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SYSTEMATIC REVIEW OF ENTREPRENEURSHIP PAPERS (2000-2014) PUBLISHED IN THE TOP BRAZILIAN JOURNALS OF ADMINISTRATION

Abstract

The entrepreneurship area is gaining importance on the international scene. However, in Brazil, it seems innocuous, the conduct of studies in the area is recent and incipient. This study realized a systematic review of entrepreneurship papers published in Top Brazilian Journals of Administration (TBJA) during the 2000-2014 period, trying to identify challenges and opportunities. Although entrepreneurship on the international scene is well established, in Brazil, the results indicate that it is still without legitimacy, with many challenges, such as: (1) lack of entrepreneurship publication within the TBJA. (2) The impact of the scientific production of the TBJA is still low compared to international journals focused exclusively on entrepreneurship. (3) Prevalence of low methodological approaches. As opportunities: (1) give preference to empirical studies carried out by rigorous methodologies. (2) Realization of empirical studies that clearly extend the theoretical basis of the existing literature using longitudinal research design. (3) Establishment of research lines in Master and Doctoral in the higher education institutions dedicated exclusively to entrepreneurship. This paper contributes theoretically by providing a quantitative and qualitative description, making a critical analysis of the entrepreneurship research and practice as giving a perspective to researchers and first time authors to produce high impact papers.

Keywords: Entrepreneurship, systematic review, scientific production, Top Brazilian Journals of Administration.

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INTRODUCTION

The entrepreneurship area is a relatively young field of research and it is getting importance on the international scene, mainly from 1990s. The entrepreneurship papers give signals of legitimacy to the field with publications in mainstream international journals of Administration: Academy of Management Journal (AMJ), Academy of Management Review (AMR), Strategic Management Journal (SMJ), the Journal of Management (JOM), Organization Science (OS), Management Science (MS), and Administrative Science Quarterly (ASQ) (Busenitz et al., 2014).

However, in Brazil, the scenario is quite different, since the research on entrepreneurship still seems innocuous, the conduct of studies in the area is new and fledgling (Inácio et al., 2014). Considering that in the last 15 years (2000-2014) only 61 entrepreneurship papers in the Top Brazilian Journals of Administration (TBJA) were published: *Revista de Administração de Empresas* (RAE), *Revista de Administração* (RAUSP), *Revista de Administração Contemporânea* (RAC) and *Brazilian Administration Review* (BAR), with the highest degree, in the Journals of Administration, in Brazil, by the evaluation of Brazilian Higher Education Personnel Training Coordination (CAPES, 2012).

Bertero et al. (2013) reinforces that Brazilian scientific production of the 2000s is deficient and there is a long road to its maturity in the country. Thus, systematic review on entrepreneurship receives theoretical justification for a reflection of what has currently been done and practical relevance for authors to publish more entrepreneurial papers. For example, during the 2000-2010 period, entrepreneurship papers accounted for 30, which is well above other areas, such as: Marketing (137; +357%), Operations (39; +30%), Human Resources (36; +20%) (Mazzon & Hernandez, 2013; Paiva & Brito, 2013; Mascarenhas & Barbosa, 2013).

In the Brazilian context, systematic reviews of the scientific production have excelled in recent years, in areas like: franchising (Mello & Andreassi, 2010), marketing (Mazzon & Hernandez, 2013), operations (Paiva & Brito, 2013) and human resources (Mascarenhas & Barbosa, 2013). The challenge, therefore, is to critically analyze the scientific production of specific issues, through quantitative and qualitative approaches. In the area of entrepreneurship, the only paper that conducted an analysis of academic publications on it, during the period of 1980-2010, published in the International Journal of Entrepreneurship (Inácio et al., 2014), have not considered all four TBJA: RAE RAUSP, RAC and BAR, or the 2011-2014 period, nor conducted a critical analysis of the scientific production.

Therefore, there is a lack for research of the scientific production in the Brazilian journals, specifically a critical analysis on entrepreneurship, especially if it takes into account the pressure of CAPES and Higher Education Institutions (HEIs) for publication and performance showing concrete evidence and providing unified parameters for comparison that can be useful to the authors and HEIs. For example, among the evaluation criteria for obtaining the HEIs' grade with post-graduate program in CAPES (2012), in the case of Administration, the greatest weight falls on publications, which represents 52.5% of the total grade weight. If it is considered that the TBJA are general, the papers' feedback submitted is time consuming (about 12 months) and the pressure for publication becomes imperative.

Systematic reviews are important to analyze the main productions, i.e, what are the central features of scientific production to understand trends in a particular topic, challenges and opportunities, main HEIs, authors and most important works, and traditional and emerging subjects. Thus, the main objective of this study is to describe and critically analyze the scientific production on entrepreneurship in the TBJA (RAE, RAUSP, RAC and BAR) during over 15 years (2000-2014). To achieve this goal, we carried out a quantitative and qualitative analysis of all entrepreneurship papers published in: BAR, RAC, RAE and

RAUSP, which represents 61 papers analyzed. This paper has two main contributions. Firstly, it offers a quantitative and qualitative perspective reflecting the research field. The analysis of Brazilian research on entrepreneurship both helps to identify opportunities and challenges, for indicating themes where research is under development for targeting future research and the consolidation of the field. Secondly, it gives a new perspective to researchers and aspiring authors to improve their research, but also to improve the impact of their work. Thus, this study can help researchers who are, exclusively or mainly, focused in entrepreneurship as well as those who see entrepreneurship as a secondary area of research and seek new opportunities to join a new research field.

METHOD

Systematic review is a recognized method for analyzing the evidence-based literature and it is used as a guide to the development of research, indicating the main areas studied and possible gaps for future research, identifying which research methods were used in the field, etc. (Lorz et al., 2013). A systematic review requires clear definition of the search strategy, establishment of the criteria for inclusion and exclusion of papers and a critical analysis of the quality of the papers (Petticrew & Roberts, 2006). Although there is no consensus on how to develop a systematic review or meta-analysis, there are some steps to follow, such as: (1) clearly define the purpose of the work; (2) choose different databases to search the papers; (3) establishment of criteria for selection of the papers (inclusion or exclusion); (4) select items; (5) analyze the collected data; and (6) interpret the results (Brei et al., 2014). Thus, we followed a guideline. The first step was to select the database for entrepreneurship and the journals to be included in the search. The following criteria were used: (1) include only TBJA with the existing A2 rating by CAPES (2012) system in 2014; (2) select only those journals with general editorial directives in all areas of Management and Entrepreneurship; (3) choose a period for data analysis, which in this study was 2000 to 2014, to analyze the publications

evolution on the field. The *Revista de Administração Pública* and *Organização & Sociedade*, although it has the same grade as the TBJA, they was not considered due to the fact of being a journal mainly focused on the public area. The *Brazilian Business Review* was not considered because, it is not a Journal of Administration and has various focus.

Following these criteria, the TBJA selected were RAC, RAE, RAUSP and BAR. All papers considered for analysis were obtained directly from the journals' sites. For selection of the papers, we used a systematic and comprehensive search by keywords, using the following terms: entrepreneurship (*empreendedorismo*), entrepreneur (*empreendedor*), entrepreneurial orientation (*orientação empreendedora*). To assure the scope of the papers, we did a search on SciELO (www.scielo.org) database, considering the same period, journals and keywords, confirming the data obtained directly from the journals' websites which represented the total of 61 entrepreneurship papers. To develop a good description and reliable analysis, we used Mendley software. The Mendeley, that appeared in 2008, is a combination of desktop request and website, allowing us to generate statistics on the selected papers (Yamakawa et al., 2014). Computational tools are useful, when one needs to achieve a search with a reliable database or when one seeks to crossover information from search categories attributes (Lage, 2011).

We developed an analytical framework that included important information's and categories per item, which can be classified into seven groups:

1. Papers: title, journal name, volume, number, pages and year of publication, to analyze the source of the papers published in Brazil by year (2000-2014).
2. Impact Factor: classification of TBJA (RAC, RAE, RAUSP and BAR) and entrepreneurship international journals, according to the classification of SCImago Journal Rank (SJR, 2015). The choice of SJR was due to it being the largest, best known and first service to offer an open access alternative source of indicators to the traditional Journal Citation Reports (JCR) of the Institute for Scientific Information, which now belongs to

Thomson Reuters, and needs a subscription to access the data (Jacsó, 2013). While the JCR contains more than 8,000 database journals in 171 categories and in the social sciences covers more than 2,900 journals in 55 subject categories (Muthamilarasan & Prasad, 2014), the JRS covers about 20,000 journals and other periodicals compiled by Elsevier for Scopus database (Jacsó, 2013).

3. Higher Education Institutions (HEIs): we verify the amount of HEIs involved in the research, the number of papers published by each HEIs and whether the HEI, with more than two papers published in the period (2000-2014), had some entrepreneurship center.
4. Authors: name(s) of the author(s), authorship order, affiliated HEI (considering only the first affiliated institution), number of authors and number of HEI involved in the research. Later, it was checked if these authors consider entrepreneurship as a major area of research and have some paper(s) published in entrepreneurship international journals selected in step (2) by looking at the curriculum of 13 major Brazilian producers on entrepreneurship who have published at least two papers in TBJA between 2000-2014.
5. Themes: each paper was allocated according to the main approach used. Therefore, it was considered only one theme obtained by reading the introduction of all 61 papers. When there was doubt about the main theme, it was selected by using the one with theoretical framework that had greater weight for the study.
6. Structure: we analyzed the empirical papers published in the period 2010-2014, in terms of structure (introduction, literature review, methodology, results and discussion/conclusion) for comparison with the structure of the 10 high-impact papers published in Technovation (Sun & Linton, 2014). From the 30 empirical papers, two were not considered because they did not have the typical structure. In addition, we read all introductions and conclusions to analyze the content of these items.

7. Methodology: this was a characterization of some methodological information of the papers, by their reading, into four main categories:
    a. Type of study: Classified as theoretical (without collection and/or data analysis), and empirical (with collection and/or data analysis).
    b. Type of analysis: qualitative, quantitative or qualitative and quantitative (mixed).
    c. Type of data: primary, secondary or mixed (primary and secondary).
    d. Analysis technique: classified as mentioned in the works.

RESULTS AND ANALYSIS

Analyzing the source of the papers published in Brazil (Figure 1), it was found that until 2005 the national scientific production on entrepreneurship was incipient. The total number of publications from 2000 to 2005 was only eight papers (approximately one paper per year), where RAE emerged as the main journal. Since 2006, the publication has grown 425% over the average 2000-05 period. It started a period of production in which there was a quantitative evolution of entrepreneurship papers, with an average publication of four papers per year for 2006-09 period, where RAC (with seven papers) began to emerge and exceed RAE (five papers) as the primary means of publication. Stating from 2010, the average production of the previous period was extended to seven articles per year, mainly due to the year 2014, whose production reached unprecedented 14 published papers, surpassing the previous record of nine papers in 2012.

During the 2010-14 period, RAC (16 papers) has established itself as the main journal for publishing entrepreneurship papers and RAUSP (13 papers) has emerged as the runner-up. Considering the entire period 2000-2014, the 61 papers published, RAC accounted for 39.3%, RAUSP (29.5%), RAE (23%) and BAR (8.2%) of the national scientific production on entrepreneurship. An important indication of the quality and legitimacy of a research for all disciplines is its publications in leading academic journals. When the presence of an area in

the mainstream journals is limited, as is the case of entrepreneurship, in Brazil, questions concerning accuracy, conceptual boundaries and acceptance as an academic discipline seem to become major issues (Busenitz et al., 2014).

[Inset Figure 1 here]

This scenario is most critical, in Brazil, due to the lack of academic journals with high quality dedicated exclusively to entrepreneurship. However, it should be considered that the entrepreneurship area is relatively new and the journals specializing in entrepreneurship are recent. Although the area presents several challenges, on the other hand, it may be an interesting field of research for development because of the many opportunities it offers. According to Busenitz et al. (2014) research, the results indicated that entrepreneurship papers now have a significant presence in the mainstream international journals of Administration (AMJ, AMR, SMJ, JOM, OS, MS, and ASQ), giving signals of entrepreneurship thematic legitimacy in the world scenario. In Brazil, entrepreneurship still needs more space and legitimacy in the TBJA. Perhaps a way to increase the impact of entrepreneurship in the area is the creation of calling for papers with special editions on entrepreneurship.

Comparative National and International Journals' Impact Factors

To check the impact of publications in the TBJA, we used the criteria adopted by SJR (2015), which are the SJC score, H Index, and citations per documents for creating a classification of the impact factors. In addition, we verify by the same criteria, the impact of international journals focused exclusively on entrepreneurship for comparison with the TBJA. It is observed in Table 1 that in the TBJA, only RAE (SJC = 0.21), ranking first among the national, and BAR (SJC = 0.17, Hindex = 4 and Cites/Doc = 0.24) which appeared in third place behind the *Revista Brasileira de Orientação Profissional* (SJC = 0.19), which is ranked below BAR in CAPES classification, were listed in the SJR. These indicators show that the impact of the national production is still low internationally, some journals below ranked have

impact factor on the same level the TBJA, and the other two journals (RAC and RAUSP) are not listed in the SJR, giving evidence that much still needs to be done in the Brazilian academy for his scientific production to have an effective national and international impact.

[Insert Table 1 here]

Internationally, it is observed that the journals focusing on entrepreneurship (Table 2) compared with the CAPES criteria of classification, would be very well ranked in Brazil, and the first four journals have impact factors ranging from 3.25 to 1.14, which are higher than the TBJA. In terms of publications' influence, RAE (ranked first among national), would be in 12th place between the 19 international journals of entrepreneurship. BAR, in turn, would be in 16th. Therefore, the impact of TBJA is still limited, even when comparing to an specific area (entrepreneurship). Although there is more competition for publishing articles in international journals, on the other hand, there is a window of opportunities for Brazilian researchers to publish their work in entrepreneurship international journals. Maybe with the impact of their international publications, the TBJA can give more opportunities to the theme entrepreneurship and thus legitimize and consolidate as a promising field of research.

[Insert Table 2 here]

Higher Education Institutions Involved in Research

The results indicate that out of the 61 published papers, 38 (62.3%) are from authors by two or more institutions suggesting the use of complementarities or synergies between these authors from other HEIs (Table 3). We observe that the vast majority of papers were written by two or three authors, and by different HEIs. The total institutions involved (104) in entrepreneurship research is well above the 61 published papers. This can be a good indicator of growing interest with regards to conducting research in the area.

In the classification of HEIs, PUC-MG ranks first in the number of papers (9 or 8.7%). In second place appears USP and FGV-SP, both with eight papers. In third UFRGS and

UNINOVE with five papers each. In fourth, there are four HEIs tied with three publications (FEI, PUC-SP, UEM and HEC Montreal). Together these nine HEIs represented 45.3% of all papers published showing certain concentration of publication, but on the other hand, this result gives evidence of a growth potential of research and publications whether other HEIs increase their research efforts.

From the results in Table 3, we checked among the HEIs with at least three papers published during 2000-2014 period which ones had some Entrepreneurship Center (EC). According to research by Hashimoto (2012), in Brazil there are 33 EC, of which 22 are in the Southeast (66.7%), and 15 in São Paulo (45.5%). Between the four best ranked HEIs, only PUC-MG and UEM have no EC. Although PUC-MG does not have an EC, it has a core research in entrepreneurship and enterprise networks within its Master and Doctoral programs, justifying PUC-MG first place. The second (USP), which has an EC, this belongs to the Polytechnic School and not to the School of Economics, Business and Accounting.

While not necessarily the authors and those EC work together effectively, leading to an effective scientific production, the international experience of EC shows that there is a correlation between research and publication of the work undertaken by EC. Therefore, the creation of EC in Brazil, which is relatively new, with an average of five years old (Hashimoto, 2012), and even the experience of PUC-MG with the creation of core research on entrepreneurship can be a way to boost high impact scientific production.

[Insert Table 3 here]

Authors

The number of authors per article more frequently was two people, which represents 47.5% of the total, and about a third was related to three authors per paper (Table 4). In relation to the main national scientific producers (Table 5), the leadership is by Gláucia M. V. Vale from PUC-MG with nine publications, mainly related to sub-theme networks (or

alliances). In second place tied with three publications each, Hilka P. M. Machado from UEM (sub-theme: entrepreneurship) and Vanya M. J. Nassif (sub-theme: entrepreneurial behavior) that published by Mackenzie and Uninove. In third place, 10 authors with two papers. However, it should be noted that the vast majority of the Brazilian production on entrepreneurship (71.8%) only published one paper in the last 15 years (2000-2014), suggesting that many of these authors do not consider entrepreneurship as their main area of research or that there is still little space for these researchers within the TBJA.

[Insert Table 4 here]

Finally, we analyzed whether the main Brazilian entrepreneurship publishers who consider entrepreneurship as the main line of research and if they have any publication on international journals of entrepreneurship listed in Table 2. So, we checked on the curriculum of the top three best published ranked (13 in total). The results indicate that only two authors Felipe M. Borini (one paper at International Entrepreneurship and Management Journal) and Marcos Hashimoto (one paper at International Journal of Entrepreneurship and Small Business) published on international journals of entrepreneurship. In addition, more than half (53.8%) of the Brazilian authors do not consider entrepreneurship as a main research area.

[Insert Table 5 here]

Themes

Among the 27 different themes that most aroused the authors' interest of the scientific production on entrepreneurship in Brazil, the theme entrepreneur leads, accounting for 14.8% of the publications in 2000-14 period, followed by networks (9.8%), female entrepreneurship (8.2%), entrepreneurial orientation (6.6%) and social entrepreneurship (6.6%). The themes with less interest were (others): dynamic, resource base, capital risk, effectuation/causation, corporate entrepreneurship, social stratification and mobility, governance, incubators, innovation, industrial organization, entrepreneurial, risk, companies' survival, theory of

adaptive probability with 1.6% each, with frequency of one, as showed in Table 6. There has been a fragmentation of topics within entrepreneurship in Brazil, with 44.3% different themes within the Brazilian academy.

The results indicated there is still many opportunities for the development of entrepreneurial research, especially considering themes relatively well studied in the international literature, such as, entrepreneurial orientation, that is one of few areas where the cumulative body of knowledge was developed (Rauch et al., 2009), and in Brazil it still has a tenuous participation (6.6%) of the national production on entrepreneurship. If we consider the themes that are more recent: educational entrepreneurship, international entrepreneurship, the possibilities for the development of research will be increased.

According to the bibliometric research by Busenitz et al. (2014) with 219 papers, during the 2000-09 period, in the mainstream journals (AMJ, AMR, SMJ, JOM, OS, MS and ASQ), 37% of the papers were related to organizational mode, 17% for individuals and teams, 14% for environment, and 12% for opportunities. Issues related to alliances, networks, organizational arrangements, industry and other strategic themes within the organizational mode remain important areas for research. Integrating entrepreneurship research and other more established disciplines such as strategy, economics and organizational behavior still have a strong presence in the AMJ, AMR, SMJ, JOM, OS, MS and ASQ.

[Insert Table 6 here]

Structure

The papers' structure was analyzed following the same procedures adopted by Sun and Linton (2014) with a slight modification. As Brazilian papers, usually, do not use a section for discussion we considered the union of discussion with conclusion. Thus, we considered only five items: (1) introduction, (2) literature review, (3) methodology, (4) results, (5)

discussion/conclusion. The relative number of words (percentage) was collected for each section for each of the 28 empirical papers during the 2010-2014 period.

Table 7 shows that Brazilian entrepreneurship papers focus more on results (35%) and literature review (24%). However, these authors give less emphasis to discussion/conclusion (15%). When we compare it to high-impact papers published in Technovation, the structure of Brazilian papers would be deficient in terms of discussion/conclusion with –11% of difference, -6% compared to the literature review and an excess of focus (+15 %) compared to the results (which was greatly impacted by the amount of qualitative papers). The focus given to the introduction and methodology is equivalent to the high impact Technovation papers.

By reading the Brazilian entrepreneurship papers, the largest disability felt at the discussion/conclusion, which is usually one of the most relevant parts of a paper. It was a mere description of the main results, making a connection with the literature. However, the authors did not start this section re-affirming the objective of the study (72% did not), did not mention the theoretical contributions (67%), practical implications (83%) and many of them (63%) did not indicate the research's limitations and suggestion for future research are general with little contribution to the development of theory and further study. However, what is most impressive when comparing Brazilian vs. international papers is that the Brazilians do not have the habit of explaining the implications of the study. Of the 28 papers read, none explicitly and clearly reported the theoretical implications of it, and only 7% conveyed explicit practices or managerial implications.

Regarding the introduction, Brazilian papers do not have the habit of putting the contributions to the work in it, 77% did not, which is already common practice in international papers. The research question also did not appear in 70% of the papers. The methodology used to achieve the results was not explained in the introduction by 63% of them, and finally half of the papers did not show the practical relevance of the study.

Although, the practical relevance to the academy is not so important, especially in rigor versus relevance discussion, many of the Brazilian papers have methodological weaknesses, as can be seen in the next section.

[Insert Table 7 here]

Methodology

This analysis was performed through a characterization of some categories of methodological support of published papers. We can observe in Table 8 that the vast majority of the studies was empirical (75.4%) than theoretical essays (24.6%). The empirical studies were classified according to the data source and the purpose of the study. This result showed that the great majority are primary data (collected in the field) by 78.3%, while the secondary and mixed data (collected in the field and secondary) accounted for 10.9% each.

Regarding the purpose of the study, almost half of the work carried out was of qualitative nature (47.8%), followed by quantitative approach (41.3%). Among the quantitative by survey (19) the main data analysis techniques were: factor analysis (23.3%), regression (20.0%), percentage analysis (16.7%) and structural equation modeling (10, 0%). Studies using qualitative and quantitative approaches together are the minority with only 10.9%, indicating opportunities for conducting more joint research. Because the hypotheses tested in business strategy and entrepreneurship are complex, and the relationship between industry structure, competitive position and performance are dynamic, it is necessary to use a more mixed approach (Harrigan, 1983). The benefits of combining qualitative and quantitative methodologies to form a more complete picture of a phenomenon by far outweigh the costs of time and effort. The implementation of this more complete methodological strategy, however, requires that organizational researchers become more familiar and comfortable with the ontological, epistemological and methodological foundations of qualitative and quantitative research (Shah & Corley, 2006).

[Insert Table 8 here]

Regarding the qualitative approach, 59.1% of the studies conducted interviews, and almost half of these (46.2%) held only up to four interviews, showing a relatively worrying scenario regarding the quality of the analysis and more opportunities for conducting rigorous research. Although there is not a number defined by the literature, it is generally safe to assume a minimum required interviews of between eight and 10, but it is recommended the principle of "theoretical saturation" (convergence of respondents' answers) to define the appropriate number of interviews (Fischer et al., 2014).

Case studies accounted for 10.9%, and 22.2% were single cases and only 33.3% of them were multiple cases. This data indicates opportunities to develop case studies more robust for theoretical development. Theories developed through case studies are important for the novelty, testability and empirical validation, closely related to the data collected mainly for research in new areas where the existing theories are inadequate. The case study methodology is considered robust if it presents interesting or break off theories passing on tests of reliability (Eisenhardt, 1989). However, as noted by Yin (2001) these theories can be restricted to the specific case studied not being very appropriate to generalize due to "scientific rigor" (absence of bias for the researcher) on the method used. One way to minimize the limitation of the case study would be the triangulation of theories and replication, in addition to the review of the work by key informants in the case study.

CONCLUSIONS AND IMPLICATIONS

This study analyzed the scientific production on entrepreneurship in the TBJA during the 2000-2014 period. We identified challenges and opportunities in the area to get more space and legitimacy in the TBJA through a systematic review of 61 entrepreneurship papers. According to Judge et al. (2007), the impact of an academic text depends greatly in part on the journal's prestige, resulting in the need for researchers and beginners in the area to

understand what is taking place in Brazil, in entrepreneurship, for publication in mainstream journals. Given the difficulty of publishing in top journals, along with the errors that can occur in the review process, most beginner researchers will be seriously impaired by systems that emphasizes a journal's raking over a high quality paper.

In Brazil, the academic production on entrepreneurship has been marked by the challenges inherent in a relatively new and changing field in the country in searching for an active voice within the academy, which needs to be the subject of critical reflection. For example, within the National Association of Post-Graduate in Administration (ANPAD) the field does not have its own area, being allocated as a sub-area within Strategy. In addition, the Brazilian journals focused on entrepreneurship have not gotten the same prestige of the TBJA.

This research identified some main opportunities: (1) giving preference to empirical studies carried out by rigorous methodologies and revealing applicability. (2) Conducting studies that can generate theorization or critical analysis. (3) Conducting systematic reviews (qualitative and/or quantitative) or meta-analysis of the literature. (4) Realization of empirical studies that clearly extend the theoretical basis of the existing literature using longitudinal designs in empirical research. (5) Establishment of research lines in post-graduate (Master and Doctoral) of the HEIs focused exclusively on entrepreneurship. Finally, the results reinforce the idea that it is worthwhile for the authors to dominate the basics of scientific authorship: generating ideas, theory building and clear writing.

However, this work revealed some important challenges: (1) little entrepreneurship papers published within the TBJA compared to others research fields in Brazil. (2) The impact of the scientific production of the TBJA is still low compared to the international journals focused exclusively on entrepreneurship. (3) Prevalence of low methodological approaches, in which much of the research is limited to a few interviews (up to four) and exploratory case studies (single or double). (4) Conclusions characterized by deductive

reasoning, without clear presentation of some important points, like as boot it resuming the research objective; lack of explicit positioning the contribution of the study to theory and/or practical (even though in some cases we can identify within the text); absence of theoretical and/or practices implications; research's limitations (when they are mentioned, they are generic ideas that do not reveal committed reflection with the developed line of reasoning); and finally, the suggestions for future research are generic. Those analyses of opportunities and challenges find in this study is not so different from other research fields in Brazil, as pointed out by Bertero et al. (2013), by Paiva and Brito (2013) in operations, by Mascarenhas and Barbosa (2013) in human resources, by Mazzon and Hernandez (2013) in marketing.

Comparing some of the challenges set out in this study to the research of Busenitz et al. (2014), we observed some similarities with the results of the analysis of the 13 seminal entrepreneurial papers during 2000-2010, which were composed of a combination of research approaches. Five of the articles were theoretical, the other five were empirical studies based on secondary data, and three were inductive style search with a limited number of case studies. That is, less than 40% of the papers were empirical. Moreover, another important aspect indicated by Busenitz et al. (2014) is that the high-impact papers were within the same conceptual domain and many of them had important implications for many disciplines.

Theoretical and Practical Contributions

In terms of contributions, we believe that this study has achieved its main goal. First, in theory, by providing a quantitative and qualitative description, making a critical analysis of the entrepreneurial research, identifying the main challenges and opportunities for the development of future research looking to help the consolidation and legitimation of the entrepreneurship as an important area of research so necessary for economic and social development of Brazil. Second, in practical terms, by giving a perspective to researchers and first time authors to produce high impact papers, helping both researchers who see

entrepreneurship as a secondary area of research (which is the most common) looking for new opportunities to join definitively in the area, as those that are focused on entrepreneurship.

Study Implications

This research has at least two major implications. First, on the scientific rigor, a greater effort is necessary in reducing the historical gap of international insertion of Brazil's main authors of entrepreneurship. So one of the main challenges is in terms of methodological guidance changes to get the international scene. For example, research based on qualitative or surveys needs to get close to the level of methodological rigor of the main international journals. For surpassing this challenge, we suggest the use of methodologies less used in entrepreneurship, as the use of secondary data, engaged scholarship, and experiment that is widespread in marketing, approaching the most consolidated research techniques from other areas to entrepreneurship. It would be also important to use more advanced technique analysis like, structural equation modeling and longitudinal studies. Thus, it is believed that there will be a greater impact of Brazilian research in the area and, as challenge, the formation of, by Master and Doctoral HEI's Programs, researchers able to develop work with these guidelines.

The second implication is related to the direction that the entrepreneurship intends to follow if it wants to become a relevant area within the Administration and for Brazil's economic and social development. The results indicated that the Brazilian production of entrepreneurship is still in its infancy with little impact to the country. Thus, a great effort from Brazilian authors for development of interesting research will be needed, especially for the HEIs by forming a critical mass focused on entrepreneurship. We address three main pillars for publishing high-impact papers: the macro, meso and micro foundations, which were compiled from Alain Foylle (director of entrepreneurship division on the Academy of Management) keynote speaker at European University Network on Entrepreneurship 2014 Conference and Doctoral Program (ESU 2014) held in Lund, Sweden, in August 2014.

(1) Macro - the author as an individual (training, values, aspirations) and researcher (monograph or article-based dissertation). (2) Meso - divided into three sub-items. (a) The research question must be interesting, deeply (insightful), novel and original (but not too much), and be familiar with the literature according to the area of investigation (state of art, gaps, challenges, etc.). (b) The research design with theoretical framework aligning methods and data, showing great level of coherence within the research design. There should be a consistency between the research question and design. (c) The research writing as the essence of the research in a way of getting inspiration from the best journals of the field, learning, taking into account multiple experiences by trying to use our peers and our network members.

(3) Micro – your paper(s) should be: (a) crucial positioning and signaling conceptual contribution. (b) Be political: read the journals, cite papers on topic as author maybe reviews. (c) Pay attention to the structure of the paper. (d) Justify theory by focusing on the literature review on issues to be covered. (e) If applicable, draw a model diagram. (f) The hypothesis must follow theory, not previous empirical studies. (g) Avoid uninteresting hypothesis and replicative. (h) Comprehensive explanation, data justification, connecting to theory and 'industry standard' methods (quantitative). Identify limitations, but do not commit suicide.

Limitations and Suggestions of Future Research

Some limitations of the study should be mentioned. First, it was only possible to assess the TBJA (BAR, RAC, RAE and RAUSP), based on what was published within the papers. In some cases, they may have taken appropriate decisions that were discussed during the review process of the papers, but were not included in it. Second, by focusing exclusively on the TBJA we lose a little of the real scene of the entrepreneurial research in Brazil. On the other hand, this cutting is important to understand the current state of this research and its impact within the academy as RAC, RAE, RAUSP and BAR are the TBJA, as pointed out by Busenitz et al (2014). From this observation, we present the first suggestion of future

research: the implementation of systematic revisions or bibliometric in journals specializing in entrepreneurship in Brazil as well as journals less well ranked then TBJA.

Third, we have not developed a qualitative research with the key entrepreneurial authors in Brazil. Thus, for a better understanding of the vision of the leading authors in the field, it would be interesting to conduct interviews with the experts on the subject, raising the second suggestion for future research. Finally, for space reasons, it was not possible to include all 61 entrepreneurship papers used in this study, but this limitation is not a great importance as all 61 papers can be easily accessed using the same keywords in this research.

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FIGURES

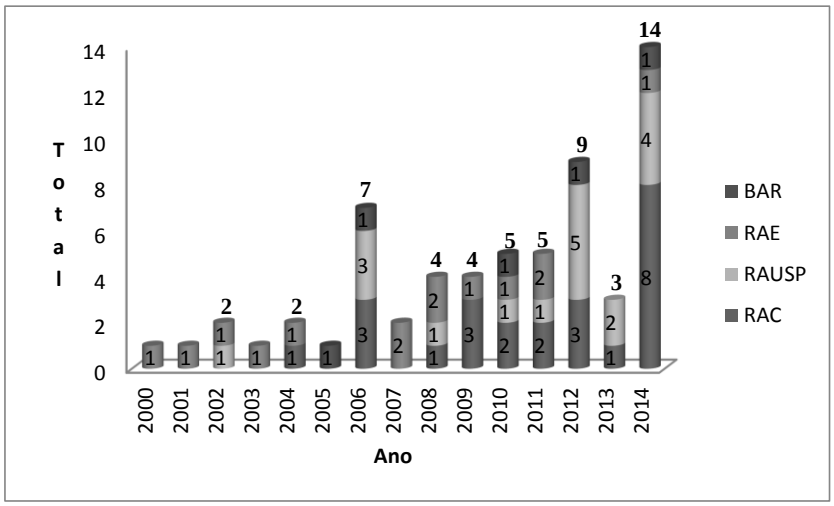

Figure 1. Number of articles analyzed by year and source.

TABLES

Table 1: Impact Factor of the Top Brazilian Journals of Administration.

Ranking	Brazilians Journals of Administration	Impact Factors		
		SJC 2013	H Index	Cites/Doc.
1	Revista de Administração de Empresas (RAE)	0.21	4	0.24
2	Revista Brasileira de Orientação Profissional	0.19	2	0.21
3	Brazilian Administration Review (BAR)	0.17	4	0.21
4	Gestão e Produção	0.16	6	0.10
5	Revista Brasileira de Gestão de Negócios	0.13	4	0.08

Source: SCImago Journal Rank (SJR, 2015).

Table 2: Impact Factor of the International Journals of Entrepreneurship.

Ranking	International Journals of Entrepreneurship	Impact Factors			
		SJC 2013	H Index	Cites/ Doc.	Country
1	Entrepreneurship Theory and Practice	3.25	54	3.92	UK
2	International Entrepreneurship and Management Journal	2.81	20	5.96	USA
3	Strategic Entrepreneurship Journal	2.70	6	2.48	USA
4	Entrepreneurship and Regional Development	1.14	45	1.53	UK
5	Foundations and Trends in Entrepreneurship	0.76	14	1.20	USA
6	Journal of International Entrepreneurship	0.49	16	1.61	NED
7	Journal of Social Entrepreneurship	0.40	5	0.95	UK
8	Advances in the Study of Entrepreneurship, Innovation, and Economic Growth	0.34	4	0.22	USA
9	Journal of Developmental Entrepreneurship	0.25	9	0.44	SIN
10	International Journal of Entrepreneurship and Innovation Management	0.22	10	0.59	UK
11	International Journal of Entrepreneurship and Small Business	0.21	11	0.27	UK
12	Journal of Entrepreneurship Education	0.21	2	0.17	USA
13	International Journal of Technoentrepreneurship	0.19	1	0.30	UK
14	Journal of Entrepreneurship	0.18	5	0.48	IND
15	World Review of Entrepreneurship, Management and Sustainable Development	0.17	5	0.22	UK
16	Advances in Entrepreneurship, Firm Emergence and Growth	0.14	8	0.00	USA
17	Academy of Entrepreneurship Journal	0.14	2	0.16	USA
18	International Journal of Entrepreneurship	0.12	3	0.17	USA
19	Synthesis Lectures on Technology, Management and Entrepreneurship	0.11	0	0.00	USA

Source: *SCImago Journal Rank* (SJR, 2015a).

Table 3: Number of articles published by institution.

Ranking	Institution *	No. of papers
1	Pontifícia Universidade Católica (PUC-MG)	9
2	Fundação Getúlio Vargas (FGV-SP)	8
	Universidade de São Paulo (USP)	8
3	Universidade Federal do Rio Grande do Sul (UFRGS)	5
	Universidade Nove de Julho (UNINOVE)	5
4	Centro Universitário da FEI (FEI)	3
	Pontifícia Universidade Católica (PUC-SP)	3
	Universidade Estadual de Maringá (UEM)	3
	HEC Montreal (CAN)	3
5	Escola Superior de Propaganda e Marketing (ESPM)	2
	Faculdade Campo Limpo Paulista (FACCAMP)	2
	Universidade Presbiteriana Mackenzie (Mackenzie)	2

	Universidade Estadual de Santa Catariana (UESC)	2
	Universidade Federal de Lavras (UFLA)	2
	Universidade Federal de Pernambuco (UFPE)	2
	Universidade Federal Rural do Rio de Janeiro (UFRRJ)	2
	Université Pierre Mendès France (FRA)	2
	UNC Wilmington (EUA)	2
6	Others	39
	Total	104

* Papers published by two or more of the same authors were considered as the first institution.

Table 4: Number of authors per paper.

Author(s)	Freq.	%	% Acum.
1	6	9.8	9.8
2	29	47.5	57.4
3	20	32.8	90.2
4	5	8.2	98.4
5	1	1.6	100.0
Total	61	100.0	

Table 5: Major scientific entrepreneurship producers.

	Author	Institution	Freq.	%	International Production*	Main research Entrepreneurship?
1	Vale, Gláucia M. V.	PUC-MG	9	7.3	0	Yes
2	Machado, Hilka P. V.	UEM	3	2.4	0	Yes
	Nassif, Vânia M. J.	Mackenzie/Uninove	3	2.4	0	Yes
3	Alves, Mário A.	FGV-SP	2	1.6	0	No
	Amâncio, Robson	UFLA	2	1.6	0	No
	Borini, Felipe M.	ESPM-SP	2	1.6	1	No
	Corrêa, Victor S.	PUC-MG	2	1.6	0	Yes
	Freitas, Henrique	UFRGS	2	1.6	0	No
	Hashimoto, Marcos	FACCAMP	2	1.6	1	Yes
	Martens, Cristina D. P.	Uninove	2	1.6	0	Yes
	Martes, Ana C. B.	FGV-SP	2	1.6	0	No
	Melo, Pedro L. R.	PUC-SP	2	1.6	0	No
	Mendonça, Patrícia M. E.	FEI	2	1.6	0	No
4	Others (1 paper)	Various	89	71.8		
	Total		124	100.0		

* It was considered as an international production on entrepreneurship only the journals listed in SJR in Table 2.

Table 6: Classification of published papers.

Ranking	Theme	Freq.	%	% Acum.
1	Entrepreneur	9	14.8	14.8
2	Networks	6	9.8	26.4
3	Female entrepreneurship	5	8.2	32.8
4	Entrepreneurial Orientation	4	6.6	39.3
	Social entrepreneurship	4	6.6	45.9
5	Social capital	3	4.9	50.8
	Educational entrepreneurship	3	4.9	55.7
	Institutional theory	3	4.9	60.7
6	Entrepreneurial behavior	2	3.3	63.9
	Etic entrepreneurship	2	3.3	67.2
	Franchising	2	3.3	70.5
	Internalization	2	3.3	73.8
	Economic theory	2	3.3	77.0
7	Others	13	23.00	100.0
	Total	61	100.0	

Table 7: Summary of the structure of the papers by percentage of words.

	Top Brazilian Journals of Administration					Technovation
	BAR	RAE	RAUSP	RAC	Total	High impact paper
Sample	2	6	9	11	28	10
1. Introduction	8%	10%	9%	9%	9%	8%
2. Literature review	21%	22%	24%	29%	24%	30%
3. Methodology	19%	18%	14%	17%	17%	16%
4. Results	30%	38%	42%	30%	35%	20%
5. Discussion/conclusion	22%	12%	11%	16%	15%	26%
Total	100%	100%	100%	100%	100%	100%

Table 8: Methodological indicators of the published papers.

Characteristics	Frequency	% of papers
Total	61	100.0
Theoretical	15	24.6
Empirical	46	75.4
Type of data	46	100.0
Primary (collected in the field)	36	78.3
Secondary	5	10.9
Primary and secondary	5	10.9
Type of analyses	46	100.0
Qualitative and quantitative (mixed)	5	10.9
Quantitative	19	41.3
Analysis technique	30	100.0
Factor analyze	7	23.3
Regression	6	20.0
Percentage analysis	5	16.7
Structural equation modeling	3	10.0
t teste	3	10.0
Descriptive	2	6.7
ANOVA	1	3.3
Longitudinal	1	3.3
Mean	1	3.3
Qui-squared test	1	3.3
Qualitative	22	47.8
Interviews	13	59.1
1 interview	1	7.7
2 interviews	2	15.4
3 interviews	2	15.4
4 interviews	1	7.7
9 interviews	1	7.7
13 interviews or more	6	46.2
Case study	9	40.9
Simple	2	22.2
Double	4	44.4
Multiple	3	33.3