RESEARCH AND BIBLIOGRAPHIC MAP SUSTAINING SCIENTIFIC GAP IN STARTUPS THEME

José Marques Pereira Jr.*

Roberto Coda**

* Associate Professor of the Degree in Business Administration from the Higher School of Entrepreneurship of the Brazilian Micro and Small Business Support Service (Sebrae) in São Paulo. Also works in coordination and support with the Postgraduate and Extension courses of Sebrae - SP. Master in Business Administration from Campo Limpo Paulista University Center (Unifaccamp). Entrepreneurship Specialist from Universidade 9 de Julho. São Paulo, São Paulo, Brazil. E-mail: **josempj@ese.edu.br**

** Undergraduate, Master and Doctorate in Business Administration from the School of Economics, Business Administration and Accounting of University of São Paulo (FEA-USP). Associate Professor at the Administration Department of FEA-USP. Research Professor and leader of the Entrepreneurship Research Center of Unifaccamp. He was Associate Professor at the Administration Department of FEA-USP and professor in undergraduate and postgraduate courses at Fundação Armando Alvares Penteado (FAAP), Fundação Getulio Vargas (FGV) and IBMEC-SP. São Paulo, São Paulo, Brazil. E-mail: **robcoda@usp.br**

Abstract

This study applied exploratory and qualitative research using a systematic literature review to support its main findings and foster creative and innovative practices in the structuring of bibliographic maps. Thus, it was possible to prove and sustain, in a preliminary but consistent way, the scientific gap in the field of research that addresses the theme Startups and their Acceleration Programs.

Keywords: Bibliographic research. Bibliographic map. Startups. Acceleration programs.

1. Introduction

Studies on Startups and their acceleration programs attract researchers from different fields and levels of experience within Applied Social Sciences. However, these objects of study are still incipient, as they deal with recent forms of administrative management within socioeconomic contemporaneity. Thus, such constructs lead to low search results when using electronic repositories and narrow search bases.

Therefore, an effective approach to bibliographic research and the correlated structuring along the bibliographic map could sustain the scientific gap in an area of knowledge under exploration, even without the use of complex or restricted solutions, either on the aspects of programming language, such as the use of RStudio (Microsoft), or even statistical, such as SPSS (IBM).

During the bibliographic research, carried out in search of a relevant theme for the development of a professional master's dissertation that dealt with Startup acceleration programs, the present author came across the trouble every student faces in grouping the theoretical works raised and thus, used the bibliographic maps as a resource.

The topic of interest - acceleration programs and the behavior of the Startup founder - arose 12 years ago (FISHBACK *et al.*, 2007; RIBEIRO; PLONSKY; ORTEGA, 2015; RODRÍGUEZ; ANDRÉS, 2015). However, with its effects and applicability in different ecosystems, it has been attracting different fields of Applied Social Sciences, which aim to increase the understanding of this theme. The fact is that because it is somewhat recent, there are few studies and authors that produce with some relevance and periodicity about this subject of study, which hinders ways to carry out a bibliometric survey (BARROS; LEHFELD, 2013), or even different streams of research on Acceleration Programs, therefore bringing coherence regarding the scientific gap to be researched (CRESWELL, 2007; DE SORDI, 2013).

Thus, a survey was conducted with the academic repositories, based on terms that have adherence to the theme chosen as the research object and the subsequent elaboration of the map, considering the strategies advocated by De Sordi (2013, p. 93) for choosing keywords that will be studied in section 4 of this article. The keywords, according to De Sordi, should not be generic, but portray the specificity of the content in the text to which it refers. Likewise, the abstract has the function of synthesizing the main idea of the research carried out and written in the scientific text, according to the view of its authors.

In order to refine this research and the relevance of the articles to be accepted as a basis for their selection as to their origin and relevance, their reading process occurred respecting their stages from floating to in-depth reading, which served for the reception of articles, for the development of the bibliographic review of the research project (CRESWELL, 2007; CRONIN; RYAN; COUGHLAN , 2008; GIL, 2010).

This research seeks to contribute to students of master's programs, future researchers, who are looking for ways to perform bibliographic research that support their studies and scientific research, but do not have full mastery, or access to statistical tools such as RStudio (Microsoft) or even SPSS (IBM).

Thus, due to the difficulty found among so many other Master's students participating in professional programs, this article aims to: I) disseminate the bibliographic research on a recent theme and II) present the possibility of using the bibliographic map as support in the analysis of the selected works.

2. About the bibliographic research

Treinta *et al*. (2014, p. 508) state that, for most researchers, bibliographic research is one of the most serious problems to be addressed. According to Gil (2012, p. 50), it is launched from already elaborated material, consisting mainly of books and scientific articles. For Santos and Parra Filho (2011, p. 83), it provides prior knowledge of the stage in which remains a given subject.

Following this same perception, Marconi and Lakatos (2011, p. 57) portray that bibliographic research "encompasses all bibliography already made public regarding the subject of study [...]. Its purpose is to put the researcher in direct contact with everything that has been written, said or filmed about a certain subject [...]". Thus, it is

B. Téc. Senac, Rio de Janeiro, v. 45, n. 2, p. 17-25, maio/ago. 2019.

José Marques Pereira Jr., Roberto Coda

noteworthy that the bibliographic research is of great contribution to the researcher, either in obtaining knowledge or in the effectiveness of the search, through graphic, sound and computerized materials, which have already been cataloged in library collections, publishers, Internet, and other media devices (BARROS; LEHFELD, 2013; MARCONI; LAKATOS, 2011).

Based on these principles, it can be argued that the relevance of bibliographic research is that it offers more comprehensive coverage than a direct exploration of the subject of study (GIL, 2012). However, the care to be taken by the researcher during the data collection stage, so as not to be led into error, is the critical look at mistakenly presented secondary data, which may interfere with the research result. Therefore, working protocols should be adopted to mitigate this risk (DE SORDI, 2013; GIL, 2012).

The bibliographic research is of great contribution to the researcher

In this sense, the researcher must find a way to carry out bibliographic research that facilitates the examination of the most relevant works amid a universe of possibilities that permeate the world scientific production, as well as the establishment of knowledge limits effectively through the findings (TREINTA *et al.*, 2014). It must be done even if he/she fell the necessity of bringing a new approach to a given subject through innovative conclusions, escaping the mere reproduction of what has already been cataloged, promoting a breakthrough in this knowledge (MARCONI; LAKATOS, 2011).

Once the bibliographic research of a new subject is done, it is for the researcher to organize the literature on the topic in a way that allows the public to understand how their study adds, broadens or reproduces research already completed, in this case, the literature map, or simply, the bibliographic map.

According to Creswell (2007, p. 55), the literature map is "a visual summary of research conducted by other people and is usually represented by a figure". Following this principle, bibliographic maps can be organized in different ways: 1) Hierarchical structure, with a top-down literature presentation, ending with a proposed study to expand the literature; 2) Flowchart: the reader's understanding of the literature unfolding from left to right, with studies sloping further to the right, anticipating a proposed study that adds to the literature; 3) Circles: with each circle representing a block of literature and the intersection of circles indicating where further research is needed (CRESWELL, 2007; DE SORDI, 2013).

Accordingly, as a complement to bibliographic research, the researcher begins the development of a visual framework of research on a topic that gives an overview of existing literature, to help other researchers to see how the research relates to the broader literature on the subject (CRESWELL, 2007).

3. Method

This article is the result of an exploratory, qualitative research that used the systematic literature review technique (CRONIN; RYAN; COUGHLAN, 2008). The process adopted for this systematization followed the steps recommended by Creswell

B. Téc. Senac, Rio de Janeiro, v. 45, n. 2, p. 17-25, maio/ago. 2019.

José Marques Pereira Jr., Roberto Coda

(2007), Cronin, Ryan and Coughlan (2008) and Gil (2010, p. 45): I) the inclusion or exclusion criteria were defined; II) the works available in the consulted databases, namely EBSCO and ProQuest, were selected and accessed; III) the quality of the literature included in the review regarding the published medium was evaluated; IV) the selected material was analyzed.

The research bases used were EBSCO and ProQuest, being used organizers and filters, aiming at accuracy in the selection of articles. Boolean operators (And, Or, Not) were also considered. At first, the estimated key terms were: Entrepreneurial behavior; Entrepreneurial Mindset; and Entrepreneurial Motivation - associated with the word Startups. Since no papers with these terms were found though, the search using their English spelling, as explained in section 4 has proceeded.

The search took place between March and August 2017 and considered three criteria for selection: I) publications should be dated between 2011 and 2017; II) publications should come from peer-reviewed scientific journals; and III) journals should be classified in the Brazilian Journal Evaluation System, known as *Qualis*, maintained by the Coordination for the Improvement of Higher Education Personnel (Capes).

4. Survey results

By combining the terms "startup accelerators" and "entrepreneurial skills", there were almost no search results

In the preliminary survey, it was found that by combining the terms "startup accelerators" and "entrepreneurial skills", there were almost no search results. Then, based on Gil (2012), to bring some ingenuity in the combination of the criteria to be searched, in the abstracts and keywords were sought the English terms "Entrepreneurial Behavior"; "Entrepreneurial Motivation" and "Entrepreneurship Mindset", so the results began to reflect the desired effect for the research.

The main search refiner for these cases was the publication's relevance criteria, which means the ones that have double-blind review by experts. Also, to be in a range of publication year later than 2011; ending this filter, associating the word "Startup" in the title, abstract, or keyword. In this sense, the results achieved, as will be shown in Table 1, were a total of 28 articles, of which 7 were duplicate to previously selected articles, 2 of them being entrepreneurial motivation in ProQuest, followed by 5 articles in entrepreneurial mindset (see Table 1):

Table 1 - Overview of articles searched by theme

Theme	Total Search	Duplicated	Selected
Entrepreneurial Behavior	12	-	12
Entrepreneurial Mindset	10	5	5
Entrepreneurial Motivation	6	2	4

Source: Prepared by the authors.

B. Téc. Senac, Rio de Janeiro, v. 45, n. 2, p. 17-25, maio/ago. 2019.

José Marques Pereira Jr., Roberto Coda

The results achieved in "Entrepreneurial Behavior" come from a universe of more than 9,000 articles since 1937, being redefined to almost 1,600 articles by journal relevance and publication year from 2011 to 2017; culminating in 50 articles associated with the word "Startup" in the abstract and/or keywords. After a brief reading of the abstracts and keywords, the type of exploratory or scanning reading was followed by a selective or skimming reading to see the text's adherence to the research proposal (DE SORDI, 2013 p. 48; GIL, 2010, p. 58). Twelve articles were accepted after reading for further reading, as shown in Table 1.

Similarly, the results achieved in "Entrepreneurial Motivation". Having a universe of more than 1,150 articles since 1939 as a starting point, being redefined to almost 380 articles by journal relevance and publication year from 2011 to 2017; culminating in 21 articles associated with the word "Startup" in the abstract and/or keywords. Using the same previous selection criteria, 6 articles were accepted, disregarding 2 articles already present in other research, and 4 were selected after reading for further reading, as shown in Table 1.

Concluding this preliminary search stage, the results achieved for "Entrepreneurial Mindset" had as a starting point a universe of about 800 articles since 1992, refined to almost 105 articles by journal relevance and publication year from 2011 to 2017; culminating in 29 articles associated with the word "Startup" in the abstract and/or keywords. Following the same reading methods of the previous selections, 10 articles were accepted, disregarding 5 articles already present in other researches, and 5 were selected after reading for further reading, as shown in Table 1.

After the surveys presented through this bibliographic research, in which 21 articles were accepted for the research base of this study, 13 other articles with approach focused on Startup Acceleration Programs were added, as well as 3 articles on aspects of Behavioral Competence, among other documents and books that follow the direction guidance for this research. The result of this search, plus some articles from the author's collection, which were accumulated during the completion of the master's program credits, culminated in a preliminary structure of 37 articles.

4.1 Map layout and the correlation of bibliographic research

Since the articles were received through a skimming reading, a visual map was prepared to facilitate the conduct of the research of the selected bibliography, delimiting the fields of research coverage, as well as the areas of weakness and or little exploration, according to the aspects presented by De Sordi (2013, p. 48) and Creswell (2007, p. 55).

Through a deeper analysis of the abstracts and other definitions presented by their authors in the keywords of the articles, from the five keywords raised – entrepreneurial behavior, entrepreneurial mindset, entrepreneurial motivation, behavioral skills, startups, and accelerators - eight other fields of study attended by the selected articles were reached, totaling 13 fields of study. So, in general, the 13

B. Téc. Senac, Rio de Janeiro, v. 45, n. 2, p. 17-25, maio/ago. 2019.

José Marques Pereira Jr., Roberto Coda

areas of study that were surveyed along with the 56 received articles, following the analysis of keywords and abstracts were: Entrepreneurship (26 articles); Startup (20); Entrepreneur (14); Accelerators (12); Entrepreneurial Behavior (11); New Businesses (10); Entrepreneurial Experience or Expertise (9); Behavioral Competencies (8); Innovation and Incubator (7 articles each) and, finally, Entrepreneurial Mindset; Human Capital and Motivation (6 articles in each area). As expressed in Table 2:

Table 2 - General result of bibliographic analysis

Keywords	Total of related papers	List of articles selected relating to the theme
Entrepreneurship	26	1, 2, 3, 4, 5, 7, 9, 10, 13, 15, 16, 17, 18, 20, 21, 22, 24, 26, 28, 30, 31, 32, 33, 34, 35 and 36
Startup	20	2, 3, 6, 8, 13, 14, 15, 17, 18, 19, 24, 25, 27, 28, 29, 30, 31, 33, 35 and 37
Entrepreneur	14	2, 3, 4, 5, 6, 7, 17, 20, 22, 25, 27, 29, 31 and 36
Accelerators	12	6, 8, 13, 14, 15, 17, 28, 29, 30, 31, 33 and 35
Entrepreneurial Behavior	11	2, 7, 9, 10, 16, 18, 21, 26, 27, 29 and 37
New Businesses	10	1, 2, 4, 5, 17, 20, 25, 28, 35 and 37
Experience	9	1, 3, 10, 23, 24, 26, 27, 34 and 37
Behavioral Competences	8	11, 12, 18, 23, 26, 32, 34 and 36
Innovation	7	06, 15, 16, 19, 20, 22 and 35
Incubator	7	06, 09, 13, 14, 21, 28 and 30
Entrepreneurial Mindset	6	02, 22, 24, 27, 32 and 37
Human Capital	6	11, 12, 21, 32, 34 and 36
Motivation	6	11, 19, 21, 22, 25 and 37

Source: Elaborated by the authors.

5. Discussion of results

Once this structuring is done, when analyzing the conceptual map of the bibliography, one can see the direct relation of the research areas: Entrepreneurial Behavior, Entrepreneurial Mentality, and Motivation, being supported by the Entrepreneurship and Startup pillars, which are present across almost all the other areas mentioned, thus serving as the support axis of the study being carried out. The most frequent correlations between Entrepreneurship and related areas, such as Entrepreneurial Experience, Human Capital, and Entrepreneurial Experience, are also evident when compared to the issues that involve Startup and Innovation, New Businesses, Incubators, and Accelerators.

Therefore, an added content analysis was performed by correlating all 13 areas presented by the articles received and comparing them with each other, seeking what are the communal areas between them. The preliminary result achieved shows

B. Téc. Senac, Rio de Janeiro, v. 45, n. 2, p. 17-25, maio/ago. 2019.

José Marques Pereira Jr., Roberto Coda

that the terms "entrepreneurship", "entrepreneurial behavior" and "entrepreneurial figure" are present in virtually all articles presented. As it shows the following table, that examines the propositional correlation of areas from the bibliography based on keywords and abstract.

Table 3 - Correlation of areas from the bibliography

keywords	Entrepreneurship	Startup	Entrepreneur	Accelerators	Entrepreneurial Behavior	New Businesses	Experience	Behavioral Competences	Innovation	Incubator	Entrepreneurial Mindset	Human Capital	Motivation
Entrepreneurship	100%	60%	71%	67%	73%	80%	67%	63%	71%	71%	67%	67%	33%
Startup	46%	100%	57%	100%	45%	60%	44%	13%	57%	71%	67%	0%	50%
Entrepreneur	38%	40%	100%	33%	36%	60%	22%	13%	43%	14%	50%	83%	33%
Accelerators	31%	60%	29%	100%	9%	30%	0%	0%	43%	71%	0%	0%	0%
Entrepreneurial Behavior	31%	25%	29%	8%	100%	20%	44%	25%	14%	29%	50%	17%	33%
New Businesses	31%	30%	43%	25%	18%	100%	22%	0%	29%	14%	33%	0%	33%
Experience	23%	20%	14%	0%	36%	20%	100%	38%	0%	0%	50%	17%	17%
Behavioral Competences	19%	5%	7%	0%	18%	0%	33%	100%	0%	0%	17%	83%	17%
Innovation	19%	20%	21%	25%	9%	20%	0%	0%	100%	14%	17%	0%	33%
Incubator	19%	25%	7%	42%	18%	10%	0%	0%	14%	100%	0%	17%	17%
Entrepreneurial Mindset	15%	20%	21%	0%	27%	20%	33%	13%	14%	0%	100%	17%	33%
Human Capital	15%	0%	7%	0%	9%	0%	11%	63%	0%	14%	17%	100%	33%
Motivation	8%	15%	14%	0%	18%	20%	11%	13%	0%	14%	33%	33%	100%

Source: Prepared by the authors.

Following the same principle of analysis, a fact that may contribute to the question of this present study is directly linked to the behavioral aspects of the entrepreneur in structuring a successful Startup, at least regarding the main object of study of the raised articles. This issue can be pointed out preliminarily, since the results presented in Table 3 show that behavioral competencies often appear null or even of low relevance. One way of exemplifying this is by analyzing articles related to Startups, where their correlation is present in all other areas with high or low correlation, but concerning human capital, adherence is zero (0%). This deficit is also observed by looking at the articles that address accelerator issues, which arise as such adherence to the terms Startups (100%), entrepreneurship (60%), innovation (27%), but correlating with expertise, human capital, motivation, behavioral skills and entrepreneurial mindset, the result is zero (0%) adherence within the correlation.

Another highlight is the percentage of contribution of the themes found, giving more prominence to subjects such as Entrepreneurship (70%) and Startup (54%), followed by Entrepreneur, Accelerators and Entrepreneurial Behavior (38%, 32%, and 30%, in the same order). But the main relevance of this observation is not only in the capillarity reached by the preliminary choice but in their adherence between the areas, in which points that support this research project can be stratified. Articles related to the areas Entrepreneurship, Entrepreneur and Entrepreneurial Behavior permeate all other areas raised, followed by Startup and Motivation, which just do not have adherence to one of the areas presented.

Regarding Startup, the lack of adherence is related to the area of Human Capital

Regarding Startup, the lack of adherence is related to the area of Human Capital, and the issue of Motivation is exactly about Accelerators. Another relevant factor is the reference of Accelerators that, despite being strongly adherent to areas such as: Startup (100%), Entrepreneurship (67%) and Entrepreneur (33%), when bringing aspects related to the areas related to the proposal of this research, it is noticed a low adherence, as in Entrepreneurial Behavior (8%), or even, invalidity, as in the case of: Behavioral Skills (0%), Entrepreneurial Mentality (0%), and Motivation (0%).

6. Final considerations

Given the aims proposed with this study, it can be highlighted that, according to the primary objective, it was possible to present, consistently and effectively, the research of the world scientific production on a recent theme. And this achievement was made because of the possibility of exploring the established limits through innovative and objective methods, escaping the replication of conventional models, propagating the new and correlating related areas within the articles received for the elaboration of the research.

Regarding the possibility of using the bibliographic map as a support in the analysis of the selected works, as proposed in the secondary aim, the use of this technique may not only contribute as a guide of the concerned researcher. The map also may help other researchers to visualize how the research relates to the broader literature on the subject, including guiding what are the potential trends in academic gaps or areas that are still unexplored.

Through the proportional correlation of the keywords and core of the abstracts, which proved the high and low adherence in the cross-sectional areas, it is emphasized that the research strategy applied to the construction of this article, which addresses a contemporary theme still in progress phase of academic incipience, presents fragmented positions before the different constructs on the object of study. Based on the directions of the authors of the accepted articles, which express the direction of the theme, it was possible to verify the existence of the academic gap to investigation in depth.

Thus, it is possible to state that the research presented here brings positive contributions to the effective organization of these studies, as well as to help, especially, the novice researcher, who may still present some insecurity about the relevance of certain researches or themes. By analyzing the data presented, this research ends upbringing preliminary support that the gap exists and deserves investigation.

B. Téc. Senac, Rio de Janeiro, v. 45, n. 2, p. 17-25, maio/ago. 2019.

José Marques Pereira Jr., Roberto Coda

References

BARROS, A. J. P.; LEHFELD, N. A. S. **Projeto de pesquisa**: propostas metodológicas. 22. ed. Petrópolis: Vozes, 2013.

CRESWELL, J. W. **Projeto de pesquisa métodos qualitativo, quantitativo e misto**. 2. ed. Porto Alegre: Artmed, 2007.

CRONIN, P.; RYAN, F.; COUGHLAN, M. Undertaking a literature review: a step-by-step approach. **British Journal of Nursing**, London, v. 17, n. 1, p. 38-43, 2008.

DE SORDI, J. O. **Elaboração de pesquisa científica**: seleção, leitura e redação. São Paulo: Saraiva, 2013.

FISHBACK, B. *et al*. **Finding business 'idols'**: a new model to accelerate start-ups. [S. l.]: SSRN, July 2007. DOI: http://dx.doi.org/10.2139/ssrn.1001926. Disponível em: https://ssrn.com/abstract=1001926. Acesso em: jul. 2017.

GIL, A. C. **Como elaborar projeto de pesquisa**. 5. ed. São Paulo: Atlas, 2010.

GIL, A. C. **Métodos e técnicas de pesquisa social**. 6. ed. São Paulo: Atlas, 2012.

MARCONI, M. A.; LAKATOS, E. M. **Técnica de pesquisa**: planejamento e execução de pesquisas, amostragens e técnicas de pesquisa, elaboração, análise e interpretação de dados. 7. ed. São Paulo: Atlas, 2011.

RIBEIRO, A. T. V. B.; PLONSKY, G. A.; ORTEGA, L. M. Um fim, dois meios: aceleradoras e incubadoras no Brasil. *In*: ALTEC CONGRESSO LATINO-IBEROAMERICANO DE GESTÃO DA TECNOLOGIA, 16., 2015, Porto Alegre. **Anais do** [...]. Porto Alegre: UFRGS, 2015.

RODRÍGUEZ, H.; ANDRÉS, J. **Start-up development in Latin America**: the role of venture accelerators. 2015. Dissertação (Mestrado em Gestão da Tecnologia) - Sloan School of Management, Massachusetts Institute of Technology, Cambridge, 2015.

SANTOS, J. A.; PARRA FILHO, D. **Metodologia científica**. 2. ed. São Paulo: Cengage Learning, 2011.

TREINTA, F. T. *et al*. Metodologia de pesquisa bibliográfica com a utilização de método multicritério de apoio à decisão. **Production**, São Paulo, v. 24, n. 3, p. 508-520, jul./set. 2014.

José Marques Pereira Jr., Roberto Coda