

Identifying Barriers to the Adoption of the Brazilian Digital Governance Policy and the Role of Collaborative Governance

Identificação de Barreiras à Adoção da Política Brasileira de Governança Digital e o Papel da Governança Colaborativa

Identificación de los Obstáculos a la Adopción de la Política Brasileña de Gobernanza Digital y el Papel de la Gobernanza Colaborativa

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Abstract

Research Objective: To identify and understand the barriers to the adoption of Digital Governance Policy by the Brazilian Public Administration, considering the role of Collaborative Governance.

Theoretical Framework: Digital governance means having governments use ICTs to provide government information and services to people. Collaborative Governance refers to the patterns of collective and consensual decision-making in a broader set of institutions linked to a wider range of actors and processes, usually applied to untangle and solve wicked problems.

Methodology: Qualitative exploratory research was conducted through policy analysis and semi-structured interviews with 11 ICT managers from public organizations.

Results: Barriers were identified for each Digital Governance strategy and, based on the literature, were classified into structural or cultural, individual, organizational or strategic barriers.

Originality: The present study is conducted to fill two research gaps. The first focuses on Digital Governance to better understand the barriers to its adoption by public organizations. The second tackles the role Collaborative Governance plays in integrating actors into collective decision-making to get citizens to participate in the design of government policies.

Contributions and practices: This study brings two main contributions to both academia and practitioners/public actors. The first is the identification of the structural and cultural barriers that influence the adoption of digital governance policy. The second is the discussion of which barriers demand a Collaborative Governance process, considering they represent wicked problems.

Keywords: Digital government, Collaborative Governance, barriers, public management.

Resumo

Objetivo da pesquisa: Identificar e compreender as barreiras para a adoção da Política de Governança Digital pela Administração Pública brasileira, considerando o papel da Governança Colaborativa.

Quadro teórico: Governança digital significa fazer com que os governos usem as TICs para fornecer informações e serviços governamentais às pessoas. A Governança Colaborativa refere-se aos padrões de tomada de decisão coletiva e consensual em um conjunto mais amplo de instituições ligadas a uma gama mais ampla de atores e processos, geralmente aplicados para desvendar e resolver problemas complexos.

Metodologia: Foi realizada uma pesquisa exploratória qualitativa por meio de análise de políticas e entrevistas semiestruturadas com 11 gerentes de TIC de organizações públicas.

Resultados: As barreiras foram identificadas para cada estratégia de Governança Digital e, com base na literatura, foram classificadas em barreiras estruturais ou culturais, individuais, organizacionais ou estratégicas.

Originalidade: O presente estudo foi realizado para preencher duas lacunas de pesquisa. A primeira se concentra na Governança Digital para entender melhor as barreiras à sua adoção pelas organizações públicas. A segunda aborda o papel que a Governança Colaborativa desempenha na integração de atores na tomada de decisões coletivas para fazer com que os cidadãos participem da elaboração de políticas governamentais.

Contribuições e práticas: Este estudo traz duas contribuições principais tanto para o meio acadêmico quanto para os profissionais/atores públicos. A primeira é a identificação das barreiras estruturais e culturais que influenciam a adoção de políticas de Governança Digital. A segunda é a discussão sobre quais barreiras exigem um processo de Governança Colaborativa, considerando que elas representam problemas complexos.

Palavras-chave: Serviços, Governos, Tecnologia, Estratégias, Cidadãos.

Resumen

Objetivo de la Investigación: Identificar y comprender las barreras para la adopción de la Política de Gobernanza Digital por la Administración Pública Brasileña, considerando el papel de la Gobernanza Colaborativa.

Marco Teórico: Gobernanza Digital significa hacer que los gobiernos utilicen las TIC para proporcionar información y servicios gubernamentales a las personas. Gobernanza Colaborativa se refiere a los patrones de toma de decisiones colectivas y consensuadas en un conjunto más amplio de instituciones vinculadas a una gama más amplia de actores y procesos, generalmente aplicados para desentrañar y resolver problemas perversos.

Metodología: Se llevó a cabo una investigación exploratoria cualitativa mediante el análisis de políticas y entrevistas semiestructuradas con 11 gestores de TIC de organizaciones públicas.

Resultados: Se identificaron barreras para cada estrategia de Gobernanza Digital y, basándose en la literatura, se clasificaron en barreras estructurales o culturales, individuales, organizativas o estratégicas.

Originalidad: El presente estudio se realiza para cubrir dos lagunas de investigación. La primera se centra en la Gobernanza Digital para comprender mejor las barreras que dificultan su adopción por parte de las organizaciones públicas. La segunda aborda el papel que desempeña la Gobernanza Colaborativa en la integración de los actores en la toma de decisiones colectivas para conseguir que los ciudadanos participen en el diseño de las políticas gubernamentales.

Aportaciones y prácticas: Este estudio aporta dos contribuciones principales tanto al mundo académico como a los profesionales y actores públicos. La primera es la identificación de las barreras estructurales y culturales que influyen en la adopción de políticas de Gobernanza Digital. La segunda es el debate sobre qué barreras exigen un proceso de Gobernanza Colaborativa, considerando que representan problemas perversos.

Palabras clave: Gobierno digital, Gobernanza colaborativa, barreras, gestión pública.

1 Introduction

Public organizations have been expanding the democratic potential of using Information and Communication Technologies (ICTs) to encourage citizens' engagement in organizational processes. The main principle supporting this approach is that technology alone cannot determine the achievement of government high-level objectives but rather how ICT artifacts can be employed to reach these objectives (Panagiotopoulos, Moody, & Elliman, 2012). The main key to the success of ICT use in governments is its ability to manage the interactions of organizational and technical aspects (Scholl, Kubicek, Cimander, & Klischewski, 2012). Civil servants involved in digital government have been pressured to assess initiatives' results and justify the increasing public investment in ICT.

Even having different definitions, e-government involves the use of ICT, mainly the Internet, to deliver governmental services to citizens, businesses, and society, allowing greater interaction between actors and state agencies, twenty-four hours a day, seven days a week (Nawafleh, Obiedat, & Harfoushi, 2012; Saxena, 2005). It focuses on efforts to deliver services more efficiently and effectively (Greenberg & Newell, 2012; Tassabehji, Hackney, and Popović, 2016) to mitigate the excessive dependence on governmental mediation between services and citizens. However, the development of technological tools, changes in citizens' profiles, the number of actors involved, and the complexity of decision-making foster the rise of Digital Governance (d-governance) (Greenberg & Newell, 2012). It goes beyond digital services provided to citizens by promoting both greater transparency and citizen participation through online tools that can be developed by governments or by society itself.

In a fast-changing world, where citizens are more involved in discussions of society's issues, there are pressures to change the ICT-based governmental approach towards the relationship between government and citizens. Discussions on digital governance are common in several countries since it is seen as an attempt to reach a more citizen-centered government (Saxena, 2005). This new approach contrasts service-centered governments or even narrower views such as process-centered or civil-servant-centered approaches. However, these initiatives have not yet fully delivered the planned benefits, as they often focus on technology rather than governance or citizens' needs and expectations.

Governance is "a set of coordinating and monitoring activities that enable collaborative partnership or institution to survive" (Bryson, Crosby, & Stone, 2006, p. 48). Focusing on governance is relevant, considering that several governmental actors, or the ones in charge of delegated services, are necessary to provide such services to citizens. Consequently, it is essential to take a step further in digital governance to reach collaborative governance, which concerns "the public policy decision-making and management processes and structures that constructively engage people across public agencies' boundaries, governmental levels, or the public, private and civil spheres" (Emerson, Nabatchi, & Balogh, 2011). According to these authors, such structures and policy decision-making processes are defined to achieve a public purpose that, otherwise, could not be accomplished.

Several government efforts to foster participatory governance in ICT-enabled communities often fail to meet the desired and planned expectations; however, working collectively is the preference in many communities (Twinomurizi, Phahlamohlaka, & Byrne, 2012). This participatory model nurtures democracy since opinions and political actions based on forums, groups, or new virtual communities help develop civil society. The present research understands that ICTs, like all other organizational resources, must focus on value creation. Digital Governance acquires even more relevance in the public sector since its investments must generate the highest possible public values for citizens with limited resources (Meijer, 2015). This is so because the public sector must generate public value by, among other ways, wisely using ICT assets aligned with public interest defense.

Two research gaps lead the current research. The first focuses on Digital Governance and the need for a better understanding of public organizations' barriers to adopting Digital Governance (Meijer, 2015). The second is the role Collaborative Governance plays in integrating actors in collective decision-making, which might be a way to bring citizens to participate in the discussion of governmental policies. Consequently, the research questions driving this research are: what are the barriers to adopting Digital Governance? Can barriers related to lower levels of Collaborative Governance prevent Digital Governance initiatives from being citizen-centered and hinder public value creation?

This research analyzes the Digital Governance Policy (DGP) launched by the Brazilian Federal Government through Decree n. 8.638 (Decreto nº 8.638, 2016). The Chief of Staff coordinated the elaboration of the policy along with several ministries and public agencies. The whole public federal administration, including state-run companies and foundations, was compelled to gradually adopt this policy, which became a good opportunity to understand the initiative's context, goals, targets, and barriers. Therefore, the present study aims to identify and understand the barriers to the adoption of the Digital Governance Policy by the Brazilian Public Administration by considering the role of Collaborative Governance. Brazil is presenting good results in terms of governments using digital technologies. Apart from DGP, digital government policy has been changing the access to public services. Strategies for smart cities and telecommunications, as well as for reducing administrative burden, have been launched. Challenges related to access to digital services by the whole population remain, given the digital divide.

The ICT use for governments' administrative restructuring has been the goal of many researchers worldwide (Chadwick, 2003; Dawes, 2009) and some Brazilian authors (Sampaio, 2009, and Vaz, 2017) who focus on the reconfiguration of the ways services are delivered to citizens. However, these studies do not consider public engagement in collaborative decision-making structures and processes. As long as DGP is focused on digitally opening the government for citizens, this initiative should seek a more effective Collaborative Governance scenario.

In addition, these technologies' evolution has opened room for new government/citizen interaction forms that have made researchers from all continents broaden their studies in order to understand such a phenomenon (Dawes, 2008; Federici, Braccini, & Sæbø, 2015; Milakovich, 2012; Zamora, Barahona, & Palaco, 2016). ICT role in governance development in Brazil aims at creating strategic alignment and behavioral changes within public organizations (Luciano, Wiedenhof & Santos, 2016), as well as governance processes to allow citizens' participation in the national political-administrative context (Cepik & Canabarro, 2010), a fact that has also called scholars' attention.

2 Theoretical Background

2.1 Collaborative Governance

New governance models started to be presented by researchers, practitioners, and political actors in the late 1990s as a response to the democratic deficit in the European Union (Magnet, 2003). These participatory mechanisms, far from discontinuing the method, are the extension of the existing ones, besides being sustained by the same functionalist viewpoint. According to the aforementioned author, traditional governance models and their extensions remain limited to stakeholders; they do not lead to a common understanding of citizens' decisions or raise their general participation level.

Unlike the classic governance form, Collaborative Governance is not limited to closed institutions or dependent on the competencies of 'professional' politicians. It refers to decision-making patterns in place in a broader set of institutions linked to a wider range of actors and processes (Barnes, Newman, and Sullivan, 2004). Broadening the accepted notion of civil participation to spheres beyond the well-established and

constantly declining representative democracy procedures is one of the ambitions of those who endorse this new concept (Magnet, 2003).

Ansell and Gash (2008) define Collaborative Governance as a governmental arrangement in which one or more public agencies try to involve non-state stakeholders in a collective, although formal, decision-making process. This process must be consensus-oriented and deliberative in order to create or implement public policies or to manage public programs or assets. It refers to rules and mechanisms guiding collective decision-making for the common good. It is crucial to open up the government through digital services, open data and transparency, and social participation, which are the focus elements of Digital Governance.

2.2 Digital Governance

Digital Governance means having governments use ICTs to provide people with information and governmental services, to improve ICT services' quality, and to provide greater opportunities for citizens' participation. It involves both a new leadership style and a new way of making public policy and decisions about investments (Kalsi & Kiran, 2015). Thus, DG has evolved as a governance model that harnesses the public sector's potential to use appropriate technologies to improve internal and external governance relationships at different governmental levels. The objectives of Digital Governance are to promote democracy, expression, and human dignity; to support economic development, and to encourage the efficient and effective delivery of services to society (Saxena, 2005).

The concepts of "electronic government," "digital government," "electronic governance," and "digital governance" are adopted by several researchers as synonyms for the same process (Guimarães & Medeiros, 2005; Heckert & Aguiar, 2016). Terms "Electronic Government" and "Digital Governance" will be herein used, as well as the definition of Digital Governance described by Kalsi and Kiran (2015), namely: using ICT to conveniently provide information and promote citizens' participation. Bannister and Connolly (2012) highlight some common features of Digital Governance; among them, on finds (i) Using ICT to support public services and democracy; (ii) Governance model; (iii) Functions that empower citizens; (iv) Networks and relationships; (v) ICT using to improve governance; and (vi) State/citizen relationship mediated by technology.

Dawes (2008), in her study on Digital Governance development (in terms of technology adoption, policy development, and implementation of priorities) in the United States describes its five aims:

- a) Building a political framework – statutes and policies to legitimize the established political goals and rules of Digital Governance to be used as information sources by the involved actors;
- b) Improving public services - provided to citizens or companies that seek governmental information or services, based on the customer-oriented approach;
- c) High-quality and cost-effective government operations – professional and technical public management improvements by seeking efficiency, adequate infrastructures, investments, organizational innovation, and performance evaluation;
- d) Citizens' involvement in the democratic process – by using technologies to enable greater interaction with the public in accessing information and public consultations; and e) Administrative and institutional reform – with emphasis on accountability, transparency, and society's trust in governance processes (it must be achieved by defining the roles of government, citizens and society).

Accordingly, Savoldelli, Codagnone, and Misuraca (2014) - in research to identify barriers to the e-gov services adoption - observed that the assessed barriers in the European Union context could be grouped into three types: economic-technological, managerial-organizational, and political-institutional. Thus, Meijer (2015) defined barriers to (measured or perceived) Digital Governance innovation as legal, social, technological, or institutional features of contexts that work against governance development. It is so, because they impair the demand, and act as a disincentive or obstacle, for users to get involved in Digital Governance;

or impair the supply, and act as a disincentive or obstacle for public sector organizations to offer Digital Governance; limit efforts to reconfigure access to information, people and public services in an ICT-enabled way. In addition, Meijer (2015) pointed out the following categorization: (i) governance barriers, which encompass organizational, inter-organizational, financial, and technological barriers; (ii) governmental cultural barriers; (iii) citizens' structural barriers, such as digital exclusion; and (iv) cultural barriers on the citizens' side.

Thus, there are significant political, economic, and technical barriers to governmental development as a learning organization where information flows freely between civil servants and citizens. Sophisticated data sharing by governmental agencies threatens resistance to individual privacy, mainly when citizens become more aware of it (Chadwick, 2003). Table 1 shows the assessed barriers based on Meijer (2015).

Barriers	Government	Citizens
Structural	Legal restrictions, insufficient funding, staff and technical skills, insufficient support from managers and from top management, and technological constraints.	Insufficient technological facilities, limited knowledge and skills, insufficient time of integration to innovation in daily routines.
Cultural	Resistance to change, fear that innovation will weaken the robustness of government, and attachment to bureaucracy.	Insufficient interest, little confidence in government, negative governmental image, no perceived utility, and resistance.

Table 1 – Digital Governance Barriers

Melitski, Carrizales, Manoharan, and Holzer (2011) identify that (i) individual barriers include personnel issues, such as insufficient training, education or motivation; (ii) organizational barriers take place due to insufficient resources, coordination constraints, insufficient communication and when group culture is not taken into account; and (iii) strategic barriers involving policies, and other external constraints, that may inhibit success, by analyzing the individual, organizational and strategic barriers. Technical barriers, at a personal level, are information failure and data integrity issues, whereas organizational-level technical barriers include the complexity and integrity of project systems (including hardware and software). Technical barriers at a strategic level include infrastructure needs, system integration, information architecture, and alignment between strategic goals and the main technologies in use (Table 2).

Individual	Organizational	Strategic
Insufficient training; Personnel without proper qualification; Insufficient number of public employees.	insufficient of support from managers; Insufficient planning; Insufficient internal communication planning; High complexity of projects.	Insufficient of support from politicians; Exaggerated submission to the defined goals; Inadequate infrastructure.

Table 2 - Individual, organizational and strategic barriers

Source: Melitski et al. (2011).

It is possible to observe that organizational management barriers are the most common ones, as identified by participants in the present study. Critical organizational barriers include a insufficient support, planning, communication, and resources at the organizational level. Interestingly, of the eleven identified barriers to success, only two were of technical nature, namely, overly complex projects and inadequate infrastructure (Melitski et al., 2011).

3 Research Method

This cross-sector exploratory research adopted a qualitative focus due to the phenomena being analyzed and the research question aimed to be answered, as well as the performed data collection and analysis procedures, following the recommendations of Sampieri, Collado and Lucio (2006). Data collection was performed through document analysis and semi-structured interviews.

Document analysis was used to assess and understand the DGP, aiming at identifying expectations and strategies defined by the Brazilian Federal Government in order to reach DGP goals. Documents were selected based on their relevance, prioritizing official documents and academic research related to digital governance in the Brazilian public administration.

Document analysis results were the very basis for the elaboration of the interview script. The first of the three-section interview script was based on three open-ended questions focusing on identifying the hindrances to achieving the policy goals. The second section inquired interviewees about the difficulties in adopting the DGP strategy; it regarded 10 strategic goals and the current barriers observed by the interviewees. The third section was related to identifying interviewees' features and their department characteristics.

Interviewees were all selected by convenience, having as selection criteria to work in IT leadership and digital governance-related activities for at least five years and to be part of all the steps of decision-making processes, from modeling to implementing and evaluating digital governance initiatives. The selection criteria did not aim to have a sample of civil servants but were non- probabilistic, based on the authors' network. It is suitable, considering the qualitative purpose of this research and the focus on deeply understanding respondents' contextualized perceptions, experiences and interactions within the studied phenomena. Interviewees belong to 10 different governmental offices and organizations and were experts in ICT and governance, bringing to the analyzed phenomena a variety of viewpoints. All interviews were one-on-one and lasted 45 minutes on average, were recorded and later transcribed. Data saturation was reached after nine interviews.

Two rounds of interviews were performed, one focused on the identification of DGP barriers, and the other aimed at associations with Collaborative Governance challenges. Interviews were conducted with 11 civil servants (identified as R1 to R11) in charge of IT Management in several Brazilian governmental offices or state-run companies to identify DGP-related aspects, mainly the barriers to its adoption. The semi-structured interviews helped find more realistic and detailed answers and avoid misinterpretations about governance adoption, based on the adoption of the best practices.

Data analysis was performed through categorical content analysis, which considered the definitions presented by Bardin (2010). In the following section, quotes from respondents are presented, followed by the num of coded in each category resulted from the categorization process. The used codification tree shows the data organization and categorization, contributing to rigor and methodologic transparency and results credibility.

4 Data Analyses

Data analysis and research interpretation are discussed below.

4.1 Digital Governance Strategies Identification

Digital Governance strategies were identified through document analysis, more specifically, through the DGP analysis. The ICT Department of the Ministry of Planning, Budget and Management conducted the discussions about this policy and its elaboration. The Digital Governance policy aims at the integration of all Digital Governance-related initiatives in public administration to increase the effectiveness of these initiatives

themselves, and the generation of benefits for the whole Brazilian society, especially by improving government/citizens relationship. It must be done by broadening the access to governmental information, improving digital public services, and increasing social participation.

The need of refreshing and repositioning Brazilian e-gov initiatives dates back to the early 2010s, and it was the main reason for DGP creation, bringing to the e-government strategy not only the most recent technologies, but also the endeavor of opening the government. The concept of electronic government linked to informatizing services delivered by governments to society was expanded to the Digital Governance concept, according to which, citizens are no longer passive and started participating more actively in public-policy creation. Citizens' participation happens face-to-face and through Internet.

Reference documents in the international scenario, like the recent publication of the Organization for Economic Cooperation and Development (OECD, 2014), were considered. They recommend governments to develop and implement Digital Governance strategies focused on the following elements:

- a) Ensuring greater transparency, openness, and inclusiveness in government processes and operations;
- b) Encouraging the engagement and participation of public, private, and civil society stakeholders in both policy-making and public service design and delivery;
- c) Creating a data-driven culture in the public sector; and
- d) Reflecting a risk-management approach to address digital security and privacy issues, and include effective and appropriate security measures to increase governmental services reliability.

The OECD (2014) recommends that at the time to develop their digital governmental strategies, governments should:

- a) Secure leadership and political commitment to the developed strategy by combining efforts aimed at promoting inter-ministerial coordination and collaboration, setting priorities, and facilitating the engagement and coordination of relevant agencies across several government levels to comply with the digital government agenda;
- b) Ensure the coherent use of digital technologies across policy fields and governmental levels;
- c) Establish effective organizational and governance frameworks to coordinate the implementation of digital strategies within and across different governmental levels; and
- d) Strengthen international cooperation with other governments to better serve citizens and businesses across borders, and maximize benefits resulting from early international knowledge sharing and coordination of digital strategies.

A set of strategic principles and objectives was identified in the DGP, as shown in Table 3.

Axis	Strategic goals
Information access	1. Fostering open-data availability and proper use 2. Broadening ICT use to promote transparency and to publicize the use of public resources 3. Guaranteeing information security and State communication, as well as the confidentiality of citizens' information
Delivery of services	4. Expanding and innovating digital services delivery 5. Improving governance and management through ICT use 6. Facilitating and universalizing the use and access to digital services 7. Sharing and integrating data, processes, systems, services, and infrastructure
Social participation	8. Fostering collaboration to the public policies cycle 9. Increasing and encouraging social participation in public services' creation and improvement 10. Improving the direct and indirect interaction between government and society

Table 3 – Strategic Goals of Digital Governance Policy

Source: Decree nº 8.638 (2016b)

These strategic goals should follow a set of nine principles that guide Digital Governance activities in public administration, namely: focus on society's needs, openness and transparency, sharing service capability, simplicity, prioritization of digital public services, information security and privacy, social control and participation, government as an open platform, and public services based on innovative solutions.

The policy central focus is to increase benefits to society and create public value by operationalizing the policy goals (Table 3), respecting its principles. The policy draft was discussed with society in several seminars with federal government civil servants, civil servants from other governmental branches (judiciary and legislative), and subnational government (states and municipalities), as well as researchers and business or professional association representatives.

4.2 Digital Governance Barriers Identification

The first analyzed strategic goal was related to fostering the availability and use of open data by encouraging the disclosure of governmental and State-run companies' data. Other aspects are related to respecting citizens' personal data confidentiality and the promotion of open data use by society, not only for social control and transparency purposes but also for social innovation. It involves non-governmental initiatives to provide services through applications to address society's issues or produce scientific research based on open data. A set of 35 pieces of evidence was found after the content-analysis coding process.

Barriers to open data (Table 4) were grouped according to Janssen, Charalabidis and Zuiderwijk (2012) research (first column).

<i>Barrier Category</i>	<i>Subcategories</i>	<i>Interviewees Citing It</i>	<i>Number of Citations</i>
<i>Institutional (17)</i>	Excessively departmentalized organizational structure	R2	1
	Administrative burden and excessively bureaucratic relationship	R4, R7	2
	Insufficient staff	R9, R11	2
	Misconception on data property	R1, R6, R8	6
	Contracts among government and IT companies demanding complex negotiations for database opening	R5, R6	2
	Cultural Issues	R4, R2, R5, R7	4
<i>Information Quality (7)</i>	Insufficient information validity procedures	R1, R10	2
	Civil servants' low confidence in data quality	R10	3
	Civil servants' low confidence in proper data use by citizens	R10	2
<i>Task Complexity (4)</i>	Insufficient proper information management	R3, R5, R6	4
	Non-integrated database due to non-integrated systems	R2, R5, R6	4
<i>Use and Participation (2)</i>	Citizens' insufficient interest in data	R4	2
<i>Legislation (2)</i>	Insufficient proper legislation	R3	2
<i>Technical (2)</i>	Unsatisfactory access to proper technologies	R7, R10	2

Table 4 – Barriers to the implementation of the open data goal

Source: Authors

Institutional barriers were the most frequent ones, followed by barriers related to information quality. Misconception about data ownership was the main factor that caused institutional barriers. This statement assumes that the IT companies own the data, which can be a substantial barrier since it involves a conflict between being technical guardian roles and disclosing information. In the Brazilian scenario, the federal government and all state governments maintain juridically independent IT companies, where governments are

the main owners. This organizational model started after the end of a 14-year market protection law banning the importation of IT assets in 1991, as a way to protect the main operators of government IT projects. Consequently, governmental data are stored in and by a separate company, which demands complex contracting for their disclosure.

Information quality was also an important barrier, provided civil servants mentioned they do not feel confident that the data they disclose is a proper answer to some society's requests. Civil servants are accountable for the information they provide in the Information Access Law, created in Brazil in 2011 to tackle active and passive transparency. Most of the time, it is necessary to cross information from several systems, manually or not, and they do not feel totally confident about this procedure or the information integrity. Thus, they are afraid of having image issues, suffering some disciplinary punishment, or career progression damage.

The second strategic goal is to broaden ICT use to promote transparency and disclose public resource use. This goal focuses on expanding ICT use to provide reliable, timely, and up-to-date information to society on the results of public financial resources use.

After the content-analysis coding process, a set of 25 data (evidence) was found. The potential barriers to ICT-enabled transparency efforts identified in the research by Bertot, Jaeger, and Grimes (2010) were used to group this evidence. These barriers are mentioned in the first column of Table 5, which also shows evidence for each strategic goal (multiple citations from each respondent).

As an example, institutional barriers emerge when factors related to the organization itself act as a way to hinder open data disclosure. It can be related to organizational structure, ill-defined processes, and contracts that are difficult to execute. Currently, institutional barriers. They are the ones that, over time, cause civil servants to give up on projects because they tried countless times but ran into a barrier defined by someone with greater hierarchical or symbolic power or even situations that no one can explain why they didn't go ahead.

Information quality barriers are mostly related to civil servants being afraid to share information because they do not (completely) trust the information quality. For example, a civil servant responsible for sharing data in a passive transparency process does not trust the database or the process to obtain the requested data (most times, using third-party software, like Excel, to connect data from different systems). This civil servant is forced to send the answer to the question and is responsible for that – but he/she is afraid of some issue related to the data quality or, even more, an administrative process because of some error. Technical doubt can also increase the chance of it happening. It results in the accumulation of technical debt that will eventually need to be paid off when someone from the ICT team ignores programming and design best practices.

Another example is when civil servants are afraid of disclosing data with citizens, considering they can misuse it. Even considering this as a risk, this barrier must be overcome to avoid citizens' lack of participation. Civil servants can feel more afraid when there is no specific legislation related to open government innovative practices that differ from the canonic functions.

<i>Categories of Barriers Related to Transparency</i>	Evidence	Interviewees Citing It	Number of Citations
Insufficient Managerial Leadership and Political Support from Local Government (9)	Priorities are not clear	R5, R7	3
	Not being aware of ICT as a strategic barrier	R5, R7, R1	4
	Little use of data in decision-making	R1	2
Civil Servants' Resistance to Use ICT (5)	High-level managers' insufficient interest	R7, R3	2
	Resistance to use new ICTs	R3, R6	1
	Necessity to develop data analysis applications	R6	1
	Administrative burden	R7	1
Insufficient Trust on Social Institutions (5)	Low focus on citizens' necessities	R1, R2, R3, R4	5
Low Governmental and Technological Literacy Levels (3)	Low levels of ICT-related knowledge	R2, R6	3
	Data disclosure in formats that are not understood by the population	R5	1
Insufficient Financial, Technical or Personnel Skills (1)	Insufficient data disclose and publicity	R4	1
Insufficient or Inadequate Technological Infrastructure (0)	-	-	-

Table 5 – Barriers to the implementation of the transparency goal

Source: Authors

Most cited barriers were related to insufficient proper management and political support. This finding shows that governments cannot yet deal with transparency as a new standard to govern. There are ongoing efforts, but a whole culture of opacity needs to be changed; it is a journey that takes time and effort. Several government representatives still understand transparency as a way media will confront them. They struggle to understand it is part of the democratic processes, and that sharing data is also a way to share responsibility with society properly. Respondents are aware of the relevance of government data disclosure, but they do not feel supported by their superiors, thus perceiving high personal risk. According to interviewees, they do not acknowledge technological barriers to open disclosure, and this finding is somehow contradictory. This dissonance is a factor to be assessed in future research.

The third aim focuses on guaranteeing information security and state communication, as well as the confidentiality of citizens' information. It regards the availability, integrity, confidentiality, and authenticity of information assets protected by the state, as well as the protection of personal information and intellectual property. Sixteen barriers were coded by the content analysis and grouped into four sets:

- (7 citations) Insufficient proper data classification and traceability (R1, R2, R3, R4, R8, R10);
- (3 citations) Insufficient information security-related concerns (R1, R4);
- (3 citations) Insufficient proper investments (R6, R7, R11); and
- (3 citations) Insufficient proper coordination and governance (R7).

Insufficient proper data classification and traceability is also a barrier to open-data strategies. It highlights the need to establish data governance based on a structured and formal process that specifies the decision rights and responsibilities aiming at adequate data classification and disclosure.

The fourth strategic aim - which is the first one on the delivery of services axis - concerns expanding and innovating the delivery of digital services made available through digital means (e-services), innovative processes, and technologies to meet society's needs. A set of 23 barriers was identified and grouped into six categories:

- (7 citations) Unfamiliarity with ICT applications and benefits (R5, R6, R7, R8, R9);
- (6 citations) Conservatism and digital-services culture absent (R1, R3, R5, R10);

- c) (3 citations) Civil servants' resistance to changes (R7);
- d) (3 citations) High financial costs (R5, R9, R10);
- e) (2 citations) Insufficient focus on citizens' necessities and on public value creation (R2, R7);
- f) (2 citations) Insufficient of proper data classification and traceability (R5, R10).

It is difficult to overcome this set of barriers, even after several years of discussions and initiatives related to e-services as part of the e-government scope. This particular issue regards the ingrained unilateral way governments think and plan services, not considering citizens as the very core of the development process. Besides, unfamiliarity with ICT benefits remains a barrier because this discussion is based on technologies rather than on strategies that are operationalized through technologies.

Governance and management improvement through ICT use is the fifth analyzed strategy. It concerns governance and management improvement in work processes supporting services and public policies by using technological resources and by contributing to the public-management modernization scope. A set of 24 barriers was identified and grouped into six categories:

- a) (5 citations) Insufficient proper governance (R2, R3, R5);
- b) (5 citations) Insufficient strategically thinking on ICT (R1, R5, R7, R8);
- c) (4 citations) Insufficient understanding of processes, services, and accountability applications (R4, R6, R10);
- d) (4 citations) Insufficient number of civil servants (R1, R5, R11);
- e) (4 citations) ICT companies' delay in attending government requests (R2, R3, R7);
- f) (2 citations) Insufficient integration among governmental offices (R2, R9).

This set of barriers can be considered the strongest one considering the interviewees' manifestations. Insufficient proper governance is worrisome, not just because governance is fundamental for public organizations, but because it can reinforce all other mentioned barriers.

The sixth strategy of the delivery-of-services axis regards sharing and integrating data, processes, systems, services, and infrastructure. It concerns simplifying the use of and access to digital public services, regardless of their organizational structure, platform, and knowledge. A set of 14 barriers were identified and grouped into four categories:

- a) (7 citations) Insufficient e-services' planning and strategy (R1, R2, R9, R11);
- b) (3 citations) Difficulties to have a unique and integrated service portal (R8, R11);
- c) (2 citations) Insufficient incentives for e-services' use by citizens (R2, R3); and
- d) (2 citations) Services planned by technicians to technicians, rather than to citizens (R7, R11).

Although the number of barriers is not big, these barriers have a strong impact on the delivery of services because they relate to strategy issues, having a significant influence on the digital governance adoption.

The next strategy relates to the social participation axes, and it focuses on fostering collaboration in the public policies cycle and on encouraging society's participation in the whole public-policies cycle. This process demands direct interaction between citizens and the government to express their demands, monitor policies' implementation, and assess the process impact. A set of 25 barriers were identified and grouped into four categories:

- a) (12 citations) Insufficient citizens' involvement in the government (R1, R3, R6, R7, R10, R11);
- b) (6 citations) Insufficient incentives for citizen participation and citizens' insufficient interest in it (R2, R3, R4, R5, R9, R10);
- c) (3 citations) Insufficient proper information disclosure (R4, R7, R11); and
- d) (4 citations) Government mainly focused internally (R5, R9, R11).

The insufficient citizens' involvement in the government was the barrier with the largest number of citations in the whole research, which is very concerning not to involve citizens in government discussions and decision-making processes through proper social participation. Interviewee 6 summarized this aspect: "Government has to be a hand that goes to the citizen and not the contrary" (R6). Following this idea, digital

governance is difficult to happen without efforts from both “sides” – which is a word mentioned several times by the interviewees. According to Interviewee 3, “Citizens do not feel as part of the government, so they complain in social media more than participate in the few proper channels (R3)”.

The tenth strategy aims at the improvement of direct and indirect interaction between government and society. It focuses on the continuous improvement of such interaction through digital, social, and other technological means by considering the accessibility of all people to all used instruments, regardless of their physical-motor, perceptive, cultural, or social skills. A set of 18 barriers were identified and grouped into four categories:

- a) (7 citations) Insufficient citizens’ involvement in government discussions and decisions (R1, R2, R3, R5, R10, R11);
- b) (4 citations) Absent proper understanding of state functions and accountabilities (R2, R8, R9, R10);
- c) (3 citations) Inadequate number of civil servants and their limitations to deal with the digital era (R4, R7, R11);
- d) (4 citations) Inadequate communication between government and citizens (R4, R7).

According to interviewees, insufficient citizen involvement in the government is a relevant barrier. It is connected to the absence of a proper understanding of state functions and accountabilities.

An example of insufficient managerial leadership and political support from local government is when middle managers try to implement changes—notably on data disclosure or transparency—and their superiors are either unable to follow the discussion or see ICT as magical solutions. This behavior might contribute to high-level managers not using data for decision-making processes.

Civil servants’ resistance to using ICT can be exemplified by someone who lacks the necessary skills to use ICT tools, feels threatened by ICT solutions, and responds to them with resistant behavior or lack of interest in using ICT in their own sector. These insufficient skills show that low literacy levels occur not just in society but also within the government, and it can be because of insufficient financial resources to invest in courses for them or even the insufficient number of civil servants, so they don’t have time to attend formal capacitation.

5 Discussion

The 186 codes identified through content analysis (previously discussed) were categorized based on the barrier types proposed by Meijer (2015), namely structural and cultural, and on the dimensions proposed by Melitski et al. (2011), namely individual, organizational, and strategic.

Based on the results, most barriers are structural rather than cultural, as well as organizational and strategic rather than individual. Cultural variables are often part of governments’ ICT use barriers. This finding, assumingly, shows interviewees’ narrow viewpoints or is a way to keep the debate at a more generic level. Structural and organizational barriers demand immediate and strong action to mitigate them since they can most likely compromise the digital governance strategy.

Considering the second research question, another round of data analysis applied to interviewees’ statements was performed to assess whether barriers resulted from insufficient proper Collaborative Governance strategies based on the structural complexity dimensions proposed by Huxham et al. (2000). These six inter-related dimensions are shown in Table 6; they represent inherent collaboration features that have an impact on Collaborative Governance and can hinder its outcomes due to the complexity of a number of organizations making efforts to work together in pursuit of a common purpose. The second column shows some statements supporting the dimensions.

<i>Structural Complexity Dimension</i>	<i>Evidence</i>	<i>Interviewees Citing It</i>
Working Relationships	"Digital Government Barriers is a matter of power, a matter of resources and, more than that, it is a matter of everyone's involvement, which is not easy"	R1
	"We need to involve several areas to do anything. It only gets more difficult considering our management culture where every department is isolated from the others. These two things combined are the source of a great barrier. It also poses risk for services' supply"	R2
	"When data sharing uses data from more than one department, we can see the nefarious effect of departmentalization: each department thinks of itself as the owner of its data in a possessive way"	R2
	"We have remarkable difficulties when we need to use data from databases from other departments. But would the state not own the data?"	R5
Organizational Membership	"Governance needs a broader view. It is not a single manager's decision. This is, perhaps, the main barrier to the adoption because lack of proper governance weakens citizens' influence over civil servants"	R2
	"The offices and ministries often do not talk to each other and when it comes to creating means of access to users, each one wants to create its own initiatives, to be the protagonist and to generate spontaneous publicity. But should not the public servants serve the public?"	R8
	"Several colleagues do not like sharing data. [...] They may think they are going to lose the control over them"	R8
	"If I need some information related to a civil servant profile, I need to call HR and explain the reason and all details, and even doing so, I can get a negative answer"	R5
Governance and Task Structures	"Departments do not work together in a good manner and there is no proper effort coordination"	R1
	"One of the most important barriers is that departments do not work well together in projects and tasks, and planning does not consider it. Departments need to work as a whole"	R2
	"Governance is part of the government concept and governments' decision-making should be under a governance regime in order to be closer to the society"	R3
	"The government has to define the problem and bring society to work together to develop solutions. Or, more than that, bring society to identify the problem"	R8
Pluralism	"In many initiatives, people from different groups do not freely cooperate"	R3
	"Integration is the key. Integration and cooperation. Work together, as a whole"	R9
	"Sometimes the focus of our activity is not clear. The focus should be the citizen, not the government itself"	R10
Ambiguity	"I took part in projects when things were happening very slowly, but sometimes there was so much pressure to accomplish an objective that we did not have enough time to do things with the necessary quality"	R7
	"The roles and responsibilities' matrix is not clear"	R10
Dynamics	"The daily problems are so common and big that they affect the departments' dynamic. It hinders both innovation and focus on citizens"	R5
	"Most of the time we continue trying, but sometimes we give up, because it is so difficult!"	R11

Table 6 – Evidence on Collaborative Governance structural complexity

Source: Authors

An example of the dynamics of collaborative governance and digital governance in the Brazilian context can be seen in the Participatory Budgeting model implemented in several cities across the country, where citizens are actively involved in defining public spending priorities. In addition, initiatives such as the Federal Government's Social Participation Portal illustrate how digital technologies can increase collaboration and transparency in government decisions, promoting more participatory and inclusive governance. The partnership between different spheres of government, civil society organisations and the private sector in social innovation projects also highlights the importance of collaborative governance in driving sustainable development and solving complex problems. These concrete examples highlight how collaboration between different actors can strengthen digital governance and generate a positive impact on Brazilian society.

However, based on the collaboration-continuum proposed by Starfish Initiatives (<http://starfish-initiatives.org/services/collaborative-governance>), the most common Brazilian governmental scenario is no longer competing or co-existing (the first and more basic stages of it), but moving from communication to cooperation. Just a few initiatives can be considered to be moving from cooperation to coordination. Collaboration and integration stages are the last and most advanced stages of a collaboration-continuum; they also indicate when Collaborative Governance is at its peak. Accordingly, lower Collaborative Governance levels can prevent Digital Governance initiatives from happening and hinder the effectiveness of their results.

Furthermore, the effective implementation of digital governance can be influenced by various causes and factors beyond those identified in this study, depending on the specific context of the studied government unit. Insufficient managerial leadership and political support cause a significant challenge, as the absence of clear direction and political backing can hinder the adoption of innovative digital solutions. Furthermore, civil servants' resistance to ICTs is a common issue that can impede the complete adoption and utilization of these tools. Low governmental and technological literacy levels also emerge as an obstacle, as the scarcity of knowledge on governmental and technological matters can undermine the acceptance of digital changes.

Low trust levels in social institutions are another fundamental cause affecting citizens' adherence to digital solutions. When citizens present low levels of trust in institutions, they are less likely to actively engage with government digital platforms. Additionally, the lack of adequate financial and technical resources or personal skills can pose a significant challenge to successfully implementing digital governance. Insufficient investment in infrastructure, training, and human resources can limit the effectiveness of digital initiatives and hinder the delivery of quality services to citizens. Therefore, by addressing these underlying causes, policymakers and practitioners can develop more targeted and effective strategies to overcome barriers to digital governance and promote positive transformation in the public sector.

Thus, based on data collection and analysis results, it is possible to observe the association between barriers to digital governance adoption within the Brazilian context and insufficient Collaborative Governance. The adoption of digital governance is strengthened by Collaborative Governance, but it is also limited when governments and other actors (e.g., the ones who have delegated functions) do not coordinate efforts. When strategies are defined together by all governmental actors, which is the easiest way to institutionalize these strategies, citizens are more likely to have access to information and high-quality service delivery. Consequently, it is possible to create and maintain social-participation mechanisms, according to which citizens can contribute to developing new services and guiding public policies and governmental strategies.

6 Final Remarks

The current study aimed to identify strategies and barriers to the adoption of digital governance by the Brazilian public administration. A set of 10 strategic objectives grouped in three axes was identified by analyzing the Brazilian Digital Governance Policy. These axes aimed to ensure citizens' access to information, the development of citizen services, and societies' participation in developing new services, governmental policies, and other strategies. The association between identified barriers and challenges resulting from insufficient proper Collaborative Governance was also analyzed, showing that this type of governance can foster or hinder Digital Governance initiatives. Collaborative Governance concerns cooperation, coordination, collaboration, and integration; moreover, these stages are necessary to achieve Digital Governance goals.

The present study's main academic contribution lies in identifying associations between Digital and Collaborative Governance, as well as the structural and cultural barriers influencing the association between strategies and the adoption of digital governance. The contribution to public policymakers relies on the best understanding of adopting Digital Governance through public agents. Brazilian national culture presents a more prominent focus on execution rather than on planning, so this study contributes by calling attention to

addressing all the barriers – solving or mitigating them – before stating the implantation. In addition, the results can be a reference for the definition of strategies to mitigate the effects of structural and cultural barriers that influence the effectiveness of digital governance practices. These effects can also be mitigated by improving collaboration and integration between government actors and civil society.

Research limits rely on respondents, all of whom are from executive power, which may create biased answers. Since this study aims not to frame the phenomenon to statistic-measured constructs and variables, readers may benefit from the sociopolitical characteristics of the organizations where respondents work.

Given its exploratory and qualitative approach, the present results can be part of future investigations. Interviews were conducted with public administration agents linked to direct administration in Brazil, and this feature can be considered a study limitation. Further research can include other branches of Brazilian public administration or other contexts, aiming to verify the impact of the national culture on digital governance strategies and barriers, as well as the impact of collaborative governance stages on digital governance effectiveness. Developing studies to strengthen the herein-identified strategies, such as enabling digital governance adoption by public administration, is also recommended. Nonetheless, this research can be considered as a first step (exploratory), deeply analyzing the phenomena, and a second step (quantitative research) can be conducted to investigate in a broader set of respondents the effect of barriers under explanatory research.

References

- Ansell, C., & Gash, A. (2008). *Collaborative governance in theory and practice*. Journal of public administration research and theory, 18(4), 543-571.
- Bannister, & Connolly. (2012). *Defining e-governance*. E-Service Journal, 8(2), 3. <https://doi.org/10.2979/eservicej.8.2.3>
- Bardin, L. (2010). *Análise de conteúdo* [Content analysis] (LA Reto & A. Pinheiro, Trans.). Lisboa, Portugal: Edições, 70.
- Barnes, M., Newman, J., & Sullivan, H. (2004). *Power, participation, and political renewal: theoretical perspectives on public participation under new labour in Britain*. Social Politics: International Studies in Gender, State & Society, 11(2), 267-279.
- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). *Using ICTs to create a culture of transparency: e-government and social media as openness and anti-corruption tools for societies*. Government Information Quarterly, 27(3), 264–271. <https://doi.org/10.1016/j.giq.2010.03.001>
- Cepik, M., & Canabarro, D. R. (2010). *Governança de TI*. (W. Editor, Ed.). Porto Alegre.
- Chadwick, A. (2003). *Bringing e-democracy back in*. Social Science Computer Review, 21(4), 443–455. <https://doi.org/10.1177/0894439303256372>
- Dawes, S. S. (2008). *The evolution and continuing challenges of e-governance*. Public Administration Review, 68(SUPPL. 1), 86–102. <https://doi.org/10.1111/j.1540-6210.2008.00981.x>
- Dawes, S. S. (2009). *Governance in the digital age: a research and action framework for an uncertain future*. Government Information Quarterly, 26(2), 257–264. <https://doi.org/10.1016/j.giq.2008.12.003>
- Decreto nº 8.638 de 15 de janeiro de 2016*. Institui a Política de Governança Digital no âmbito dos órgãos e das entidades da administração pública federal direta, autárquica e fundacional, Diário Oficial da União (2016). <https://doi.org/ISSN 1677-7042>
- Federici, T., Braccini, A. M., & Sæbø, Ø. (2015). *'Gentlemen, all aboard!' ICT and party politics: reflections from a mass-e-participation experience*. Government Information Quarterly, 32(3), 287–298. <https://doi.org/10.1016/j.giq.2015.04.009>
- Greenberg, S., & Newell, A. (2012). *Transparency issues in e-governance and civic engagement*. In Active Citizen Participation in E-Government (pp. 44–64). IGI Global. <https://doi.org/10.4018/978-1-4666-0116-1.ch003>
- Guimarães, T. D. A., & Medeiros, P. H. R. (2005). *A relação entre governo eletrônico e governança eletrônica no governo federal brasileiro*. Cadernos EBAPE.BR, 3(4), 01–18. <https://doi.org/10.1590/S1679-39512005000400004>
- Heckert, C. R., & Aguiar, E. L. de. (2016). *Governança digital na administração pública federal: uma abordagem estratégica para tornar o governo digital mais efetivo e colaborativo - a ótica da sociedade*. In Congresso de Gestão Pública - Consad (p. 18). Brasília.
- Janssen, M., Charalabidis, Y., & Zuiderwijk, A. (2012). *Benefits, adoption barriers and myths of open data and open government*. Information Systems Management, 29(4), 258–268. <https://doi.org/10.1080/10580530.2012.716740>
- Kalsi, N. S., & Kiran, R. (2015). *A strategic framework for good governance through e-governance optimization*. Program, 49(2), 170–204. <https://doi.org/10.1108/PROG-12-2013-0067>

- Luciano, E. M., Wiedenhoft, G. C., & Santos, F. P. dos. (2016). *Understanding the IT governance adoption expectations in public organizations*. In XL EnANPAD (pp. 0–14).
- Magnette, P. (2003). *European governance and civic participation: beyond elitist citizenship?* Political studies, 51(1), 144–160.
- Meijer, A. (2015). *E-governance innovation: barriers and strategies*. Government Information Quarterly, 32(2), 198–206. <https://doi.org/10.1016/j.giq.2015.01.001>
- Melitski, J., Carrizales, T. J., Manoharan, A., & Holzer, M. (2011). *Digital governance success factors and barriers to success in Prague*. International Journal of Organization Theory and Behavior, 14(4), 451–472. <https://doi.org/10.1017/CBO9781107415324.004>
- Milakovich, M. E. (2012). *Digital governance: new technologies for improving public service and participation*. Routledge. <https://doi.org/10.4324/9780203815991>
- Nawafleh, S., Obiedat, R., & Harfoushi, O. (2012). *E-government between developed and developing countries*. International Journal of Advanced Corporate Learning (ijAC), 5(1), 1–12. <https://doi.org/10.3991/ijac.v5i1.1887>
- Panagiotopoulos, P., Moody, C., & Elliman, T. (2012). *Institutional diffusion of eparticipation in the english local government: is central policy the way forward?* Information Systems Management, 29(4), 295–304. <https://doi.org/10.1080/10580530.2012.716991>
- Sampaio, R. (2009). *Governança eletrônica no Brasil: limites e possibilidades introduzidos pelo orçamento participativo na internet*. Planejamento e Políticas Públicas - PPP, 33(jul/dez), 124–143. Retrieved from http://www.academia.edu/865460/Governanca_eletronica_no_Brasil_limites_e_possibilidades_introduzidos_pelo_Orcamento_Participativo_na_Internet
- Sampieri, R. H., Collado, C. F., & Lucio, M. D. P. B. *Metodologia de pesquisa*. 3. ed. São Paulo: McGraw-Hill, 2006.
- Savoldelli, A., Codagnone, C., & Misuraca, G. (2014). *Understanding the e-government paradox: learning from literature and practice on barriers to adoption*. Government Information Quarterly, 31(SUPPL.1). <https://doi.org/10.1016/j.giq.2014.01.008>
- Saxena, K. B. C. (2005). *Towards excellence in e-governance*. International Journal of Public Sector Management, 18(6), 498–513. <https://doi.org/10.1108/09513550510616733>
- Scholl, H. J., Kubicek, H., Cimander, R., & Klischewski, R. (2012). *Process integration, information sharing, and system interoperability in government: a comparative case analysis*. Government Information Quarterly, 29(3), 313–323. <https://doi.org/10.1016/j.giq.2012.02.009>
- Tassabehji, R., Hackney, R., & Popovič, A. (2016). *Emergent digital era governance: enacting the role of the 'institutional entrepreneur' in transformational change*. Government Information Quarterly, 33(2), 223–236. <https://doi.org/10.1016/j.giq.2016.04.003>
- Twinomurinzi, H., Phahlamohlaka, J., & Byrne, E. (2012). *The small group subtlety of using ICT for participatory governance: a South African experience*. Government Information Quarterly, 29(2), 203–211. <https://doi.org/10.1016/j.giq.2011.09.010>
- Vaz, J. C. (2017). *Transformações tecnológicas e perspectivas para a gestão democrática das políticas culturais*. Cadernos de Gestão Pública E Cidadania (B1), 22(71), 85–104. <https://doi.org/http://dx.doi.org/10.12660/cgpc.v22n71.63284>



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