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SERVICE INNOVATION: PANORAMA OF STUDIES IN BRAZILIAN JOURNALS IN THE BUSINESS ADMINISTRATION AREA

INOVAÇÃO EM SERVIÇOS: PANORAMA DOS ESTUDOS EM PERIÓDICOS BRASILEIROS NA ÁREA DE ADMINISTRAÇÃO

<http://dx.doi.org/10.21714/2179-8834/2017v22n3p39-59>

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Submissão: 13 Ago. 2017 **Publicação:** 06 Nov. 2017. **Sistema de avaliação:** *Double blind review*.
Centro Universitário UNA, Belo Horizonte - MG, Brasil. Editor geral: Prof. Dr. Gustavo Quiroga Souki

Este artigo encontra-se disponível nos seguintes endereços eletrônicos:
<http://revistas.una.br/index.php/reuna/article/view/967>
<http://dx.doi.org/10.21714/2179-8834/2017v22n3p39-59>

ABSTRACT

This article aims to present the Brazilian scenario about service innovation, bringing the results of an analysis made in Brazilian scientific journals in the business administration study area, with Qualis Capes classification equal or superior to B2. Based on the analysis of 36 articles, it was possible to notice that the Brazilian studies are characterized as empirical, cross-sectional and qualitative, being data collection based on interviews and documents, and data analysis mainly done by content analysis. The leading journal publishing about this subject is RAI and UnB as the institution that has the largest number of authors publishing on the subject. The most cited articles by these studies are Schumpeter (1985) and Barras (1986), and the information technology appeared as the main topic in service innovation. The collected results allowed the proposal of an agenda for future research. These opportunities for future research can contribute to the construction of a more consistent theoretical framework, allowing the progressive advancement of theoretical-empirical knowledge about service innovation in Brazilian organizations.

Keywords: Services; Innovation; Bibliometric; Service sector.

RESUMO

O presente artigo tem como propósito apresentar o cenário nacional dos estudos sobre inovação em serviços e traz os resultados decorrentes de uma análise realizada em periódicos científicos brasileiros da área de administração, com Qualis Capes igual ou superior a B2. A apreciação dos 36 artigos levantados permitiu observar que os estudos sobre inovação em serviços, em sua maioria, caracterizam-se como empíricos, transversais, qualitativos, possuem coleta de dados baseada em entrevistas e documentos, assim como utilizam a técnica de análise de conteúdo na análise dos dados. A RAI se destacou como o principal periódico no campo de estudos da inovação em serviços e a UnB como instituição que tem o maior número de autores publicando sobre a temática. Os autores mais citados foram Schumpeter (1985) e Barras (1986), e a tecnologia da informação apareceu como a principal temática associada à inovação em serviços. Os achados coligidos também permitiram a proposição de uma agenda para pesquisas futuras, que pode contribuir para a construção de um arcabouço teórico mais consistente, no sentido de promover o avanço progressivo do conhecimento teórico-empírico sobre inovações em serviços nas organizações brasileiras.

Palavras-Chave: Serviços; Inovação; Bibliometria; Setor de serviços.

1. Introduction

The studies about innovation, during many years, were concentrated on the manufacturing industry and on the process or technologies appropriation by these industries (DREJER, 2004). However, this context, from the 1990s, started to be changed, moment when the research in services innovation had a great advance, centered, mainly, on the identification of the types of innovation in services on the vectors in which the services innovation is based. (BARCET, 2010). Such fact happened, in special, through the development and services expansion, which started to play a strong economic and social impact, becoming a sector with great potentiality to be explored in theoretical and empirical organizational researches (KON, 2004).

The services innovation (SI) also begins to have big strategic relevance due to the need of adaptation of the organizations to environmental changes. The economic order that the organizations are inserted into has required a significant remodeling of the competition, which leverages and influences the reciprocity of discovery and the profit of new opportunities, the capacity to mobilize and manage resources in global level and the ability to create propositions of innovative value and take them to success (HAGEN; DENICOLAI; ZUCHELLA, 2014).

In this context, the services innovation can be defined as a set of improvements in processes or in the service logics, considering the development of new essential processes for its delivery (CHEN et al., 2015). The service innovation is also defined as a new experience or services solution, which consists of one or several of the following dimensions: new service concept, new interaction with the client, new system of value/business partners, new model of revenue, new delivery system of organizational or technological service (DEN HERTOOG; VAN DER AA; JONG, 2010). The importance that SI has for the national economies (MAKÔ et al., 2013) and for the organizations is something unquestionable (SALUNKE; WEERAWARDENA; MCCOLL-KENNEDY, 2013), fact which makes this theme a subject of growing interest

by the stakeholders (CARLBORG, KINDSTRÖM; KOWALKOWSKI, 2013). Such fact is reflected in the evolutive frame of the researches on the issue of organizational studies, which represents the essence of this work (MACHADO LÉO; TELLO-GAMARRA, 2017).

The goal of this article, therefore, consists of outlining a profile of national studies on SI in the administration area. In order to achieve it, articles published in Brazilian journals of Administration were analyzed with Qualis Capes equal or higher than B2. For the analysis of the collected data, it was opted to use the bibliometry, in a way to explain how SI has been worked in the Administration Brazilian researches. The intention is to provide a scenario of the national researches on SI, as well as relevant information for those researches who have interest in the subject.

This text is organized in five parts, including the introduction herein. The theoretical framework shows the discussions found in the literature analyzed on services innovation. The third section shows the methodological procedures necessary to carry out the research. The fourth section shows the results analysis. Whereas the fifth and last section shows the final considerations of this research.

2. Theoretical framework

The economist Joseph Schumpeter was one of the first researchers to try to develop a theory which had as its focus the importance of innovations and the technological advances in the development of companies and the economy. His studies identified that innovation takes place through efficient combination of production factors, or through practical application of any invention or technological innovation which leads to the launch of new products (either goods or services) in the market, being highlighted in this scenario the role of the innovative entrepreneur as an active agent in the innovation processes (SCHUMPETER, 1985). The perspective brought by the author has a great influence in researches on innovation, not only in the manufacturing industry, but also in the services sector.

The SI was more highlighted in the organizational studies due to the impact that the services sector started to play on the society (MAKÓ et al., 2013), mainly regarding the direct influence in the jobs generation and the social and economic development (GALLOUJ, 2007). Services are activities which has quite peculiar characteristics which differ them from tangible goods produced in the manufacturing industry. It is because the product they generate is not perfectly formatted and encoded, each transaction and results are unique, there is simultaneity between the supply and the consumption, there is no well-defined demand and supply and have a diversity of qualitative aspects involved in their production (SUNDBO; GALLOUJ, 1997; KON, 2004). Considering the services nature and the importance of the innovation processes, which take place in this sector, it is possible to understand the reason why the area has been dedicated to bring new theoretical and empirical perspectives about the subject.

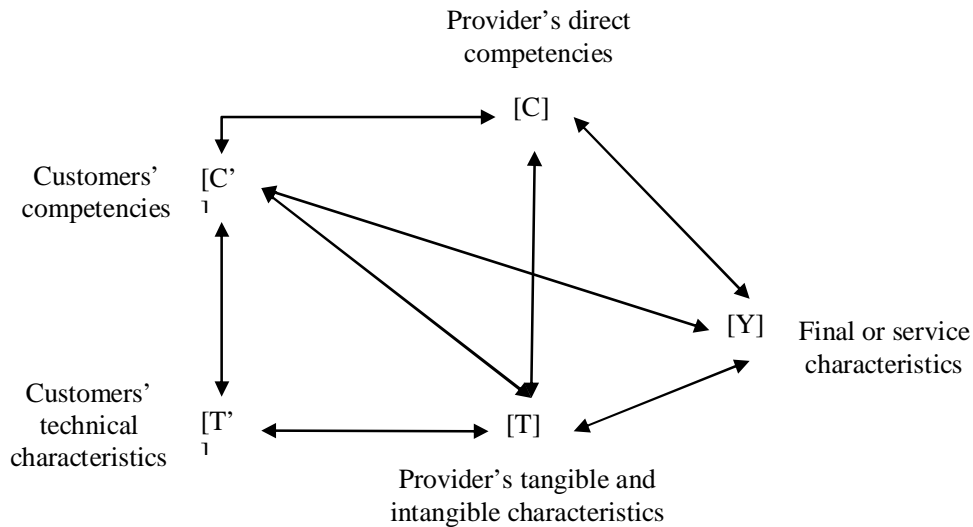
The literature on SI is divided into three main theoretical approaches (GALLOUJ; SAVONA, 2009; HOWELLS, 2010; JANNSEN; CASTALDI; ALEXIEV, 2016): 1) technician – the main driving force of services innovation comes from the external environment to the organization, is a way that the services innovation is seen

as a consequence of the technological diffusion in the services industry ; 2) service-based – it emerged as a reaction to the technicist traditional view and has as main purpose to distinguish the services innovation, concentrating on the services peculiarities and their innovation process, distinguishing from the manufacturing and verifying how these peculiarities may lead to new concepts of the innovation process in services; 3) integrative – it is based on the existence of similarities between the manufacturing and the services, in a way that recognizes both as a set of inter-related activities, offering a unique model of analysis which brings a wider vision of the innovation and covers their tangible and intangible, technological and non-technological aspects.

Barras (1986) was one of the first researchers which tried to explain the dynamics of services innovation, developing a model identified as reverse product cycle. Through performing case studies in the banking sector, insurance and accounting, the authors verified that the services, from the diffusion of new technologies, in special the information technology, follow a trajectory of innovation in opposite direction to the product life cycle, being characterized by successive steps of additional innovation, radical innovation and product innovation (BARRAS, 1986).

Despite of the relevance in the study of Barras (1986), as one of the theories which opened way in the sense of explaining the services innovation process, the model proposed by the author received critics, once that it has more emphasis on the diffusion of the technological innovations rather than in the process of services innovation, concentrating in a technicist view, which does not consider the non-technological forms of services innovation (GALLOUJ, 1997; TOIVONEN; TUOMINEN, 2009). In this sense, the numerous researches developed which follow the trend to explain the innovations through a view fundamentally technicist are not enough to explain the services innovations (JANNSEN; CASTALDI; ALEXIEV, 2016). In the attempt to outline this bias, the integrating approach stood out in the innovation area, since that it can go beyond the technological aspects, having as assumption a unique model of analysis which considers goods and services within the same analytical perspective (GALLOUJ, 2007). A model very disseminated and which is grounded on the integrative perspective is that of Gallouj and Weinstein (1997), updated in the sequence to the model proposed by Djellal, Gallouj e Miles (2013), presented in the figure 1.

Figure 1 - Representation of a product (good or service) as a system of characteristics and competencies



Source: Djellal, Gallouj e Miles (2013).

In this model, the product of a good or service can be represented by the relationships established among four vectors: the vector T represents the technical characteristics of the product (material or immaterial), covering the technological and non-technological process of production; the vectors C and C' establish, respectively, the set of competencies of the provider and the customer; and vector Y represents the final characteristics of the service and its final value (SAVONA; STEINMUELLER, 2013). The innovation process occurs from the modification of one, or more, of these vectors. As innovations arising from this modifications, the following are found: radical innovation, improvement innovation, additional innovation, *ad hoc* innovation, innovation through recombination and innovation through formalization (DJELLAL; GALLOUJ; MILES, 2013).

After the literature review step, with the purpose to deepen in the understanding of the services innovation concept, in the next section it is demonstrated the research method, containing the steps performed for the survey of the articles analyzed.

3. Method

In order to fulfill the main goal of this study, a bibliographic survey was performed on the issue of SI in the Brazilian scenario. This survey was performed in the first term of 2016, not being established a temporal period for the articles search. It is noteworthy highlighting that the research for the publications was done in scientific brazilian 1 journals in the area of administration, classified by Qualis Capes (Quadrennium 2013 - 2016) equal or higher than B2, which are those who have higher academic relevance. To select the journals, were listed all the journals belonging to the categories A1, A2, B1 and B2. Next, the journals which were international were eliminated, which resulted in a group of 27 Brazilian journals.

The official *websites* of each of the journals were accessed individually. From the mechanical search existent in the webpage of those journals, studies were researched which should contain in their titles, abstract and/or keywords the terms “*inovação*” and “*serviços*”, or “*inovação em serviços*”, as well as their respective denominations in English. As a result of this search, a sample of 36 articles was obtained.

To present the national scenario of the researches which approach SI, a bibliometric analysis was performed on the academic production surveyed, which is based on the quantitative measurement and allows the evaluation of the development of a certain field of research, subject, or even a phenomenon, as well as the identification of the central theories and key topics of the research (BORGMAN; FURNER, 2002; ARAÚJO, 2006). The following information were explained, from the appreciation of the 36 national articles surveyed: general characteristics; the most cited authors and study centers on the services innovation theme; methodological characteristics of the articles, being presented the main goals of the researches and the procedures used in their operationalization; and proposition of a new research schedule.

4. Presentation and Analysis of Results

To start the exposure of the results from the analysis performed, in Table 1 the information is presented on the total of articles per journal, year of publication and Qualis classification. The studies found were published between the years 2003 and 2015, demonstrating that despite the studies on SI having been developed in the decade of 1990, the expansion of researches in Brazil happened in the next decade. In addition, a certain dispersion was observed among the journals: of the 16 magazines where pertinent articles were found, six journals (38%) published more than one article about SI. Highlight for the *Administração e Inovação* Journal, result already expected due to innovation being the main scope, responsible for publishing 15 articles. The Journal *Administração Pública* published three articles, and the journals *Gestão & Produção*, *Gestão & Regionalidade*, *Revista Eletrônica de Administração* e *Revista Brasileira de Gestão de Negócios* published two articles each.

Table 1 also shows that the number of publications is found well-distributed along time, as a constancy was maintained from the year 2003 until 2015. In the period of 12 years considered in the table, during eight years there were more than two publications related to the subject, highlight to the years of 2012 and 2013, when seven articles were published in each year.

Table 1 - Journal, Qualis Capes classification and year of publication of the articles

Journal	Qualis	Number of publications per year													Total
		2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Brazilian Administration Review - BAR	A2										1			1	
Desenvolvimento em Questão	B2												1	1	
FACES: Revista de Administração	B1										1			1	
Gestão & Produção	B1								1		1			2	
Gestão & Regionalidade	B2									2				2	
Organizações e Sociedade - O&S	A2				1									1	
Revista de Administração de Empresas - RAE	A2												1	1	
Revista de Ciências da Administração	B2		1											1	
Revista Eletrônica de Administração - REAd.	B1	2												2	
Revista de Administração e Inovação - RAI	B2		1			1	1	1	1	2	2	4	2	15	
Revista de Administração Contemporânea - RAC	A2			1										1	
Revista de Administração Mackenzie	B1									1				1	
Revista de Administração da UFSM	B2					1								1	
Revista de Administração Pública	A2									1	1	1		3	
Revista Brasileira de Gestão de Negócios - RGBN	A2									1	1			2	
Revista de Produção Online	B2												1	1	
Total		2	2	1	1	2	1	1	2	7	7	5	5	36	

Source: Elaborated by the authors.

4.1 The most Cited Authors and Study Center

Analyzing the references of the 36 publications considered, 969 different titles were accounted. Table 2 summarized the references that were the most used and the number of citations per article, in order to provide a general review of the materials that have been employed in the elaboration of the Brazilian works on SI.

Table 2 - Discrimination of the references and the number of citations

References	Number of citations
SCHUMPETER, J. <i>A teoria do desenvolvimento econômico</i> . São Paulo: Nova Cultural, 1985.	13
BARRAS, R. Towards a theory of innovation in services. <i>Research Policy</i> , v. 15, n. 4, p. 161-173, 1986.	12
VAN DE VEN, A.; ANGLE, H.; POOLE, M. <i>Research on the management of innovation: the Minnesota studies</i> . New York: Oxford University Press, 2000.	11
WORLD HEALTH ORGANIZATION. <i>The world health report 2000: health systems, improving performance</i> . Geneva: WHO, 2000.	11
GALLOUJ, F.; WEINSTEIN, O. Innovation in services. <i>Research Policy</i> , v. 26, n. 4/5, p. 537-556, 1997.	10
SUNDBO, J.; GALLOUJ, F. <i>Innovation in services</i> (SI4S Synthesis Paper S2). Oslo: STEP Group, 1997.	8
GADREY, J. Emprego, produtividade e avaliação de desempenho dos serviços. In: Salerno, M. S. <i>Relação de serviço: produção e avaliação</i> . São Paulo: SENAC São Paulo, p. 23-65, 2001.	7
GALLOUJ, F. <i>Innovation in the service economy: the new wealth of nations</i> . Cheltenham: Edward Elgar, 2002.	7
TIDD, J.; BESSANT, J.; PAVITT, K. <i>Managing innovation: integrating technological, market and organizational change</i> (3rd ed.). New York: John Wiley & Sons, 2005.	7
VARGAS, E. R.; ZAWISLAK, P. A. Inovação em serviços no paradigma da economia do aprendizado: a pertinência de uma dimensão espacial na abordagem dos sistemas de inovação. <i>Revista de Administração Contemporânea</i> , v. 10, n. 1, p. 139-159, 2006.	7

Source: Elaborated by the authors

Note: Works with up to 7 citations were presented, as the majority was cited fewer times

As the most cited works on SI, the texts of Schumpeter (1985) and Barras (1986) stand out, both of them making up classical materials for any innovation study. However, out of the 969 citations found in all the articles in all the articles surveyed, it was noticed that only five works have ten or more citations (0.52%) and they correspond to the first five articles listed in Table 2. Two works have eight citations (0.21%) and four works have seven citations (0.41%). There were five works that were cited between five and six times, 11 works which have four citations, 14 works three citations, and 63 works were cited twice. Nonetheless, the majority, 866 works on the whole, was cited only once (89.37%). This demonstrates that there is a large theoretical variety being mentioned by the Brazilian authors, without central works which are used by most of the articles in analysis, either national or international.

For the elaboration of Table 3, it was considered the relationship of the authors with the teaching institutions at the moment the articles were published. As most of the studies have more than one authors, the sum of the number of articles attributed to each institution is superior to the total of the articles analyzed. The institutions whose authors published more than one article on SI are listed in Table 3. UnB stood out with 16 articles

Table 3 - Teaching Institutions and the number of articles published

Teaching institution	Number of articles published	Teaching institution	Number of articles published
UnB	16	UNINOVE	3
FGV	4	FEI	2
Mackenzie SP	4	UFG	2
UFRGS	4	UFRJ	2
USP	4	UFSC	2

Source: Elaborated by the authors.

About the researchers that published the most on the theme in Brazil, out of a total of 76 authors, Eduardo Raupp de Vargas leads the *ranking*, with eight articles, followed by Tomás de Aquino Guimarães (six articles) and Antônio Isidro Filho (five articles).

The articles used 84 different keywords. Among the most cited terms, the following stand out: information technology, learning, dynamic capacities and environment innovation. It is important to point out, although the terms hospitals and public have been prominent, refer to the *locus* or sector where the research was performed. Such terms may appear in the keywords only for a matter of emphasis of the environment of the study given by the author, not making up an indicative that the hospitals and the public area are the most investigated contexts. Complementarily the findings obtained through the keywords, the 36 articles were subjected also to a critical and deep analysis for the verification of the most approached subjects together with SI. In this sense, other themes which also were highlighted were: innovation strategies, innovation in purchases and logistic services. The study of services based on information technology, in turn, makes up a highlighted theme, present in 11 of the 36 works analyzed, which demonstrates the strong potential of exploration of these two lines of investigation jointly in the national scenario. Such findings point the way that the academic researches on SI have followed in recent years.

4.2 Methodological Characteristics

Out of the 36 articles of the sample, most of them are theoretical -empirical studies, with a frequency of 75% (27 studies) while the theoretical make up 25% (nine studies).

The theoretical studies comprehended different aspects of services innovation. The research of Vargas and Zawislak (2006) explores the innovation integrative approach and the possibility to use it in the services innovation. Klement and Yu (2008) Argue the concept of service with focus on the innovation which occurs in this sector; while Isidro-Filho and Guimarães (2010) propose an articulation among knowledge, learning and innovation in organizations. Lima and Vargas (2012), upon analyzing international publications, approach the theme of innovation in the public sector, aligned with the theory of services innovation, with the purpose to create opportunities

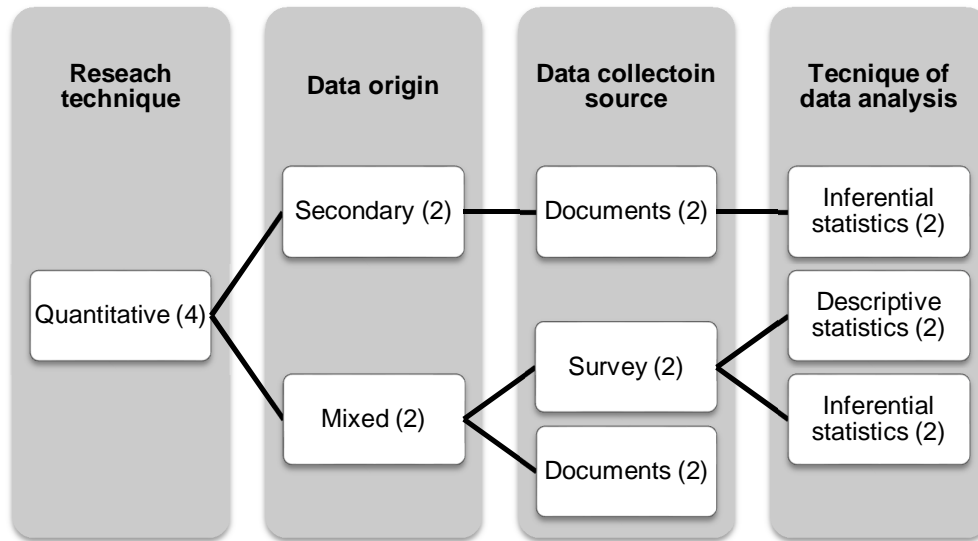
for future researches. In this same line, Resende Junior and Guimarães (2012) propose a research schedule for the area of studies of services innovation.

Whereas Farias and Vargas (2013) argue the concepts of services innovation and techno-economical network, aiming at developing a socio-technical approach for analysis of innovation in the services sector, Venâncio and Andrade (2013) analyze the scientific production found at the Capes Journals Portal on SI. Aiming to explain the relationships, conceptual and methodological gaps, Sousa and Guimarães (2014) discuss the constructs innovation and performance in the Judiciary, as well as they propose a research schedule. Ferreira *et al.* (2015) brought in their work a theoretical approach for analysis of awarded cases of innovation in the public sector, from records submitted to the Contests of Innovation of Federal Public Administration, between the years 2006 and 2010.

The 27 theoretical-empirical articles, in turn, regarding the research cut-off used, which involves the time period considered in the investigations, in their majority, presented a cross-sectional cut-off, totalizing 25 publications or 93% of the sample, whereas only 2 works, or 7% of the sample, made use of the longitudinal study. Such finding is verified with frequency in bibliometric studies which are focused on the analysis of scientific production in administration, for instance in the researches of Loiola and Bastos (2003), Balestrin, Verschoore and Reyes Junior (2010), Milhome and Rowe (2016), possibly due to lack of time and resources, but also for the difficulty the researchers find at the companies or authors researched in keeping and/or performing analyses which last longer.

Regarding the research method used, that is, if the publications used qualitative methods, quantitative or mixed (quantitative-qualitative), most of the 27 theoretical-empirical articles are classified as qualitative studies (16), followed by mixed studies (seven) and quantitative studies (four). Figures 2, 3 and 4 exhibit the frequency of the methodological criteria of evaluation stipulated for analysis.

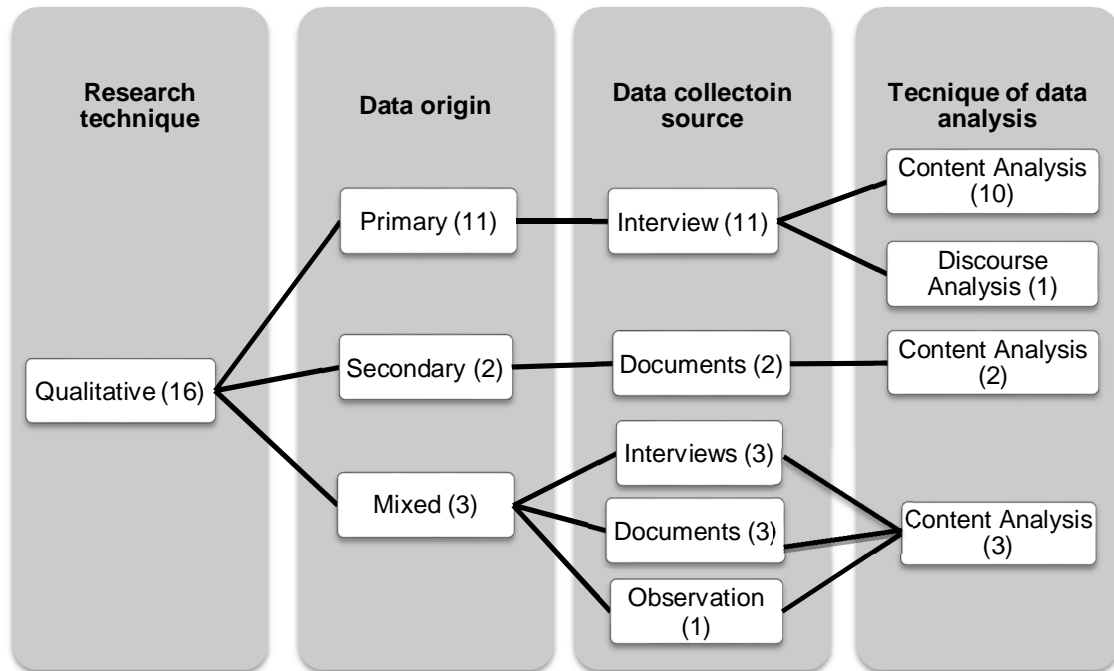
As evidenced by Figure 2, the quantitative articles ended up dividing in studies with secondary origin data, based on documents, and studies with mixed origin (primary and secondary). The inferential statistics was the most used data analysis technique.

Figure 2 – Methodological aspects related to the quantitative studies

Source: elaborated by the authors

The four quantitative studies refer to themes such as technology, internationalization, and influencing factors of innovation. In a technological perspective, Malachias and Meirelles (2009) study the influence of the technological regime and the environment of innovation on the innovative profile of IT companies and about their entrepreneurial performance. Calabria, Bernardes, Raupp and Pinhanez (2014), in turn, present a discussion about the potentialities of interaction among the study areas on Services Innovation and Science of Services. With a focus on internationalization, Souza, Tavares, Souza, Philippe and Leo (2014) examined how the relationship between services innovation and the international performance of services companies takes place, whereas Pinheiro, Romeiro, Faria, Cristina and Scucuglia (2015) evaluated the innovation degree and calculated the influencing factor of innovation in the services sector.

About the qualitative studies, there is the prevalence of primary data, collected through interviews and analyzed through content analysis technique. However, it is noticed that there are also other data collection sources used by the authors, as documents and observation, as shown in Figure 3.

Figure 3 – Methodological aspects related to the qualitative studies

Source: elaborated by the authors

Regarding the theme approached by the qualitative works, Fleury and Jóia (2003) ascertain how Information Technology (IT) can provide the transformation of productive processes related to activities of government organs; while Deus and Farias (2014) investigate the management process of adoption of the Electronic Process of External Control (e-TCU) at the Federal Court of Auditors. Moreira and Vargas (2012) Investigate the process of induction of innovation in activities of services by government customers, being performed case studies with services providers of *software* in Distrito Federal (DF) to public customers. Pinheiro (2003) examine innovations in the City hall of Porto Alegre, and Lubeck, Wittmann, Battistella and Silva (2012) research if the electronic ticketing, as well as the improvements provided by it, can be defined as an innovation in the context of public transport of the metropolitan region of Porto Alegre.

Moreira and Vargas (2012) Researched the effectivity of the use of public purchases as an inductor factor of innovation in provider companies. Ferreira, Najberg, Ferreira, Barbosa and Borges (2014) approach the profile of the experiences which won the Innovation Award at the Federal Public Administration, in the years from 1995 to 2011. Portraying the process of adoption of innovations related to Information and Communication Technology (ICT) and its determinants, the study of Isidro-Filho, Guimarães and Perin (2012) investigates the competencies necessary for the effectuation of this process. On the other hand, Pinheiro and Tigre (2015) explore objectives, instruments and characteristics of the innovations habilitated by ICTs, emphasizing the technologies employed, the channels allowed by digital tools, the learning processes for innovation and the organizational changes required for the use of advanced tools.

Vargas and Zawislak (2005) present the results of the study of innovation in hospital services, applying a scheme of analysis based on the functional decomposition of the services activities. In another context, Petraglia, Freitas, Aquino and Pedroso (2012) analyze the innovation process in companies providing logistic services, aiming to ascertain innovations and continuous improvements obtained by effective management.

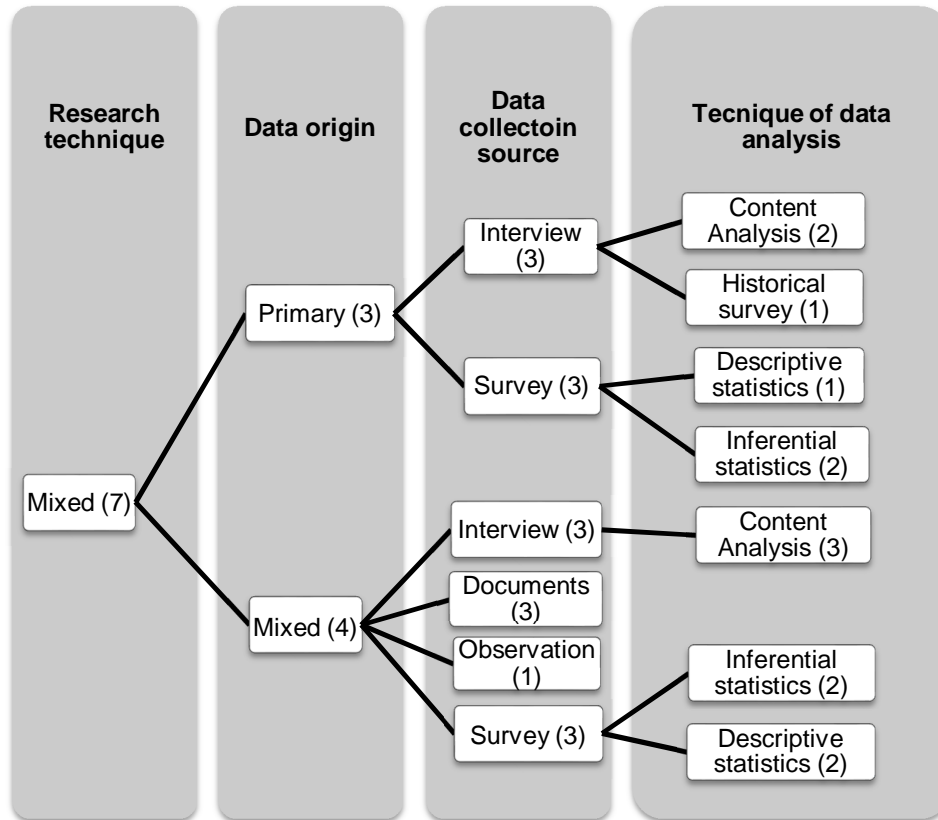
Having as *locus* the Brazilian Pet Shops market, Lima, Lima, Barbieri and Toledo (2013) explain some aspects regarding innovation which may influence on the purchase process, whereas Mazza, Isidro-Filho and Hoffmann (2014) exposed the associations existent between dynamic capacities and services innovation regarding the entrepreneurial sustainability practices. In a similar theoretical context, Santos and Zilber (2014) analyze the relationship between the dimensions of dynamic capacities and the innovation cycle in a company of the Sector of Aggregated Value Services (SVA).

The articles of Vargas (2007) discusses the innovation process in services, aiming to understand if the process of innovation service is exogenous, dependent on the innovations created in the industrial context and separated from strategies defined in and by the industries sector. Upon carrying out case studies in five different organizations in the telecommunications sector and informatics activities, Vasconcellos and Marx (2011) carry on the effort to understand better the phenomenon of innovation in the services companies.

Regarding the mixed studies (Figure 4), it is noticed the prevalence of studies with primary and secondary data, which had as data collection sources interviews, documents, observation and *survey*. The studies, which used mixed research techniques, evaluated different themes related to services innovation. Gomes and Guimarães (2008) exposed the relationship existent between the adoption of an administrative innovation, on the part of companies, which act in the sector of public construction of Brazilian Federal District (DF), and the structural location of these companies in the relationships network established among them.

Whereas Biancolino, Maccari, and Pereira (2013) focused on the identification of parameters which are applicable to the process of innovation management of the services area in IT companies, Araujo and Zilber (2013) describe the business model, for the adoption of *e-business*, used by small companies of the sector of commerce and services, exploring the main difficulties for adoption and its consequences. With a focus on services, Frazzon, Inomata, Oliveira and Forcelline (2015) describe the development process of a financial service.

Isidro-Filho, Guimarães, Perin and Leung (2013) approached the analysis of relationships existent between the strategies of work environment learning and the professional competencies after the adoption of innovations supported by ICTs in hospitals. Also in hospitals, Machado and Barzotto (2012) aimed to characterize the innovation environment of a hospital institution in the west of Paraná state. Researching a health service guided to primary attention, Nodari, Olea and Dorion (2013) analyzed the relationship between services quality, health actions and innovation.

Figure 4 – Methodological aspects related to the mixed studies

Source: elaborated by the authors

It is noticed that, in comparison to the qualitative method, there are few studies that apply the quantitative and/or mixed method. The dominance of the qualitative studies can be a result of the fact that the theme of SI is still recent, as it began in the decade of 1990, less than 30 years ago (BARCET, 2010; DESMARCHELIER & GALLOUJ, 2013). Therefore it is incentivized that more quantitative studies be developed, mainly using mixed approaches, allowing the methodological triangulation, allowing a better understanding on the phenomenon at the same time efforts to understand it or measure it are elaborated. The mixed studies, including, due to combining the strong points of the quantitative and qualitative approaches, may offer a better understanding of the SI+ phenomenon in the organizations.

In general, without discriminating the research technique, regarding the data origin, 14 works make use of primary data, nine used primary and secondary data (mixed origin of the data), and four used secondary data. Even if the greatest part of the studies make use of primary sources in their researches, the number of works that use primary and secondary data, concurrently, was also significant, which is an indicative that part of the authors were concerned about performing the data triangulation, not being tied to a single source.

4.3 Research Agenda

From the studies analyzed, it was possible to make a proposition of a research agenda for the service innovation area. Table 1 consolidates the main themes for future studies, which were exhibited by 66% of the 36 articles analyzed.

Table 1 - Suggestion for future works from the studies analyzed

Suggestions for future works

Adoption of *e-business* by small companies, in a sectorial approach with the choice of different segments to be investigated.

Comparative studies which approach in details several branches of the services sector aiming at the consolidation of an innovation theory.

Studies that aim at the consolidation of an innovation theory which incorporates goods and services, considering their peculiarities.

Researches associated to the entrepreneurial performance, explored under two visions, the innovative performance and the economic performance.

Determinant relational aspects of adoption of administrative innovations, in a way to make it possible to understand until what point a strong connection between two companies is important in the sharing of their strategies.

Describing the learning process occurred in the context of organizational innovations implemented and recognized, as well as identifying the knowledge generated, transferred and applied in the organizational practices.

Evaluation of micro level analysis in the context of public services, assuming the perspective of services innovation theory, in a way to include the complexity and the diversity of the public sector.

Searching for more precise information regarding the organizational sector which influence the innovations development.

Development of methodological tools capable of identifying and describing the services innovation based on a procedural perspective.

Theoretical studies focused on exploring the gap between dynamic capacities and services innovation and establishing the epistemological criteria regarding the constructs combination.

Source: Elaborated by the authors

Complementarily, another pertinent point to deal with is the issue of the researches limitations, since that 15 out of 36 articles analyzed declare to possess them and explained them. The finding of these limitations, on the part of the researchers, is an important step for the improvement of works of a certain study field. Among the limitations mentioned in the articles, it is highlighted the non-possibility of generalization of results due to the reduced number of cases or to the context investigated, the use of non-probabilistic samples and the analysis of specific sectors.

Thus, it is extremely relevant for the researcher, upon working with a certain theme, to point possible gaps and research pathways for the technical improvement of an area.

5. Final considerations

The main goal of the article herein was reached upon performing a quantitative and qualitative research about the SI through an analysis of articles published in Brazilian Journals of the administration area, with Qualis equal or higher than B2, producing a mapping of the national production in prime line journals. It is expected that this work contribute for a general view of the researches on the SI in national journals of administration.

Studies with focus on the analysis of scientific articles on services innovation have already been performed previously. For example, Resende Junior and Guimarães (2012), upon analyzing articles published between the years 2005 and 2011, had as focus the proposition of a research agenda for the services innovations area. The authors analyzed specifically the themes and the economical sectors where the SI is studied in the scientific articles and, from the thematic groups, they established a theoretical discussion based on the literature found. Venâncio and Andrade (2013) analyzed the scientific production on SI until September 2013, through a search performed at the Capes Portal of Journals. In this study, the authors aforementioned analyzed Brazilian and International articles, focusing on the bibliometric aspects. The article herein, however, even though works with similar theme, has different objective from that presented by previous studies, bringing bibliometric data coupled to a qualitative analysis of the Brazilian academic production, besides updating the results found previously, as it covers publications divulgated until the year 2015.

It is suggested to carry out new researches with similar themes in the future, in a way to verify if the trends described herein will continue present and ascertain the new opportunities and researches itineraries which may emerge in the area. Besides, it is believed that the next works may include publications of international journals, so that comparisons are performed with the Brazilian studies. It is in this last point, including, that the main limitation of this work lies, once that the analyses herein performed are a reflex only of the national productions of administration which bring the theme of SI.

Therefore, from the analyses performed and the gaps outlined, it is noticed that there are big opportunities for researches which contribute for the construction of a more consistent theoretical understructure, in order to foster the progressive advance of theoretical-empirical knowledge about SI in the Brazilian organizations.

References

ARAÚJO, C. A. Bibliometria: evolução histórica e questões atuais. *Em Questão*, v. 12, n. 1, p. 11-32, 2006, 2006.

ARAÚJO, J. B. DE; ZILBER, S. N. Adoção de e-business e mudanças no modelo de negócio: inovação organizacional em pequenas empresas dos setores de comércio e serviços. *Revista Gestão e Produção*, v. 20, n. 1, p. 147-161, 2013.

- BALESTRIN, A.; VERSCHOORE, J. R.; REYES JUNIOR, E. O campo de estudo sobre redes de cooperação interorganizacional no Brasil. *RAC*, v. 14, n. 3, p. 458-477, 2010.
- BARCET, A. Innovation in services: a new paradigm and innovation model. In: *The handbook of innovation and services*. Cheltenham, UK: MPG Books Group, 2010.
- BARRAS, R. Towards a theory of innovation in services. *Research Policy*, v. 15, n. 4, p. 161–173, 1986.
- BIANCOLINO, C. A.; MACCARI, E. A.; PEREIRA, M. F. Innovation as a tool for generating value in the it services sector. *Review of Business Management*, v. 15, n. 48, p. 410–426, 2013.
- BORGMAN, C. L.; FURNER, J. Scholarly communication and bibliometrics. *Annual Review of Information Science and Technology*, 2002.
- CALABRIA, P.; BERNARDES, R.; RAUPP, E.; PINHANEZ, C. A ciência da inovação em serviços: estudo exploratório sobre os interesses e prioridades para uma agenda de pesquisa no brasil. *Revista de Administração e Inovação*, v. 10, n. 4, p. 110, 2014.
- CARLBORG, P., KINDSTRÖM, D., & KOWALKOWSKI, C. The evolution of service innovation research: a critical review and synthesis. *The Service Industries Journal*, August 2015(June 2015), v. 34, n. 5, p. 373–398, 2013.
- CHEN, J.-S.; KERR, D.; TSANG, S.-S.; SUNG, Y. C. Co-production of service innovations through dynamic capability enhancement. *Service Industries Journal*, v. 35, n. 1/2, p. 96–114, 2015.
- DEN HERTOOG, P.; VAN DER AA, W.; JONG, M. W. D. Capabilities for managing service innovation: towards a conceptual framework. *Journal of Service Management*, v. 21, n. 4, p. 490–514, 2010.
- DESMARCHELIER, B.; GALLOUJ, F. Endogenous growth and environmental policy: Are the processes of growth and tertiarization in developed economies reversible? *Journal of Evolutionary Economics*, v. 23, n. 4, p. 831–860, 2013.
- DEUS, L. F.; FARIAS, J. S. A adoção do processo eletrônico de controle externo (e-TCU) no Tribunal de Contas da União: a experiência dos gestores envolvidos. *Revista de Administração e Inovação*, v. 12, n. 2, p. 268–290, 2014.
- DJELLAL, F.; GALLOUJ, F.; MILES, I. Two decades of research on innovation in services: which place for public services? *Structural Change and Economic Dynamics*, v. 27, p. 98–117, 2013.
- DREJER, I. Identifying innovation in surveys of services: A Schumpeterian perspective. *Research Policy*, v. 33, n. 3, p. 551–562, 2004.
- FARIAS, J. S.; VARGAS, E. R. DE. A sociotechnical perspective on innovation in services. *Revista de Administração – FACES*, v. 12, n. 4, p. 84–99. 2013.

FERREIRA, V. DA R. S.; NAJBERG, E.; FERREIRA, C. B.; BARBOSA, N. B.; BORGES, C. Inovação em serviços de saúde no Brasil : análise dos casos premiados no Concurso de Inovação na Administração Pública Federal. *Revista Administração Pública*, v. 48, n. 5, p. 1207–1227, 2014.

FERREIRA, Vicente da Rocha Soares et al. Inovação no setor público federal no Brasil na perspectiva da inovação em serviços. *Revista de Administração e Inovação*, v. 12, n. 4, p. 99-118, 2015.

FLEURY, N. M.; JÓIA, L. A. Inovação de processos, organização em rede, tecnologia da informação. *Revista Eletrônica de Administração*, v. 9, n. 1, p. 1–26, 2003.

FRAZZON, L. S.; INOMATA, D. O.; OLIVEIRA, K. F.; FORCELLINE, F. A. O processo de desenvolvimento de um serviços inovador com base em um modelo de referência. *Revista Produção OnLine*, v. 15, n. 2, p. 622–645, 2015.

GALLOUJ, F. *Innovation in the service economy: the new wealth of nations*. Cheltenham, UK: Edward Elgar Publishing Limited, 2002.

GALLOUJ, F. Towards a neo-Schumpeterian theory of innovation in services? *Science and Public Policy*, v. 24, n. 6, p. 405–420, 1997.

GALLOUJ, F. Economia da Inovação: um Balanço dos Debates Recentes. In: Bernardes, R; Andreassi, T. (Eds.), *Inovação em serviços intensivos em conhecimento* (pp. 3-27). São Paulo: Saraiva, 2007.

GALLOUJ, F.; SAVONA, M. Innovation in services: a review of the debate and the research agenda. *Journal of Evolutionary Economics*, v. 19, n. 2, p. 149-172, 2009.

GOMES, A. DE O.; GUIMARÃES, T. D. A. Difusão de inovação administrativa e localização estrutural em rede de empresas. *Revista de Administração e Inovação*, v. 5, n. 3, p. 5–19, 2008.

HAGEN, B.; DENICOLAI, S.; ZUCHELLA, A. International entrepreneurship at the crossroads between innovation and internationalization. *Journal of International Entrepreneurship*, v. 12, n. 2, p. 111-114, 2014.

HOWELLS, J. Services and innovation and service innovation: new theoretical directions. In: GALLOUJ, F.; DJELLAL, F. (eds.). *The Handbook of Innovation and Services: A Multi-Disciplinary Perspective*. Cheltenham: Edward Elgar, 2010.

ISIDRO-FILHO, A.; GUIMARÃES, T. D. A. Conhecimento, aprendizagem e inovação em organizações: uma proposta de articulação conceitual. *Revista de Administração e Inovação*, v. 7, n. 2, p. 127–149, 2010.

ISIDRO-FILHO, A.; GUIMARÃES, T. D. A.; PERIN, M. G. Determinants of innovations in information and communication technologies adopted by hospitals. *Revista de Administração e Inovação*, v. 8, n. 4, p. 142-159, 2012.

ISIDRO-FILHO, A.; GUIMARÃES, T. D. A.; PERIN, M. G.; LEUNG, R. C. Workplace learning strategies and professional competencies in innovation contexts in Brazilian hospitals. *BAR - Brazilian Administration Review*, v. 10, n. 2, p. 121–134, 2013.

JANNSEN, M. J.; CASTALDI, C.; ALEXIEV, A. Dynamic capabilities for service innovation: conceptualization and measurement. *R&D Management*, v. 46, n. 4, p. 797-811, 2016.

KLEMENT, C. F. F.; YU, A. S. O. Influências da tecnologia para a inovação em serviços. *Revista de Administração da UFSM*, v. 1, n. 1, p. 101–115, 2008.

KON, A. *Economia de serviços: teoria e evolução no Brasil*. Rio de Janeiro: Campus, 2004.

LIMA, B. R., LIMA, F. R.; BARBIERI, G.; TOLEDO, L. A. Inovação no mercado de pet shops. *Revista de Administração e Inovação*, v. 10, n. 1, p. 6-26, 2013.

LIMA, D. H.; VARGAS, E. R. Estudos internacionais sobre inovação no setor público: como a teoria da inovação em serviços pode contribuir? *Revista de Administração Pública*, v. 46, n. 2, p. 385–401, 2012.

LOIOLA, E.; BASTOS, A. V. B. A produção acadêmica sobre aprendizagem organizacional no Brasil. *Revista de Administração Contemporânea*, v. 7, n. 3, p. 181-201, 2003.

LUBECK, R. M.; WITTMANN, M. L.; BATTISTELLA, L. F.; SILVA, M. S. Inovação no transporte público: a implantação da bilhetagem eletrônica na região metropolitana de Porto Alegre. *Gestão e Regionalidade*, v. 28, n. 82, p. 35–48, 2012.

MACHADO, D. D. P. N.; BARZOTTO, L. D. C. Environment of innovation in hospital institution. *Revista de Administração e Inovação*, v. 1, n. 1, p. 51-80, 2012.

MACHADO LÉO, R.; TELLO-GAMARRA, J. Inovação em serviços: estado da arte e perspectivas futuras. *Suma de Negocios*, v. 8, n. 17, p. 1–10, 2017.

MAKÔ, C.; CSIZMADIA, P.; ILLÉSSY, M.; IWASAKI, I.; SZANYI, M. Rainer Hampp Verlag Diffusion of Innovation in Service Firms (Hungarian versus Slovakian Business Service Firms). *Journal of East European Management*, v. 18, n. 1, p. 135–147, 2013.

MALACHIAS, C. D. S.; MEIRELLES, D. S. E. Regime tecnológico, ambiente de inovação e desempenho empresarial no setor de serviços: um estudo exploratório da empresas de tecnologia da informação. *Revista de Administração e Inovação*, v. 6, n. 2, p. 58–80, 2009.

MAZZA, C.; ISIDRO-FILHO, A.; HOFFMANN, V. E. Capacidades dinâmicas e inovação em serviços envolvidas na implementação e manutenção de práticas de sustentabilidade empresarial. *Revista de Administração e Inovação*, v. 11, n. 1, p. 345–371, 2014.

MILHOME, J. C.; ROWE, D. E. O. Qualidade de vida no trabalho: análise da produção científica entre 2006 e 2015. *Gestão & Planejamento*, v. 17, n. 3, p. 499-519, 2016.

MOREIRA, M. F.; DE VARGAS, E. R. When the Government Is the Market: Government Procurement and Innovation in Software Services. *Revista de Administração e Inovação*, v. 9, n. 2, p. 175-197, 2012.

MOREIRA, M. F.; VARGAS, E. R. DE. Compras para a inovação: casos de inovações induzidas por clientes públicos. *Revista de Administração Mackenzie*, v. 13, n. 5, p. 232-257, 2012.

NODARI, C. H.; OLEA, P. M.; DORION, E. C. H. Relação entre inovação e qualidade da orientação do serviço de saúde para atenção primária. *Revista de Administração Pública*, v. 47, n. 5, p. 1243-1264, 2013.

PETRAGLIA, J.; FREITAS, M. M. D. S.; AQUINO, L. N. D. DE; PEDROSO, M. C. Inovação em operações de serviços logísticos: análise da interação de múltiplos atores logísticos. *Gestão & Regionalidade*, v. 28, n. 83, p. 81-96, 2012.

PINHEIRO, A. DE O. M.; TIGRE, P. B. Proposta de investigação sobre o uso de softwares no suporte à inovação em serviços. *Revista de Administração de Empresas*, v. 55, n. 5, p. 578-592, 2015.

PINHEIRO, I. A. Inovação em políticas públicas: a legislação ambiental como instrumento de modernização tecnológica - o caso da infovia do município de Porto Alegre. *Revista Eletrônica de Administração*, v. 9, n. 4, p. 1-15, 2003.

PINHEIRO, R. G.; ROMEIRO, C.; FARIA, A. C. DE; CRISTINA, I.; SCUCUGLIA, R. Inovação no setor de serviços em São Caetano do Sul (SP): mensuração e oportunidades de desenvolvimento local. *Desenvolvimento Em Questão*, v. 13, n. 29, p. 57-89, 2015.

RESENDE JUNIOR, P. C.; GUIMARÃES, T. D. A. T. Inovação em serviços: o estado da arte e uma proposta de agenda de pesquisa. *Revista Brasileira de Gestão de Negócios*, v. 14, n. 44, p. 293-313., 2012

SALUNKE, S.; WEERAWARDENA, J.; MCCOLL-KENNEDY, J. R. Competing through service innovation: The role of bricolage and entrepreneurship in project-oriented firms. *Journal of Business Research*, v. 66, n.8, p. 1085-1097, 2013.

SANTOS, T. L.; ZILBER, M. A. Relação entre as dimensões das capacidades dinâmicas e o processo de inovação. Estudo de caso de uma empresa do setor de serviços de valor agregado. *Revista de Administração e Inovação*, v. 11, n. 4, p. 213-234, 2014.

SAVONA, M.; STEINMUELLER, W. E. Service output, innovation and productivity: A time-based conceptual framework. *Structural Change and Economic Dynamics*, v. 27, p. 118-132, 2013.

SOUSA, M. D. M.; GUIMARÃES, T. D. A. Inovação e desempenho na administração judicial: desvendando lacunas conceituais e metodológicas. *Revista de Administração e Inovação*, v. 11, n. 2, p. 321-344, 2014.

SOUZA, C. C. L. DE; TAVARES, E.; SOUZA, E. C. L. DE; PHILIPPE, J.; LEO, P.-Y. A relação entre inovação e desempenho internacional de atividades de serviços em firmas francesas. *Revista de Administração e Inovação*, v. 11, n. 3, p. 227–254, 2014.

SUNDBO, J.; GALLOUJ, F. *Innovation in services (SI4S Synthesis Paper S2)*. Oslo, 1997.

TOIVONEN, M.; TUOMINEN, T. Emergence of innovations in services. *The Service Industries Journal*, v. 29, n. 7, p. 887-902, 2009.

VARGAS, E. R. DE; ZAWISLAK, P. A. Abordagem funcional e as lógicas de inovação em serviços: desenvolvendo uma análise não-tecnista da evolução do serviço hospitalar. *Revista de Ciências Da Administração*, v. 7, n. 14, p. 1–23, 2005.

VARGAS, E. R. DE; ZAWISLAK, P. A. Inovação em serviços no paradigma da economia do aprendizado: a pertinência de uma dimensão espacial na abordagem dos sistemas de inovação. *Revista de Administração Contemporânea*, v. 10, n. 1, p. 139–159, 2006.

VARGAS, E. R. DE. Relação entre estratégia e inovação em serviços: análise de casos no setor hospitalar. *O&S*, v. 14, n. 40, p. 17–27, 2007.

VASCONCELLOS, L. H. R.; MARX, R. Como ocorrem as inovações em serviços? Um estudo exploratório de empresas no Brasil. *Gestão & Produção*, v. 18, n. 3, p. 443–460, 2011.

VENÂNCIO, D. M.; ANDRADE, D. Inovação em serviços: um estudo bibliométrico da produção científica no portal Capes até setembro de 2013. *Revista Eletrônica de Estratégia & Negócios*, v. 7, n. 1, p. 137–157, 2013.