

Discussing Open Government as a Concept: A Comparison between the Perceptions of Public Managers and Current Academic Debate*

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ABSTRACT

Open government is definitely not a new concept. For almost a decade, countries around the world have been implementing open government initiatives as a way to increase transparency, improved accountability, fight corruption, or foster economic development. However, there is still no consensus about the constitutive dimensions of open government and how they are perceived by public managers in different contexts. Based on a systematic literature review and a survey administered to Spanish local governments, this paper discusses the concept of Open Government (OG) and its dimensions. According to our results, public managers working on OG initiatives perceive OG through three different lenses: a) democratic values of co-responsibility, b) technological innovation, and c) availability and access to information. This new categorization of OG perspectives provides a valuable contribution to the scientific debate about what OG is and how this new public management strategy is perceived by local government managers.

CCS CONCEPTS

• **Social and professional topics** → **Government technology policy**; • **Computing methodologies** → *Factorization methods*; • **Networks** → Network reliability;

KEYWORDS

Open Government, Perceptions, Public Managers, Literature Review, Survey, Factor Analysis.

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dg.o '18, May 30-June 1, 2018, Delft, Netherlands

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ACM ISBN 978-1-4503-6526-0/18/05...\$15.00

<https://doi.org/10.1145/3209281.3209320>

ACM Reference Format:

Edgar A. Ruvalcaba-Gomez, J. Ignacio Criado, and J. Ramon Gil-Garcia. 2018. Discussing Open Government as a Concept: A Comparison between the Perceptions of Public Managers and Current Academic Debate: . In *dg.o '18: dg.o 2018: Proceedings of the 19th Annual International Conference on Digital Government Research, May 30-June 1, 2018, Delft, Netherlands*, Anneke Zuiderwijk and Charles C. Hinnant (Eds.). ACM, New York, NY, USA, Article 4, 10 pages. <https://doi.org/10.1145/3209281.3209320>

1 INTRODUCTION

In recent years, the term Open Government (OG) has attracted the attention of multiple actors from academia and professional practice. Many of them have contributed valuable perspectives and evidence that continue to form the concept itself [1, 10, 15, 18, 22, 35, 62, 63]. Unsurprisingly, these opinions are widely dispersed. On the one hand, we found a growing number of scholars with a special interest in e-government, transparency, e-participation and innovation in the public sector. This is reflected in the dissemination being given to this issue through articles, books, conferences and even organizations that are constituted using this notion.

On the other hand, many politicians and public officials are speaking about OG. However, it seems clear that everyone understands something different about the concept. In this way, each researcher and public manager is taking different lines of work and actions in matters of public policies regarding OG. Several authors [13, 17, 35, 40] assume that the OG concept denotes a relationship of mutual collaboration between citizens and the State, where the civil society has a leading role due, among other things, to the availability and application of new social technologies. This facilitates multiple interactions between social and state actors, and it translates into more transparent, participatory and collaborative government [35, 36, 42]. However, OG principles, as well as the path to be taken by governments and public management models have not generated consensus.

First, this research intends to identify the concepts that the academic literature of OG is using to establish the boundaries of the OG concept. This is based on a systematic literature review of OG articles published in some of the leading academic journals in this field (Government Information Quarterly, Information Polity, and eJournal of eDemocracy and Open Government) in recent years (2011 to 2015).

Second, this investigation aims to understand how public servants, responsible for the management of policies at the local level, perceive the concept of OG, considering that their work has a greater impact on people everyday life, because local governments are inherently closer to the citizens.

For this analysis, we use survey questions regarding the association of multiple concepts with OG. Subsequently, we used the data for an Exploratory Factor Analysis (EFA), which allowed the assessment of the different OG perspectives. In general, we established two research questions that guide this study. First, *what are the concepts most closely related to open government in the academic literature?* Second; *what is the perspective of public managers regarding these concepts and their open government efforts?*

The rest of the article is organized as follows. The next section addresses some of the main approaches to OG and some ideas about its evolution, considering its recent conceptualization based on topics such as transparency, participation, collaboration and open data. The third section of this article presents the methodological and analytical framework, in which we describe the dimensions, categories and statistical analysis with which the study is developed. The fourth section shows the analysis of the data, using statistical tools and applying an exploratory factor analysis. The fifth section discusses the results, mainly the three perspectives of OG. Finally, the sixth section provides some conclusions and suggests are for future research about the OG concept and its main components.

2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

It is a reality that OG is not a recent concept. However, in recent years it has had a very relevant re-appropriation with new connotations. Yu and Robinson [62] review the background of the concept, where they mention that OG was developed in the past as a synonym for public accountability that appeared after the Second World War. Accordingly, Parks titled an article *The Open Government Principle: Applying the Right to Know Under the Constitution* [11], which focused on access and freedom of information at a political time characterized by the need to improve accountability. This article highlighted the importance of the context to understand OG, and the relation of this concept to the political agenda of the moment. These ideas affected the construction of the Freedom of Information Act (FOIA) in the United States in 1966 [63].

Recently, the concept OG has gained strength due to different political and institutional moments. An important milestone in the revitalization of OG concept is highlighted in the *Memorandum for Transparency and Open Government* first antecedent adopted under the Obama administration in 2009. From then on, this subject is incorporated as a top-level political priority around three principles: transparency, participation, and collaboration. The actions to be developed under this line were raised as a new way to approach citizens, a revolution in how to use information from public administrations, or even, a governmental platform in which citizens become the protagonists of democracy [35].

Another important OG precedent refers to the creation of the Open Government Partnership (OGP). The OGP is a multilateral international organization, founded in 2011, and has managed to add 75 countries to promote concrete commitments of public policy,

thus, it represents the avant-garde organization for international promotion of OG practices. Consequently, it can be noted that there has been an international trend that in recent years has proven successful when setting the OG in front of the international public agenda of innovation in transparency, participation, collaboration, open data, among other important issues to improve the relation between governments and society.

Contemporary literature on OG is used for the purposes of this investigation, as it is always being renovated with new and different analysis. It consists of academic investigations [1, 23, 36, 52], and institutional papers from international organizations (BID, CEPAL, European Commission, OCDE, OEA, OGP, Red Gealc). Because of the plurality of authors, the term is often considered emergent, ambiguous, and in development [1, 18, 35, 59].

First, it must be noted that OG should be understood beyond transparency. Transparency is not enough to achieve open governments since it is necessary that the incentives for participation work to achieve collaboration between the government and the organized civil society. In the words of Meijer, Curtin and Hillebrandt [42] *open government is not only about openness in informational terms but also about in interactive terms* (p11). Thus, these authors describe OG as a matter of vision in government transparency and citizen voice in public policy processes. This may lead to understand OG as a management model based on transparency, participation and collaboration.

Within OG converge various topics of public management such as transparency, accountability, open access to public data, guarantee the right to information, the protection of private data and mechanisms for citizen participation among other topics.

The three most popular topics of OG: transparency, participation and collaboration are constantly being rethought and conceptualized, and these are broadly defined and even often confused with one another, especially participation and collaboration, but in practice, these principles are related actions that allow their operationalization. After the memorandum of President Obama, the three topics have been concepts concerning several studies within OG [1, 35, 36, 43].

Transparency as a topic of OG is strongly associated with the right to access to information and accountability. It is just that transparency in the open government involves a digital transparency, based on open data [4, 6, 28, 34, 56] and the exercise of a fundamental right, such as access to public information. Thus, the first stage of OG is transparency but it is an insufficient condition. It requires collaboration via citizen participation. The latter located in the area of collaboration to improve the quality of public policies and to establish new ways of governing, but also to recreate conditions for development. Achieving OG involves public ethics and commitment to transparency and participation to co-create and collaborate. It is also considered that transparency is a trigger for legitimate governments [4, 52], which have become a social demand today. This is the idea of government legitimacy linked to transparency, reinforcing the legitimacy and confidence of a society in government [26, 64].

Transparency and participation are interdependent concepts to design open governments. According to Harrison and Sayogo [24], transparency and participation have features that are complementary to effective governance models. Participation represents a

great value in civil society and it is related to the involvement in political processes. Thus, with consultation and deliberation with citizens and participation in decision-making and public policy development. After the massive use of ICT, participation found a new way to converge and link citizens with their governments, which gave rise to the concept of e-participation. This concept has led to studies closely linked to the social networks and social media [2, 8, 20, 29, 39, 41, 51, 55, 57, 63].

Collaboration for Gasco [18] has a close relationship with interoperability, co-production and social innovation and, therefore, the design, provision and evaluation of public services that generate public value. Some authors [16, 47] fully associate collaboration with the co-design of public policies and collective action. On the other hand, Lee and Kwak [36] establish collaboration as a higher level of maturation of OG, above transparency and participation, involving increased interaction between government agencies and civil society. Thus, OG is perceived based on a maturity model related to the three topics of transparency, participation and collaboration.

Digital spaces have also been undertaken in collaboration as concrete examples of their development. Mainly, platforms such as Wikipedia show the potential of co-production. For its part, the government has also made platforms to intercommunicate between areas and sectors [16, 37, 47, 54]. Thus, interoperability, co-production, horizontality within the social media and online social networks have collaborative features, but are not always applied in this way by the governments that use them.

There is another issue that has emerged from research in recent years and has grown dramatically within the literature: the concept of open data [3, 5, 12, 19, 21, 27, 37, 38, 41, 53, 64]. This concept has been highly associated with OG, but it has been conceptually dissociated from the three most popular pillars since it has another conceptual meaning.

When we refer to open data in this research, we may think about OG context as an open access philosophy to certain data without rights restrictions and with certain characteristics that make data useful for citizens. The idea of taking government open data as a topic of study has grown when Murray-Rust [45] began to study the subject from an academic perspective. However, it begins to receive more attention in 2009 when the USA begins to launch open data platforms, where data.gov stands out.

To define the term of open data, Kassen [32] mentions *The governmental open data project can be described as an official web-portal launched at the federal or local level aimed at making certain types of governmental datasets publicly accessible via internet in a machine-readable format* (p503). Here, we find a simple and pragmatic description of the subject to easily understand the logic of open data within governments. Nowadays, open data policies have the potential to encourage the participation and interaction of governments with multiple sectors. They also contribute to social integration where data are offered on equal terms, stimulating economic growth and other social benefits [64].

According to the idea that public information is for all citizens and should be accessible, we must think about how to materialize the idea, although governments often do not have the capacity to produce all the social value that the data can offer. Citizens or companies can use this data to generate value and services, so

open data plays a role beyond just transparency or accountability, making data affordable and useful to society.

On the other hand, open data has been defined as *a movement that promotes the release of data, generally non-textual and in reusable formats such as csv (comma separated values), from different organizations* [20]. Open data contains information that has the characteristics of being used, reused and redistributed with free access by any person for the purposes that suit them. This tells us that the information must be available for everyone, usually downloading it from the internet in a convenient and modifiable way.

Some studies have offered a more complex definition that combines the abovementioned three pillars of OG: transparency, participation, and collaboration [35, 36, 42]. In contrast, other authors indicate that not all have similar directions regarding the elements of OG [1, 50, 59, 62]. A recent study by Petrusic, Segedinac, and Konjovic [50] proposes a model for the systematic ontological analysis of OG, which highlights the main components of OG: Open Architecture, Open Data, and Open Standards. It also refers to OG organizational structure that includes internal governmental institutions, associated domains, and open e-government services.

A study by Wirtz, Piehler, Thomas, and Daiser [60] explores the challenges to a successful implementation of OG. Using factor analysis, they identify several obstacles that are grouped in the following categories: legal barriers, hierarchical organizational structure of authorities, bureaucratic decision-making culture, and organizational transparency. Additionally, an important author to highlight is Abu-Shanab [1], who surveyed public servants from the ministry of education, participants in a course related to e-government, and public-sector managers in Jordan.

With the general literature review analyzed so far, we can establish a first approach to the pillars and concepts that are hovering around the term OG. In Table 1, we establish the traditional pillars (Obama pillars), the main topics that stand out in the literature, and some concepts that suggest the literature review.

3 METHODOLOGICAL APPROACH

In order to analyze the concepts and perceptions of OG, this methodological section is divided into two stages, each one guided by a research question and with its own methods, but closely related to one another.

In the first stage, we establish one research question: What are the concepts most related to open government in the academic literature? So, that it analyzes the most used words, taking into consideration: articles title, abstracts, and keywords of articles by those who work around OG.

Specifically, the sample analyzed is based on a selection of articles from three scientific journals that have published a high quantity of articles about OG from 2011 to 2015: Government Information Quarterly (GIQ), Information Polity (IP), and eDemocracy and Open Government (JeDEM). These journals have been selected, among other potential and important outlets, because they include an extensive number of articles on the topic, which is paramount to forge a coherent discourse among the scholars involved in the conceptual conversation about OG.

Apart from considering the three journals mentioned by extensive academic production on OG, not comparable with other

Table 1: Themes and concepts on OG, (First approach)

Traditional Pillars (Obama Pillars)	Main topics from OG literature	General concepts from OG literature
Transparency	Transparency	Access to information Accountability Co-creation Co-production Collaboration Democracy Digitalization e-Democracy e-Government Engagement e-Participation
Participation	Participation and collaboration	Freedom of information ICT Innovation Interoperability Network Open data Participation Public administration
Collaboration	Open data	Smart city Social media Transparency Web 2.0

publications in the field, we consider some other characteristics of publications: the journal GIQ is within Social Sciences Citation Index (SSCI) belonging to the platform Web of Science, also GIQ is in the first group of qualities within Scimago Journal and Country Rank of Scopus database.

Similarly, the journal IP has the best quality of publications considered in the SSCI. Thus, both journals (GIQ and IP) are positioned in high-impact publications and high quality.

Meanwhile, JeDEM is an academic journal recently created and with a strong orientation on OG, the publication presents high quality standards, it is indexed in databases such as EBSCO, DOAJ, Google scholar, and Public Knowledge Project. In addition, JeDEM is the first journal that specifically includes the concept of OG in its title and one of the leaders in the field.

After the selection and filter process, the sample taken for the analysis is a total of 189 articles of the three journals mentioned, which are: 101 of GIQ, 39 of IP, and 49 of JeDEM. The selection of items was filtered based on a thorough review of the full content of the articles mainly, and assisted with titles, keywords and abstracts, following the guidelines of other previous systematic literature reviews on related subjects [14, 25, 41, 54, 58, 61]. Thus, and given the multiple meanings of OG concept was possible to deepen and to be more analytical in selecting articles, beyond a selection based only on concepts mentioned explicitly in the abstract or keywords. In other words, it undertook the issues related and the intentionality directly linked to OG, which implied a reading of the contents of every article.

We divide the analysis of the systematic review of the literature and key concepts related to OG into six strategic parts of the selected articles: evolution, study design, main topic, title, abstracts, and keywords of articles.

For the analysis of the concepts, we use the free program *TagCrowd*, this counts the words and shows them graphically as a cloud of words. With the concepts that we obtained from this first methodological stage, we constructed a questionnaire that was administered to a survey in Spanish local governments, this survey corresponds to the next methodological stage.

In the second stage of the methodological analysis, we established the research question: What are the perspectives of public managers regarding open government? In order to answer this question, we used a questionnaire as research technique, and the results were analyzed with statistical tools.

This research design considers Spanish municipalities with more than 50,000 inhabitants, representing 146 governments. From each one, we surveyed public officers who work on OG or other related areas, such as citizen participation and transparency. In some cases, we surveyed personnel from the Mayor's Office.

This research aims to understand the perceptions of these public servants about the implementation of OG related policies at the local level and their impact on society. This analysis is based on the data obtained from the following question of the survey: What level of association with Open Government do you think the following concepts have? From 1 to 5 (1 being no association and 5 complete association).

To analyze the data, we used the statistical program STATA for Exploratory Factor Analysis (EFA). This technique allows us to identify latent variables or factors [30, 48]. The EFA is based on the data from a certain number of variables, which allows a variability that is reduced in dimensions. Thus, a large number of indicators can be grouped in a small number of factors [9, 30, 49]. We used the "Principal Components Analysis" (PCA) method and a promax rotation.

EFA is a technique that allows us to identify which concepts are grouped by interdependence in factors that subsequently must be linked to theory. The EFA technique is used to reduce a certain number of operational indicators (in this case, the concepts associated with OG) to a lower number of conceptual variables [31, 48].

4 ANALYSIS AND FINDINGS

This section shows the results of the systematic literature review on OG, the results of one of the survey questions that were administered in Spanish local governments, as well as the exploratory factor analysis.

4.1 Systematic review of the literature and key concepts

Here, we show data that allows us to establish an approximate answer to the question: What are the most related concepts to open government in the academic literature?

4.1.1 Evolution of OG in the academic literature. The first aspect to consider relates to the evolution of the subject in the journals analyzed. In this sense, a first idea (Figure 1) to take into account is the growth in absolute terms in the number of published articles,

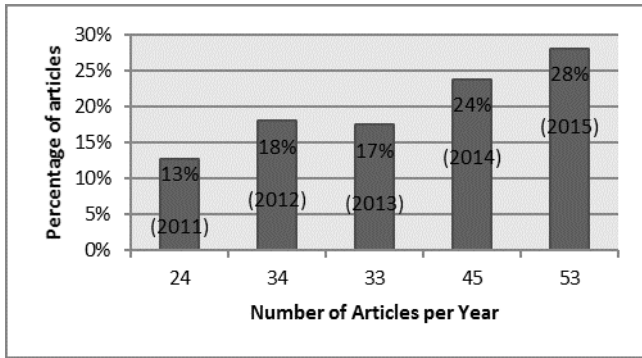


Figure 1: Evolution of the articles selected

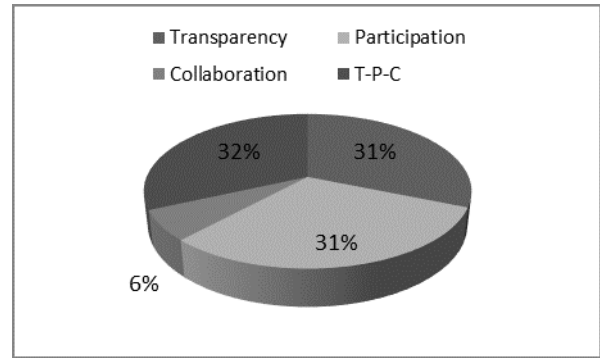


Figure 3: Main OG topic in the literature review.

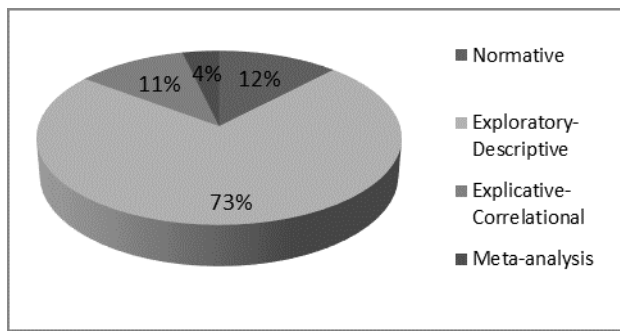


Figure 2: Study design of the literature review.

which went from 24 in 2011 (34 in 2012; 33 in 2013; 45 in 2014) to 53 in 2015. In this sense, there seems to be an evident increasing interest on OG.

4.1.2 *Research methods and design of current literature.* To contextualize the conceptual review Figure 2 shows the study design about how the OG is being analyzed. Here, exploratory-descriptive articles widely dominated, with 138 articles, representing of the total. Followed by Normative articles with 23 articles representing 12 percent, while items of an explanatory-correlational and Meta-analysis study design with 11 percent (21) and 4 percent (7) respectively (see Figure 2). This seems to confirm the idea of an emerging area of knowledge in which the level of formalization is still relatively limited.

4.1.3 *Main OG topics in the literature review.* Based on the traditional pillars of OG (Obama Pillars), we analyze three topics. (see Figure 3) shows that there is a strong proximity between transparency, participation and T-P-C (category that considers more than one of the three topics explained with similar equal relevance), with 59 articles (31 percent), 58 articles (31 percent) and 60 articles (32 percent) respectively. Although in each year analyzed, the presence of the topics has changed, especially in recent years with a growth in the topic of participation, in sum, the homogeneity of these three indicators is a relevant finding for this analysis. However, the topic of collaboration is greatly reduced with only 12 articles representing 6 percent of the total, a figure that is discussed below.



Figure 4: Analysis of article titles.

4.1.4 *Analysis of article titles.* In this analysis, we take the 186 titles of the selected articles. In total, there were 1989 words mentioned. The word analysis program TagCrowd automatically groups the concepts, with which a total of 574 different concepts for the analysis were obtained. To discriminate the concepts of little relevance, a filter that allows displaying the terms with five or more repetitions was chosen, the result is shown in the Figure 4 with 50 keywords presenting the number of repetitions for each concept.

4.1.5 *Analysis of article keywords.* Similar to the analysis of titles, we took all the keywords within the selected articles. In total,



Figure 5: Analysis of article keywords.

there were 1086 keywords mentioned. The program automatically groups the concepts, with which 519 different concepts for the analysis were obtained. In the same way, in order to discriminate weak concepts, we used a filter that allows to display the terms with 5 or more repetitions. The result is shown in Figure 5 with a total of 46 keywords presenting the number of repetitions for each concept.

4.1.6 *Analysis of article abstracts.* Similar to previous analyses, we take the 186 abstracts of the selected articles. In total, there were 30307 words mentioned. The program automatically groups the concepts, with which 2250 different concepts were obtained for the analysis. To discriminate irrelevant concepts, a filter that allows displaying the terms with 5 or more repetitions was chosen. In Figure 6, 50 words are shown, resulting from a simple analysis of the words in the abstracts, unlike the analyses of titles and key words, which were grouped into concepts.

4.2 Public Managers Perceptions about OG

As results of the first methodological stage (Systematic review of literature and key concepts), we show data that allows us to establish an approximate answer to the question: What are the perspectives of public managers regarding open government? After a process of carefully reviewing the characteristics of the concepts that resulted from the literature review, we obtained twelve concepts based



Figure 6: Analysis of article abstracts.

Table 2: Level of association of OG with other concepts

Concepts	Mean	SD
Open Data	4.59	(0.73)
Democracy	4.53	(0.79)
Collaboration	4.36	(0.92)
Transparency	4.81	(0.43)
Social Media	3.51	(0.96)
e-Government	3.86	(0.95)
Participation	4.66	(0.56)
Smart Cities	3.54	(1.01)
New Technologies	3.90	(0.91)
Interoperability	3.84	(1.02)
Access to Information	4.75	(0.45)
Co-creation Policies	4.19	(0.93)

on the OG literature: open data, democracy, collaboration, transparency, social media, e-Government, participation, smart cities, new technologies, interoperability, access to information and co-creation. With the twelve concepts, we established the question: What level of association with Open Government do you think the following concepts have? Within the survey administered to Spanish municipalities with more than fifty thousand inhabitants. The results of the question are shown in Table 2. We only considered one response per municipality and we obtained a total of 115 valid answers (79 percent).

In this case, the concepts with the highest level of association with OG are Transparency (4,81), and Access to information (4,75), both being clearly oriented to the transparent side of OG. A second group of notions with the best scores are Participation (4,66), Open data (4,59), and Democracy (4,53). Finally, among the best scores, while not so associated are Collaboration (4,36) and Co-creation

Table 3: The pattern matrix resulted from the factor analysis. Associated concepts and perspectives of OG

Concepts associated with OG	F1 Perspective of democratic values of co-responsibility	F2 Perspective of technological innovation	F3 Perspective of availability and access to information
Open Data			.7222
Democracy	.6725		
Collaboration	.8234		
Transparency	.4458		.4431
Social Media	.4884	.4706	
e-Government		.7642	
Participation	.7059		
Smart Cities		.7911	
New Technologies		.8437	
Interoperability		.7802	
Access to Information			.7317
Co-creation Policies	.7914		

policies (4,19), in both cases putting the collaborative side of OG as less important for city managers.

On the other hand, we have the concepts with less relation to OG according to city managers. Here, the notions of Social media (3,51), Smart cities (3,54), Interoperability (3,84) and Electronic government (3,86) are clearly out of the scope of OG from the perspective of city managers.

Furthermore, with the results of the question we made an EFA. The EFA showed three relevant factors in which to group the concepts. Table 3 shows the pattern matrix from the PCA. It displays the coefficient of correlation of the concepts with the factors. While these factors are named according to the set of concepts within them, the concepts themselves derive from an extensive literature review.

Factor 1 is interpreted as the perspective of democratic values of co-responsibility. Within this group, the concepts of democracy, collaboration, participation, and co-creation are strongly related, while the concepts of transparency and social media are linked with less intensity.

Factor 2 is interpreted as the perspective of technological innovation. Among the concepts that stand out in this factor are e-government, smart cities, new technologies and interoperability, and with less intensity the concept of social media.

Finally, factor 3 is interpreted as the perspective of availability and access to information. This factor includes concepts such as open data, access to information, and transparency.

The three different perspectives from which public officials see OG are very different from each other. The concepts are clearly defined and there is almost no convergence among the three factors. The only concepts present in more than one factor (transparency and social media) have a coefficient of correlation that does not surpass .5, indicating a moderate or weak connection.

5 DISCUSSION AND IMPLICATIONS

OG is becoming more popular as a model for public management reform, but it is being built with different visions. The descriptive data reflects that the OG has several nuances in the academic literature and in the implementation by governments.

Within this study, the three factors identified should be the focus of discussion. The names with which the three perspectives are labeled are deduced from visions discussed in the literature about OG. Several authors have constructed a rich debate about what is and what is not OG, its elements, concepts, and dimensions. Authors such as Janssen, Charalabidis, and Zuiderwijk [27] have categorized the benefits of OG in a political and social dimension with elements such as transparency, democratic accountability, participation and empowerment of citizenship, among other elements. Those are directly linked to the perspective of democratic values of co-responsibility that we understand as the construction of public decisions in a collective way and shared responsibility between the governmental sphere and society in general.

In order to reinforce this perspective, we find that Wijnhoven, Ehrenhard, and Kuhn [59] have established three objectives of OG practices, which are closely linked to the perspective of democratic values of co-responsibility. This indicates that collaborative democracy works as a source of ideas for the construction of public policies, which has elements of social innovation related to OG.

On the other hand, Sandoval-Almazan [52] proposes a two-door model of OG from the literature, which indicates that there is a back door perspective that is oriented to the old idea of governments owning public information. This contrasts with a front door perspective that represents the opening that allows the construction of OG. However, Sandoval discusses other dimensions of OG based on Dawes [15], who proposes the stewardship and usefulness model that simplifies the utility of government transparency, in which it points to the idea of open data as the way to understand openness and transparency. This perspective is strongly associated with the perspective of availability and access to information proposed in this study, which is also supported by other studies [3, 12, 27, 32, 33, 37, 38, 44, 53, 64].

Within OG studies, the use of technologies is a transversal element. Gasco [18] emphasizes the relevance of the use of technologies as an essential element in the construction of OG. Criado [13] points out that public innovation is the way that any administration who aspires to be intelligent and respond to the challenges of public administration nowadays must follow. The study by Wirtz, Piehler, Thomas, and Daiser [60] highlights the use of new technologies as a common factor among the barriers to OG implantation. These contributions are directly related to the factor of this study that we assume as the perspective of technological innovation.

Undoubtedly, a reference author associated with the technological innovation perspective is Noveck, who highlights the potential of intelligent use of technologies to make OG. Noveck has developed studies on intelligent cities where it refers to a scenario of OG [46], including the notion of crowdsourcing of expertise in government.

It is important to point out that several studies on OG have started from antecedents of electronic government [7, 15, 54], which

support the perspective of technological innovation. Another reference that supports the technology innovation perspective is the OGP statement, in which it states that increasing access to new technologies is an essential element for government opening and the construction of an OG model.

A great reference of this study is the work of Abu-Shanab [1], who follows a methodology similar to that of this research. He established six factors: intention to use, information quality, information accessibility, accountability, collaboration and empowerment. The six factors have some relationship with the three perspectives of this study, our dimension called perspective of democratic values of co-responsibility makes logical sense with the factors of collaboration and empowerment. The perspective of technological innovation has a connection with intention to use and information quality. In addition, it is quite intuitive the relationship of the perspective of availability and access to information with the elements of information accessibility and accountability.

The path of government openness beyond traditional boundaries is still being explored, but the direction is not entirely clear. Public managers reflect that OG requires strategic planning in order to translate political discourses into public policy actions with social value. Through the survey we can appreciate that public managers assume the issue with great importance within their local administrations. However, it is also evident that success has not yet been achieved to the same extent. This leads us to establish that the consolidation process of OG is at an early stage.

We identify some recommendations for the consolidation and strengthening of public policies of OG at the local level. An important first step is to develop a comprehensive vision of the OG and promote a paradigm shift towards smart governance. This involves opening up public data, being more transparent, promoting citizen participation, and having politicians more committed to accountability. This new model of public management requires an intelligent citizenship, as well as the integration of public organizations with the idea of permanent collaboration. This, in order to improve public decision making, encourage open innovation, increase trust in public institutions and create public value.

6 CONCLUSIONS

Data of this paper show that Open Government (OG) has been increasingly studied during the last years, which implies a growing interest in this topic. Therefore, it is pertinent pinpointing some key aspects of the process of consolidation of this field of research. From the analysis of the thematic pillars (transparency, participation and collaboration), they have been the basis of the studies of a large part of the OG literature. However, the transversality of the pillars stands out, together with the significant presence of open data.

The twelve concepts that were most prominent in the analysis of words were: Open Data, Democracy, Collaboration, Transparency, Social Networks, Electronic Government, Participation, Smart Cities, New Technologies, Interoperability, Access to Information and Co-creation. The "exploratory-descriptive" study design predominates strongly among the articles analyzed. Followed by the study design "normative" and "explanatory-correlational". These aspects underline the emergent nature of OG as a research field and its relationship with other important areas of research, including

democratic values and processes, smartness in government, social media or co-production of public services.

This study argues for the need of additional empirical research on the conceptualization of OG in public management and policy. The data presented responds to the research questions that were initially proposed and help to explain what the main dimensions of the OG concept are. This work also contributes to research on OG by identifying areas of opportunity and practice by providing some lessons for managers involved in implementation of OG.

In several instances, the concepts that emerged from the analysis of words are similar to the ones public managers identified. These are transparency, participation, and open data, which were found as related to open government in both efforts. However, concepts such as social media and e-government were more frequently found as related to open government in the academic literature than in the perception of public managers. In contrast, the results show that the concepts of access to information and democracy were slightly more frequently found in the perceptions of public managers than in the academic literature. It would be important to test if these differences and similarities are the same or different in other national contexts and diverse policy domains. This should be the focus of future research.

Overall, public officers involved in OG initiatives identified three different, but related lenses: a) democratic values of co-responsibility, b) technological innovation, and c) availability and access to information. The three perspectives have clear conceptual differences and are closely related to specific OG studies mentioned in the academic literature. We argue that this new categorization contributes to understand the multidimensionality of open government and how this new administrative paradigm could be perceived in multiple ways.

Here, the personal background and experiences of these public managers involved in OG public policies and management matter. At least, three different profiles have been identified with a direct connection with the three OG lenses. One group of public officials previously devoted to social and political activism to foster democratic values. A second group including public managers with previous technological profiles and experience in industry. And a third group of public managers with legal background oriented to the regulation of access of information and transparency issues.

Future studies may foster the understanding about how these perceptions and profiles could affect the implementation of OG in local governments and their potential impacts on government and society. On the one hand, it will be interesting to identify which of the abovementioned lenses (democratic values of co-responsibility, technological innovation, or availability and access to information) are the most developed in public sector settings. At the same time, one may suggest that a combination of them should be needed, including public managers with hybrid backgrounds and experiences, to reach all the promises derived from the notion of OG. Thus, awareness of the interplay among them and how they are implemented together in public agencies will deserve future attention. Additionally, reinforcing international and comparative research is indispensable to fill the gaps of the existing OG literature.

ACKNOWLEDGMENTS

This study was supported by the research program S2015/HUM-3466 NEW TRUST-CM (Comunidad de Madrid and ESF) and the BBVA Foundation research project Smart Governance of Digital Social Media in Local Governments within the European Union. Implementation Strategies, Success Factors and Public Service Models in Netherlands, Spain, Sweden, and United Kingdom "SocialGov-Net".

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