



**DISCLOSURE OF THE FIELD PERFORMANCE EVALUATION IN THE PUBLIC  
SECTOR IN INTERNATIONAL JOURNALS**

**EVIDENCIAÇÃO DO TEMA AVALIAÇÃO DE DESEMPENHO NO SETOR  
PÚBLICO EM PERIÓDICOS INTERNACIONAIS**

**EVIDENCIACIÓN DE LA EVALUACIÓN DEL DESEMPEÑO EN EL SECTOR  
PÚBLICO EN REVISTAS INTERNACIONALES**

**DOI:** <http://dx.doi.org/10.18028/2238-5320/rgfc.v5n3p75-99>

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**ABSTRACT**

Public organizations are under pressure to provide more and better services by increasing transparency in public management and therefore the monitoring of its results. In this sense, performance evaluation is presented as a tool that can contribute to the prioritization of projects and a better public resources allocation. In order to elicitate the knowledge on the topic of performance evaluation in the public sector, this paper presents a process for selecting the most outstanding articles and through this process, we analyze the quantitative parameters of the relevant articles on the topic. The process led to the selection of a bibliographic

Recebido em 19.12.2014. Revisado por pares em 13.02.2015. Reformulações em 25.02.2015 e 23.04.2015. Recomendado para publicação em 30.04.2015. Publicado em 06.07.2015.



portfolio on the subject in international journals and to the conducting of a bibliometric analysis highlighting journals, articles, prominent authors and keywords on the topic.

**Keywords:** Bibliometrics. Performance evaluation. Public Sector. ProKnow-C.

## RESUMO

As organizações públicas estão sendo pressionadas para a prestação de mais e melhores serviços, por meio da ampliação da transparência na gestão pública e, portanto, do acompanhamento de seus resultados. Nesse sentido, a avaliação de desempenho apresenta-se como ferramenta que pode contribuir para a priorização de projetos e, conseqüentemente, uma melhor alocação de recursos públicos. Com o intuito de difundir o conhecimento sobre o tema Avaliação de Desempenho no Setor Público, o presente estudo visa à apresentação de um processo para selecionar os artigos mais destacados e analisar os parâmetros quantitativos dos artigos relevantes sobre o tema, para as delimitações postas pelos pesquisadores. O processo possibilitou a seleção de um Portfólio Bibliográfico sobre o tema em periódicos internacionais e a realização de uma análise bibliométrica desse portfólio bibliográfico que permitiu evidenciar periódicos, artigos, autores e palavras-chave de destaque para o tema.

**Palavras-chave:** Bibliometria. Avaliação de Desempenho. Setor Público. ProKnow-C.

## RESUMEN

Las organizaciones públicas están bajo presión para ofrecer más y mejores servicios, mediante el aumento de la transparencia en la administración pública y, por lo tanto, el seguimiento de sus resultados. En este sentido, la evaluación del desempeño se presenta como una herramienta que puede contribuir a la priorización de los proyectos y, en consecuencia, una mejor asignación de los recursos públicos. Con el fin de difundir el conocimiento sobre el tema de la Evaluación de Desempeño en el Sector Público, este estudio tiene como objetivo presentar un proceso para seleccionar los más destacados artículos y analizar los parámetros cuantitativos de los artículos pertinentes sobre el tema, a las fronteras impuestas por los investigadores. El proceso llevó a la selección de una biblioteca de la cartera sobre el tema en revistas internacionales y la realización de un análisis bibliométrico de la cartera bibliográfico que ha puesto de relieve las revistas, artículos, autores y palabras clave más destacados en el tema.

**Keywords:** Bibliometria. Evaluación de Desempeño. Sector Público. ProKnow-C.

## 1. INTRODUCTION

Public Administration is currently experiencing pressure to provide more and better services, through immediate solutions to urgent problems (MOTTA, 2013). In Brazil, starting in the 1930s, several reforms were sought in the administrative apparatus with a view to eradicate the observed inadequacy in public activity in the country, due to the use of public property for private parties', officials', and rulers' interests (FILGUEIRAS, 2009). In that decade, the first reform of the Brazilian public administration was established, seeking to

transition from patrimonial to bureaucratic public administration management (BRESSER-PEREIRA, 1996).

Despite the recent Brazilian political developments, democratic institutions are still subject to extensive and continuing distrust from Brazilian citizens (MOISÉS, 2005). In this sense, the proposed model of efficiency with a bureaucratic administration has not proven true because it has not resulted in faster quality or lower cost for the services provided (BRESSER-PEREIRA, 1996).

For these reasons, particularly in the last two decades, Brazilian society has demanded of public managers the best possible use of public resources, as well as an entrepreneurial role of the state in innovation and, in particular, with regard to the adoption of new management tools. Citizens expect of public administration a focused action for them as customers and that the administration be focused on results. Citizens yearn for a public administration guided by transparency and accountability by the public officials (VIANA DE SOUZA *et al.*, 2013), with the consequent adoption of optimized efficiency and efficacy. In this sense, they have advocated the adoption of a management culture for the Public Administration without giving up the safety and effectiveness inherent in public administration bureaucratic (BRESSER-PEREIRA, 1996).

In this context in Brazil, the evaluation of public management has been understood as an essential condition for the success of the administrative reform in the different spheres of government (CATELLI, 2004). Some researchers noticed that the desired quality for the public service can be achieved through citizens' involvement with public institutions, as well as through monitoring the performance of the government and public authorities (MOISÉS, 2010).

Faced with the recent history of innovation in the Brazilian public management and with the current social climate that demands public transparent management, results and the use of innovative management methods, the update on management tools used in the public sector and the search for suitable sources can be understood as inherent to public action today. This scenario served as motivation for us, the authors of this research on the topic of "Performance Evaluation in the Public Sector", to disseminate the results to the scientific community and to provide a method of investigating and identifying information about the research topic.

This gives rise to the following research question: how do we seek and identify necessary and relevant information on "Performance Evaluation in the Public Sector" based

on researchers' boundaries and interests when they have limited knowledge on the subject they want to research? For the present study, we present the hypothesis that the application of the methodology called "ProKnow-C" would enable the realization of a bibliometric analysis, parallel to the development of knowledge on the subject researched, considering aspects relevant to such researchers.

In this sense, we had as a general objective to present an answer to the research question, to demonstrate a process through which researchers can select relevant articles on the topic of performance evaluation in the public sector and to this bibliographic portfolio. Another of our objectives was to perform a structured and progressive bibliometric analysis in international literature. Using this process, we have sought to form a bibliographic portfolio on the subject, given our own boundaries, as researchers.

To this aim, we also propose the following objectives: i) the construction of a bibliographical portfolio aligned with the theme of "Performance Evaluation in the Public Sector"; and ii) to carry out a bibliometric study of the bibliographic portfolio selected with a view to analysis and identification of articles, authors and prominent journals as well as the presentation of recurring key words to the topic of research. The intention is also, by applying the proposed process knowledge, to identify possible opportunities for future scientific research.

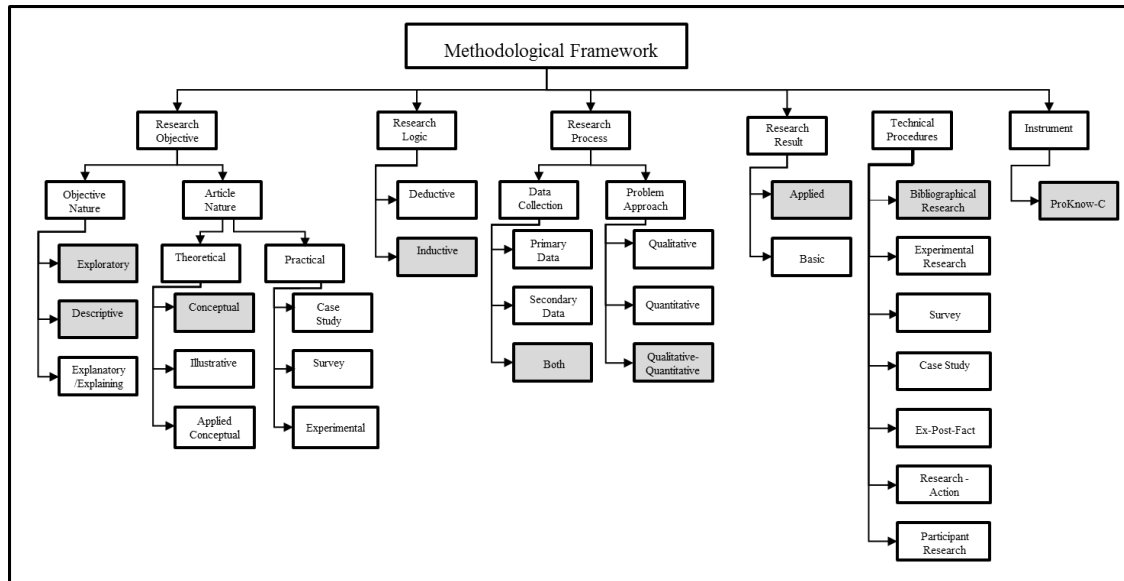
To achieve these objectives, we used the tool called Knowledge Process Development--Constructivist (ProKnow-C) (ENSSLIN; ENSSLIN; PACHECO, 2012; LACERDA; ENSSLIN; ENSSLIN, 2012; ENSSLIN; ENSSLIN; PINTO, 2013; LACERDA; ENSSLIN; ENSSLIN, 2014; KEYS; ENSSLIN; ENSSLIN, 2012), seeking to build knowledge in the researchers about the topic of their interests.

After this brief introduction, in the second section we present the methodology adopted; in the third section, we present the results; in the fourth section, the final considerations; and, finally, the references used during the study.

## **2. METHODOLOGY**

### **2.1 Methodological Framework**

The methodological framework treated in this work, as shown in Figure 1 and in the subsequent text, is intended to clarify aspects of research, such as the nature, logic, the form of data collection, the approach and the type of research.



**Figure 1** - Methodological Framework structure

Source: Tasca et al (2010).

This research is exploratory and descriptive. It is exploratory because, through research on a specific topic, we intend to provide knowledge about something still not widely known and to promote reflection on this theme (RICHARDSON, 1999). Similarly, the research is descriptive because we attempt to describe characteristics related to the phenomenon studied (TRIVIÑOS, 2011).

The nature of this research is theoretical and illustrative. The study is theoretical in that it has the purpose of guiding the operation of ProKnow-C as needed for the selection of a relevant bibliographic portfolio and aligned with the theme of performance evaluation in the public sector, so that other researchers can make use of this instrument for their research (ALAVI & CARLSON, 1992). The logic of the research is inductive, as part of specific findings to develop generalizations (LAKATOS & MARCONI, 1997).

About the data collection, the research was carried out through collection of primary and secondary data. It was considered primary data because the researchers put boundaries to the process of selection of articles and publications used to form bibliographic portfolio. It was considered secondary data, because the articles were selected in national and international journals related to the topic searched.

We adopted a quantitative problem to approach the analysis of journals, articles, authors and keywords, using statistical operations. The approach was a qualitative process, and we chose boundaries to identify the bibliographic portfolio and references (Richardson, 2008).

This is applied research because the knowledge gained is able to be used to achieve the proposed specific goals (RICHARDSON, 2008). Moreover, we carried it out through using analytical tools for research, and we used methods that are understood to be used in systematic studies and that were developed based on material published in books, journals and electronic media (VERGARA, 1998).

## **2.2 Intervention tool**

The intervention tool used was the ProKnow-C (ENSSLIN, ENSSLIN, & PACHECO, 2012; LACERDA, ENSSLIN, & ENSSLIN, 2012; ENSSLIN, ENSSLIN, & PINTO, 2013; LACERDA, ENSSLIN, ENSSLIN, & 2014; KEYS, ENSSLIN, & ENSSLIN, 2012). This process was set in order through a structured and gradual bibliometric analysis, to enable the construction of knowledge in researchers on a particular research topic, taking into account relevant aspects for such, arising from their goals and boundaries, according to the constructivist point of view.

The application of the ProKnow-C process comprises selecting a bibliographic portfolio that is relevant and aligned with the researched theme, depending on the perception of the interested researchers as well as on the bibliometric analysis of the selected articles. This process is divided into two main stages, namely: (a) the composition of a bibliographic portfolio and (b) the carrying out of the bibliometric analysis of this literature portfolio. For the composition of the portfolio of literature, ProKnow-C requires the researchers' participation by defining the boundaries for the research, with the consequent recurring analysis of the research topic and the structuring of information. Through a structured process proposed for different database filtering initially found, the method allows researchers to do the following: to identify their research problem and the relevance; to analyse how the researchers deal with the problems in this area; to recognize the keywords used by other researchers to approach the subject; to develop an understanding of the scientific relevance of the subject studied and the intensity with which the related papers are used; to acquire a set of articles with academic representation and that are aligned with the theme according to the worldview that the respective authors adopted; to develop an understanding of authors, journals, databases and keywords that stand out on the subject. The development process will be presented with the results of this research in Section 3.

### 3. RESULTS

In this section, we analyze the research results and how to select papers for the theme of performance evaluation in the public sector, performed according to the method prescribed by ProKnow-C. Thus, we will demonstrate the process for the construction of a bibliographic portfolio with scientific recognition and alignment to the theme, according to our perception, as the researchers, in this case. This process is divided into two stages, which will be analyzed, and are called as follows: (a) the composition of a bibliographic portfolio and (b) the carrying out of a bibliometric analysis of this literature portfolio.

#### 3.1 Bibliographic Portfolio

The step of the bibliographic portfolio composition is also divided into two major phases, corresponding to the following: (i) the gross selection of articles; and (ii) the filtering of the relevant articles.

##### 3.1.1 Gross Selection of Articles

For the gross selection step, ProKnow-C provides three sub-stages, characterized thus: (i) define keywords; (ii) define databases; and (iii) seek articles in the databases with keywords.

To do this, researchers must define a set of key words concerning the subject they want to investigate. As a starting point for this research, we chose two lines of research, as initially proposed: Axis 1: Performance Evaluation; and Axis 2: Public Administration.

For Axis 1, Performance Evaluation, we entered two sets of key words, namely “performance measurement” and “performance evaluation”. For Axis 2, Public Administration, we defined four key word groups: "government", "Public administration", "Public management", and "public sector". Each key word group of Axis 1 was combined with the words of Axis 2, resulting in eight combinations of keywords, as illustrated in the table below:

- P1: Topic = (“performance measurement”) AND Topic = (“government”)
- P2: Topic = (“performance measurement”) AND Topic = (“public administration”)
- P3: Topic = (“performance measurement”) AND Topic = (“public management”)
- P4: Topic = (“performance measurement”) AND Topic = (“public sector”)
- P5: Topic = (“performance evaluation”) AND Topic = (“government”)

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|   |
|---|
| P6: Topic = (“performance evaluation”) AND Topic = (“public administration) |
| P7: Topic = (“performance evaluation”) AND Topic = (“public management”)    |
| P8: Topic = (“performance evaluation”) AND Topic = (“public sector”)        |

**Table 1** - Definition of the keywords of the research

Source: Research data, 2014

The eight combinations of keywords selected were investigated in two databases: *Web of Science* and *Scopus*. These databases were chosen because of their representation about their journal impact factors: JCR (*Journal Citation Report*) and the SJR (*Scientific Journal Rankings*), respectively.

The research in the above databases was performed according to the boundaries we placed and correspond to the following: (i) Document-type articles (*Journal Articles*); (ii) Publication time: within the last 10 years, thus 2003 through 2013. We justified the adoption of such limits in order to ensure the following: (i) that scientific production has been assessed by persons qualified to do so and (ii) that the articles are current.

The searching based on the eight combinations of keywords for articles published between 2003 and 2013, as described above, resulted in a gross total of 1,634 articles. Of these, we chose three papers based on our own perception, as the researchers in this case, and based on the titles and the abstracts. These articles were in line with the proposed research topic.

Key words were analysed as highlighted in the three articles selected, in view of six of the key word groups that we first designated. From this analysis, we decided we needed to incorporate a new key word group in Axis 1: "performance assessment".

Adopting another keyword to Axis 1 generated over four combinations of key words, as follows:

|  |
|--|
| P9: Topic = (“performance assessment”) AND Topic = (“government”)            |
| P10: Topic = (“performance assessment”) AND Topic = (“public administration) |
| P11: Topic = (“performance assessment”) AND Topic = (“public management”)    |
| P12: Topic = (“performance assessment”) AND Topic = (“public sector)         |

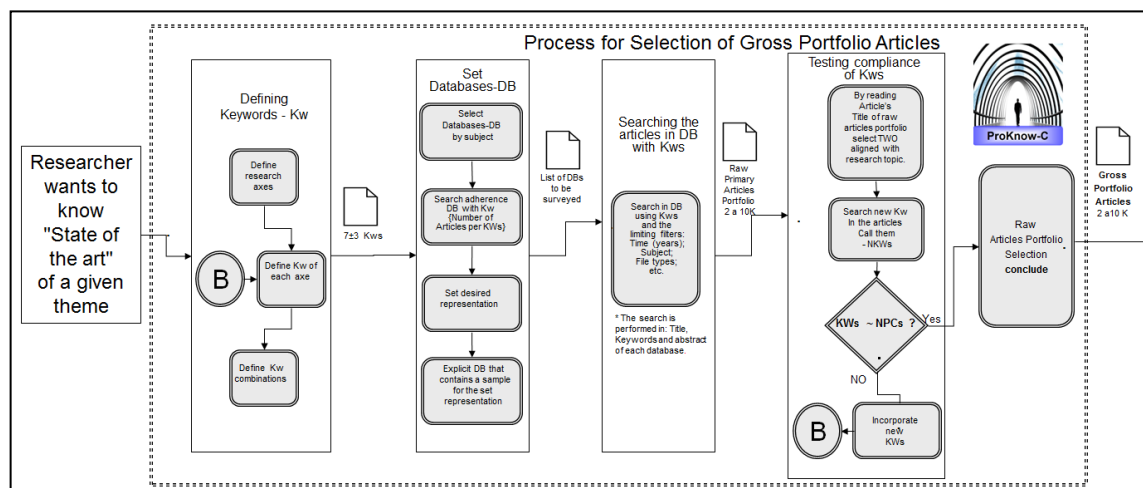
**Table 2** - Incorporation of new keyword

Source: Research data, 2014



As a result of the new combinations of key words shown above, 837 articles were added to the 1,634 gross number of articles found preliminarily, totaling 2,471 articles to form the gross set of papers.

In April 2015, as an update of the studies, additional research was conducted using the 12 combinations of key words initially proposed in the databases *Web of Science* and *Scopus*, by which we found 335 new articles on the topic. The process carried out to this point is illustrated in Figure 2.



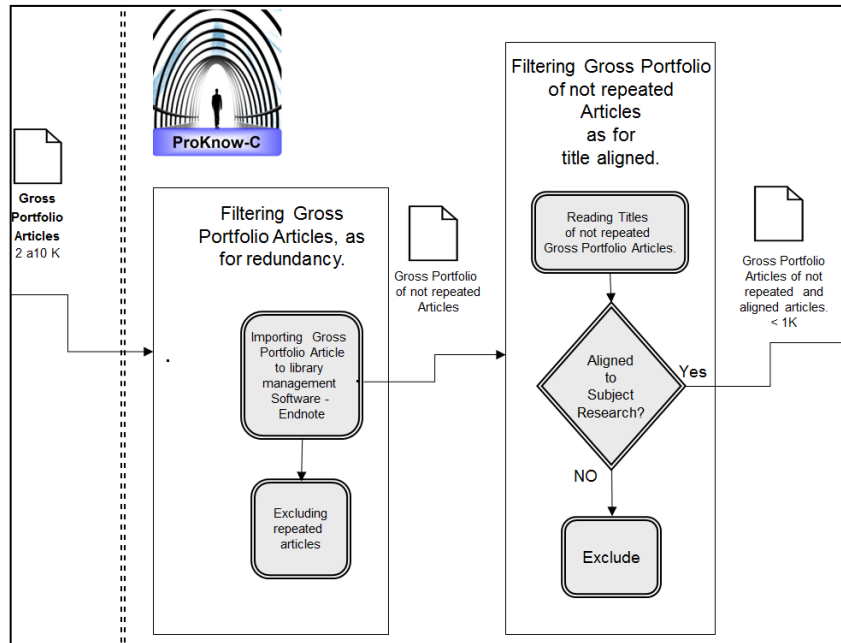
**Figure 2** - Gross Selection of Articles

Source: Tasca et al. (2010)

In this step, there is a wide range of articles to undergo sequential filters, which are explained and detailed in subsequent sections.

### 3.1.2 Filtering Gross Selection of Articles

The filtering stage of the gross selection also included some steps that resulted in the assessment of the references based on the following aspects: (i) if the articles were not repeated (redundancy); (ii) if the titles of the articles were aligned with the research theme; (iii) if the articles had scientific recognition; (i) summaries of the articles were aligned with the research theme; and (v) the full text of the articles were aligned with the research theme (Ensslin, Ensslin, & Pacheco, 2012).



**Figure 3** - Bank of Articles Filtering

Source: Adapted from Ensslin; Ensslin; Pinto, 2013.

In order to enable the management of the bank of 2,471 articles published from 2003 to 2013, we imported them into EndNote X5 software, which made it possible to exclude 889 of the articles, as the program identified these as repeated references.

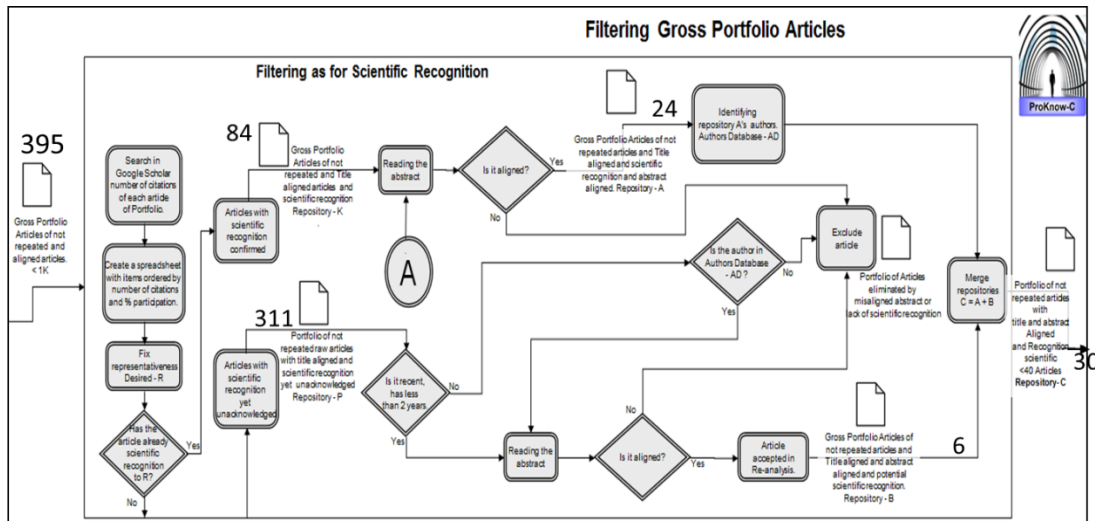
The portfolio of papers without repeats had 1,582 references.

Then, we proceeded to read the titles of these articles in order to check the alignment to the research topics. This reading resulted in the exclusion of 1,187 articles that were not aligned with the subject. This exclusion left 395 articles to be analyzed later.

We then attempted to examine the scientific literature for the time since we collected the 395 references. In order to standardize the results, we used Google Scholar (2013) to establish the classification of the abovementioned references, in descending order, based on the number of citations obtained by each article. The research was conducted in November 2013.

In order to facilitate the sorting of the papers that had greater scientific knowledge, we adopted the Pareto Principle as a rule for selecting papers from the database references. The Pareto Principle was first suggested by Juran (1997), who wrote that, in general, 80% of consequences are derived from 20% of causes. The implications for our research are that 80% of all of the citations found through Google Scholar represent the majority of the scientific recognition, in relation to the totality of articles selected so far, not including the repetitions and those not aligned with the research based on their titles. The results obtained showed that

84 articles had 80.89% of the total of 7,619 citations. These 84 articles, each with at least 22 citations in Google Scholar, came to be the repository “K – papers”, not counting repetitions or those with titles not aligned with our purposes. The remaining 311 articles, whose citations were less than 20% of the total citations, were included in the repository “P – papers”, but we still left them to be subject to later re-examination.



**Figure 4** - Gross Bank Filter articles on the scientific recognition

Source: Adapted from Ensslin; Ensslin; Pinto, 2013.

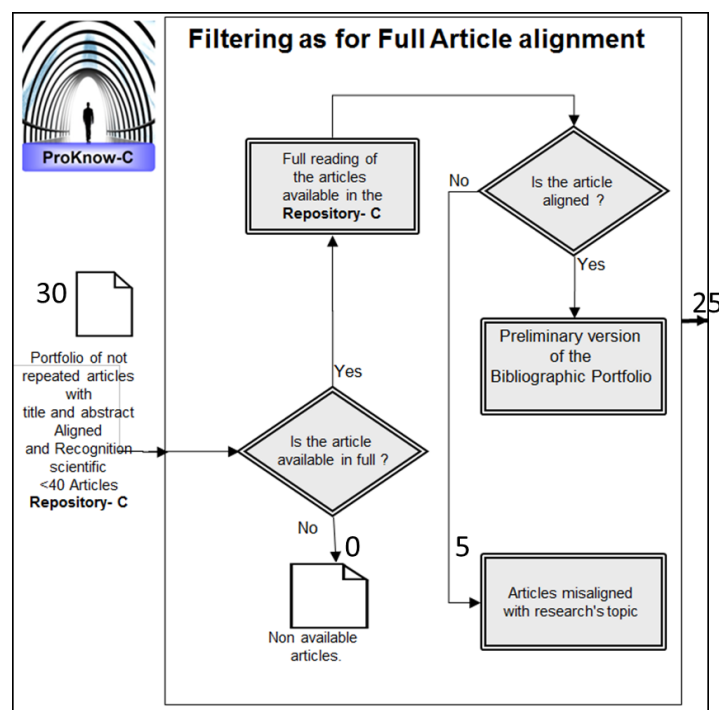
We would like to note that 335 articles published in 2014 that we found in the databases were also analyzed in the alignment filter, according to the subject of search and the filter referring to the scientific recognition. After carrying out these analyses, we concluded that these 335 articles were not in alignment with the theme researched, or they lacked scientific recognition from their peers because they did not have the minimum of 22 citations in Google Scholar, thus we did not proceed to the next step of the process as proposed by ProKnow-C.

With respect to the articles published between 2003 and 2013, subsequently we read the abstracts of 84 articles in the repository K. From this analysis, we selected 24 to compose Repository A. These papers were selected because of their relevance and their alignment with the subject being studied to support further research pertaining to the performance evaluation in the public sector. Similarly, from this selection we eliminated 60 of the papers due to lack of alignment with the object of research.

We analysed again the papers of Repository K as a way to allow articles that did not have the possibility of being cited to still be included in the bibliographic portfolio.

ProKnow-C states that papers of repository K can be selected in this step of the process, under the following conditions: i) the articles were published after the year 2011; and ii) the articles were published before 2011, as long as the researcher is also the author of some of the 24 articles lined up for the abstract and scientific relevance. After this reviewing, we identified 79 articles.

We read the abstracts again in order to check their alignment to the subject of research. From this analysis, we concluded that six articles could be leveraged for the study, giving rise to the repository B – papers not repeated and aligned with “scientific recognition potential.”



**Figure 5** - filter for alignment of the full article

Source: Adapted from Ensslin; Ensslin; Pinto, 2013.

The next step in the process was associating the articles in Repository A, which consisted of 24 articles, with those of the repository B, consisting of 6 papers. This led us to 30 articles to comprise Repository C.

Finally, we proceeded to integrate the reading of the papers of Repository C in order to ensure adherence of the articles that would make up the final portfolio with the topic of research, according to our perception as researchers. In this new research, we concluded that 25 articles were in alignment, and these now constituted the final bibliographical portfolio.

### 3.1.3 Bibliographic portfolio representative test

With a view to proving the representativeness of the bibliographic portfolio initially proposed, we integrated a new stage to ProKnow-C. Through this step we sought, by analyzing the references given in the articles provided by the Bibliographic Portfolio, to prove its representation (LACERDA, ENSSLIN, & ENSSLIN, 2012).

As a first step, we again used Google Scholar to obtain, in a standardized manner, the number of citations of 1,150 publications to make up the bibliographic portfolio references. We imported this data into Endnote in order to ensure its management. The references were submitted to two new filters, which we imported with the exclusion of the following: (i) those that did not correspond to articles, and (ii) those that corresponded to articles with more than ten years since publication.

After the application of these two filters, the remaining 250 articles were submitted to the reading to assure their alignment with the study subject. After the exclusion of the non-aligned titles, we obtained a bank of 19 articles.

For the representativity test, we again adopted the Pareto Principle to see which articles from the remaining 19 had greater scientific recognition, i.e., which of them possessed the number of citations that together would correspond to 80% of the total. Based on this examination, we concluded that seven articles, with at least 117 citations each, accounted for 81% of all citations. Among the seven articles, only one was not part of the primary bibliographic portfolio. After reading the full articles, we concluded that they did not adhere to the theme of the research. Therefore, we did not incorporate them in as new articles to the primary bibliographic portfolio. Thus, there remained 25 papers, as shown in Table 3:

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| AUTHORS  | ARTICLE  | YEAR | CITATIONS |
|--|--|------|-----------|
| BEHN, R D  | Why measure performance? Different purposes require different measures   | 2003 | 789       |
| FERNANDEZ, S and RAINEY, H G   | Managing successful organizational change in the public sector   | 2006 | 339       |
| CAVALLUZZO, K S and ITTNER, C D  | Implementing performance measurement innovations: Evidence from government   | 2004 | 323       |
| PROPPER, C and WILSON, D   | The use and usefulness of performance measures in the public sector  | 2003 | 200       |
| MOYNIHAN, D P  | Managing for results in state government: Evaluating a decade of reform  | 2006 | 188       |
| JOHNSEN, A   | What does 25 years of experience tell us about the state of performance measurement in public policy and management? | 2005 | 116       |
| ADCROFT, A and WILLIS, R   | The (un)intended outcome of public sector performance measurement  | 2005 | 107       |
| BROADBENT, J and LAUGHLIN, R   | Performance management systems: A conceptual model   | 2009 | 78        |
| YANG, K and HSIEH, J Y   | Managerial effectiveness of government performance measurement: Testing a middle-range model                         | 2007 | 75        |
| NICHOLSON-CROTTY, S, THEOBALD, N A and NICHOLSON-CROTTY, J             | Disparate measures: Public managers and performance-measurement strategies   | 2006 | 53        |
| LODGE, M and GILL, D   | Toward a New Era of Administrative Reform? The Myth of Post-NPM in New Zealand                                       | 2011 | 50        |
| JARRAR, Y and SCHIUMA, G   | Measuring performance in the public sector: Challenges and trends  | 2007 | 34        |
| PHUSAVAT, K, ANUSSORNITISARN, P, HELO, P and DWIGHT, R                 | Performance measurement: Roles and challenges  | 2009 | 32        |
| KANJI, G and E SÁ, P M   | Performance measurement and business excellence: The reinforcing link for the public sector                          | 2007 | 31        |
| LINNA, P, PEKKOLA, S, UKKO, J and MELKAS, H                            | Defining and measuring productivity in the public sector: Managerial perceptions                                     | 2010 | 31        |
| GAO, J   | Governing by goals and numbers: A case study in the use of performance measurement to build state capacity in China  | 2009 | 28        |
| JOHNSTON, R and PONGATICHAT, P   | Managing the tension between performance measurement and strategy: Coping strategies                                 | 2008 | 26        |
| VAN AKEN, E M, LETENS, G, COLEMAN, G D, FARRIS, J and VAN GOUBERGEN, D | Assessing maturity and effectiveness of enterprise performance measurement systems                                   | 2005 | 26        |
| ARNABOLDI, M and AZZONE, G   | Constructing performance measurement in the public sector  | 2010 | 22        |
| E SÁ, P M and KANJI, G K   | Finding the path to organizational excellence in Portuguese local government: A performance measurement approach     | 2003 | 12        |
| SOLE, F and SCHIUMA, G   | Using performance measures in public organisations: Challenges of Italian public administrations                     | 2010 | 4         |
| GOH, S C   | Making performance measurement systems more effective in public sector organizations                                 | 2012 | 3         |
| PEKKANEN, P and NIEMI, P   | Process performance improvement in justice organizations-Pitfalls of performance measurement                         | 2013 | 0         |
| SEGUEL, L, VALENTINO, F and DIAMOND, H                                 | Collaborating for success: Performance culture turnaround in the federal government                                  | 2012 | 0         |
| YETANO, A  | What drives the institutionalization of performance measurement and management in local government                   | 2013 | 0         |

**Table 3** - Selected papers for the bibliographic portfolio

Source: Research data, in 2013.

### 3.2 Analysis Bibliometric

In order to examine the relevance of the authors, articles and journals that comprise the bibliographic portfolio, we passed to the second stage of ProKnow-C, which proposes the bibliometric analysis of the publications by quantifying and using the information provided during the research.

At this stage, the following aspects were analyzed: i) relevance of the journals; ii) the recognition of scientific articles; iii) the most prominent authors; and iv) the most keywords used. For each stage, the analyses were performed in the following order: i) bibliometric analysis of the articles of bibliographical portfolio; ii) bibliometric analysis of the references in the articles of bibliographical portfolio; and iii) bibliometric analysis of the assembly formed by the articles and references.

A bibliometric analysis was based on 25 papers that formed the bibliographic portfolio, and the 828 articles found in the 1,150 References of the bibliographic portfolio.

### 3.2.1 Estimate the degree of relevance of journals

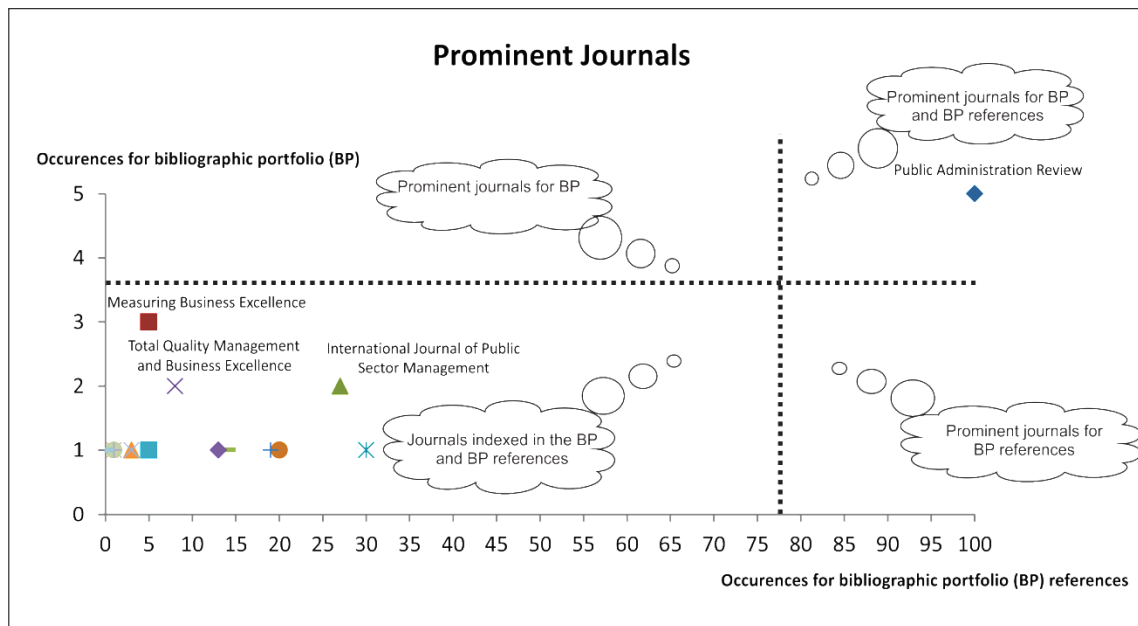
Through the first analysis, we sought to identify in which journals the most articles were published that make up the portfolio. We found that the articles of the bibliographic portfolio were published in 17 different journals, which highlighted the relevance of the journal *Public Administration Review*, who published five of the twenty-five articles that made up the bibliographic portfolio.

The second analysis was to show which journals published the most articles from the references cited in the bibliographic portfolio. We found that these references were published in 287 different journals, and this finding also highlighted the relevance of the journal *Public Administration Review*, with the publication of 100 articles listed in the references of the bibliographic portfolio.

The third analysis was to compare the significance of periodic articles of the bibliographic portfolio in light of the relevant journals for references in this portfolio, given the simultaneous relevance of the journal *Public Administration Review* for both the articles of the bibliographic portfolio as well as the references.

The *Public Administration Review*, the most prominent journal in the analysis of this section, is maintained by the American Society for Public Administration (ASPA) and has been in business for more than 60 years. In this publication, the issues are released every two months and indexed in the databases *Isi Knowledge* and *Scopus*, with an impact factor in the Journal Citations Report (JCR) of 0.9 and in the Scientific Journals Ranking (SJR), 1. Their areas of knowledge are research, theory and practice in public administration. The journal has a wide knowledge spectrum. Chart 1 represents the number of articles of the bibliographic portfolio references published by the journal. The number of articles of the bibliographic

portfolio published by the journal allowed us to highlight this journal as one to use regularly for research.



**Chart 1** – Prominent journals.

Source: Research data, in 2014.

We must note that in our research, we aimed to identify the most prominent journals on the topic of performance evaluation in the public sector, shown above, in which periodic studies aligned with our objective research and are being published. Thus, the featured journal reveals itself as a potential source of information for future research and as providing potential journal publications related to the theme.

### 3.2.2 Estimating the degree of scientific recognition of articles

For the purposes of this analysis, we understood scientific recognition to be the number of citations that an article receives when a query is entered into Google Scholar.

The first analysis's aim was to estimate the scientific recognition of the papers that made up the bibliographic portfolio. Some of the features obtained in the research include an article by Robert D. Behn (2003), "Why measure performance? Different purposes require different measures", published in the journal *Public Administration Review*. This article presented 789 citations, according to research in Google Scholar (November 2013), which reflects the perceptions of researchers. Its scientific recognition is at the top of the search for the topic of performance evaluation in the public sector.

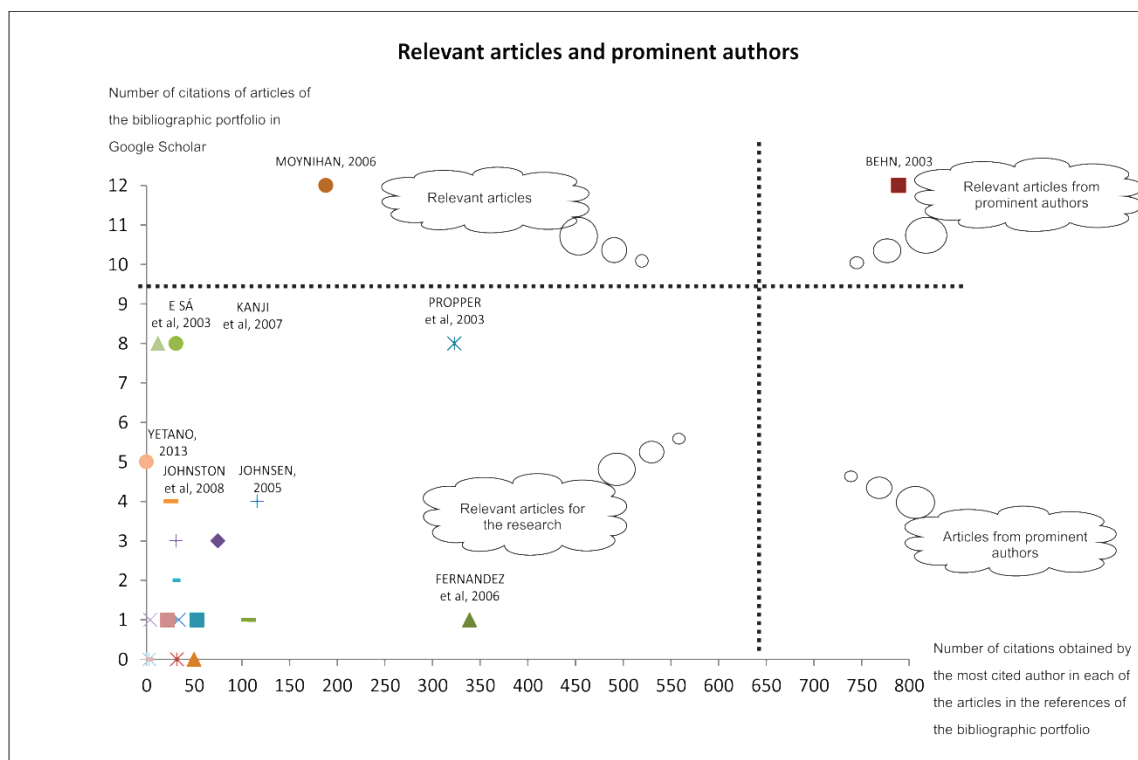
The second analysis was to assess the scientific recognition of the articles of the bibliographic portfolio, based on the presence of these references in the other articles listed in



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the bibliographic portfolio. After this examination, we found that six articles were cited and referenced in the bibliographic portfolio. The article by Behn (2003) stood out with six citations, Articles by Fernandez and Rainey (2006), Cavalluzzo and Ittner (2004), Propper and Wilson (2003), Moynihan (2006) and Johnsen (2005) had a citation each.

The third analysis involved a comparison of the number of citations of articles in the bibliographic portfolio with the number of citations obtained by the most cited author in each of the articles in the references of the bibliographic portfolio, according to the research conducted in Google Scholar (November 2013). In this examination, we found the following: (i) the paper by Behn (2003) was highlighted both in the bibliographic portfolio, because of its 789 citations in *Google Scholar*, as the references of the bibliographic portfolio, and because the author was cited 12 times; (ii) Moynihan's (2006) article stood out with 12 citations in the references of the bibliographic portfolio; however, Moynihan's article does not get highlighted when analyzed in light of the citations in Google Scholar, and (iii) we observed the existence of feature articles that were not written by prominent authors. The results of this analysis are presented in Chart 2, which represents the number of citations of articles of the bibliographic portfolio based on the search in Google Scholar.



**Chart 2** – Relevant articles and prominent authors

Source: Research data, 2014

The results we report are for the most relevant articles to the subject, based on the perception of researchers and were aimed at demonstrating the scientific recognition and relevance of the featured publications when conducting research to find articles aligned with the subject of performance evaluation in the public sector.

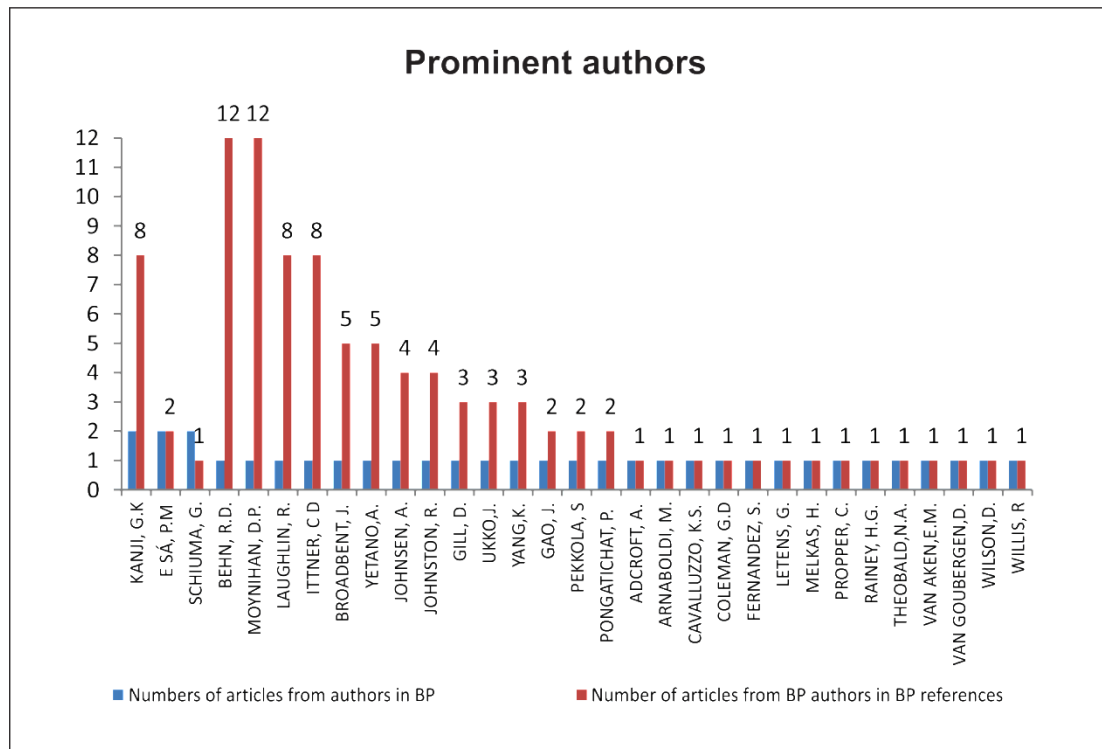
### **3.2.3 Estimate the degree of relevance of the authors**

The first step in this analysis was to present the most prominent authors among the 50 authors of the articles in the bibliographic portfolio. For this step, we highlighted the authors Giovanni Schiuma, Gopal Kanji and Patricia Moura and Sa, who each authored two of the articles in the bibliographic portfolio.

The second analysis was to demonstrate the most relevant authors in the perception of researchers, among the 900 authors of the references in the articles of bibliographic portfolio. For this analysis, we demonstrated the relevance of the authors Robert S. Kaplan, Andy Neely and David P. Norton, who had 21, 19 and 18 articles cited, respectively.

The third analysis involved comparing the number of articles written by authors in the bibliographic portfolio, balanced by the number of articles by authors using constant references in the bibliographic portfolio. At this point, the following became evident: i) there are authors who are simultaneously highlighted in the bibliographic portfolio and in their respective references; ii) the most prominent authors in the references of the bibliographic portfolio were Giovanni Schiuma, Gopal Kanji and Patricia Moura and Sá, with two publications each in the References of Portfolio; and iii) the authors of the articles bibliographic portfolio with the greatest emphasis on references were Robert D. Behn and Donald P. Moynihan, with 12 citations each in references.

The results obtained with this analysis are illustrated in Chart 3. It is noteworthy that the graph does not show any authors of the bibliographic portfolio who were not cited in the references.



**Chart 3** - Prominent authors in the bibliographic portfolio.

Source: Research data, 2014

Knowledge about the authors who are most referenced in research on the topic, according to our perceptions as the researchers for this article, makes it possible to know the lines of research that such authors are adopting and the work they are doing, including what the trends are and what their perspectives are on the subject of our research.

### 3.2.4 Estimation of the most-used key words

Through this analysis, we sought to identify the key words most used in the articles of the bibliographic portfolio. Of the total 82 key words we found in the articles of the bibliographic portfolio, 21 were used twice or more, and the most used keyword was "Performance", which was adopted 13 times, and the words "Public" and "Sector" were repeated 9 times each.

In addition to the analysis on the frequency of keywords, we compared the keywords set to the theme of research and those of the bibliographic portfolio. For this research, we sought to identify which keywords initially defined in ProKnow-C for the research were present in the keywords of the bibliographic portfolio. The study revealed that 5 of the 7 key word sets to the theme of the research were found at least twice as many as those of the bibliographic portfolio. The following stood out at this stage: "Performance", used in 13

articles of the bibliographic portfolio; and "Public" and "Sector", which were used in articles 9 times each.

The analysis regarding the most used keywords allowed us to recognize the use of keywords adopted by the scientific community to address the same subject of research, with a view to facilitate future bibliometric research. This research also demonstrates the alignment of the results with the initial goal of the work.

#### 4. FINAL CONSIDERATIONS

This article brought provide grants for further research pertaining to the theme of "Performance Evaluation in the Public Sector", through the construction of knowledge in the researchers on the subject to be examined and in accordance with the boundaries imposed by these. In this sense, this research sought to identify, in the international literature, which are the main existing on the topic with scientific recognition; who are the researchers who are working on this issue; which the most relevant journals; and what the most used keywords. Thus, it was used as an intervention tool the ProKnow-C.

The knowledge built will allow researchers to investigate existing research opportunities and complement the knowledge on the topic they are searching.

After the process of selection of the bibliographic portfolio to the theme "Performance Evaluation in the Public Sector", we obtained results in a bibliographic portfolio consisting of 25 articles, as presented in Table 3.

In addition to proposing a process for the selection of articles for the composition of a theoretical framework for performance evaluation in the public sector, within the interests and boundaries of researchers, we also carried out a bibliometric analysis of these articles. In this analysis, we sought to present the journals, articles, authors and relevance of keywords to the articles and the references cited in each of these papers of the bibliographic portfolio.

Regarding the assessment of the 25 articles from this portfolio, the following became clear: the journal *Public Administration Review* stands out because it was responsible for the publication of five articles written in the bibliographic portfolio; the article by Robert D. Behn (2003), "Why measure performance? Different purposes require different measures ", published in the journal *Public Administration Review* is the publication with the greatest scientific recognition in the bibliographic portfolio, with 789 citations, according to Google Scholar (November 2013); the authors Giovanni Schiuma, Gopal Kanji, Patricia Moura and Sa were also highlighted because each had two articles in the bibliographic portfolio; the

keywords "Performance", "Public" and "Sector", were the ones most used in articles in the bibliographic portfolio.

In addition to the analysis of the 25 articles that made up the bibliographic portfolio, we also carried out a bibliometric analysis of these articles' references, which comprise 828 publications. After this step, the following remained evident: the journal *Public Administration Review* was highlighted again for publishing 100 articles listed in the references of the bibliographic portfolio; the Behn (2003) article was the most relevant in the Portfolio Library, with 6 citations in the references; authors Robert S. Kaplan, Andy Neely and David P. Norton were the most prolific authors of references in the bibliographic portfolio with 21, 19 and 18 articles cited, respectively. Interestingly, there was a relationship in prominent variables in the bibliographic portfolio, and the most prominent journal was the one that got the most referenced papers in the Portfolio, which also presented the most prolific author of the analysis.

After a joint analysis of the publications was conducted, covering 25 papers from the bibliographic portfolio and the 828 articles entered in the references, from the analysis of the degree of relevance of the journals that published the articles of the bibliographic portfolio and its references, it became clear that the journal *Public Administration Review* stood out as much as the publication of the articles of the bibliographic portfolio and its references. Other highlights from this stage are shown in Figure 1.

The analysis regarding the scientific recognition of papers held by verifying the number of citations that each article obtained in Google Scholar made clear that the article by Behn (2003) was highlighted both in the bibliographic portfolio, due to its 789 citations in Google Scholar, and in the references of the bibliographic portfolio, because the author was cited 12 times in these articles; ii) in addition to this Behn (2003) article, Moynihan (2006) stands out with 12 citations from articles of his own in the references of the bibliographic portfolio; however this article, which was selected for the bibliographic portfolio, did not get highlighted when analyzed in relation to citations in Google Scholar; iii) we did not observe the existence of any feature articles that were not written by prominent authors. The results of this analysis are presented in Figure 2.

As for the prominent authors in the bibliographic portfolio and its references, this analysis demonstrated, according to Chart 3, the following: i) no authors stood out both in the bibliographic portfolio and in their respective references; ii) the most prominent authors in the references of the bibliographic portfolio were Giovanni Schiuma, Gopal Kanji, Patricia Moura

and Sá, each with two publications in the References of the Portfolio; and iii) the most prominent authors in the references of the bibliographic portfolio were Robert D. Behn and Donald P. Moynihan, with 12 citations in references each.

Finishing the bibliometric analysis, the keywords that were most used, the following evidence remained: of the seven key word sets in the theme of the research, five were found at least two times in the papers that made up the bibliographic portfolio; the keyword "performance" was used in 13 articles of the bibliographic portfolio and the keywords "public" and "sector" were found in nine articles each.

The knowledge gained through the study allowed the researchers to know the following: i) a portfolio of articles with scientific recognition and aligned with the theme of "performance evaluation in the public sector" in the international literature; ii) who is researching on the subject; iii) which journals are publishing articles on the topic researched; and iv) what keywords are being used the most.

The delimitation of the research was carried out based on our worldview, as the researchers, and was restricted to the following: i) articles published in scientific journals indexed in the databases *Web of Science* and *Scopus*, because these databases are representative of the impact factor indicators available to the scientific community; ii) articles published in international journals; iii) papers that are considered journal articles, thus other sources of research, such as books, dissertations and theses, were not included; and iv) articles published between the years 2003 and 2014.

We reiterate that this study does not aim to build a theoretical framework on the topic we searched. The case presented here was developed to answer the research question initially proposed: how to seek and identify information needed and internationally relevant on the topic of "Evaluation of Performance in the Public Sector", in line with the boundaries and interests of researchers, when they have a limited knowledge on the subject they want to search. In this sense, this research contribution includes the presentation of a structured process for the identification and selection of articles, and it includes the most relevant authors and journals on the topic of "Performance Evaluation in the Public Sector", with respect to researchers' interests and boundaries.

This research also highlights the following opportunities for future research: (a) the process of replication in other contexts, such as theses, dissertations and books, as well as the search in different databases available; and (b) the continuation of this study, with the development of the two missing stages of ProKnow-C, corresponding to systemic analysis of

the content of the articles of the bibliographic portfolio and the identification of research scientific opportunities as can be checked in these papers, with the suggested questions for research and goals.

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