | Percentage |
|------------------------------|------------------------|------------|
| Papers published in Journals | 1.119                  | 66,213%    |
| Papers in Proceedings        | 299                    | 17,692%    |
| Editorial material           | 79                     | 4,675%     |
| Book review                  | 62                     | 3,669%     |
| Meeting summary              | 62                     | 3,669%     |
| Review                       | 56                     | 3,314%     |

Source: Web of Science (2021).

Regarding the type of documents, most publications consist of papers published in journals, followed by paper from the proceedings of events. It should be considered that some publications were classified as more than one type, therefore, the total number of publications in Table 1 exceeds the total number of publications on the topic, which is 1690 documents. Table 2 shows the research areas of the publications surveyed.

**Table 2 - Research areas**

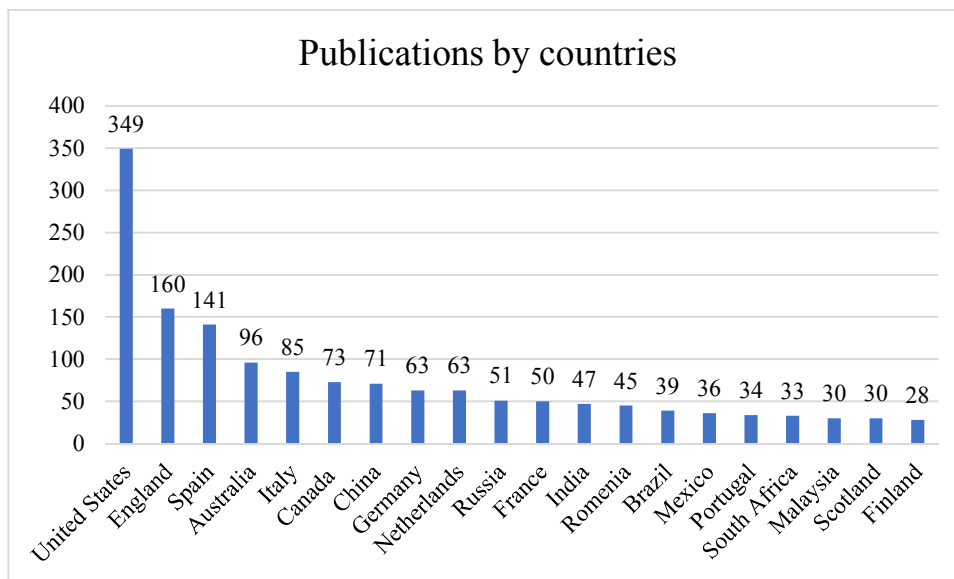
| Research areas                           | Number of publications |
|--|------------------------|
| Business                                 | 395                    |
| Management                               | 251                    |
| Economics                                | 137                    |
| Environmental Studies                    | 127                    |
| Education Educational Research           | 111                    |
| Social Sciences Interdisciplinary        | 94                     |
| Environmental Sciences                   | 90                     |
| Green Sustainable Science Technology     | 72                     |
| Public Administration                    | 68                     |
| Social Issues                            | 60                     |
| Hospitality Leisure Sport Tourism        | 45                     |
| Regional Urban Planning                  | 43                     |
| Sociology                                | 36                     |
| Public Environmental Occupational Health | 32                     |
| Ethics                                   | 30                     |
| Development Studies                      | 29                     |
| Computer Science Theory Methods          | 28                     |
| Social Work                              | 26                     |
| Business Finance                         | 25                     |
| Multidisciplinary Sciences               | 25                     |

Source: Web of Science (2021)

The research areas are the WoS categories, it is noted that Business is the most relevant field of knowledge, totaling 395 publications. Other areas that stand out are Management with 251 publications and Economics with 137 publications. It is important to point out that an article can be framed in more than one research area. Figure 3 identifies the 20 main countries of origin of scientific production involving the search topics, which had a total of 3,065 publications.



**Figure 3 - Countries of origin of scientific production**



Source: Web of Science (2021)

The countries that contributed the most to publications on the subject were, respectively, the United States of America (349), England (160), and Spain (141). Table 3 shows the institutions that add more publications related to the researched topics.

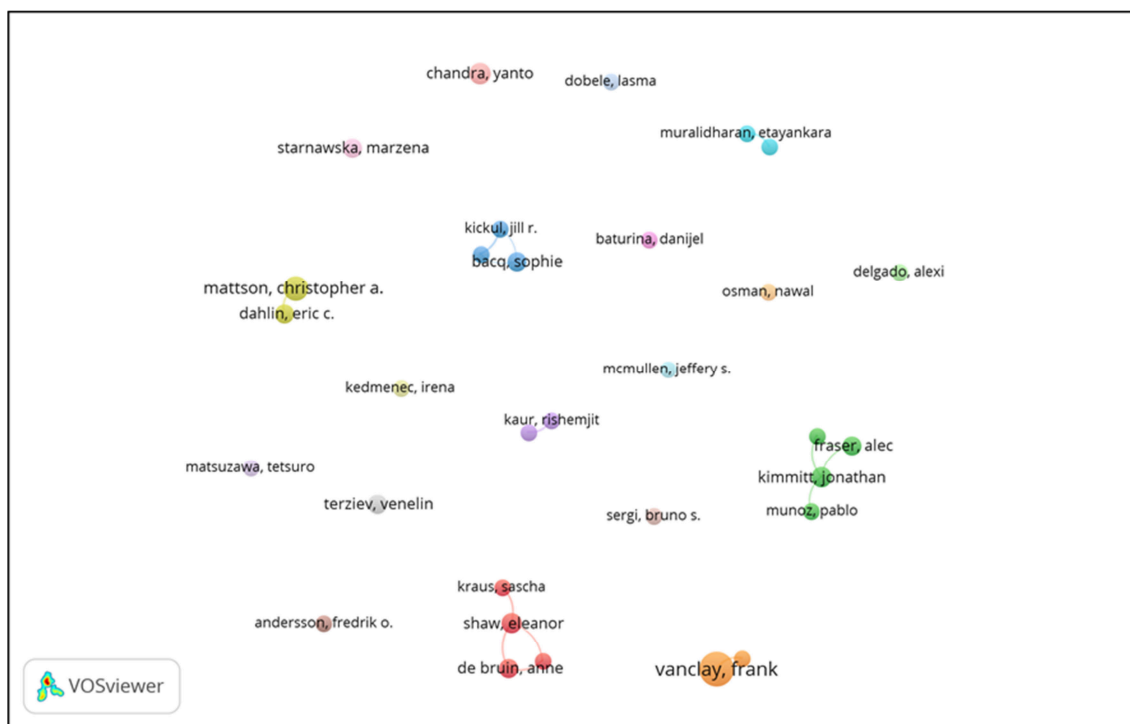
**Table 3 - Institutions with the highest frequency of publications**

| Institution                              | Number of publications |
|--|------------------------|
| University of London                     | 28                     |
| University of Groningen                  | 24                     |
| Harvard University                       | 20                     |
| University of North Carolina             | 18                     |
| University of Barcelona                  | 17                     |
| University System of Georgia             | 17                     |
| University of Oxford                     | 16                     |
| University of Valencia                   | 16                     |
| Bucharest University of Economic Studies | 15                     |
| Indiana University System                | 15                     |
| University of Strathclyde                | 14                     |
| Tecnologico De Monterrey                 | 13                     |
| Universitat Rovira I Virgili             | 12                     |
| University of California System          | 12                     |
| Complutense University Of Madrid         | 11                     |
| Indiana University Bloomington           | 11                     |
| Universitat Politecnica De Valencia      | 11                     |
| University of Queensland                 | 11                     |
| University of Zagreb                     | 11                     |
| Iu Kelley School of Business             | 10                     |

Source: Web of Science (2021).



**Figure 5 – Co-authorship network**



Source: Elaborated by the authors using VOSViewer (2021)

Also, according to Figure 5, the authors who have the largest number of publications among the research carried out stand out. Note that authors with a greater number of publications have larger nodes. The prominent authors are Frank Vanclay (17 documents), Christopher Mattson (9 documents), Yanto Chandra (7 documents), Eleanor Shaw (6 documents), and Jonathan Kimmitt (6 documents).

Table 4 shows the average number of citations per document of authors who have at least five articles published in the period of analysis and highlights the ten authors with the highest average of citations per publication. It is observed that the author with the highest average of citations by documents is Frank Vanclay (33.44), followed by Eleanor Shaw (30.67) and Anne De Bruin (21.20).

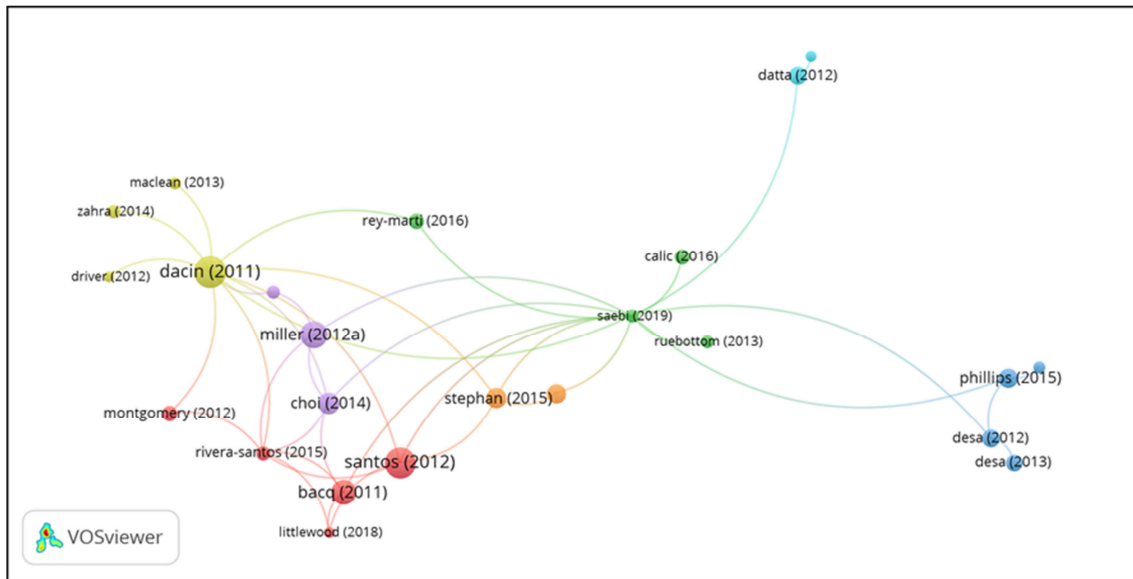
**Table 4 - Citations by documents in articles**

| Author               | Documents | Citations  | Average of citations per document |
|----------------------|-----------|------------|-----------------------------------|
| <b>Frank Vanclay</b> | <b>18</b> | <b>602</b> | <b>33,44</b>                      |
| <b>Eleanor Shaw</b>  | <b>6</b>  | <b>184</b> | <b>30,67</b>                      |
| <b>Anne De Bruin</b> | <b>5</b>  | <b>106</b> | <b>21,20</b>                      |
| <b>Sophie Bacq</b>   | <b>5</b>  | <b>95</b>  | <b>19,00</b>                      |
| <b>Alec Fraser</b>   | <b>5</b>  | <b>59</b>  | <b>11,80</b>                      |
| Yanto Chandra        | 7         | 55         | 7,86                              |
| Jonathan Kimmitt     | 6         | 40         | 6,67                              |
| Christopher Mattson  | 9         | 14         | 1,56                              |
| Eric Dahlin          | 5         | 6          | 1,20                              |
| Marzena Starnawska   | 5         | 6          | 1,20                              |
| Venelin Terziev      | 5         | 6          | 1,20                              |

Source: Elaborated by the authors

Figure 6 shows the document citation network. Of the total of 1690 documents, publications with at least 54 citations (10% of the number of citations of the most cited document) were established as selection criteria, resulting in a network of 49 documents. Of these, 24 publications have links.

**Figure 6 – Citation network by documents**



Source: Elaborated by the authors using VOSViewer (2021)

Differently from Table 4, which presented the average citations per author, who had published more than four documents, which sought to show regularity of publications on the themes relating to "social impact", "social entrepreneurship", "business impact", "innovation" and "business model" Table 5 presents the documents that had the highest number of citations, without any restriction on the number of documents per author.

**Table 5 - Documents with the highest number of citations**

| Publication   | Citations | Connections |
|---|-----------|-------------|
| Can tweets predict citations? Metrics of social impact based on Twitter and correlation with traditional metrics of scientific impact | 539       | 0           |
| Social entrepreneurship: a critique and future directions   | 472       | 5           |
| A positive theory on social entrepreneurship  | 430       | 2           |
| Venturing for others with head: how compassion encourages social entrepreneurship   | 342       | 4           |
| The multiple faces of social entrepreneurship: a review of definitional issues based on geographical and thematic criteria            | 275       | 4           |
| Social impact assessment: the state of the art  | 261       | 2           |
| Social entrepreneurship as an essentially contested concept: opening a new avenue for systematic future research                      | 201       | 5           |
| Institutions and social entrepreneurship: the role of institutional voids, institutional support, and institutional configurations    | 196       | 4           |
| Social innovation and social entrepreneurship: a systematic review  | 170       | 3           |
| Introducing “productive interactions” in social impact assessment   | 161       | 0           |

Source: Elaborated by the authors

## CONCLUSION

This study aimed to analyze the main characteristics of international scientific production relating the terms “social impact”, “social entrepreneurship”, “impact business”, “innovation”, and “business models” in the Web of Science database, in the period from 2011 to 2020. In this sense, a bibliometric study was developed, using the Web of Science database, relating the topics cited, identifying 1690 publications, mostly composed of articles published in journals, which represent 66.213% of the total found.

Among the main results, a significant increase in the production associated with the theme from the year 2015 can be highlighted, with a continuous evolution until 2020, which denotes the emergence of the theme. Concerning thematic areas, business and management were the ones with the highest number of publications related to the researched topics, standing out with 395 and 251 publications, respectively.

The United States of America leads the ranking of countries that publish the topics of impact and innovation business model. However, England and Spain also stand out in the surveys. Among the three institutions that publish the most on the topics, the University of London, the University of Groningen, and Harvard University published the most frequently.

The three authors who publish the most on related topics are Frank Vanclay, Eleanor Shaw and Anne De Bruin. The factors, terms and authors signal the existence of a field yet to be formed, depending on the concepts already developed. Yet, it was possible to determine, through a sociometric analysis the words with the highest number of occurrences, the average number of citations per document of authors who have at least five articles published, and the documents that had the highest number of citations.

The limitation of the research refers to its application only in a journal database and as a defined period. As a suggestion for further studies, research may be carried out in other databases and/or for a longer period.

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