

Portraying innovation in the public service of Brazil: Frameworks, systematization and characterization

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Recebido em 29/abril/2014

Aprovado em 09/março/2015

Sistema de Avaliação: *Double Blind Review*

Editor Científico: Nicolau Reinhard

DOI: 10.5700/rausp1213

RESUMO

Retratando a inovação no serviço público brasileiro: modelos de análise, sistematização e caracterização

A inovação é fundamental para a melhoria do desempenho de organizações, tanto do setor privado quanto do setor público. Neste trabalho, descrevem-se e analisam-se as 323 experiências de inovação no serviço público federal no Brasil premiadas nas 16 edições (período de 1995 a 2012) do concurso Inovação na Gestão Pública Federal, promovido pela Escola Nacional de Administração Pública (ENAP). Trata-se de estudo quali-quantitativo em que se utiliza como categorias de análise os quatro tipos de inovação definidos no Manual de Copenhague: produto, processo, organizacional e comunicação. Os resultados da pesquisa permitem afirmar que existe sim inovação no setor público, a despeito do ceticismo de alguns pesquisadores, bem como do estado incipiente de pesquisa teórica sobre o tema. Observou-se que a inovação organizacional foi a que teve a maior quantidade de experiências premiadas, seguida respectivamente pelas inovações em processo, comunicação e produto, sendo que o atendimento ao cidadão e a melhoria dos processos de trabalho são os itens de maior destaque. Os resultados mostraram que embora a grande incidência das inovações ocorra em nível nacional, um número significativo de inovações também ocorre no nível local, provavelmente em função de muitas organizações do governo federal terem as suas ações difundidas apenas nesse nível de governo. No que diz respeito à área inovadora, saúde e educação preponderaram com quase 33% das iniciativas, o que pode ser explicado pela capilaridade das áreas e pelo fato de ambas manterem grande interação com o usuário. As contribuições deste trabalho incluem a utilização de modelo teórico de análise de inovações no setor público ainda inédito no Brasil e a sistematização de conhecimento em base empírica sobre essa inovação. Nesse sentido, ainda contribui para o desenvolvimento da teoria com a apresentação de indícios de que as características, determinantes e consequências de inovação no setor público diferem não somente das de inovação na indústria, mas também das da inovação em serviços no setor privado.

Palavras-chave: inovação, administração pública, prêmio de inovação.

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1. INTRODUCTION

Research on innovation has been focused on the private sector, more precisely on the industrial sector, guided by concepts not transferable linearly or without adaptation to the public sector, even though innovation is an essential element for preparing governments to face their challenges (Salge, 2011). Røste (2005) points out that in the institutional context legal conditions, norms and culture are important incentives or restrictions on innovation in the public sector, which explains the limited applicability of business innovation models in this sector. Among other things, it is known that, for innovation to thrive, an unrestricted environment that fosters creative thinking and action is a necessity (Tidd, Bessant, & Pavitt, 2008). This is not always the case in the public sector, a context strongly defined by the existence of regulations that inhibit innovative actions.

However, the degree of importance attributed to innovation in the public sector is evidenced by the development of research programs and the organization of competitions for the purpose of motivating public servants to think innovatively about products and services. Examples of this are PUBLIN, a research program for public innovation created by the European Union and MEPIN, which measures innovation in the public sector in the Nordic countries. These programs served as the basis for the Copenhagen Manual (Annerstedt & Björkbacka, 2010; Bloch, 2010; Bugge, Hauknes, Bloch, & Slipersæter, 2009; Jørgensen, 2010; Mortensen & Bloch, 2011). This manual, prepared under the leadership of the Danish Agency for Science, Technology and Innovation, presents a way of analyzing innovation in the public sector (Bloch, 2010).

Outside of Brazil interest in public sector innovation has increased with the introduction of competitions and awards for governmental organizations. Besides those already mentioned, in the US there is the Ford Foundation's Innovations in American Government Award (Borins, 2001); and a recently approved law authorizes all U.S. government agencies to develop and implement awards for promoting the innovation process (Besharov & Williams, 2012).

In Brazil, starting in the 1990s, an awards cycle called the "Public Management and Citizenship Program" has been sponsored by the Getulio Vargas Foundation for the purpose of identifying and disseminating innovative initiatives by local governments to improve the quality of public services (Spink, 2006). In addition to this experience of incentive and recognition of innovative practices in the public sector, the Brazilian National School of Public Administration – whose acronym in the Portuguese language is ENAP [Escola Nacional de Administração Pública] – has also encouraged innovation in the public sector since the 1990s, organizing sixteen editions of the "Innovation in Federal Public Management" competition for the executive branch of government between 1995 and 2012. In addition, starting in 2004, the Innovare Institute established

an annual award for the purpose of encouraging and recognizing innovation in the Brazilian justice system.

Despite these efforts to encourage innovation in the public sector and the growing interest of public organizations in this matter, and although innovation is occurring in the public sector abroad (Besharov & Williams, 2012; Borins, 2001) and in Brazil (ENAP, Fundação Getulio Vargas [FGV], Innovare), research on innovation in public services remains incipient (Gallouj & Windrum, 2009; Salazar & Holbrook, 2004; Walker, Damanpour, & Devece, 2010); and there is insufficient systematic knowledge about these innovations to permit answering questions such as: What are the types, scope and areas in which innovation initiatives are occurring in the public sector? What are the implications of this for the development of theory in the area?

To respond to these questions, this article examines all of the experiences that have won awards in the 16 editions of the Innovation in Federal Public Management contest held in Brazil between 1995 and 2012 – all of the competitions held up to the time this research was initiated – in order to:

- describe, on the basis of scientific observation, how innovation in the public sector is understood in Brazil;
- characterize these experiences from a theoretical point of view, identifying the types, scope and areas where innovation in public service has advanced in Brazil; and
- discuss the implications of this for theory.

The Copenhagen Manual serves as the principal reference for the study carried out, as it offers a structure of analysis appropriate for understanding the kinds of changes that can be classified as innovation in the public sector (Jonsdottir, 2013). We seek with this analysis to contribute to the diffusion of research on innovation in the public sector in Brazil and to point out prospects for research in this area.

2. INNOVATION IN PUBLIC SERVICES

For Schumpeter (1982, 2008), innovation is an evolutionary process that contributes to economic development through new products, methods of transformation, markets or forms of industrial organization. More recent approaches incorporate other concepts such as collaborative innovation, social innovation, organizational innovation, innovation in services, including public services and innovation in the public sector (Gallouj, 1997; Bommert, 2010; Damanpour & Aravind, 2011; Gallouj, 1997; Geoff, 2006; Halvorsen, 2005; Osborne & Brown, 2011).

Innovation is understood by Van de Ven (1986, p. 591) as "the development and implementation of new ideas by people who over time engage in transactions with others within an institutional setting context". Innovation can also be defined as a substantial qualitative or quantitative change in previous practices, a new organizational structure or administrative

system, a new organizational plan or program that results in a product, service or practice that is new to the state of the art or new, at least, in that particular organizational context (Beinart & McCarthy, 2012; Damanpour & Wischnevsky, 2006; O'Toole, 1997; Røste, 2005; Spink, 2006; Walker *et al.*, 2010).

Walker *et al.* (2010) observe that even though innovation is a frequent topic in the business literature, given its impact on performance in the private sector, there is little research about this in the public sector. Analyzing data from experiences at the local level of the public sector in England in a search for possible relationships between innovation management and performance improvement in organizations, they found that a relationship does exist. They acknowledge, however, that the positive results found are mediated through management performance, suggesting that this process is not explained by innovation factors alone.

The organizational perspective on innovation holds that organizational incentives are the key to getting employees to innovate, and that these incentives are effective in this regard. Approached from an individual perspective, the assumption is that initiatives by the organization's employees are central to the process of innovation. Thus, the challenge is to discover what the motivations are to innovate, and how to channel them into innovation. In the individual perspective, the focus is on training employees for innovation and on ways of overcoming barriers and organizational restrictions to this process. The incentives to innovate are different between the public sector and the private sector. One of the differences is that, generally, the public sector does not reward cash for innovative initiatives (Rosenblatt, 2011).

As is the case in business environments, success in the public sector is increasingly seen as being dependent on innovation and creativity. Governments, driven by domestic challenges such as the need to provide high quality service with fewer resources and to improve their capacity to respond to societal demands, are thus feeling the pressure to innovate (Anttiroiko, Bailey, & Valkama, 2011).

But in what can the public sector innovate? Is it even possible for organizations that are predominantly service providers to innovate? Some authors argue that the commonly held view of a product-service continuum in innovation makes it difficult to establish a clear boundary between intangible services and physical products and is unable to capture the reality of innovation in services (Djellal, Gallouj, & Miles, 2013; Sundbo, 1997). Gallouj & Savona (2010) have identified myths related to the service sector and to innovation in services that associate the provision of services with low productivity, low capital intensity, low levels of training and lack of innovative potential.

Gallouj (2002) observes that classical economics maintains that the service sector produces predominantly process innovations, adopting technological innovations produced by the industrial sector. Barcet (2010) also argues that discussions

about innovation in services tend to present it as: less important than innovation in industry; incremental; and only occurring with the use of technology. Even if this view were correct, however, with innovation dependent on technology and incremental in nature, the public sector could still innovate; and such innovation would not be trivial. Guaranteeing the importance of innovation in the public sector is that the fact that it impacts on the development of a nation (Hauknes, 2005).

Gallouj (2002, pp. 142-143) argues that innovation in services does not necessarily require the use of technology. He points out, however, that innovations in services, can be readily appropriated and imitated, given a "certain degree of volatility" of this kind of innovation. This characteristic, which might pose a threat to private organizations, appears advantageous for public sector organizations in that they that can benefit from the exchange of experience without worrying about competition. The dissemination of an innovation that improves productivity and performance in the public sector can thus be seen as an opportunity and not as a threat.

One of the problems faced in the study of innovation in services is that much of the literature deals with this process without any clear definition of what innovation is, and addresses the topic as though innovation is always something positive, which is not necessarily the case (Osborne & Brown, 2011). Another problem is that the traditional model of the innovative process has long held that the main source of innovation is individual agency. However, recent innovation studies have begun exploring how interactions between individuals and their organizations contribute to the innovation process; and this has occurred, as well, in studies of public service innovation (Osborne & Brown, 2011).

For a better understanding of what is involved in the provision of public services, it is important to understand the specifics of the service sector in general. Gallouj (2002) identifies the following service industry characteristics: they are difficult to standardize; it is difficult to distinguish between product and process; skills are inextricably linked; it is difficult to assess performance; and there is no clear demarcation between diversification or differentiation and innovation. In addition, there are important differences between the public and private service sectors. The first is characterized by more complex and multifaceted processes of decision-making and performance evaluation than is the second, and is distinguished as "labor-intensive, decentralized and variegated" (Nelson & Yates, 1978, p. 7).

The study of innovation in public administration is still recent (Barcet, 2010) and neglected (Djellal *et al.*, 2013). Despite the present low level of knowledge that characterizes it, Howells (2010) believes that this field of study will reach maturity over the next ten years. In support of this view is the evidence that in various countries like Canada, Finland, and England, the public sector leads in innovative organizational and technological changes; and innovation is regarded as

essential if government is to meet the challenges of the twenty-first century (Earl, 2002; Salge, 2011). Salazar and Holbrook (2004), in their analysis of innovation research, concluded that both the private sector and the public sector produce innovation, but that innovation research does not contemplate the public sector. This is, perhaps, due to the inability of many researchers to understand what innovation means in the public sector (Osborne & Brown, 2011; Sørensen & Torfing, 2012), or to baseless skepticism, as there is no theory or empirical evidence to support the view that the public sector does not innovate. It is, therefore, fundamental to undertake more studies that illustrate and demonstrate the innovation that takes place in the public sector.

For Salazar and Holbrook (2004), the public sector needs and deserves to be the subject of innovation research, especially that focused on innovation in services, since the public sector is essentially a service provider. Innovative processes in the services sector have been recognized as improving quality and boosting productivity; and in the context of public services, this constitutes a benefit to society as a whole. It is thus imperative on the public service to innovate, in order to improve efficiency and to increase user satisfaction (Salazar & Holbrook, 2004).

In the context of public administration, there are increasing incentives for innovation, principally in countries like the United States where now, as mentioned above, all government agencies are authorized by law to develop and implement strategies to encourage innovation, granting awards and even ownership rights to innovators (Besharov & Williams, 2012). In Brazil, a policy of incentives began in the 1990s, with the initiative of the National School of Public Administration (ENAP), which continues to encourage innovative practices in federal public administration.

Recently some studies have examined the innovation process using innovation awards databases (Besharov & Williams, 2012; Borins, 1998, 2000a, 2001, 2006; Masters & Delbecq, 2008; Rosenblatt, 2011). Such prize-giving has the potential for introducing elements of competition in the public service and stimulating organizational learning (Löffler, 2001). The number of awards has increased in recent years in a number of countries, covering a variety of facets of public administration, such as innovation, quality and organizational performance (Borins, 2000b). Awards for innovation, specifically, can serve to recognize innovative initiatives and to foment innovation, disseminating good practices and new processes, methods and systems (Borins, 2001, 2002; Milakovich, 2004).

Borins (2001) analyzed three databases for innovation awards in public service: the Ford Foundation's Innovations in American Government program, the award of The Institute of Public Administration of Canada (IPAC) and the award of the Commonwealth Association for Public Administration and Management (CAPAM). The main characteristics of innovation found in this study were inter-organizational cooperation, adoption of information technology and development of the

provision of alternative services. Approximately half of the innovations examined originated from mid-level managers and frontline servers, and only 25% from senior managers. Five conditions were identified as instigating innovation: initiatives originating in the political system; new leadership; emergence of a crisis; internal problems; and new opportunities, for example, those offered by new technological tools. In another study, Borins (2002) confirms that bottom-up initiatives are common, originating at the mid-level and operational level. In a third study, Borins (2000a) uses two samples of the Ford Award between 1990 and 1998 to characterize public sector entrepreneurs, providing evidence of the leadership skills and proactivity of public innovators.

In Brazil, studies have also been carried out on the granting of awards in public administration. Nassuno (2007) studied the Award for Excellence in Public Management granted in the Brazilian State of Minas Gerais and confirmed its potential capacity to recognize and disseminate innovations in public administration. Fonseca, Beltrão, and Prado (2013) investigated the performance of municipal governments evidenced in the Municipalities that Do More award, created by the Center for Studies in Public Administration and Government of the Getulio Vargas Foundation. Machado (2003) specifically analyzed projects of the legislative branch of government submitted to the Public Management and Citizenship Award Program of the Getulio Vargas Foundation from 1996 to 2002 with the object of identifying innovations and the contributions of innovative legislative initiatives.

Spink (2003) also used the database of the Public Management and Citizenship Program. He discusses innovation in public service from the perspective of how candidates for the award understand innovation, based on the analysis of registration forms and answers to the supplementary questions submitted by the 89 semifinalists of the 2001 edition of the award. This document analysis did not make use of a theoretical model and, perhaps for this reason, no theoretical conceptualization of innovation or approaches to innovation were adopted to guide the discussion of the findings of this study.

The ENAP Award database is a rich source of information that has, as yet, been little explored. Ferrarezi and Amorim (2007) have evaluated the evolution of the competition and provided an overview of the awards from 1996 to 2006. The sustainability of the award-winning innovations, understood as the permanency of innovative initiatives recognized, was analyzed by Ferrarezi, Amorim, and Tomacheski (2010). They found that most initiatives, approximately 70% of the surveyed sample from the period surveyed (1996-2006) were institutionalized and remained in place. Vargas (2010), also using the ENAP database, studied the process of dissemination of innovations to other sectors of the innovating organization or to other public organizations and identified that the rigor of the award process seems to be related to the diffusion of innovation.

From the review of previous research carried out, it is clear that none of these studies used a model developed specifically for analysis of innovation in the public sector. The use of such a model is a contribution of the present study, in which the typology of the Copenhagen Manual is used to systematize knowledge about the innovation taking place in the Brazilian public sector in terms of the type and scope of the innovations and the areas where initiatives considered to be innovative have taken place. This will be detailed in the following sections.

3. SYSTEMS OF CLASSIFICATION AND MODELS FOR ANALYSIS OF INNOVATION

A number of typologies have been developed that permit differentiation and characterization of the different kinds of innovation. The principal of these are summarized in Figure 1. The first two presented apply in the context of the private sector. The last applies to the service sector, in general, and the others are specific to innovation in public services.

Schumpeter (1982) is considered as the first to systematize the concept of innovation. He classified this as being something new in terms of: product; process of production or commercialization; market; source of raw materials; or

organization. The Oslo Manual, currently considered as a reference for research and for indicators of innovation in the business context, classifies innovation as “[...] An **innovation** is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (OECD, 2005, p. 46). The Oslo Manual has passed through several revisions before taking on its present form. Nonetheless, according to Gadrey, Gallouj, and Weinstein (1995), and Gallouj (2002), this manual does not yet address the particular characteristics of the service sector. Techniques of analysis and measurement of innovation are thus still lacking for this sector and, more especially, for the public service sector, as the use of indicators appropriate to the manufacturing sector can lead to measurement errors (Gallouj, 2002).

Earl (2002) is considered to have pioneered the evaluation of innovation in the public sector (Bloch, 2010; OECD, 2005). He investigated both public and private organizations in Canada, classifying innovations as organizational or technological in nature. Halvorsen (2005) developed a typology with specific reference to public service: service innovation; process innovation; administrative innovation;

Author (s)	Definition of Innovation	Types of Innovation
Schumpeter (1982)	New combinations of a firm's factors of production validated by the market.	Product, process, market, supply, organizational.
OECD (2005) –The Oslo Manual	“Implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (p. 46).	Product, process, organizational, marketing.
Earl (2002)	Innovation defined as organizational change and technological improvement.	Organizational, technological.
Halvorsen (2005) – PUBLIN	“Social entity's implementation and performance of a new specific form or repertoire of social action that is implemented deliberately by the entity in the context of the objectives and functionalities of the entity's activities” (p. 9).	Service, process, administrative, system, concept, radical change of rationality.
Audit-Commission (2007)	Adoption of improved practices characterized by novelty, change, and improved performance.	Service, process or management, democratic, strategic.
Bloch (2010) – The Copenhagen Manual	“Implementation of a significant change in the way an organization operates of in products provided” (p. 27).	Product, process, organizational, communication.
Djellal & Gallouj (2005) Gallouj & Weinstein (1997)	Innovation in services is understood as a set of explanatory vectors (skills of the provider and client, technical characteristics and purpose of service delivery).	Radical, improvement, incremental, <i>ad-hoc</i> , recombination and formalization. In addition to this typology, also presented are organizing principles or logics: extensive, intensive and regressive.

Figure 1: Innovation Typologies

Source: Based on the authors cited.

system innovation; conceptual innovation resulting in new missions, visions, objectives, and/or strategies; and radical change of rationality. Bloch (2010, p. 27) also conceptualizes public sector innovation, defining it as “[...] implementation of a significant change in the way an organization operates of in products provided”. Innovation, according to this author, comprises of the types: “new or significant changes to services and goods, operational processes, organizational methods, or the way the organization communicates with customers”. The Audit-Commission (2007) analyzed the adoption of innovations by local public organizations in the UK and developed the following types: service design or delivery, process or management, democratic (related to commitments with citizens) and strategic (involves change in objectives, the public and users of services).

Finally, there is the analytical model specifically developed for classifying innovation in the service sector by Gallouj and Weinstein (1997). This innovation in services model consists of the following related vectors: comprised of the competencies of the service provider [C]; the recipient [C’]; technical characteristics [X] and; characteristics related to the ends sought in the provision of services [Y].

Alongside this profusion of definitions and models of innovation can be found more focused and specific proposals. For example, PUBLIN and MEPIN have developed many innovation projects and tools for measurement specific to the public sector. These programs, as mentioned, served as the basis for the preparation of the Copenhagen Manual, which classifies innovation in the public sector in four types: product, process, organizational and communication, as shown in Figure 2 below. It is this classificatory scheme that has been adopted for the analysis undertaken in the research reported in this article.

As can be seen in Figure 2, the Copenhagen Manual introduces a type of innovation not seen in other categorizations: innovation in communication. This type appears to contemplate

many innovative efforts of the public sector, such as those related to the processes of educational campaigns in the health sector – campaigns to heighten awareness of the need to combat dengue in a responsible way, for example – and which cannot be characterized as marketing innovation in the terms of the Oslo Manual.

Having presented the theoretical framework, recent studies of innovation awards in the public sector, and the categories of analysis used in the present study, we turn in the next section to the presentation of the methods used in the study, following this by a discussion of the findings.

4. METHOD

The study carried out used mixed qualitative and quantitative methods in seeking to describe and characterize the innovation experiences that received awards during the 16 editions of the Innovation in Federal Public Management competition carried out for the period from 1995 to 2012. Since 1996, the organizers of the competition have received 1,537 entries, and have given awards to 323 initiatives from a wide variety of areas. This competition is sponsored by the National School of Public Administration (ENAP) in partnership with the Ministry of Planning, Budgeting, and Management, and support is received for the awards from the Embassy of France, the Brazilian Cooperation Agency (ABC) and the Royal Norwegian Embassy (ENAP, 2014). The principal objective of this competition is to recognize the teams of public servants who have dedicated time, effort, resources and creativity to their activities, generating innovation (ENAP, 2014).

All 323 award-winning experiences were analyzed in this study. Data was collected from the database of experiences made available on the ENAP website. The 323 cases were read, analyzed and the information organized in the form of a table. In this process, a research protocol was used in which

Type	Definition
Product	“Introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in customer access, ease of use, technical specifications or other functional characteristics that improve the quality of the good or service offered” (Bloch, 2010, p. 29).
Process	“Implementation of a new or significantly improved method for the creation and provision of goods and services. This includes significant changes in methods, equipment, and/or skills with the aim of improving quality or reducing costs or time of delivery” (Bloch, 2010, p. 30).
Organizational	“Implementation of significant changes in the way work is organized or managed in an organization. This includes new or significant changes to management systems, workplace organization and/or programs to improve learning and innovation capacity” (Bloch, 2010, p. 30).
Communication	“Implementation of a new method of promoting the organization or its goods and services, or new methods to influence the behavior of individuals or other organizations” (Bloch, 2010, p. 31).

Figure 2: Typology of Innovation, According to the Copenhagen Manual

Source: Based on the Copenhagen Manual (Bloch, 2010).

the cases were identified and four variables were specified for the systematization and analysis of the data: type of innovation, using the characterization of the Copenhagen Manual; scope of innovation; sectoral area of origin of the innovation; and thematic area focused by the innovation, following the definition used by ENAP (ENAP, 2014; OECD, 2005; Tidd *et al.*, 2008).

The qualitative-quantitative approach used is the same as that used by Borins (2002) in his analysis of innovation awards in public service. The study is quantitative in that it uses descriptive statistics of absolute frequency and relative frequency to analyze the variables studied. It is qualitative in the use of content analysis for the classification and characterization of the individual cases with respect to the variables of interest. The choice to use mixed methods was based both on the methods used in previous studies on the same topic and on the characteristics of the object of study, which presents quantitative and qualitative characteristics as noted.

Each experience was classified in one of the four types of innovation (variable 1) defined by the Copenhagen Manual (Annerstedt & Björkbacka, 2010; Bloch, 2010): product, process, organizational or communication. As this manual was developed specifically for the measurement of innovation in the public sector on the basis of research on innovation in this sector, we believe that its classification scheme, or typology is appropriate for analyzing and classifying public sector experiences, even those taking place in a different national context, in this case Brazil. The types of innovation represent the different ways in which public organizations innovate. Categorization was made on the basis of the characteristics that describe each type, presented in Figure 2.

The second variable, scope, was included in order to assess the probable extent of repercussions of the innovation: local, regional, national and international. It was observed that the scope of these initiatives can range from specific innovations affecting a single local organization to those affecting multiple units of the same organization and having regional, national or even international repercussions. This variation stems from

the fact that various types of public organizations participate in the contest, from a university hospital having local or regional scope to the Brazilian Post Office, the Ministry of Development, Industry and Foreign Trade, the Ministry of Foreign Affairs, the Brazilian Institute of Tourism and the Ministry of Defense which have national and even international scope.

We then identified the organization in which the innovation originated and determined the sectoral area of the federal administration in which the innovation took place (third variable), after which we determined the thematic or content area of the innovation (fourth variable). For this determination we followed the classification given by ENAP, the sponsoring organization of the award. It is believed that these variables provide sufficient information for developing and presenting the profile of innovative experiences in the federal public service of Brazil. The results are presented in the next section and discussed in the light of theory relevant to innovation in public services.

5. RESULTS AND DISCUSSION

It was possible to classify all 323 award-winning experiences in the categories established for the variables adopted for the study. Given the large number of cases, they are not detailed individually here. Some are used, however, to illustrate the analyses that follow.

Study results are presented in tables that, respectively, report the distribution of cases by type (Table 1), extent of impact (Table 2), sector of origin (Table 3), and relationship between the seven thematic areas adopted by ENAP and the four types of innovation defined in the Copenhagen Manual (Table 4).

Type of innovation. Presented below is Table 1 with the frequency distribution of the award-winning experiences according to the kind of innovation.

Almost 42% of the award-winning experiences represent the **organizational** type of innovation. In the terms of the Copenhagen Manual, this type of innovation involves the implementation of significant changes in the way work is

Table 1

Distribution of Winning Cases, According to the Type of Innovation

Type	Frequency	Percentage	Cumulative Percentage
Organizational	135	41.8	41.8
Process	86	26.6	68.4
Communication	57	17.6	86.0
Product	45	14.0	100.0
Total	323	100.0	100.0

Source: Data Source (2013).

organized or an organization is managed. Organizational innovation takes the form of significant changes in management systems, in the workplace or in programs which promote the improvement of learning and innovative capacity. Award-winning examples of this type of innovation include the following: the management of Brazilian tourism offices abroad; the customer service program for the physically handicapped implanted by the Brazilian Post Office; knowledge management and the allocation of human resources in the Central Bank; the new model for management of trade promotion and the Brazil TradeNet of the Ministry of Foreign Affairs; the geo-referenced monitoring and decision-support system of the Office of the President of the Republic; COMPRASNET: the transparency in government procurement site; the system for logistic control of antiretroviral drugs (SICLOM); the development and implementation of the Single Benefits System (SUB) of the National Institute of Social Security; the integrated system of travel expenses for federal employees; and the reduction of postage costs, using postal franchises.

The fact that organizational innovations appear in first place in the classification was surprising, considering the highly formalized structures and work processes that characterize public service. In view of the difficulties of bringing about change in the public service (and innovation involves change or the provocation of change), this finding denotes considerable innovative effort. Analysis of the characteristics of the organizational innovations found in this study reveals that these initiatives result from interactions between individuals and their organizations, contrary to the traditional model of the innovative process, which treats individual agency as the main source of innovation (Osborne & Brown, 2011). In addition, it is noted that organizational innovation is considered to promote learning and the capacity to offer quality services, thus contributing to increased satisfaction on the part of those who use public services (Salazar & Holbrook, 2004).

Process innovations rated second place in the frequency of award-winning initiatives. This kind of innovation, according to the Copenhagen Manual, involves the implementation of a new or significantly improved method of production and provision of products and services. Process innovation also includes significant changes in the methods, equipment, and/or skills intended to improve product or service quality or reduce costs in delivery time. More than a quarter (26.6%) of the initiatives studied were classified as process innovations, of which the following are examples: National Prices Registry (RPN); inspection of excess weight by the Federal Highway Police; provision of birth certificates and basic civil documents by Management Committees for the Social Agenda; a Land Market Monitoring System (SMMT); Educacenso – an online system for conducting the census of schools providing basic education; SIED – the integrated educational information system; the financial management and agreements system (GESCON); Sustainable Public Procurement: a sustainable,

shared purchasing initiative of the Research Institute of the Botanical Garden of Rio de Janeiro.

Analysis of these cases remits us to the necessity of the public sector to provide quality services with fewer resources, improving its performance and capacity to respond to social challenges (Anttiroiko *et al.* 2011). In addition, in this analysis of Brazilian cases, it is possible to perceive a product-service continuum characterized by the absence of a clearly distinguishable line of demarcation between one and the other, as pointed out in the international literature (Djellal *et al.*, 2013; Sundbo, 1997). All cases classified as process innovation display aspects of both product innovation and service innovation and cannot be characterized neatly as one thing or the other (product-service), as traditional classifications seem to affirm. In all of these cases, innovation occurred in the way the service is offered, that is to say, in the definition adopted by the Copenhagen Manual, through improved methods for the creation and provision of products and services (Bloch, 2010). The examples presented here were classified as process innovation because they represent new or significant changes in operational processes and organizational methods.

According to the definition adopted for this study, communication innovation involves the implementation of a new method of promoting the organization or its products and services, as well as new methods for influencing the behavior of individuals or other organizations. This type of innovation made up 17.6% of all award-winning initiatives during the period of interest. Among these were: the public healthcare budgets information system (SIOPS); the system for management of the registry of agreements (SIGECONV); the Ministry of Health's bank of prices practiced by hospitals (BPPH); the e-government program; and the microcredit program called *Crédito Amigo* (Credit Friend).

As was discussed above, communication as a type of innovation was introduced by the Copenhagen Manual and is not contemplated in the other typologies summarized in Figure 1. However, the existence of this type of innovation in Brazil is amply supported by the empirical evidence of this study, revealing itself to be highly relevant in the public sector context. Often in this sector what is needed is no more than to promote existing products and services or actions seeking to influence the behavior of individuals. These promotion activities can take the form of innovative campaigns to raise popular awareness with respect to a particular issue, such as the need for vaccination or for rationing services such as water and energy. In the case of the innovations of the communication type given as examples above, they all also meet the definition of Bloch (2010), who suggests that this type of innovation involves something new in the way an organization communicates with its public and that this may contribute to improving organizational accountability and hence social control.

Finally, in fourth place with 14% of the total of award-winning initiatives, are the product innovations, characterized

as the introduction of a product or service that is new or significantly improved in terms of its characteristics or uses. This category also contemplates significant improvements in client access, ease of use, technical specifications or other functional features that improve the quality and functionality of the product or service offered. Examples of this kind of innovation among the cases studied are: the program for online filing of income tax returns; the firefighters for life program, that initially involved a partnership between the Ministry of Health and firefighters in the Federal District in the collection and maintenance of adequate stocks of human milk in local milk banks; the broadband program to provide internet in public schools; the mini-libraries of *Empresa Brasileira de Pesquisa Agropecuária* [Embrapa] (the Brazilian Agricultural Research Corporation); the citizen-card; the reintegration of a student into the school environment after being discharged from hospital. These findings with respect to product innovation contradict authors, such as Barcet (2010), who argue that the public service only innovates incrementally or with reliance on technology. From the evidence of this research, what seems to exist with respect to innovation in public services is a lack of techniques for analysis and measurement of innovation, as argued by Gallouj (2002) and other authors researching innovation in services. These authors argue that the use of manufacturing sector indicators is inadequate for analysis of innovation in services, in general, and public services, more specifically.

What particularly draws attention to the frequency distribution of award-winning innovation initiatives in the Brazilian public sector is the strong showing of organizational innovation, and the fact that it appears in first place rather than process innovation. In part, this result is a consequence of the classification scheme adopted for the study, which permits differentiating process innovation, characterized as a change in the method of creating or delivering of services, and organizational innovation, characterized as changes in the organizational structures in which the service is managed and offered.

Scope. Table 2, below, analyzes the frequency distribution of the scope and potential impact (from local to international) of the innovations studied.

As can be observed with respect to the scope of the award-winning innovations, those with repercussions at the national level accounted for almost 52% of all experiences. In second place were innovations at the local level (30.65%), followed by state experiences (8.05%). This distribution can be explained by the fact that the competition is oriented to organizations of the federal government. Nonetheless, these organizations may have a purely local or regional scope, the case of a federal university hospital, for example. The significant presence of experiences with local impact in comparison with impact at the state level can be explained by the fact that many federal government organizations have their actions disseminated

Table 2

Distribution of Award-Winning Cases, According to the Scope of Impact

Scope	Total	Percentage
National	167	51.70
Local	99	30.65
State	26	8.05
Regional	23	7.12
International	8	2.48
Total	323	100.00

Source: Data Source (2013).

only at the local level. Another likely explanation is the fact that a characteristic of the Brazilian federal structure since the promulgation of the 1988 Brazilian Constitution introduced considerable decentralization and thus many public policies are formulated at the national level but implemented at the local level.

The fact that almost 52% of cases are national in scope can be viewed positively because this may facilitate the spread of these innovations to other organs, given the government's interest in promoting the dissemination of success stories to the whole of the federal administration. Diffusion of innovations constitutes a possible threat to private sector organizations, given the ease of copying innovations in services (Gallouj & Savona, 2010) and thus may be seen as undesirable; but in the public sector it may represent an important driver of further innovation, considering that the diffusion of award-winning innovations is in the interest of the government, as specified in the very objectives of the competition (ENAP, 2014).

Sectoral area of origin. Table 3 organizes the frequency of cases according to the area or sector of government where the innovation originated.

It is important to note that the area indicated in Table 3 refers to the sectoral area of the origin of the innovation and not to the content of that innovation. This table reveals the preponderance of the areas of health and education, which together account for 32.82% of award-winning initiatives. This result may reflect the size of these areas, but could also be indicative of initiatives by the people who work in these sectors in response to the growing and complex demands of their users. Both health and education are areas that require intense interaction between the providers and users of public services. Other factors which may help explain the prominence of these two areas are their capillarity, that is, the ubiquity of the physical presence of units for the provision of health and education services, and the great volume of professionals allocated to these services.

Table 3

Distribution of Cases According to Their Sectoral Area of Origin

Area	Cases	Percentage	Cumulative Percentage
Health	59	18.27	18.27
Education	47	14.55	32.82
Social Security	36	11.15	43.96
Finance	33	10.22	54.18
Economy	29	8.98	63.16
Management	26	8.05	71.21
Communication	19	5.88	77.09
Justice	12	3.72	80.80
Agriculture	11	3.41	84.21
Defense	11	3.41	87.62
Energy	10	3.10	90.71
Environment	7	2.17	92.88
Agricultural Development	6	1.86	94.74
Social Welfare	5	1.55	96.28
Transport	4	1.24	97.52
Labor and Employment	3	0.93	98.45
Culture	2	0.62	99.07
Foreign Affairs	2	0.62	99.69
Tourism	1	0.31	100.00
Total	323	100.00	

Source: Data Source (2013).

These results also reveal that innovations in public service are not restricted to the areas of technology or management, as some have assumed, and that core areas having high service provider-service user interaction may be more challenged to develop innovation.

The frequencies observed in Table 3 provide an overview of the innovative profile of the major areas of the Brazilian federal government permitting innovation researchers to more easily identify the areas offering greater possibilities for experiences to be investigated. As already pointed out, the sum of the health and education areas account for nearly one-third of the award-winning innovations and permit the inference that the areas of greatest user interaction produce the largest number of innovations, a result that finds theoretical support in studies on innovation in services (Djellal *et al.*, 2013.), social innovation (Novy & Leubolt, 2005) and the coproduction of public services (Bovaird, 2007; Joshi & Moore, 2004).

Cross-analysis of thematic area and type of innovation.

The results of the analysis of the relationship between the

thematic or content areas used by ENAP and the types of innovation are presented in Table 4.

Nearly a quarter (22.29%) of the award-winning innovations have citizen service as their objective. The largest absolute number of these initiatives (30) and also the highest proportional incidence (30 of 86, or 34%) involved process innovation. Product innovation responded for 33% (15 in 45) of citizen service initiatives and communication innovation was observed in 31% (18 of 57). The incidence of organizational innovation in this thematic area was quite low, both in terms of the number of cases (9) and the proportion of cases (less than 7%).

Closely behind citizen service we find experiences classified as improvement of work processes (21.05%). In this category, organizational innovation makes a strong showing, unlike the previous category. Following upon improvement of work processes, we find the thematic areas of planning, management and institutional performance (17.96%) and institutional arrangements for coordination and/or implementation of public policies with 15.79%.

Table 4

Relationship Between Thematic Areas and Types of Innovation

Thematic Area	Type				Total	Percentage
	Communication	Organizational	Process	Product		
Citizen service	18	9	30	15	72	22.29
Improvement of work processes	4	37	20	7	68	21.05
Planning, management and institutional performance	1	49	6	2	58	17.96
Institutional arrangements for coordination and/or implementation of public policies	11	10	19	11	51	15.79
Information management	6	13	8	8	35	10.83
Management and development of people	13	16	0	2	31	9.60
Evaluation and monitoring of public policies	4	1	3	0	8	2.48
Total	57	135	86	45	323	100.00

Source: Data Source (2013).

The fact that citizen services has the highest occurrence in the history of the award is auspicious, highlighting public sector concern for improving the delivery of services to citizens (Salazar & Holbrook, 2004), its primary function. This result can also be explained by the theory of innovation in services which postulates that co-production or the service relationship is one of the main features of service provision (Djellal *et al.*, 2013; Gallouj & Weinstein, 1997). Our findings suggest that public servants are aware of the importance of this service relationship with the public.

The second-placed thematic area, the improvement of work processes, seems logically related to and supportive of the improvement of citizen services. In other words, taking the first two categories together, almost half of the award-winning innovations had the objective of improving service delivery to society. It is possible that these results reflect the characteristics of the innovating organizations rather than the guidelines established for the award process. However, the reason for these results deserves more profound investigation, which is beyond the scope of this work.

Summary of results. A summary of the principal research findings and their implications is presented in Figure 3.

6. FINAL CONSIDERATIONS

From the systematization and analysis of the data on the awards granted in the 16 editions of the competition on Innovation in Federal Public Management sponsored by ENAP, it is now possible to answer the research questions posed at the beginning of this article: What are the types, scope and areas

in which innovation initiatives are occurring in the public sector? What are the implications of this for the development of theory in the area?

To begin with, we draw attention to the adequacy of the theoretical model used in the study to characterize the kind of innovation that took place – the typology of the Copenhagen Manual, developed specifically to analyze innovations in the public sector. Every one of the 323 cases of innovation analyzed fit into one of the types proposed by this model.

Several surprises emerged from the analysis of **type of innovation**. One was the first-place standing achieved by organizational innovation (characterized by significant changes in the way work is organized or the organization is managed), when the expectation was that the vast majority of initiatives would be of the process innovation type. Process innovation is characterized by changes in the way of carrying out a service or in the procedures for service delivery, which – not involving significant changes in organizational structure – seemingly would be easier to implement. Process innovation rated a distant second place.

A big question-mark, prior to undertaking this research, was with respect to innovation of the communication type. This type, as has been pointed out, appears only in the typology of the Copenhagen Manual that was developed specifically to deal with innovation in the public sector. The findings of this study provide empirical evidence not only of the existence of this type of innovation in the public sector but of its importance. It ranked in third place, not far behind process innovation. The characterization of many cases as communication innovation in this study, a type of innovation omitted in most typologies,

Categories	Results	Implications
Type, as defined by the Copenhagen Manual	<p>41.8% organizational innovation</p> <p>26.6% process innovation</p> <p>17.6% communication innovation</p> <p>14.0% product innovation</p>	<p>The innovation in these cases resulted from interactions between individuals and their organizations, unlike the traditional model of the innovation process which treats individual agency as the main source of innovation (Osborne & Brown, 2011). Organizational innovation can promote learning and innovative capacity to offer quality services. (Salazar & Holbrook, 2004).</p> <p>A product-service continuum was observed in which no clear boundary is distinguishable between the two, corroborating the arguments of Djellal <i>et al.</i> (2013) and Sundbo (1997).</p> <p>The number of cases of communication innovation observed provide empirical evidence of the existence of this kind of innovation, defined as something new in the way the organization communicates with its public. This type of innovation, according to Bloch (2010) can contribute to the improvement of organizational accountability and hence social control.</p> <p>Study findings contradict authors like Barcet (2010), who argue that the public services only innovate incrementally or with the use of technology, and provide support for the view of Gallouj (2002) that there is a lack of techniques adequate for the analysis and measurement of the innovation taking place in public services.</p>
Scope	<p>52.0% nation-wide repercussions</p> <p>30.7% local repercussions</p> <p>8.0% state-wide repercussions</p>	<p>The high incidence of impact at the national level is positive and expected since the competition is conducted in the federal public administration. Given the ease of copying innovations in services (Gallouj & Savona, 2010), this level of diffusion might pose a threat to private sector organizations, but in the public sector it may represent an important driver, given that the diffusion of award-winning innovations is in the interest of the government, as specified in the very objectives of the Award (ENAP, 2014) and pointed out by Nassuno (2007) and Vargas (2010).</p>
Sector of origin	<p>Health and education together represent 32.82% of award-winning cases, nearly a third of the total.</p>	<p>The areas of the greatest user interaction are the very ones that produce the largest number of innovations, as found previously in studies on innovation in services (Djellal <i>et al.</i>, 2013), social innovation (Novy & Leubolt, 2005) and the co-production of public services (Bovaird, 2007; Joshi & Moore, 2004).</p>
Thematic Area x Type	<p>22.3% of awards went to “citizen service”. The highest absolute number of awards in this thematic area involved process innovation (30 cases).</p> <p>21.0% of awards were for the “improvement of work processes”. In this category, organizational innovation responded for the greater number of awards.</p>	<p>The strong showing of innovation in “citizen service” seems indicative of the concern of the public sector with improvement of the delivery of services to citizens, as argued by Salazar and Holbrook (2004), a characteristic also found by Borins (2001) with respect to the provision of alternative services. This finding is also coherent with the theory of innovation in services which points to co-production or the service relationship as one of the main characteristics of service provision (Djellal <i>et al.</i>, 2013; Gallouj & Weinstein, 1997).</p>

Figure 3: Summary of Findings and Discussion

Source: Data Source (2013).

serves to illustrate that what may be lacking in the public sector is not innovation but analytical tools appropriate for identifying and measuring the kinds of innovation taking place. We hope this finding encourages the development of analytical models and tools more appropriate to the reality of the public service sector.

Finally, even though ranked last place in terms of frequency is product innovation, responding for a respectable 14% of the total. This finding draws attention to the observations of previous research on innovation in services that point to the non-existence of a clear boundary in the product-service relationship and the fact that this tends to obscure the product innovation that takes place in services. (See, for example, Djellal *et al.*, 2013, and Sundbo, 1997).

Overall, our results suggest that there is not so much a lack of innovation in the public service as a lack of adequate theories to explain such innovation and of methods and metrics to measure it. Our findings provide strong support for the view that public services innovation does exist, but that its characteristics, determinants and consequences are not the same as they are for either innovation in industry or innovation in services in the private sector. This point is further developed in the considerations with respect to the scope of the award-winning innovations that follow.

Findings on the **scope of innovation** revealed a high incidence of innovation having nation-wide repercussions. This was expected given the fact that the contest is sponsored by an organ of the federal government with the objective of rewarding innovation in the federal public administration. However, a significant number of innovations were found to have their repercussions at the local level. This can probably be explained because many actions of the federal government are executed at the local level, as is the case with respect to social security offices, for example, or hospitals linked to federal universities. The fact that there is innovation by local organizations of the federal government suggests that innovation initiatives may also be occurring in the state and municipal spheres of government in the provision of services under their respective responsibilities. It is therefore recommended that future research also contemplate the innovation of subnational governmental organizations.

Also relevant to the question of scope, as previously mentioned, is the facility with which innovations can be copied and disseminated. While this characteristic poses a threat to private sector organizations – to those dealing in products and even more so to those dealing services, where innovations are more readily imitated – it seems, rather, to represent an important driver in the public sector. This points to the existence of theoretically relevant differences in the determinants and consequences of innovation and of the diffusion of innovation. Thus, it is strongly recommended that future studies seek to deepen the understanding of these differences.

The distribution of innovations in the major **sectoral areas** of the federal government reveal the areas at the forefront

of public service innovation, as well as those where greater investment in innovation efforts might be merited. As has been seen, the areas of health and education together account for almost a third of innovative initiatives, and the two are characterized by intense interaction between service providers and service users. The evidence is thus quite strong that innovations in public service are not confined to the support areas of technology and management, as might have been supposed. There is a significant presence of innovations in core areas.

Therefore, contrary to the doubts of some researchers regarding the public sector's capacity for innovation, it can be stated, on an empirical basis, that innovation is, indeed, taking place in this sector. Doubts in this regard may result from the lack of understanding of what innovation means in the public sector, as suggested by Osborne and Brown (2011) and Sørensen and Torfing (2012), or from the lack of an innovation theory for the public sector; but such doubts cannot be sustained in the face of the empirical data. Evidence of public sector innovation is provided by the large number of experiences that competed in the Innovation in Federal Public Management contest in the 16 years analyzed and the number of award-winning cases (323), all of which could be characterized as innovation based on the definitions used in the study.

A second general inference permitted by confrontation of the data with the theory is that innovation in the public sector is not necessarily incremental in nature, as some argue. This suggests the need for conducting research specifically focused on this question.

Finally, the evidence of this study suggests that the characteristics, determinants and consequences of innovation in the public sector differ not only from industrial innovation, but from innovation in services in the private sector, as well. There is a need for theory development specific to public sector innovation and for the development of methods and metrics appropriate for its measurement, in order to help researchers understand this phenomenon and to help managers and policy makers understand and deal with it. Such theoretical and methodological development would require, among other things, the mapping of competencies specific to the public service, because the existing indicators for innovation in industry and even the vectors of the competencies developed in the model of innovation in services do not adequately capture the complexity and singularity surrounding delivery of public services.

As a limitation of this study, it is observed that the experiences analyzed took place at different times and may have suffered differential impacts in terms of the use of technologies or influence of policy priorities, among others. The research design did not permit taking these possible differences into consideration. It would, therefore, be desirable in the future to undertake research that would permit an understanding of the reasons for the results obtained here. ♦

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ABSTRACT

Portraying innovation in the public service of Brazil: Frameworks, systematization and characterization

Innovation is essential for improving organizational performance in both the private and public sectors. This article describes and analyzes the 323 innovation experiences of the Brazilian federal public service that received prizes during the 16 annual competitions (from 1995 to 2012) of the Award for Innovation in Federal Public Management held by the Brazilian National School of Public Administration (ENAP). It is a qualitative and quantitative study in which were employed as categories for analysis the four types of innovation defined in the Copenhagen Manual: product, process, organizational and communication. The survey results allow us to affirm that there is innovation in the public sector, in spite of the skepticism of some researchers and the incipient state of theoretical research on the subject. It was possible to observe that organizational innovation was the one with the highest number of award-winning experience, followed respectively by process, communication and product innovation, with citizen services and improvement of work processes being the main highlights. The results showed that, although the high incidence of innovation occurs at the national level, a significant number of innovations also occur at the local level, probably because many organizations of the federal government have their actions spread only at this level of government. Concerning the innovative area, health and education predominate, with almost 33% of initiatives, which can be explained by capillarity of these areas and the fact that both maintain a strong interaction with the user. The contributions of this work include the use of theoretical model of innovation analysis in the public sector in Brazil still upcoming, and the systematization of knowledge in empirical basis for this innovation. In this sense, it also contributes to the development of the theory with the presentation of evidence that the characteristics, determinants and consequences of innovation in the public sector differ not only from innovation in the industry, but also from innovation in services in the private sector.

Keywords: innovation, public administration, innovation award.

RESUMEN

La innovación en el servicio público en Brasil: modelos de análisis, sistematización y caracterización

La innovación es la clave para mejorar el desempeño de las organizaciones, tanto en el sector privado como en el sector público. En este trabajo se describen y analizan las 323 experiencias de innovación en el servicio público federal en Brasil premiadas en las 16 ediciones (de 1995 a 2012) del concurso Innovación en la Gestión Pública Federal, patrocinado por la Escola Nacional de Administração Pública (ENAP). Se trata de un estudio cuali-cuantitativo en que se utilizan como categorías de análisis los cuatro tipos de innovación definidos en el Manual de Copenhague: producto, proceso, organizacional y comunicación. Los resultados permiten afirmar que sí existe

RESUMEN

innovación en el sector público, a pesar del escepticismo de algunos investigadores y el incipiente estado de investigación teórica sobre el tema. La innovación organizacional aparece en la mayor cantidad de experiencias premiadas, seguida por las innovaciones en proceso, comunicación y producto. Los servicios de atención a los ciudadanos y la mejora de los procesos de trabajo son los elementos más destacados. Los resultados muestran que, aunque la alta incidencia de las innovaciones se produzca a nivel nacional, un número significativo de innovaciones también se produce a nivel local, probablemente debido a que muchas organizaciones del gobierno federal hayan difundido sus acciones sólo en este nivel de gobierno. En cuanto al área innovadora, salud y educación predominan con casi el 33% de las iniciativas, lo que puede explicarse en razón de la capilaridad de las áreas y el hecho de que ambas mantienen una fuerte interacción con el usuario. Las contribuciones de este trabajo incluyen la utilización de un modelo teórico de análisis de innovaciones en el sector público todavía inédito en Brasil y la sistematización del conocimiento en base empírica sobre esta innovación. En este sentido, contribuye asimismo al desarrollo de la teoría, mediante la presentación de evidencias de que las características, los factores determinantes y las consecuencias de la innovación en el sector público son diferentes de aquellos que se observan no sólo en la innovación en la industria, sino también en la innovación en servicios en el sector privado.

Palabras clave: innovación, administración pública, premio a la innovación.

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Sousa, M. de M., Ferreira, V. da R. S., Najberg, E., & Medeiros, J. J. (2015, outubro/novembro/dezembro). Portraying innovation in the public service of Brazil: Frameworks, systematization and characterization. *Revista de Administração [RAUSP]*, 50(4), 460-476. doi: 10.5700/rausp1213