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**INFORMACIÓN Y TRANSPARENCIA PÚBLICA: INSTRUMENTOS
DE CONTROL PARA LA TOMA DE DECISIONES EN LA GESTIÓN
DE LAS UNIVERSIDADES FEDERALES BRASILEÑAS**

**PUBLIC INFORMATION AND TRANSPARENCY: CONTROL
INSTRUMENTS FOR DECISION MAKING IN THE MANAGEMENT
OF FEDERAL BRAZILIAN UNIVERSITIES**

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*To Priscila
To my parents*

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CHAPTER 1: INTRODUCTION

1.1. Introduction

1.2. Institutional and agency theory

1.3. The new public management, e-government and accounting information

1.4. The role of the public manager

1.5. Management of public universities

1.6. Research question and contributions

1.7. Dissertation outline

References

1.1. Introduction

The evolution of information technology and communication, and the demands of society, are pressuring governments around the world to change and innovate the way to deliver services and interact with citizens (Pina et al., 2010). The transparency and the right to access public information become internationally regarded, in democratic countries, as an essential issues for many functions. These are revealed in cases such as: citizen and government participation, administration trust, prevention of corruption, substantiated decisions, accuracy information delivered by the government to provided data to stakeholders and the general public (Bertot et al., 2010). Therefore, many countries have adopted the information and communication technologies (ICT) as a method to increase government transparency and reduce corruption (Bertot et al., 2012).

This dissertation focuses on the e-government, especially with regard to issues related to public transparency and disclosure of accounting information on the internet in the Brazilian field, more specifically in public universities. In the last ten years there is not many empirical studies posted related to accounting disclosure in public universities and also articles on the topic have not generated great academic impact (Silva et al., 2014). However, the literature present some academic studies (Cave et al., 1997; Coy & Goh, 1995; Coy et al., 2001; Engstrom & Fountain, 1989; Fisher & Gordon, 1991; Gordon et al., 2002; Murias et al., 2008; Nelson et al., 1997; Nelson et al., 2003) which analyzed the information provided by the universities, identifying those relating to: teaching, research, academic outreach, accomplishment of management objectives, and expense allowance; being, among others, these aspects that led to move towards a perspective related to public accountability (Gallego et al., 2009). Regarding the financial information disclosed by universities in different countries can be cited as representative studies: Silva et al. (2015) for the Brazilian universities; Católico (2012) for the Colombian universities; Gallego et al. (2009) for the Spanish universities; Pettersen and Solstad (2007) for the Norway universities; Fisher et al. (2004) and Gordon et al. (2002) for the North American universities; Angluin and Scapens (2000) for the United Kingdom universities; and finally, Nelson et al. (1997) for Australian universities.

To accomplish this work, we have conducted three scientific articles related among them, which has led to the progress in the investigation of each work, using the conclusions of each of them to reach the final result. These articles investigate which information public universities have been disclosing online, what factors determine the level of publicized statement, and how public managers influence the adoption of e-government in the universities.

To achieve these objectives, we have based on previous literature, especially in studies using institutional theory and agency theory as a way to explain the advances provided by public organizations. It has accomplished two empirical studies, and one bibliometric and systemic study, resulting in three published scientific papers or awaiting to be sent for publication in indexed journals.

In the first article (Silva et al., 2014), the central issue relates to the disclosure of accounting information on the internet in the public sector. We performed a bibliometric and systemic study, with the aim was provide knowledge on the subject under study, by using the intervention instrument "Constructivist Knowledge Development Process - Proknow-C" (Tasca et al., 2010), which it was essential in the selection of a bibliographic portfolio, the realization of bibliometric

and systemic analysis, besides allowing the identification of gaps in the literature on the investigated subject. The result of this first study was to determine and analyze the 28 most relevant scientific papers published in scientific journals between 2000 and 2013. The analysis of them allowed revealing gaps in the literature of public transparency and electronic government, used as the basis for the following work.

The second study (Silva et al., 2015), of empirical nature, it is focuses on analysis of scope in the accounting information disclosed by the Brazilian public universities in their websites, as well as verify what factors explain the observed level of the information revealed. To achieve these objectives it was developed a disclosure index, in order to capture the main information emitted by universities, and seven hypotheses were contrasted through a multiple linear regression. This allowed us to identify statistically which factors are important to encourage public universities to disclose information on their websites. An important point verified in this study, it was the fact that websites provided by universities need to be standard and uniform. Each of the universities analyzed has a different website. The organization of content and place of certain materials are located in different sections, thereby making the search for information to start from scratch in each institution, creating a real "tower of Babel" (West, 2004) which difficult communication and the use of online information.

The results indicate an middling level of advertised electronic information in federal Brazilian universities, being these principals' facts publicized: the aspects of quality, efficiency and governance. Moreover, this study presents an important contribution regarding the websites systematized analysis of the Brazilian public universities, by demonstrating the points where there are still gaps present in digital transparency, and guide public managers to improve electronic relationship between the institution and the citizens.

Finally, the third paper (for publication) analyzes the role of public managers on of e-government adoption, and the benefits perceived through its adoption. The methodology used is a questionnaire to those responsible for e-government services in these organizations. This study presents three hypotheses that directly relate the adoption of e-government as a tool to disclose accounting information with the perception of public managers, and one-hypothesis relate the use of e-government with perceived benefit by its use. It is analyzed, using structural equations, the relationship between manager's characteristics and their perceptions on issues related to e-government and the disclosure of accounting information, on the internet, and the effective adoption of these practices. The results show a strong influence of public

administrators in the practices of e-government in accounting disclosure, although the institutional characteristics also influenced the results. Moreover the contextual features have failed to show any significant results. The last linking proposed in the structural equation model was to verify a benefit perception provided by the implementation of e-government; consequently, this hypothesis has been confirmed in the model. It was verified that in the perception of public managers, the use of e-government provides a benefit to the university. The contribution of this study lies in the matter of improving the awareness influence of public managers in the dissemination of information, adopting e-government practices and perception of the benefits that these practices can generate.

In overall, this dissertation aims to contribute to the literature that deals with e-government, public transparency, disclosure of accounting information, and the role of public managers on e-government adoption. The publication of three scientific articles described here corroborate this contribution, mainly in the Brazilian context and more specifically related to public universities, which lacked such research studies.

1.2. Institutional theory and agency theory

To achieve the proposed objectives, this dissertation is based on the agency theory (Barber, 1983; Evans & Patton, 1987; Jensen & Meckling, 1976; Zimmerman, 1977), and institutional theory (DiMaggio & Powell, 1983) two of the theories most used in studies that seek to explain the adoption of e-government in public sector.

Institutional Theory considers that the institutions are influenced by external pressures, and they react to socially legitimize their actions, and not as a form of reflection efficiency improvement processes (DiMaggio & Powell, 1983). To understand the reasons behind the institutions to adhere to certain models, certain standards or conventions, or behaviors and customs, regardless whether these practices have a beneficial result or at least convenient for themselves, we must understand what raises the institutional theory.

This theory focuses on analyzing the influence that the environment has on organizational behavior, through different perspectives, whether: political, economic, social and even historical (Rivas, 2003). Organizations, public or private, create structures and adopt certain procedures as a way to copy other similar organizations that have carried out these practices

before, and have been accepted by society or the environment to which she belongs. (Mizruchi & Fein, 1999; Carpenter & Feroz, 2001). They adopt such procedures as a form of response to pressures from the institutional environment to which it is linked.

Organizations tend to show compliance with the prevailing norms, social influences and traditions, and as a result of this process, the institutions have a certain degree of homogeneity among them, that is, adopt the same administrative and structural practices as a way of to respond to institutional pressures. This process, according DiMaggio and Powel (1983), called institutional isomorphism makes organizations adopt actions and structures similar with each other, which, do not need necessarily be an improvement to them.

Institutional isomorphism can be considered as a consequence of external and internal pressures sustained by organizations, in so far as they seek to legitimize their actions against those who are insert into their environment. In particular, public institutions are very sensitized by this behavior, since usually have poorly defined targets and often need to resort to isomorphic procedures to legitimize their actions and demonstrate both economic and social benefits, as happens with the public bureaucracy, which it is presented as a way to standardize the processes and structures in the public sector.

Therefore according to DiMaggio and Powell (1983) isomorphism is a cultural and political process that prioritizes the legitimacy and power rather than efficiency. It is a process of homogenization between organizations in a setting that is carried out by different mechanisms referred to by DiMaggio and Powell (1983) as coercive, mimetic and normative isomorphism.

Coercive isomorphism refers to the pressures exerted by other organizations about which there is a hierarchical dependency and therefore impose obligations or influence their behavior through rules, regulations or laws. Governments may be considered one of the agents who use this practice once they have the power to impose rules and even punish the organizations.

Mimetic isomorphism is understood as the processes through which organizations seek to imitate the behavior of others surround them. They tend to adopt the same structure and behavior practiced by others, or considered a successful model of good practice, regardless of whether such conduct will bring benefits by simply replicate the actions that others do. Issues related to the doubt of the environment they are inserted can explain this attitude.

Normative isomorphism seeks the convergence and homogenization in the performance of organizations, as a result of established compliance by specific standards that are imposed on certain occupations, such as: technical work and ethical precepts. It can be considered as the result of compliance with standards set by external entities that are imposed on the organization itself, as with the universities, for example, who spread the values and social behaviors accepted by the society to which it belongs.

In the area of institutional isomorphism, accounting emerges as a mechanism for legitimacy with its procedures, techniques and routines, coupled with production processes, recruitment, data processing, information dissemination and other activities that complete a structure, which demonstrates responsibility and rationality, beyond the discretion of those who manage the organization. According to this theory, transparency and disclosure of information are all signs of external confidence, progress, and improvement in the relationship with citizens (Pina et al., 2010).

For public universities, the State represents one of the key players involved in their behavior, through mainly by imposing coercive isomorphism certain procedures mandatory by law, or regulation. Also are influenced by other institutions of the same group, through mimetic isomorphism, once they are under pressure to follow or copy the practices implemented in an unprecedented way by other universities and which were accepted positively by the environment, without knowing whether these practices lead to improved efficiency. The institutional environment is also affected by different groups of stakeholders with which the institution is related, once the demands that have been proposed by them, will require action, however, may generate controversy within your environment, conflict interest or own quest for power that leads to the legitimacy of their demands.

The other theory that supports this dissertation, the agency theory, has also been widely developed in studies that claim to know the incentives for the adoption of e-government and focuses on issues related to conflict of interest and the pursuit of power.

This theory initially arose in the private sector, to address issues of interest conflicts caused by the separation of company ownership and management. According to Jensen and Meckling (1976) the agency relationship is defined as a contract between which one or more persons (principal), owner or shareholder, hires another person (agent), executive or manager to develop some services, even delegating powers so that they can decide on behalf of those. This

relationship between agent and principal can cause certain conflicts of interest to the extent that both parties try to maximize their personal benefits, and therefore, in this scenario, one can assume that the agent does not always act in accordance with the principal interests.

To reduce these interest conflicts, which are known from the literature as agency costs, the principal seeks to apply institutional control mechanisms. However, there is a problem that can cause the principal loses his capacity to control the agent, or at other times may lead to a myopic analysis of the situation, which is the informational asymmetry. According Akdere and Azevedo (2006), this occurs when there is a limitation in the principal ability to control the agent work, justified for reasons known to the agent itself, therefore this are inside information known only by the agent and without revealing to the principal.

The agency theory can be transferred to the public sector, once the State is an organization in which there are various contracts between the owners of the economic resources, citizens (principal), and politicians (agents), responsible for managing and control of these resources (Slomski, 2003). Thus, the relationship between citizens and politicians can be characterized from the perspective of agency theory (Zimmerman, 1977) where it is assumed that citizens and politicians are rational individuals who try to maximize their interests and consequently can lead to conflicts of interest.

The information disclosure, especially accounting information, can be regarded as part of the control mechanisms and instruments to reduce agency costs. Furthermore can be explained by the interest of politicians (agent) to be re-elected and simultaneously, decrease the informational asymmetry for the citizens (principal) to oversee the actions of the agents and make the right decisions according to their interests (Villegas, 2013; Laswad et al., 2005; Pina et al., 2010b).

Accounting disclosure has always been closely related to the agency theory, both the public and private sectors, since accounting has the function to inform external users of information that they do not have access (Pina et al., 2010b).

Focusing on the case study of this dissertation, interests us make known who the "principal" and who is the "agent" in Brazilian public universities. According Banker and Patton (1987), in the public sector the voter is the "principal" and the political manager is the "agent". Therefore, following this line, in the case of public universities it can infer that the "agent" are public administrators who hold the reins of universities, especially the Rector, who is elected by vote

and is the highest leader of the institution. Moreover, we would highlight that the "principal" are the students, teachers and administrative staff, all with voting power.

The discussion proposed in this section, leads to the conclusion that both the institutional theory and agency theory, demonstrate strong incentives to public sector information disclosure.

1.3. The new public management, e-government and accounting information

To overcome the economic and social challenges, governance must be based on the financial stability, quality of services and transparency of information and management (Montesinos & Gimeno, 1998). In this sense, Villegas (2013) argue that citizens become more demanding and incorporate in their expectations of public manager's transparency, accountability and e-government.

To meet the demands and needs of citizens, public agencies seek new and innovative models of control and management as well as new management tools (Beuren et al., 2013). These innovations, widely known as e-government, began to develop in the 90s and are being adopted by government agencies in recent years (Manoharan, 2013). The e-government can be defined as "delivery of services and information electronically to business and residents, 24 hours a day, seven days a week" (Norris et al., 2001, p. 5).

In the early 1990s, governments started to use e-government innovations, however, the reasons that led to this change were not homogeneous, and indeed the variety of factors that justified these innovations were varied, such as the scope and speed of implementation, ranging from the simple implementation of a website without detailed information, through electronic services, wide dissemination of information and public participation to other online services (Moon, 2002).

Several factors can influence the use and scope of e-government, such as contextual electoral pressures, institutional factors, and even the perception of the public manager about the importance of innovation. The perception of the economic benefits, such as cost savings and increased public efficiency, allow officials to do more with less and this can positively influence the adoption of e-government (Moon, 2002; Ho & Ni, 2004). Public managers often worry

about aspects of accountability and transparency, and the internet allows them to reach these goals of good governance (Ho & Ni, 2004).

Government parties with real transformation intentions use technology not only as a powerful tool, but also as a strategic asset and a new way of planning the actions of their government. Technology alone will not transform the government, but the government cannot be transformed to meet public expectations without it. (Lapsley, 2009).

The new practices for the usage of the information and communication technology have been the subject of several academic studies focused on public relations, especially related to e-government (Torres et al., 2005). In this context, the internet has become an essential tool to achieve better government (OECD, 2003), optimizing the transparency of public organizations, at low cost and allowing the exchange of a large volume of information and communication in real time, reducing bureaucracy (Franco et. al., 2012).

The role of internet also helped to develop a number of measures related to the **New Public Management (NPM)**, which seeks to bring the public administration to private, transferring their tools, concepts and tools of management, seeking its modernization (Gandia & Archidona, 2008; Hood, 1995). The concept of NPM suggests the use of business management practices, greater rigor in the use of public resources in the pursuit of effectiveness, efficiency, and implementation of performance measurements and control (Hood, 1995). These concepts have proven they can be perfectly applied in discussions for the current and future development of the public administration in advanced economies, and increasingly in developing countries (Lapsley, 2009). In this line, Hughes (1994) noted that under the precepts of the NPM governments should be based on increased citizen participation as well as accessibility and transparency.

The principles proposed by the NPM began to gain strength in the Anglo-Saxon administrative models, especially in England on the early 1990s (Hood, 1991). The OCDE, the World Bank and the FMI made an global pressure on other countries to introduce the reforms proposed by the NPM in the public sector (Torres et al., 2005).

The major components that define this new management are: professional management and transparency in the public sector; parameters and performance measures; priority in the citizen satisfaction as it were a private sector client; competitiveness; development of tools for

comparing systemic management units; focused on results and caution in the use of public resources (Hood, 1991).

According to Lapsley (2008), the main focus of the NPM is in the process of management and explains this process in the light of three elements or key attributes: general management, entrepreneurship, and transparency and accountability. Countries that early adopted, and strong supporters of NPM emphasize the importance of changing the old style of public managers by the new proactive practices, stimulating change, once these can serve as effective instruments to implement the NPM concepts (Lapsley, 2008). Corporate behavior is another attribute of the NPM, and should not be limited to the private sector, because it is using public resources more efficiently and effectively (Osborne & Gaebler, 1993). The third attribute of the NPM is transparency and accountability, which allows control of public expenditure; however, there are numerous interpretations of what actually constitutes transparency and the aim of it.

Gordon et al. (2002) note that the definition of accounting transparency can be subjective and passive, and must have multiple interpretations. It is ranging from the financial statements and notes, to any information that could be used by any user to draw conclusions about the economic status of the entity. The IPSASB (2014) emphasizes that the objective of public accounting information is provide to users information about the results achieved, and the aspects of budgetary nature, economic, financial and physical assets of public entities, supporting the decision-making process, proper accountability, and the necessary support for social control. These objectives can be achieved, since accounting is applied properly. Accounting information should help users in evaluating the results of the government entity, and to evaluate the level of services that can be provided by the institution as well as its ability to meet its expectations.

The instruments of control and management can contribute to the good performance of public agencies, which from the point of view of citizens is related to the effectiveness and efficiency in the use of public resources and the pursuit of a greater social welfare. There's no doubt that NPM has changed the style of public administration and increased attributes as public accountability, good governance practices and new accounting practices (Bermudez, 2009). Indeed, accounting was essential in this process of reform (Lapsley, 1999), being used as a control mechanism to show the economic and financial statements of public organizations, reflecting the performance of public management (Hood, 1995; Lapsley, 1999). In this sense, accounting information becomes relevant when one of its functions is to provide information to the external user who does not have access to inside information (Pina et al., 2010).

According to Hendriksen and Van Breda (1999), accounting information must be relevant, timely, understandable, accurate, neutral, and represented faithfully. The release of the public account reports should be directed to the interests of its users and should support the decision-making process. Therefore, elements that should characterize public transparency are advertising (dissemination and access), understandability (language and presentation), and utility (relevance, comparability and reliability) (Platt et al., 2007).

Taking into account the various objectives of public accounting information, and that it can serve both as decision making and accountability, it is important to identify its users in the universities. Here, Platt et al. (2007) and Coy et al. (1997) have identified some groups of users interested in the information disclosed by universities, such as internal campus community (teachers, managers, technicians, students), similar organizations (universities and other educational institutions), regulatory agencies, professional associations, sponsors, citizens, researchers and journalists.

A major obstacle to achieve greater financial accountability and transparency of governments and public institutions was the lack of generally accepted accounting standards (Sutcliffe, 2003). Consequently, new governance systems require greater relevance and comparability of accounting information to make this useful for decision-making in public sector (Bolívar & Navarro, 2007).

The support given by a set of international accounting standards has provided the right environment for the improvement of accounting information, with increased understanding and comparability. Users of accounts published by government agencies and the users interested in public transparency will benefit from this development.

Although the regulations about publication of accounting information have changed, it does not mean that it is automatically deployed and even after published, it does not mean it will reach the desired results immediately. Must first consider their efficacy to the user and their needs; besides this, it is important to prepare public managers to be familiar with the changes and their perception of accounting transparency, its limitations on this issue as well as on the environment in which it will be applied (Bolívar & Navarro, 2007).

1.4. The role of the public manager

According to the precepts of NPM and with a special focus to the role of the public manager in the implementation of new management systems and adoption of innovations, such as e-government, a survey was conducted to the responsible for e-government services of Brazilian public universities to capture their perceptions and perspectives on transparency, disclosure of accounting information, and e-government service.

It is important to investigate the opinion of public managers who are in charge of universities and, as far as their knowledge of issues related to transparency, disclosure of accounting information and e-government, among other aspects, and from this information to try to determine what influence they have in the implementation of innovations and strategies for the implementation of management models capable of satisfying the needs of society.

Spreading the opinion of public managers is critical to the contribution of this work, since they play a key role in the success of e-government. Their vision can steer strategic planning in implementing innovations in public agencies, so we can say that the implementation of e-government can be directly influenced by the perception of senior officials (Carrizales, 2008).

We know that ultimately it is the Board of Directors of the organization who makes the decision to adopt and extent of the implementation of new systems in a organization (Naranjo-Gil et al., 2009). The same applies to public organizations, despite suffering more with institutional pressures ultimately are public managers who have the power to determine the implementation of innovations, and its judgment is a determinant factor of the success of its implementation.

In a study conducted by Modell (2001) responses and reactions of the directors of a public hospital in Norway due to the implementation of changes in the system of financial control were analyzed, in addition to the performance assessment model arising from institutional pressures exerted by the general administration. The results revealed different behaviors of resistance to pressures, from a passive stance tolerant and compliance to the rules, to extreme situations, such as malicious behavior. The study has shown cases where management agreed to implement innovations; however some groups of specialists created barriers against these changes on the ground that these were contrary to their own interests. In the end, the hospital had to come to an agreement with these specialists, making some adjustments, so these innovations could be implemented.

Several studies indicate that the accountants react differently to changes, though academic research generally argue that financial managers tend to impose certain resistance to change and are reluctant to take proactive attitudes (Naranjo-Gil et al., 2009).

Johnston et al. (2002) demonstrated that financial managers were reluctant to participate in operational decisions, especially when dealing with decisions on innovation and change in operational programs. On the other hand, Emsley (2005) studied the provision of financial managers in the implementation of innovations related to account management and the results showed a high capacity for innovation, once financial managers were more involved in the decision-making process and when the innovations could bring benefits. In this regard, it is important that sectors that suffer with changes that they are involved in the innovation process, and thus becoming more committed to these changes.

Those that execute positions of heads with decision-making powers can be effective and provide additional incentives for the adoption of an innovation, especially when these leaders believe that this is necessary, and use their capability and authority to pressure other individuals to recognize the benefits of innovation and accept the need for change (Ho & Hi, 2004).

In conclusion, we expect in general, that the adoption of e-government and best practices of public transparency are closer related to the behavior of public managers and their commitment to advocate for innovation, than related to context and the institutional characteristics of the university.

1.5. Management of public universities

Brazilian public universities are organizations that depend on public funds for their activities and, therefore, should be accountable to society and obey the principles of legality and advertising (Platt & Cruz, 2009). By their public characteristics and all necessary infrastructures to proper function, universities are under pressure from society both in relation to the effectiveness of its activities and in relation to responsible management of public funds.

In other words, universities can be defined as systems that use material, human and financial resources that are used in the process of teaching, knowledge transfer and research, which translate into a final product that generates knowledge to students, research development,

technological and local development, including cultural and social benefits (Brotti & Lapa, 2007).

The responsibility of the managers of universities requires them to seek management practices that will help them in the process of decision-making and control of operations that allow them to achieve corporate goals (Marra & Mello, 2005). Financial and accounting management of federal Brazilian universities are generally awarded to the area of planning and management, that is responsible for the management of administrative and operational activities including budget planning and control, financial execution, contracts, property control, accounting, and disclosure of this information.

The citizens, who are responsible for financing public activities should have access to accounting information, however, although this access is guaranteed by law, there is still a breach with regard to the disclosure of such information, especially in internet. In recent decades, Brazilian public agencies suffered changes, driven by social pressures towards the implementation of the NPM for a greater transparency and accountability practice, and to improve effectiveness and efficiency in the use of public resources. Unfortunately, due to, political, administrative, bureaucratic, institutional and contextual reasons, transparency and public information disclosure in Brazil is limited, in many cases, to comply with the legal system (Bonacim et al., 2008).

However, budget constraints and pressure of society are driving public managers to implement new management practices and new information and communication technologies in order to improve and expand the financial transparency of universities, reducing the information asymmetry (Bonacim et al., 2008; Lyrio et al., 2008; Albuquerque, 2011). There is a demand for the expansion of services provided by universities without a proportionate budgetary counterpart, it means, public managers need instruments that support responsible management in order to, first, satisfy the demands of society, and secondly respect the law and the basic principles of public administration (Albuquerque, 2011).

Currently the demands of society contrasts with the way public universities disclosure accounting information, once the reports are extensive and made to satisfy legal requirements; however, for the ordinary citizen they are uninformative and difficult to understand (Valmorbida, 2012).

Thus, is evident the need for tools capable of guiding public managers in the sense of increasing transparency and facilitating access to the accounting information, showing citizens how they are using the resources used by the public universities, allowing the community to audit the use of public funds.

1.6. Research question and contributions

As described in previous sections, this dissertation aims to answer the following research question: How to build a study model where it is possible to generate knowledge and support the creation of qualitative and quantitative instruments capable of assessing and improving the context of e-government and disclosure of accounting information on the internet in Brazilian public universities?

To answer this question we have conducted three studies. The first aimed to select a **bibliographic portfolio (BP)** to understand the state of the art on "e-government and disclosure of accounting information in the public sector" and proceed a bibliometric and systemic analysis, using the instrument of intervention called "Knowledge Development Process Constructivist - Proknow-C" (Tasca et al., 2010). In this study we structured an BP composed of 28 relevant scientific articles consistent with the topic of interest which through it has been proposed: (i) a bibliometric analysis to describe: which journals have published on the theme of "e-government and disclosure of accounting information in the public sector" more often, the most cited articles, most experienced authors in the field, the most frequent keywords, research methods and the evolution of relevant publications; and (ii) a systemic analysis to investigate the content of the articles that form the BP. As a result, some issues were presented for future research, representing the possible gaps in the literature where one can advance. Moreover, the main gaps identified are linked to the construction of models focused on public management and proposal of measures to improve the management and dissemination of accounting information on the Internet in the public sector.

The second study aims to examine the scope of the accounting information disclosed by the Brazilian public universities in their websites, and check which aspects explain the level of the information disclosed. In addition, the paper aims to verify the procedures implemented in face to new law of access to information (Brasil, 2012), which came into force in 2012 and

revolutionized and expanded the right of citizens to access public information in Brazil. Data for this study were collected based on an analysis of the universities web page. The websites were evaluated using an e-government indicator. It is composed of 47 items that were created from the access to information law, and the instructions and guidelines provided by the Federal Audit Court, and the Brazilian Ministry of Finance. The results indicated that the level of electronic disclosure in federal Brazilian universities are middling, and aspects related to quality, efficiency and governance proved to be crucial to the dissemination of information.

Finally, the third study examines the role played by public managers on e-government adoption in Brazilian public universities. This study relates the use of e-government with personal perceptions of public managers on issues related to public transparency, disclosure of accounting information on the Internet, and e-government. The data were obtained through a survey sent to 118 officials in 59 federal Brazilian universities. All respondents were part of the senior management team of the universities, and participated directly in the development of the e-government and information disclosure. The results confirm three of the four hypotheses, and show that the perception of public managers directly and positively affects the use of e-government in universities, and the adoption of this tool brings benefits for them.

This dissertation aims to study the federal Brazilian universities, providing a contribution to the literature related to higher education institutions, which have experienced strong growth in recent years in Brazil. By focusing on this sector in Brazil, we expand the evidence in the adoption of e-government beyond the Anglo-Saxon and European context where there have been major studies on this subject (Anghuin & Scapens, 2000; Gallego et al., 2009; Pettersen & Solstad, 2007). In addition, this dissertation contributes to the literature of accounting, public transparency, e-governance, and the influence of managers in organizations.

Through a bibliometric and systemic analysis, this research presents the most relevant articles and authors in the literature, in addition to the most used methodologies related to e-government, and as a final result, it points the gaps found in the literature and therefore where researches can move forward in future research. It extends the theoretical framework set by the institutional and agency theory on adoption of innovations in the public sector. In particular, it shows how institutional pressures and how the relationship between principal and agent drive organizational changes, and how public managers are motivated to adopt innovations.

As **original contribution**, this is the first study that empirically analyzes the disclosure of accounting information in federal Brazilian universities including the precepts developed by the recent law on public information access. Besides this, this study contributes to the development of the research methodology in accounting, once applied with success the Proknow-C (Tasca et al., 2010) as an instrument of intervention in achieving a bibliometric and systemic study for accounting issues.

This thesis also contributes to the demand in the accounting literature about which factors influence the information dissemination and adoption of e-government in the context of South America, especially in Brazil, and in relation with public universities. There is also an empirical contribution on what information is being published by the Brazilian public universities and in which context this information is being disseminated, providing a clear contribution to public transparency. To achieve these results, and here, another **original contribution** is presented, we created an index of disclosure for Brazilian public universities taking into account quirks and unique issues for such institutions, allowing the evaluation of the disclosure of accounting information on the internet. Such index allows the systematic analysis of the websites of the Brazilian public universities, showing the weaknesses related to the accounting disclosure, and serving as a guide for universities improve accounting transparency and relations with citizens.

In relation to studies dealing with the role of managers and their influence on the implementation of organizational innovations, the results of this dissertation shows that the perception that public managers have about the importance and usefulness of accounting information, and the institutional characteristics of the organization, positively and directly affect the use of e-government as a tool to disclose accounting information. Furthermore, this study draws a current map of the characteristics of those who are leading the development of the electronic platforms of universities, including their personal views on issues related to public accountability, transparency and e-government. To reach these results, we created a questionnaire based on previous literature, but mainly, and here's **another contribution** of this dissertation is presented, taking into account the unique aspects of their application environment, with validation by three experts on the subject and two officials of the universities surveyed.

In this sense, this work extends the previous research in accounting management, analyzing not only the websites of the universities; the factors influencing its development and managers

influence on them, but also checks how the implementation of e-government may present notorious benefits.

Regarding the practical implications of this dissertation, the Procknow-C is an effective methodology for the search for relevant articles in accounting. Results suggest that in the Brazilian context, aspects regulated by law tend to be more publicized than the ones voluntary. The efficient management of financial resources in universities is an important feature and has an influence on the transparency and quality of the institution and governance aspects. Universities where there are more people involved in the university boards tend to be more transparent. It can also be concluded that the perception of public managers directly and positively influence the use of e-government in federal Brazilian universities. Finally, it has also been demonstrated in this dissertation, that the use of e-government provides several benefits for public universities, especially the improvement in management, an increase in the relationship with citizens, and economy of resources.

1.7. Dissertation outline

This dissertation is structured as follows. In chapters 2, 3 and 4, are presented three papers performed in this dissertation. The chapter 2 presents the study entitled “E-government and public accounting information: bibliometric and systemic analysis”. In chapter 3, it is developed the second study entitled “E-government process: the access to information and accounting disclosure”. In the chapter 4, is presented the study entitled “E-government use and the public manager perception”. Each of these chapters includes different sections as an abstract, introduction, literature review, hypotheses development, methodology, the results and the conclusions, and references. The chapter 5 provides a summary of this dissertation, describes the global summary, the discussion and conclusions. To complete this dissertation, we present a section with conferences in which we participate, the journals that we published, and last, a summary in Spanish.

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CHAPTER 2: E-government and Public Accounting Information: Bibliometric and Systemic Analysis

Abstract

2.1. Introduction

2.2. Literature review

2.3. Research design and methodology

2.3.1. Bibliometric analysis

2.3.2 Systemic analysis

2.4. Results of bibliometric analysis

2.5. Results of systemic analysis

2.6. Conclusions

References

Abstract

This study has the purpose of selecting a Bibliographic Portfolio (BP) to comprehend the state of the art of the topic "E-Government and Accounting Information in the Public Sector" and a bibliometric and systemic analysis proceed from this BP using the method of Knowledge Development Process - Constructivist (Proknow-C). The development of this process has structured the BP with 28 relevant scientific papers aligned with the topic of interest, and for this BP we proceed a (i) bibliometric analysis which will describe: those journals that published this topic more often, frequently cited articles, researchers with experience in this topic, reoccurring keywords, research methods and the temporal evolution of relevant publications; and a (ii) systemic analysis investigate the content of BP articles from a theoretical affiliation

adopted by the authors. As a result we present some issues for further researches, which represent the possible gaps in the literature where it is possible to advance in the construction of the theoretical framework of the subject. Moreover, the major gaps identified are linked to the construction of constructivist models and the proposal of measures for improvement of the management and dissemination of accounting information on the internet in the public sector.

2.1. Introduction

The uses of information technology and communication have been the subject of several academic studies focusing on the public sector in relation to e-government (Torres et al., 2005). In this context, the Internet has become an essential tool to achieve better government (OECD, 2003) by optimizing transparency of public organizations with low cost methods and allowing the exchange of a large volume of information in real time resulting in decreased bureaucracy (Franco et al, 2012).

Social, economic, and political progress has allowed citizens to become more informed and knowledgeable of public services and in relation to accountability (Beuren et al., 2013). Along these lines, there have been numerous scientific research (Caba et al., 2005; 2008; Gandia and Archidona, 2008; Laswad et al., 2005; Pina et al., 2007; 2009; 2010 and Rodriguez et al., 2006, 2007) published in recent years, which highlights the work to identify what information is released by the governments, factors that determine the disclosure of such information, influence that citizens have, and if cultural and institutional characteristics of governments influence in this process. Therefore, it is necessary and advisable to check what science is transcending these matters by determining the authors, subjects they publish on, journals most reported in this area, most widely used terms, and the featured papers in the scientific community.

In this study, the theoretical constructivist affiliation is adopted and defined as a process of knowledge construction administrator for the public within a specific context and whose purpose is to build a model through their own perception (Lacerda et al., 2011). This knowledgebase is built through the analysis to identify, organize, measure and integrate the relevant aspects to be evaluated, and to show the current status and possible impacts on

governance. This theoretical affiliation has been used in similar contexts to try to promote awareness of administrators to support management activities (Lacerda et al., 2011; 2014).

To carry out this study through the constructivist approach, four criteria guide the process of content analysis of scientific articles on "disclosure of accounting information on the Internet in the public sector", which include the theoretical approach, singularity, identification process, and management. In this scenario, the paper presents a **Bibliographic Portfolio (BP)** consisting of relevant articles on the subject, published in indexed journals.

In this context, this paper aims to identify and analyze opportunities for research on a topic related to accounting information under the lens of the e-government research through a literature review of articles with scientific relevance. In order to achieve the desired goal it is necessary to carry out the following analysis: selection of a bibliographic portfolio on the subject, bibliometric analysis of selected portfolio in order to verify the main journals, authors, and to identify more relevant articles by evaluating opportunities for future research through the content analysis.

The research method adopted was the Knowledge Development Process - Constructivist (Proknow-C), which is a structured process that requires continuous interaction with the investigator and the most relevant articles. The relevance of this research is to demonstrate and discuss the protocol activities leading researchers to search, discussion and analysis of relevant scientific articles in order to demonstrate the strengths and opportunities in the scientific literature on the subject under study.

This article is presented in six sections. The following section presents the literature review. Third section presents the methodology used for the research. The fourth and fifth sections present the results of the literature analysis. The sixth section presents the conclusions and opportunities for future research. Finally, this article includes the references used throughout the whole text.

2.2. Literature Review

In recent years, disclosure, transparency and the right to access public information has become important for the function of a democratic society. These activities support civic participation,

government trust, prevention of corruption, public decisions, accuracy of government actions, and the provision of information to the stakeholders and the general public (Bertot et al., 2010). Many countries have adopted the information and communication technologies (ICT) as means to increase government transparency and reduce corruption (Bertot et al., 2012).

E-government plays a key role in increasing the transparency of the public financial information (Ho, 2002). E-government was the name given to the efforts of the public sector to serve citizens electronically. Its development began in the early 1990's, driven by a strong growth with the use of Internet and the rapid development of e-commerce in the private sector (Ho, 2002). Moon (2002) observed that the government's websites can be a good tool for communication and public relation, while some web technologies can promote public participation in political and decision-making processes.

Descriptive research concludes that improvements on e-government initiatives occurred through the process of continuous and consistent development (Justice et al., 2006). Moon (2002) described five stages of e-government: (i) information dissemination, (ii) two-way communication, (iii) services and financial transactions, (iv) integration of information systems (vertical and horizontal), and (v) political participation. His study suggests that e-government develops through each stage, which improves the information sharing and interactive operation between various stakeholders and governmental agencies.

Ho (2002) investigated the e-government initiatives through two paradigms; bureaucratic and the electronic administration. The first emphasizes the hierarchy, departmentalization and the vertical distribution of the control. He described that if the bureaucratic paradigm is adopted for the construction of the government website, the information on the internet is arranged according to the administrative structure, without making changes to it. On the other hand, the paradigm of e-government changes the administrator vision and stop looking inward to move to look out, caring for the needs of users. Two approaches are usually used by administrations who adopt this paradigm: one is where the administration through the so-called "one-stop" provides important content on the website of the government and helps users in their search for information without its categorization, while the other approach is user-oriented and classified information and services according to the needs of different user groups (residents, businesses, visitors, etc.). From the analysis of the local government's websites in the United States, Ho (2002) concluded that these websites are changing from a bureaucratic paradigm to a paradigm of the e-government.

Wong and Welch (2004) conducted an empirical study about the websites openness and accountability in 14 countries on 5 continents. As a conclusion they argue that the general level of accountability rises in a global sense but the accountability gap between countries will probably be maintained or even widened. Furthermore they explain that the e-government only exacerbates the existing nature and attributes of public bureaucracies. For them, the e-government accountability is more about nations and bureaucracies process than the technology itself.

Several scientific articles focused on the dissemination of financial information through the internet, however, previous studies addressed the analysis of factors related to the presence or absence of information and beyond that; on the factors that determine the disclosure of budgetary and financial information on the Internet, provided mainly by the pressure imposed by citizens (Caba et al., 2005, 2008; Cárbara and Garcia, 2010; Gandia and Archidona, 2008; Guillamón et al., 2011; Laswad et al., 2005; Pina et al., 2007, 2009, 2010; Rodriguez et al., 2006; Rodríguez Domínguez et al., 2011 and West, 2004).

Laswad, Fisher and Oyelere (2005) analyzed the determinants of voluntary financial disclosure on the Internet by local authorities in New Zealand, concluding that the agency relationship in the public sector is incentive for administrators to disclose information voluntarily, which allow their actions to be monitored.

Caba, López and Rodríguez (2005) examined the use of internet as a way to spread budgetary and financial information in the central government of 15 countries member of the EU. They concluded that central EU governments, until that moment, were not using the internet as a way to improve the transparency of financial reporting and accountability to the citizens. In another paper, Rodriguez, Caba and López (2006) analyzed the use of the web as a way of making financial disclosure. They analyzed the approach of Anglo-Saxon, South American and Continental European central governments. The results of this study showed that the administrative culture has a significant influence to the different ways of using the internet for financial disclosure.

Pina, Torres and Acerete (2007) conducted a study to determine to what extent the use of information and communication of technology (ICT) promote financial disclosure. This study was conducted in 15 EU countries, USA, Canada, Australia and New Zealand. The results demonstrated that the evolution and changes of financial accountability depend on the context

and characteristics of the government style and how the information is disclosed. They came to the conclusion that the application of ICT for disseminating public information, both on the political dimensions and on the dialogue with citizens, fit well in any style of administration.

Gandia and Archidona (2008) analyzed the web sites of large Spanish city councils to verify the extent of information disseminated and determining what factors influence this levels of information. The results obtained reveals low disclosure levels among the websites. Their findings demonstrate that disclosure levels depend on political competition, public media visibility and the access to technology and educational level of the citizens.

Guillamón, Bastida and Benito (2011) evaluated the socio-economic importance on the transparency of Spanish local governments and political factors. The sample covers the 100 largest Spanish municipalities in 2008. In contrast to the results presented by Gandia and Archidona (2008), this study shows that Spanish municipalities are providing financial information beyond legal requirements, surpassing the mandatory disclosures required by law. The higher the income taxes per capita and transfers are, the higher the financial information is disclosed.

Several studies (West, 2004, Norris and Moon, 2005 and Tolberg and Mossberger, 2006) suggest that pressure from citizens is a determining factor for e-government initiatives and furthermore, these studies confirm that these initiatives can change the behavior of the population.

In addition, West (2004) evaluated the consequences of e-government for service delivery, democratic responsiveness, and public attitude. As a result, he found that e-government can improve citizens beliefs about government effectiveness, and suggest that digital government has the capacity to transform service delivery and citizens attitudes.

Norris and Moon (2005) performed a longitudinal examination of local government adoption of e-government, web site sophistication, their impacts and barriers to adopt it, using data from two nationwide surveys. They also discuss the correlation between the e-government adoption and institutional factors. They found that e-government adoption progressing rapidly, the movement towards integration and transactional e-government is progressing more slowly.

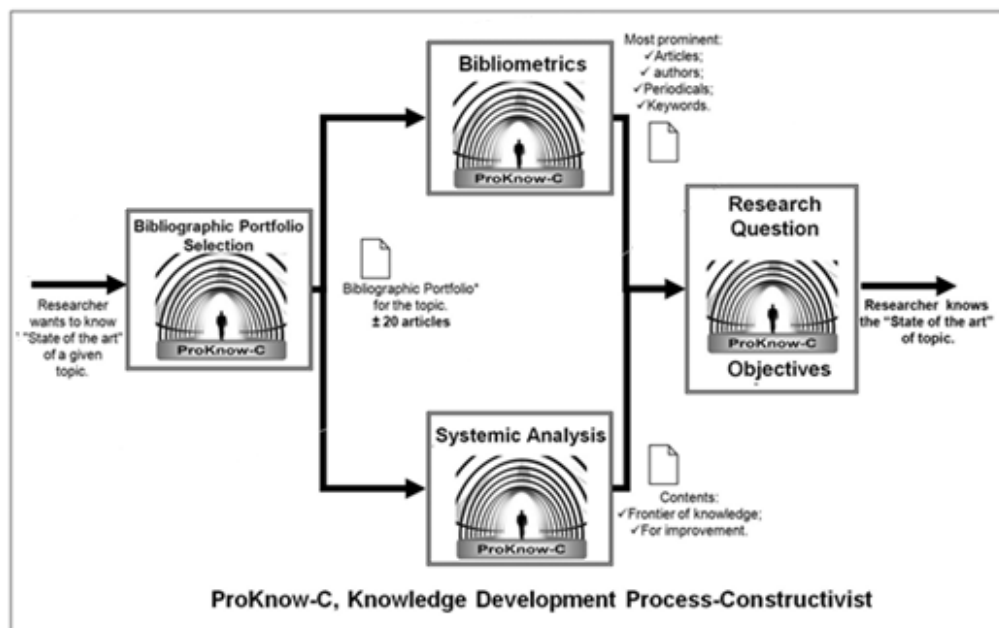
Tolberg and Mossberger (2006) studied the relationship between e-government use, attitudes about e-government, and trust in e-government. They turned to a national random digit-dialed

telephone survey conducted by the Pew Internet and American Life Project to do their study. They demonstrated there is a statistically significant relationship between trust and use of a local government web site, but not at the federal level.

2.3. Research Design and Methodology

This section describes the methodology used in the analysis which is described as: the intervention instrument Proknow-C, procedures for conducting the analysis bibliometric, and procedures for conducting content analysis (systemic).

FIGURE 2.1 (1). Knowledge Development Process - Constructivist (ProKnow-C)



Source: Tasca et al. (2010).

The Proknow-C seeks to generate knowledge for the researcher on a particular topic through the identification of relevant articles that generate data and provides the basis for conducting scientific work. The research for relevant papers has become very complex considering the wealth of information available in the literature and the variety of research sources (Ensslin et al., 2012; Lacerda et al., 2012 and Tasca et al., 2010).

The intervention instrument ProKnow-C is described by Tasca et al (2010), in Figure 2.1(1), to help researchers to accumulate knowledge about their research topic through: (i) the BP contribution aligned with the object of study (according with the perception of the researcher and with the scientific relevance), (ii) highlighting the most relevant articles, authors and journals in the BP (iii) evaluation of selected articles depending on the preferences of the researcher, and (iv) highlighting the strengths of these articles and the ways they can be improved (Rosa et al, 2012).

The Proknow-C is composed of four stages: (i) selection of the portfolio of articles on the topic, (ii) portfolio bibliometric analysis, (iii) systems analysis, and (iv) identify the question and research objective as shown in Figure 2.1(1) (Tasca et al, 2010). This intervention tool has spread over the years and has several publications in scientific journals (Azevedo et al, 2013; Ensslin et al, 2012; Lacerda et al, 2011; 2012; 2014; Rosa et al, 2012 and Tasca et al, 2010), further establishing a process for structuring knowledge as the boundaries, perceptions and motivations of research topic.

The procedures for the selection of articles on the research topic have been carried out between July and September 2013, and searches were carried out using EBSCO, PROQUEST, SCOPUS, WEB OF SCIENCE, and ECONPAPER. The search was directed through two lines of research and ten keywords presented in Table 2.1(1). The results include 10,291 gross references that represent the starting point for the selection of the most relevant articles. The next step is the filtering of the gross papers, through a long process of reading and alignment of the titles and abstracts. Then verify the scientific recognition was made by the number of citations in Google Scholar, most cited authors, articles with less than three years of publication, and finally, the complete reading of the most relevant articles. To complete the BP, a test of representativeness was made, in other words, we sought to identify in the references of the selected articles, others relevant articles that had not yet been incorporated into the BP.

Table 2.1 (1). Definition of keyword search

Line 1: Accounting information on the internet

Topic: (“accounting information” or “financial information” or “financial reporting” or “web”)

AND

Line 2: Public sector and Public university

Topic: (“public sector” or “public administration” or “public management” or “government” or “e-government” or “public universit*”)

For the present study, we selected 28 scientific articles that had the most academic relevance in the topic in the last 12 years, as shown in Figure 2.2(2). They are highlighted in Table 2.2 (2).

Figure 2.2 (2). Number of articles reviewed at each stage of the article selection process

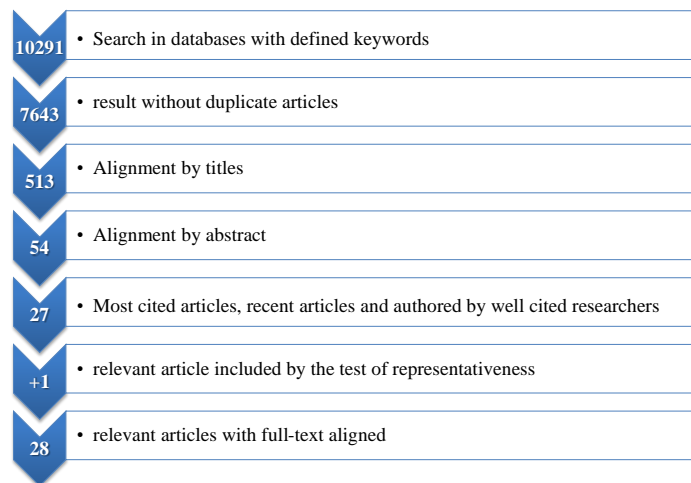


Table 2.2 (2). Set of articles to execute the systemic analysis

Author	Year	Cited	Title	Journal
Moon, M. J.	2002	1070	The Evolution of E-government Among Municipalities: Rhetoric or Reality?	Public Administration Review
Ho, A. T. K.	2002	750	Reinventing Local Governments and the E-Government Initiative.	Public Administration Review
West, D. M.	2004	658	E-government and the transformation of service delivery and citizen attitudes.	Public Administration Review
Norris, D. F. and Moon, M. J.	2005	344	Advancing E-government at the Grassroots: Tortoise or Hare?	Public Administration Review
Tolbert, C. J. and Mossberger, K.	2006	272	The Effects of E-government on Trust and Confidence in Government.	Public Administration Review
Bertot, J. C., Jaeger, P. T. and Grimes, J. M.	2010	203	Using ICTs to create a culture of transparency: e-government and social media as openness and anti-corruption tools for societies.	Government Information Quarterly
Wong, W. and Welch, E.	2004	172	Does E-government Promote Accountability? A Comparative Analysis of Website Openness and Government Accountability.	Governance-an International Journal of Policy and Administration

Table 2.2 (2). Set of articles to execute the systemic analysis (continued)

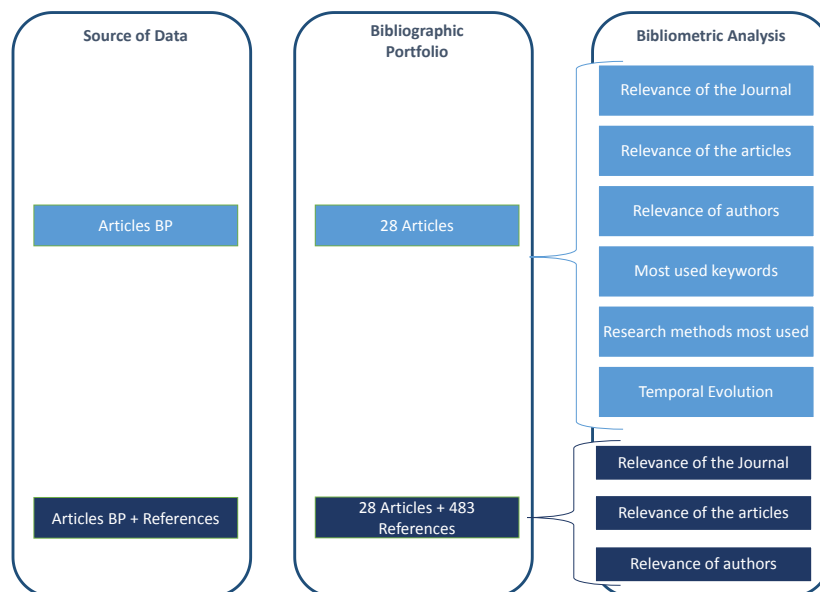
Author	Year	Cited	Title	Journal
La Porte, T. M., Demchak, C. C. and Jong, M.	2002	135	Democracy and Bureaucracy in the Age of the Web - Empirical Findings and Theoretical Speculations.	Administration & Society
Laswad, F., Fisher, R. and Oyelere, P.	2005	99	Determinants of Voluntary Internet Financial Reporting by Local Government Authorities.	Journal of Accounting and Public Policy
Ho, A. T. K. and Ni, A. Y.	2004	86	Explaining the Adoption of E-government Features - A Case Study of Iowa County Treasurers' Offices.	American Review of Public Administration
Pina, V., Torres, L. and Royo, S.	2007	81	Are ICTs Improving Transparency and Accountability in the EU Regional and Local Governments? An Empirical Study.	Public Administration
Pina, V., Torres, L. and Acerete, B.	2007	54	Are ICTs promoting government accountability? A comparative analysis of e-governance developments in 19 OECD countries.	Critical Perspectives on Accounting
Justice, J. B., Melitski, J. and Smith, D. L.	2006	48	E-government as an Instrument of Fiscal Accountability and Responsiveness - Do the Best Practitioners Employ the Best Practices?	American Review of Public Administration
Caba, C. P., Lopez, A. M. H. and Rodriguez, M. P. B.	2005	44	Citizens' Access to On-Line Governmental Financial Information: Practices in the European Union Countries.	Government Information Quarterly
Gandía, J. L. and Archidona, M. C.	2008	41	Determinants of Web Site Information by Spanish City Councils.	Online Information Review
Rodriguez, M. P. B., Caba, C. P. and Lopez, A. M. H.	2006	34	Cultural Contexts and Governmental Digital Reporting.	International Review of Administrative Sciences
Rodriguez, M. P. B., Caba, C. P. and Lopez, A. M. H.	2007	32	E-government and Public Financial Reporting - The Case of Spanish Regional Governments.	American Review of Public Administration
Pina, V., Torres, L. and Royo, S.	2009	25	E-government Evolution in EU Local Governments: a Comparative Perspective.	Online Information Review
Pina, V., Torres, L. and Royo, S.	2010	23	Is e-government leading to more accountable and transparent local Government? An overall view.	Financial Accountability and Management
Bertot, J. C., Jaeger, P. T. and Grimes, J. M.	2012	16	Promoting Transparency and Accountability through ICTs, Social Media, and Collaborative E-government.	Transforming Government: People, Process and Policy
Pina, V., Torres, L. and Royo, S.	2010	14	Is E-Government Promoting Convergence Towards More Accountable Local Governments?	International Public Management Journal
Carcaba, A. G. and Garcia, J. G.	2010	10	Determinants of Online Reporting of Accounting Information by Spanish Local Government Authorities.	Local Government Studies
Guillamon, M. D., Bastida, F. and Benito, B.	2011	8	The Determinants of Local Government's Financial Transparency.	Local Government Studies
Rodriguez Dominguez, L., Garcia Sanchez, I. M. and Gallego, A. I.	2011	6	Determining Factors of E-Government Development: a Worldwide National Approach.	International Public Management Journal
Caba, C. P., Rodríguez, M. P. B. and López, A. M. H.	2008	5	E-Government Process and Incentives for Online Public Financial Information.	Online Information Review
Abu Bakar, N. B. and Saleh, Z.	2011	1	Incentives for Disclosure of Accounting Information in Public Sector: A Literature Survey.	International Research Journal of Finance and Economics
Manoharan, A.	2013	0	A Study of the Determinants of County E-Government in the United States.	American Review of Public Administration
Thornton, J. B. and Thornton, E.	2013	0	Assessing State Government Financial Transparency Websites.	Reference Services Review

2.3.1. Bibliometric analysis

The bibliometric analysis is the process of quantitative disclosure of statistical data of defined set papers, for the management of information and scientific knowledge of a given subject, made through the document count (Lacerda et al., 2012). For this analysis were defined, as data source, the papers from BP and their Bibliographic References (BR), so as to allow a joint analysis of both sources, shown in Figure 3.

The 28 articles derived from BP and 483 scientific articles cited in the references (BR) of the articles themselves will be the subject of bibliometric analysis, as shown by Figure 2.3(3), which verify: (i) which journals are most receptive to the topic, (ii) scientific recognition articles (number of citations in Google Scholar - consultation in September 2013), (iii) most relevant authors published in the BP, (iv) most used keywords, (v) the development of publications along years and (vi) what are the most commonly used research methods.

Figure 2.3 (3). Source data and analyzed aspects.



2.3.2. Systemic analysis

The systemic analysis of the portfolio of 28 articles selected was performed according to the worldview adopted by the researcher. The analysis of the BP seeking evidence for each lens

(Table 2.3(3)), and jointly in accordance with established perspective strengths and gaps in the literature that can give rise to new research. Karlsson (2008), stands out as benefits of this analysis the aid researchers in obtaining scientific support, justification in the choice of topic and contribution in their research proposal among others.

The concept of "lens" was initially described by the psychologist Egon Brunswik (Lacerda, 2012), in a constructivist approach; its function is to determine benchmarks that can help the administrator (decision makers) to better understand the context, so the results of this activity generate enough knowledge for him to assimilate the characteristics of the context (Brunswik et al., 2001). Focusing on this approach Roy (1993) emphasizes that administrator knowledge is generated during construction model, so they can understand the consequences of the current situation and induced changes caused by their decisions and goals. This approach promotes condition to the administrator spread out their knowledge, visualize the consequences of their decisions and identify opportunities for improvement of the context (Roy, 1993; Dias and Tsoukias, 2003 and Azevedo et al., 2013).

It can be deduced that what characterizes the constructive approach is the recognition that: (a) administrator settings define the variables for model building study; (b) construction of knowledge is focused on administrator; (c) data to feed the model are unique to the context; and (d) origin of the building model appropriate deduction made from speech transmission and feedback process of this (Azevedo et al., 2013). In this regard, the selection of the lenses in this work is based on studies of Roy (1993), Azevedo, Lacerda, Ensslin, Jungles and Ensslin (2013), Rosa, Ensslin, Ensslin and Lunkes (2012) and Lacerda, Ensslin and Ensslin (2011) as shown in Table 2.3(3).

Table 2.3 (3). Lenses oriented systemic analysis of BP.

ID	Lens	¿Question?	Theoretical basis
1	Approach	Harmonizes the constructed model (approach and data) with your application?	Roy (1993)
2	Singularity	Does it recognize that the problem is unique?	Azevedo <i>et al</i> (2013)
3	Identification process	Is there a process to identify objectives as perceived by the decision maker?	Azevedo <i>et al</i> (2013); Rosa <i>et al</i> (2012)
4	Management	The knowledge generated allows find out the current profile, monitoring and improvement?	Azevedo <i>et al</i> (2013); Lacerda <i>et al</i> (2011); Rosa <i>et al</i> (2012)

The lenses presented are intended to: (i) analyze the relevant articles on the subject under investigation; and (ii) represent the dimensions that must be observed in the process of analyzing the potential and opportunities research on the subject (Lacerda et al., 2012).

2.4. Results of Bibliometric Analysis

In this first analysis, was identified the journals with higher acceptance to the issue and identified the frequency which each journal appeared in the sample. Figure 2.4(4) demonstrates the Relevance of Journals in the BP and Figure 2.5(5) presents the results of the joint analysis of BP and BR.

Figure 2.4 (4). Relevance of journals

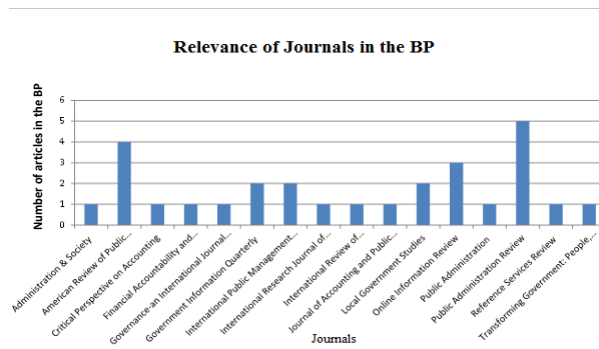
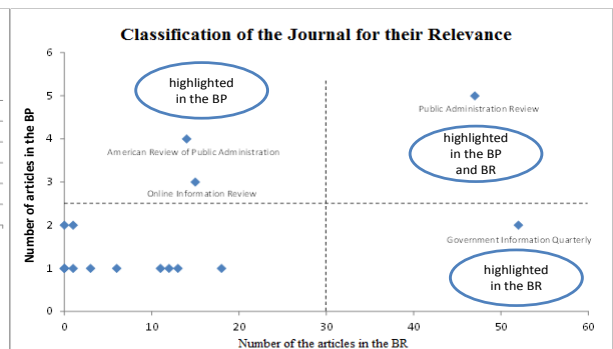


Figure 2.5 (5). Joint relevance of journals



As seen in Figure 2.4(4), we can identify 16 different journals, which highlight Public Administration Review, American Review of Public Administration, and Online Information Review. The journal Public Administration Review was the most highlight in the pooled analysis (Figure 2.5(5)).

We also evaluated the scientific recognition of articles through the number citation on Google Scholar and at the BR. In both analyzes, the most cited articles were Moon (2002), Ho (2002) and West (2004) as shown by Figures 2.6(6) and 2.7(7).

Figure 2.6 (6). Relevance of articles

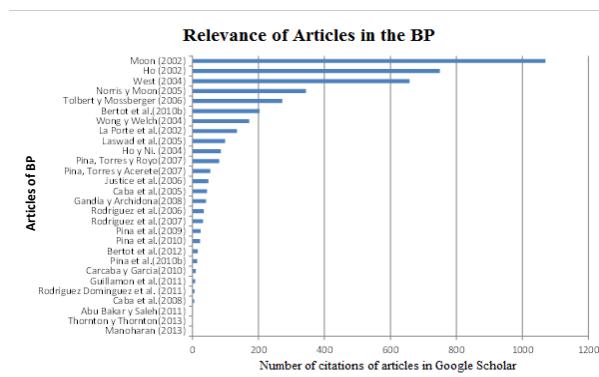
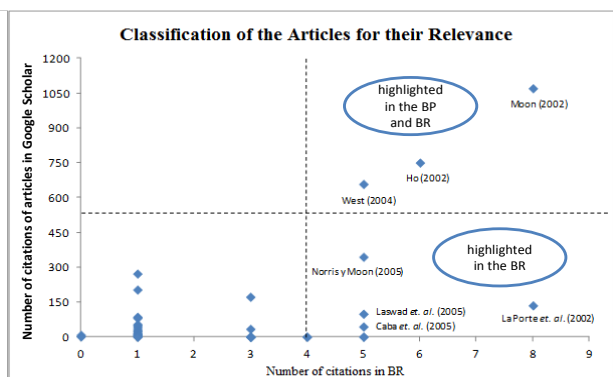


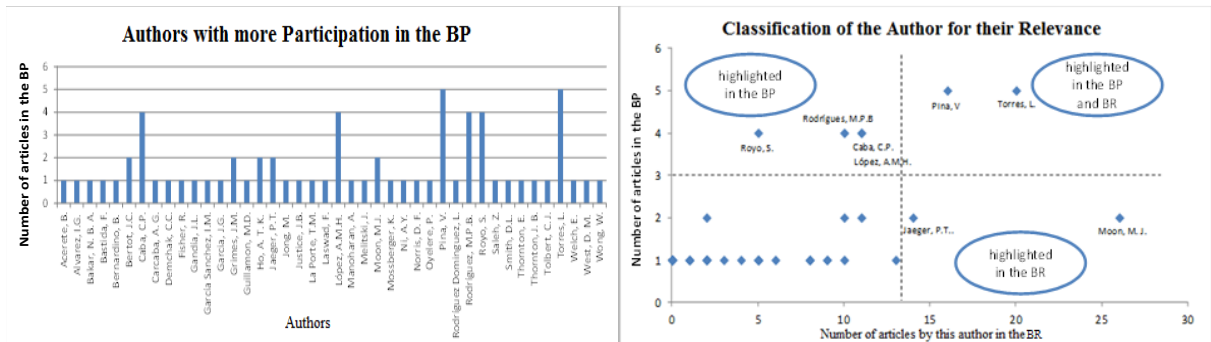
Figure 2.7 (7). Joint relevance of articles



Regarding the degree of relevance of the authors, the number of articles written by each author was verified. We identified 42 different authors (Figure 2.8(8)) in the BP and also identified the number of authors cited in the BR. The authors who published the most articles on this topic were Pina, V. and Torre, L. (Figures 2.8(8) and 2.9(9)).

Figure 2.8(8). Relevance of authors

Figure 2.9(9). Joint relevance of authors



In addition to the analysis presented in the graphs above, this study also presents other results, such as the verification of the most used keywords, and as a result, the words highlighted in the BP were “e-government” and “disclosure”. Another analysis was the verification of the research methods most used as rated by Hesford et al. (2007). Relevant articles analyzed used mostly empirical research method. Finally, the results found on the temporal evolution of the subject, show that this topic is not yet consolidated in the scientific community once over the last 12 years the number of relevant publications was around 3 per year. Given the results of the bibliometric analysis, we conclude that the selected material is aligned with the investigated topic and represents it properly.

2.5. Results of Systemic Analysis

This section presents the results of systemic analysis made in BP papers, according to different lenses analyzed, and according to the criteria presented in Table 3.

The analysis related to the approach (Lens 1) is to identify what is the theoretical approach in which the author has based his study that, according to Roy (1993), may be: (i) descriptive, (ii) normative; (iii) prescriptive and (iv) constructive. The results show that the approach most commonly used in the work of BP is descriptive, used in 71% of the articles. The prescriptive approach was found in 29% of the articles. None of the paper worked with the normative or the

constructivist approach, although according to Roy (1993) this is most appropriate for the construction of knowledge for both the researcher as the administrator, who also has a chance to learn from the process of model building study. Here we identified an opportunity to expand studies about disclosure of accounting information on the internet through a directed focus on the stakeholders and public administrators.

The second approach analyzed (Lens 2) talks about the singularity of actors and its context. The majority of the articles in the BP do not identify the administrator. This is due to the fact that these articles worked directly in the physical context or with the literature, ignoring thus, the administrator. Study shows that 10% of studies are theoretical, 59% of the studies collected information directly in the physical context, and 31% of the studies (Guillamón et al, 2011; Ho, 2002; Ho and Ni, 2004; Manoharan, 2013 ; Moon, 2002; Norris and Moon, 2005; Tolbert and Mossberger, 2006 and West, 2004) collected data with administrators or citizens. However, none of them recognizes the uniqueness of actors and, only one (Ho and Ni, 2004) recognize the uniqueness of the context, in other words, the papers do not recognize that the criteria to be considered, the operationalization and, the results are specific to one context. This result demonstrates that the majority of articles trying to replicate or/and adapt previous studies a new situation or variable. In the view adopted in this lens (Azevedo et al., 2013) there is an opportunity to move forward on this topic, creating specific models for a single context.

The third lens (Lens 3 - identification process), is divided into two analyses, the first one examines the limits of administrator's knowledge, in other words, if the article recognize that the administrator has a limited knowledge of the context and needs to expand it. The second one verifies the procedures used by the selected articles in order to identify the measurement criteria. The results leave no doubt that none of the 28 articles of BP considered important to increase the knowledge of the administrator of the variables that could or should be considered in a model of management accounting information in the internet. In the analysis of the context of data collection has been verified that seven articles (Guillamón et al., 2011; Ho, 2002; Ho and Ni, 2004; Manoharan, 2013; Moon, 2002; Norris and Moon, 2005 and West, 2004) show collected data, or part thereof, together with the administrators. None of these studies was fully based processes in the administrator, which means they collected the information with the decision makers, but they didn't worked together to build their model and therefore didn't considered administrator's input in the construction of the variables believed to be important for the model.

According to this lens (Azevedo et al., 2013 and Rosa et al., 2012), an opportunity for improvement would involve to consider the need to expand the knowledge of the administrator in relation to the context, and wrap it in the process of identifying the variables that should be considered for the construction of a model of management accounting information in the internet.

The last lens refers to the management process (Lens 4). This lens also involves two different analyses: the first relates to the diagnosis, which allows the verification if the studies recognize the strengths and weaknesses of the current situation; and, the second is dedicated to verify whether the studies generate improvement process.

In the first analysis, it was verified 89% of the papers (Caba et al., 2005, 2008; Cábara and Garcia, 2010; Gandia and Archidona, 2008; Guillamón et al., 2011; Ho, 2002; Ho and Ni, 2004; Justice et al., 2006; La Porte et al., 2002; Laswad et al, 2005; Manoharan, 2013; Moon, 2002; Norris and Moon, 2005; Pina et al, 2007; Pina et al, 2007b, 2009, 2010, 2010b; Rodriguez Domingues et al., 2011; Rodriguez et al, 2006, 2007; Thornton and Thornton, 2013; Tolbert and Mossberger, 2006; West, 2004 and Wong and Welch, 2004) presented information to diagnose the current situation in relation to the topic, which is the diagnosis of the strengths and weaknesses of e-government and the accounting information on the Internet. This result can be explained, in part, by the fact that most of these studies was performed to identify factors that determine the use of e-government, its characteristics and its development over the past decades.

This result is important because it incentives us to continue our research in the actual field, not just in theory, to find data on the physical environment, institutions, administrators and stakeholders, once it is shown that for this theme, this is the methodology to follow.

The analysis results of the improvement actions proposed by the papers of the BP, it was verified that none of the studies had a process to generate the improvement of the presentation of accounting information on the internet, as well the possible aspects to be improved had not been worked with administrators, in other words, they didn't worked with decision makers possible aspects to be improved. For this lens (Azevedo et al., 2013; Lacerda et al., 2012 and Rosa et al., 2012), the generation of improvement actions with the administrators could become a major contribution to the New Public Management (NPM), through the creation of

performance measurement for the control of e-government and the accounting information on the internet in the public sector.

The gaps identified in the lenses demonstrated the need for modeling studies contributing to the investigated topic and that: (i) take into account the view of the administrator and get knowledge about it, (ii) is unique to both, the relation to actors and to context, (iii) take into account the limits of the knowledge of the administrators, his values and his preferences, and (iv) further to diagnose the current situation, generate improvement actions.

Finishing stages of Proknow-C, a question that can guide further studies on the topic it is proposed: How to build a model of study, from a constructive view, that is able to generate knowledge to the administrator on a specific context, allowing the creation of qualitative and quantitative instruments to monitor and refine the context of e-government and disclosure of accounting information on the Internet?

In the present study, the analysis of the lenses showed that the use of the constructive approach and the generation of actions by administrators could become a great contribution to the NPM with the creation of measurements of performance for the management and control of e-government and accounting information on the Internet in the public sector.

2.6. Conclusions

The social, economic and political changes in several countries around the world have made governments improve their management systems and increase the transparency of their actions. To meet the demands and requirements of citizens, public agencies sought new and innovative management models, in addition to new management tools (Beuren et al., 2013).

These factors requires from the government greater openness and interaction with the citizens, both seek to exploit the potential offered by information technology and communication to create new dimensions of economic and social progress. These technologies represent the possibility of a new focus on the provision of public services and disclosure (Franco et al., 2012). Several studies (Bertot et al., 2012; Moon, 2002 and Wong and Welch, 2004;) showed that e-government has been used to promote transparency between the government and the population.

To achieve the objectives of this study, two lines of research was created; "disclosure of accounting information on the Internet" and "public-public university" in order to determine, in the literature, the articles aligned with the combination of these lines.

To identify relevant scientific articles on the topic under study, it was used the instrument of intervention Proknow-C, resulting in the selection of a BP with 28 scientific papers aligned with the topic. In addition, this study selected 483 scientific articles cited in the references (BR) of the articles themselves. The results presented by Proknow-C in the step of selecting the BP are consistent with the results obtained in studies of Ensslin, Ensslin and Pacheco (2012), Lacerda, Ensslin and Ensslin (2011, 2012 and 2014), Rosa, Ensslin, Ensslin and Lunkes (2012) Tasca, Ensslin, Ensslin and Alves (2010) have successfully applied this intervention tool to find relevant articles aligned with their topic under study.

After selecting the BP, and giving sequence to Proknow-C, a bibliometric analysis of the 28 selected articles and 483 references was conducted in order to identify which ones are most relevant, main authors, journals relevance, the most used keywords, and the most commonly used research methods in addition to the temporal evolution of the topic.

The result of Bibliometric Analysis in relation to the relevant articles of the BP highlight the work of Moon (2002), Ho (2002) and West (2004). These studies outlined the evolution of paradigms of e-government, the evolution of the disclosure of government information and online services, and how these developments affect the relationship between governments and citizens. It has also been revealed that "e-government" and "disclosure" were the most used keywords.

Regarding the evolution of this topic, was verified that the issue is current and maintains a regularity of relevant publications over the years. This was also made clear in the paper of Abu Bakar and Zaleh (2011).

From a constructivist view, a Systemic Analysis of the papers was conducted, through this process can be possible the identification of strengths and the gaps in the literature, which enabled identify opportunities for future researches. To perform Systemic Analysis, four lenses, based on previous studies, were created to serve as a guide for this analysis.

The search for relevant scientific articles through the use of Proknow-C has demonstrated a lack of studies in the Latin American context, especially in studies related to Public

Universities. The papers analyzed focused their researches on the Central and Local Government, mainly in Europe Union and Anglo-Saxons countries. This result is relevant because it shows that there is an opportunity to move in a specific context, in other words, there is a gap in articles that investigate disclosure of accounting information on the internet for those institutions.

However, in the literature analyzed, major gaps were identified on building constructivist models as well as proposal of measures for improvement the management of the e-government and disclosure of accounting information on the Internet in the public sector. According to Hood (1995), the NPM proposes the use of business management practices, which is stronger in the use of public resources and the pursuit for efficiency, effectiveness and implementation of performance measures and control. These practices allow the monitoring and improvement of the model, especially from the perspective of constructivism (Roy, 1993), as it believes that this should be accomplished through the vision of the administrator, and through the process of feedback, modernizing while adding knowledge to it.

Future studies aiming to answer the proposed question in this paper could help in the development of the NPM and create performance measures and control of e-government, based on models that are fully built for a specific context and from the perspective of the administrator, generating knowledge and propose tools for monitoring and improvement disclosure of accounting information on the internet.

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CHAPTER 3: E-Government Process: The Access to Information and Accounting Disclosure – Evidence from Brazilian public universities

Abstract

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Abstract

The aims of this study are to examine the extent of accounting information disclosed by the Brazilian public universities on their websites, and verify which factors determining the observed level of information disclosed. Furthermore, this paper verify the procedures that have been adopted in face of the new law on access to information which revolutionized and expanded the right of citizens to access of public information in Brazil. The results indicate that the level of e-disclosure in Brazilian universities are middling, and aspects related with quality, efficiency, and governance showed to be determining factors for the disclosure of information.

3.1. Introduction

The social, economic, and political changes in several countries around the world have made governments improve their management systems and increase the transparency of their actions, allowed to citizens' greater access to information and public services. To meet the demands and requirements of citizens, public agencies sought new and innovative management models, in addition to new management tools (Beuren, Moura, & Kloeppe, 2013). These innovations, widely known as e-government, started to be developed in the 1990s and it was being adopted by public bodies over the years (Manoharan, 2013).

E-government could be defined as “the delivery of services and information, electronically, to businesses and residents, 24 hours a day, seven days a week” (Norris, Fletcher, & Holden, 2001, p. 5). Based on this concept, this study aims to verify the information disclosed on the internet (e-disclosure) by Brazilian public universities to stakeholders, and furthermore, analyze the factors that can influence the degree of transparency.

First of all, it is important to know who are the main external and internal users of the information provided by the public universities. Among the external users we can mention citizens, but we want to highlight the students, technical staff, and teachers, all with an important role within the university structure because they have the power to decide by voting the leaders who will administer the university. In this sense the agency-theory (Zimmerman, 1977) can explain the reasons why public institutions disseminate information to stakeholders.

On the other hand, it could be considered internal users, not just those who belong to the university, as their own managers or the internal audit, for example, but also those institutions that belong to own public system as the court of auditors and even other public universities. In this sense, the institutional theory (DiMaggio & Powell, 1983), widely used in studies that seek to relate the factors that lead institutions to adopt certain procedures or behaviors, can be applied to this study, since the organizations see themselves influenced by other organizations and, in addition, seek to adopt socially acceptable measures.

It is important to report the regulatory framework that universities are inserted, and we would like to highlight the access to information act (Brasil, 2012) which is revolutionizing the way of public agencies communicate and provide information to citizens via internet. The main innovation of this law lies in the fact that the disclosure of information shall be made available proactively, so that public bodies can promote the dissemination of information based on public interest, regardless of requirements.

Although the innovations provided by the law on access to information, there is much to advance in the field of public transparency. There is still a large amount of public information which depends on the discretion of the public managers to be disclosed over the internet, as accounting information, for example. For this reason, it is important to know what information is being disclosed by the Brazilian public universities through their websites, and what factors can influence this disclosure.

There are few studies that have verified the information disclosed via internet at public universities, and most of them focused on surveys and interviews; nevertheless, almost no previous research was conducted on data published on the internet, which is a mechanism for dissemination of information very powerful and has many advantages (Gallego, García, & Rodríguez, 2009).

This study has three objectives, first is to contribute through empirical evidence on the information disclosed on the websites of Brazilian public universities; second is to create an index which enables systematize the analysis of the websites of public universities; and third is to verify empirically what factors determine a higher or lower level of transparency evidenced by them.

Our study contributes to the literature in many ways. First, it provides a comprehensive evaluation of the current state of information available to the general public on the website of Brazilian public universities. Second, it is attempt to verify procedures that have been adopted by taking into consideration the current regulation on the access to information, and voluntary disclosure. Third, this study systematizes the analysis of the websites of the Brazilian public universities; demonstrates the points where there are still gaps present in digital transparency, and guide public managers to improve the electronic relationship between university and stakeholders.

3.2. Literature Review

In the last few years, accountability and the right of access to public information has become essential for the advancement of a democratic society. These initiatives aimed at supporting citizen participation, increase the confidence of governments, prevent corruption, and support the public decisions and accuracy of government actions (Bertot, Jaeger, & Grimes, 2010).

The current demands of society assume various technological, cultural, and administrative challenges, so that information is revealed in a quick, safe, and widely accessible manner for all stakeholders. In order to overcome these challenges, new information and communication technologies, especially the internet, are essential to provide more information and better quality public services to citizens. Many countries have adopted these new technologies as means to increase government transparency and reduce corruption (Bertot, Jaeger, & Grimes, 2010). Government websites can be an important communication tool in establishing relations with citizens and provide an environment to promote public participation in political processes and decision-making (Moon, 2002).

Justice et al. (2006) argue that improvements in e-government initiatives occur through a continuous process of development by raising awareness of culture change and technological development. The most relevant studies on e-government explain how they developed the dissemination of information through the internet and the way in which these changes have altered the relationship between governments and their citizens, and the way that such initiatives affect citizens at the time of make their decisions, especially when they have to choose those

politicians who will manage their cities (Bertot, Jaeger & Grimes, 2010; Moon, 2002; Tolbert & Mossberger, 2006; West 2004, and Wong & Welch, 2004).

Factors that incentivize public organizations to disclose information on the internet was carried out by an extensive review of the literature. West (2004) argues that e-government initiatives can increase citizens' trust in government actions, and denote that digital government has the power to transform service delivery and citizen attitudes. Likewise, Tolbert and Mossberger (2006) explain in their study, that the confidence of citizens in local government can raise through the initiatives of e-government. More recently, Jun et al. (2014), studied the relationship between government website usages, governments capacity for service delivery, and citizens perception of local government transparency in China; their findings indicates that the development of government website has the potential to improve the governments image, and the citizens perceptions of government transparency, however, the e-government in China is still at the information-provision stage, and still not the main platform for service delivery.

Relevant papers on e-government formed the basis for further studies, especially for those on disclosure of financial information, navigability and accessibility of the internet, and studies addressed to the analyze factors related to the disclosure of information, in addition, evaluation of factors that determine the disclosure of budgetary and financial information on the internet (Caba, Rodríguez, & López, 2008; Gandía & Archidona, 2008; Manoharan, 2013; Pina, Torres, & Royo, 2010; Serrano, Rueda, & Portillo, 2009).

However, these previous studies have focused their samples mainly in local and central governments of various countries and continents, especially in North-America and Europe, and it is worth noting that the prior studies have focused their theoretical bases, on the principal-agent theory (Evans & Patton, 1987, and Zimmerman, 1977), and institutional theory (DiMaggio & Powell, 1983).

With respect to universities, not many empirical studies have been published over the last five to ten years related to disclosure of financial information on the internet. In addition, papers published on this topic have not achieved great academic impact (Silva, Ensslin, Ripoll, & Crespo, 2014). Most of the articles that verified the disclosure of financial information by universities are focused on surveys and interviews; nevertheless, almost no previous research was conducted on data published on the internet, which is a mechanism for dissemination of information very powerful and has many advantages (Gallego, García, & Rodríguez 2009).

3.3. Hypotheses Development

Following a literature review on e-government, we have gathered the main factors leading public institutions to disclose more information on the web through three dimensions (Serrano, Rueda, & Portillo, 2009). The first dimension analyzed was the university characteristic, which corresponds to the following hypotheses: wealth (hypothesis 1), size (hypothesis 2), age (hypothesis 3) and governance (hypothesis 4). The second dimension relates to efficiency aspects, and is linked to cost per student (hypothesis 5), and the relationship between the number of employees and students (hypothesis 6). Finally, the third dimension is related to the quality of university (hypothesis 7). We present, for each case, its corresponding theoretical basis and the results obtained in several empirical studies.

3.3.1. Wealth

Lüder (1992) observed in their studies that those municipalities who need more financial resources were those that reported more information, therefore, to meet their needs, municipalities requires better quality information, and in doing so, are investing resources to develop tools to improve, and increase their reporting. Christiaens (1999) argues that the wealth should be positively associated with increased disclosure because it provides a signal of management quality. Therefore:

H₁ There is a positive association between university wealth and e-disclosure.

3.3.2. Size

One of the variables most used by researchers to evaluate the disclosure of information was the organization's size (Gordon, Fischer, Malone & Tower, 2002). The classical theories of financial reporting provide a positive and significant relationship between size and disclosure (Baber & Sen, 1984; Ingran & de Jong, 1987). Torres et al. (2005) states that the dissemination of information through the web is an improvement and those larger institutions have more resources to support this innovation.

Considering previous studies, it is argued that there is a positive relationship between the size of the institution and the information disclosed on the internet. Following the methodology used by Gallego et al. (2009), the size variable is measured by the number of students. For this

study the number of students was divided into two categories: number of undergraduate students and number of graduate students. Therefore:

H₂ There is a positive association between size and e-disclosure.

3.3.3. Age

Gallego et al. (2009) argue that the age of the university can influence the degree of overall and financial disclosure. Banks et al. (1997) demonstrated that older universities have a greater propensity to disclose more information than the younger universities. Murias et al. (2008) described similar results for public Spanish universities. Based on empirical evidence, we propose:

H₃ There is a positive association between institution age and e-disclosure.

3.3.4. Governance

Several studies demonstrated that the governance aspects, including the size of the governing board were significantly related to the degree of disclosure. Gallego et al. (2009), and Gordon et al. (2002) argue that bigger boards are consistent with a positive relationship of the level of disclosure information on the web. By considering previous works, we present the following hypothesis:

H₄ There is a positive association between number of members on the governing board and e-disclosure.

3.3.5. Cost per student

In studies related to local governments, public administrators have incentives to reduce the cost of municipal debt, because in turn could reduce property taxes (Gore, 2004). Thus, in this study, we propose a variable that measures the cost per student. We try to measure the degree of efficiency of universities by evaluating the average, maximum, and minimum values of the cost per student among them. By following the line that quality of the administration, and its efficiency in the application of resources will be related to a greater incentive to disclosure of information, we set up the following hypothesis:

H₅ There is a negative relationship between cost per student and e-disclosure

3.3.6. Relationship between students and employees

Following the previous studies, as Católico (2012) we investigate the relationship between the number of students and employees. Greater relationship between students and employees may demonstrate greater efficiency in academic procedures and teaching process;

H₆ Universities with higher ratio students/employees disclose more information on the web.

3.3.7. Quality of university

One of the factors that the literature describes as a decisive aspect for the dissemination of information on the internet is the level of quality of universities (Gallego, García, & Rodríguez, 2009). To measure the quality of the university we use the 2013 “University Ranking Folha” (RUF), published by “Folha de São Paulo” (Brazil).

Another important factor is the qualifying standard of the teaching staff. Therefore, we also use as a quality parameter, the level of qualification of teachers. We propose the following hypothesis:

H₇ There is a positive association between quality and e-disclosure.

3.4. Research Design and Methodology

This section describes the methodology used to test the hypotheses of the study. First, the population and sample selection procedures are detailed. Then, the process to create the University Disclosure Index (UDI) is discussed. Next, is described the methods by which information about the universities was gathered. Finally, the last section specifies the model and statistical methods used to test the hypotheses.

3.4.1. Population and sample

The population is defined by the 193 universities in Brazil in 2013 with a total population of 3,822,998 students (INEP, 2012). Of the 193 universities, 97 are public and the remaining 96 are private. In Brazil, public universities can be administered by central government (**federal**), state government or local government, depending on their legal constitution and who supports it financially.

In this paper we used as sample the public universities, but only the federal universities. To achieve the objective proposed, it has carried out an analysis of the websites of all 59 federal Brazilian universities.

We have chosen this type of institution because of their importance for Brazilian society, importance to higher education, and their existence as public body. The numbers of students in the federal universities represent a little more than one million, and their annual budget represents about 0.6% of the Brazilian gross domestic product. Federal universities have specific characteristics and its administrative composition, economic, and financial structure corresponds to a public body. In most universities, the President is elected by the academic community, the financial resources are transferred by the central government, and the university has full administrative and financial autonomy.

3.4.2. *Research design*

From a methodological point of view, we have developed a score table (Table 3.1(4)) to capture the main disclosure information by the universities with respect to accessibility and accounting information. The definition for accounting disclosure is subject to various interpretations “perhaps ranging from the information provided in audited notes and financial statements to any information set that might be employed by a user in arriving at some decision about economic entity at hand” (Gordon, Fischer, Malone & Tower, 2002, p. 252). In our study, the disclosure of accounting information is examined in a more comprehensive way. We verified information from a strictly financial aspect, such that financial statements, equity, budget, and explanatory notes were taken into consideration as well as aspects of information like expenditures, audits, and management procedures.

Our methodology for data collection involves the identification and evaluation of the outstanding features observed in the websites of universities in regard to the precepts of the current regulation on the access to information, the previous studies on public financial accountability, and the instructions and guides regarding to accounting information provided by the Federal Court of Audit, and the Brazilian Ministry of Finance.

The following methodological steps were performed for the construction of the university disclosure index (UDI). For this, it is essential to use a specific questionnaire that covers all relevant aspects for a complete analysis of the level of disclosure of universities.

Table 3.1 (4). University Disclosure Index (UDI)

	Item	Interpretation	Score
A)	IAI	Index of Access to Information	27
A1)	Accessibility		10
	1 Banner	Have link to enter "Access to Information" of the institution	1
	2 Toolbar - Federal Government	Has the identity toolbar the federal government - Portal Brazil	1
	3 Service letter	Own institution's service letter	1
	4 Map of the web	Own map about the content available on the university web	1
	5 Redirection	Information that does not appear on the site are redirected to another government site	1
	6 FAQ	Frequently asked questions	1
	7 Access form for solicitation	Has a link with form to request access to information	1
	8 Classified information	Disclose if there are confidential information	1
	9 Allows to record data in several formats	Enables recording of reports in various electronic formats (doc, pdf, xls)	1
	10 Accessibility for disabled	Ensures the accessibility of content for people with disability	1
A2)	11 Ombudsman office	Contact for the monitoring authority or ombudsman office	1
A3)	12 Rector agenda	Presents on its website the schedule manager	1
A4)	Institutional		9
	13 Organizational Structure	Organizational structure, responsibilities, main office and its occupants	1
	14 Information to contact	Contact, address and telephone number to the public	1
	15 Organization Chart	Presents the university organization chart	1
	16 Statute	Displays the statute on the website	1
	17 Internal regulations	Presents the Internal Regulation on the website	1
	18 Academic Calendar	Publishes the academic calendar	1
	19 Opening hours	Reports the opening hours and customer service	1
	20 IDP	Institutional Development Plan	1
	21 ITDP	Information Technology Development Plan	1
A5)	Employees		2
	22 Public tender	Public announcements and the results of public tenders held	1
	23 Payment of employees	Publishes the remuneration and allowances received by office occupants, or has link to provide information	1
A6)	Contracts		4
	24 Bidding	Bidding made, publication of auctions, attachments and results, signed agreements and commitment notes	1
	25 Contracts	Discloses the contracts made	1
	26 Partnerships	Discloses list of partnerships	1
	27 Outsourced companies	Discloses list of outsourced workers and company names to which they belong	1
B)	ADI	Accounting Disclosure Index	20
B1)	Accounting statements	Accounting statements applied to the public sector - Accounting Manual Applied to Public Sector - V (Finance Ministry)	8
	28 Statement by accountant	Statement by accountant of the conformity of reports submitted	1
	29 Budget balance sheet	Budget Execution and financial detailed and transfer of financial resources	1
	30 Financial Statement	Revenues (Budgetary Revenues and Receipts Extra Budgetary) and expenditures (Budget Expenditure and extra budgetary Payments)	1
	31 Balance sheet		1
	32 Statements of equity variations	Will evidence the changes in the equity	1
	33 Statement of cash flows		1
	34 Explanatory notes		1
	35 Access to previous financial statements	May inspect the financial statements of two or more years old	1
B2)	36 Expenditures	Presents expense report	1
B3)	Auditing		4
	37 Internal audit	The institution has permanently constituted internal audit	1
	38 Report of internal audit	Presents the internal audit reports	1
	39 Audit Court report	Presents the audit court reports	1
	40 Measures adopted	Presents the information of the measures adopted of the inspections of the audit court and internal audit	1
B4)	Management		7
	41 Management Report	Management Report of the Rector	1
	42 Performance indicators		1
	43 Manag. control systems	Presents a cost management control system	1
	44 Departments	Presents results by department	1
	45 Teaching	Presents results by teaching activity	1
	46 Research	Presents results by research activity	1
	47 Extension	Presents results by extension activity	1
	UDI	University Disclosure Index	47

The verification of the degree of transparency in each university was performed by measuring the proposed questionnaire. The disclosure index (Table 3.1(4)) is composed of 47 items divided into ten subsections which in turn are divided into two major sections, namely, index of access to information (IAI), and accounting disclosure index (ADI). The questionnaire was performed during the months of September and October 2014.

The development of the questionnaire items whose full structure can be seen in Table 3.1(4), took into consideration the following criteria:

- 1) Access to information (IAI). This section is related to verification of adherence to aspects related to active transparency and the access to information required by current legislation. With respect to IAI, it is the duty of the public organizations, independent of the request, to promote the dissemination of information of general interest in their websites. In this section twenty-seven items were observed, representing 57% of the UDI.
- 2) Accounting disclosure (ADI). The accounting index was performed by evaluating the disclosure of financial reports, expenditures, information about internal and external audits, and information related to management. In this section twenty items of voluntary disclosure were observed, representing 43% of the UDI.

By completing the questionnaire, were checked all items in each of the surveyed universities, and when this item was filled, was designated note “one”; otherwise the score was “zero”. We made the choice in this study to designate a distinct weight to the two sections studied here. After reviewing the 47 questionnaire items for each university, the next step was to calculate the degree of information revealed on the websites. The disclosure index was calculated, for each university taking into consideration the items identified in Table 3.1(4). Taking into account that the disclosure index is divided into two sections, it first calculates each partial index, which is weighted to calculate the total index. By definition, both, the total and the partial index can have values ranging between “zero” and “ten”. The partial and total index was calculated as demonstrated (Gandía & Archidona, 2008):

$$I_i^P = \frac{\text{Score obtained in the subgroup}}{\text{Maximum total score obtainable}} \times 10$$

After obtaining the partial index, the calculation for verification of total index for each university was conducted. The calculation was performed as follows:

$$I^T = \sum_{i=1}^n I_i^P \times P_i^T$$

Where:

I^T = Total index score;

I_i^P = Score of the partial index based on the total index subgroups; and

P_i^T = Proportion of overall total index score represented by the partial index “ i ”.

It is important to note that the overall index is obtained not by simple arithmetic average of the different partial indexes, but the assessment of the relative weight of each item. Following the creation of the university disclosure index, we contrast the hypotheses raised in order to verify which factors may determine the degree of e-disclosure among federal Brazilian universities.

3.4.3. Data analysis

We investigated the institutional factors that can influence the degree of transparency using a multivariate approach. To carry out the multivariate analysis, we proposed three multiple linear regression models to verify the hypotheses proposed on third section. Was used as the dependent variable for each model, the different proposed disclosure index; whereas the independent variables were related to the hypotheses listed anteriorly. Table 3.2(5) describes how all the explanatory variables were calculated.

For this study, we have chosen to analyze some independent variables that have been extensively used in previous research, such as size (Baber & Sen, 1984, and Ingran & de Jong, 1987), wealth (Christiaens, 1999), age, quality, and governance (Católico, 2012; Gallego, García, & Rodríguez, 2009, and Gordon Fischer, Malone & Tower, 2002). To complete our study, we have also focused on features related to efficiency. Beyond the independent variables already contrasted by previous studies, we consider two variables related to efficiency, namely cost per student, and relationship between students and employees.

Table 3.2 (5). Variable Description

	Definition	Source
University Wealth	Annual income	MEC website
Equivalent cost (COSTEQ)	$\frac{\text{Current costs}}{\text{Equivalent student}}$	University annual report
Size of the university (SIZEag)	Number of undergraduate students	University annual report
Size of the university (SIZEapg)	Number of graduate students	University annual report
Relationship student / employees (ALUMSERV)	$\frac{\text{Total ungraduate student}}{\text{Professors + adm. staff}}$	University annual report
University age (AGE)	Number of years since its foundation	University website
University quality (QUALITY inst)	Quality Index (RUF) published in 2013	Newspaper website of “Folha de São Paulo”
Teachers specialization (QUALITY prof)	Degree of specialization of teachers staff	University annual report
Governance	Number of members on the governing board	University website

Furthermore, the size variable was divided into two groups: one, measured by the number of undergraduates, and the other measured by the number of graduate students. Lastly, we utilized two proxies for the variable quality: one related to the general quality of the university, and other related to the degree of the specialization of the teacher staff. All together we analyzed a total of nine independent variables.

3.5. Results and discussion

3.5.1. Descriptive results

Analyzing the statistical data of university disclosure index (UDI), we obtained an average value of 5.77 points (Table 3.3(6)). That means that universities disclose, on average, slightly more than 50 percent of the information available, taking into consideration only the aspects related to this study. The results can be analyzed in a positive way if we take as a measure isolated result for the average values of the index of access to information (IAI) which showed an average of 7.12 points (Table 3.3(6)). In other words, for this indicator, more than 70 percent of the maximum possible value was disclosed.

Diametrically opposite direction data on disclosure of accounting information had a very poor outcome. The average for the ADI index was only 3.95 points (Table 3.3(6)). In this case, it can be noticed that the majority of the universities disclosed less than 40 percent of their accounting information. These results make it clear that universities are not taking full advantage of their websites to increase transparency; in addition, they are limiting themselves just to comply with legislation. This result is consistent with data presented by Pina et al. (2010) who detected in European cities the same limitation, and Gandía and Archidona (2008) who presented similar results for Spanish cities.

The results also revealed that the ADI disclosure was not that high, with a maximum reported result of 7.5 points (Table 3.3(6)), and the situation gets even worse if we take into consideration that some universities did not presented any accounting information. According to these results, the federal Brazilian universities websites focus their efforts on legal requirements, consequently the accounting information are less widespread. The Table 3.3(6) demonstrates the descriptive results obtained.

Table 3.3 (6). Descriptive statistics of the disclosures indexes and independent variables

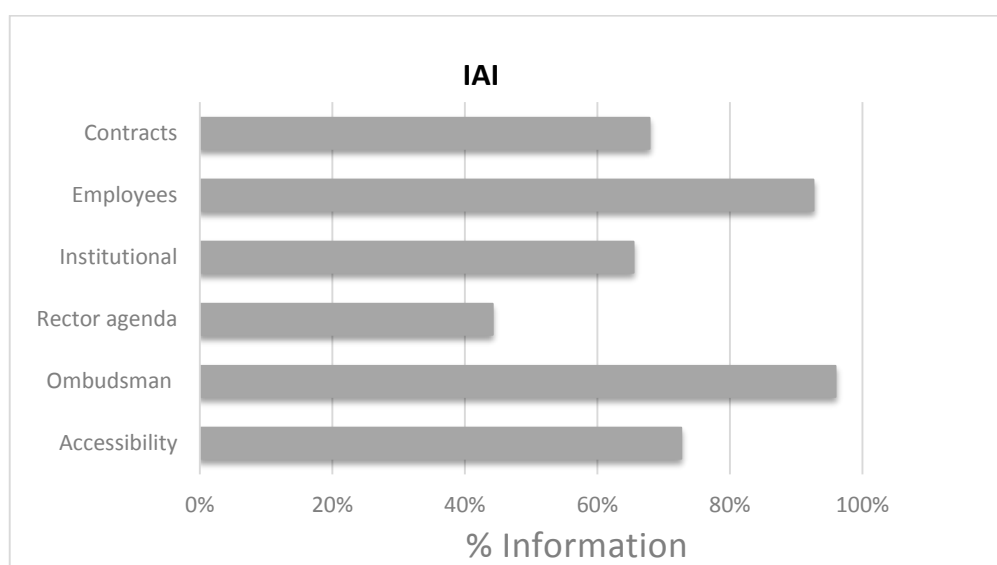
Sample: 59 Universities					
Variable	N° Obs.	Dev.	Mean	Minimum	Maximum
Dependent					
UDI	59	1.11578	5.772542	3.19	8.51
IAI	59	1.310472	7.121017	3.7	9.26
ADI	59	1.702655	3.957627	0	7.5
Independent					
Wealth	59	.8758	19.8220	17.9337	21.59035
Costeq	52	5156.896	15477.09	8237.03	35317.84
Size (ag)	50	9922.191	14875.34	1008	40731
Size (apg)	50	2559.996	2199.29	0	11209
Alumserv	49	.5264	.1911	.1063	.3134
Age	59	30.8110	51.4745	3	105
Quality (inst)	54	20.4842	64.5681	12.46	95.64
Quality (prof)	52	.3789	4.1301	3.28	5
Governance	58	5.2582	6.7068	0	17

A possible recommendation for these institutions would be to establish more ambitious communication strategies, centered on the improvement of digital informative transparency and

improve the interactivity between the institution and the stakeholders (Gandía & Archidona, 2008). Also, implement a more proactive strategy in the website administration, based on the law of access to information and even based on successes experienced by other universities that provide satisfactory amounts of financial and general information.

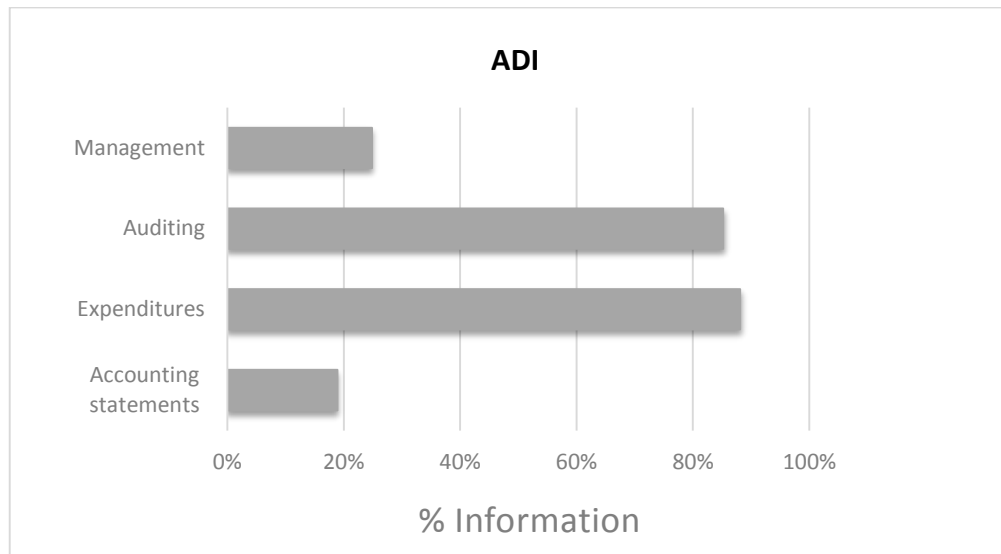
The Figures 3.1(10) and 3.2(11) below show the group of items evaluated in each university for each of the proposed indexes, and their respective results. The results demonstrated on Figure 3.1(10) reveal that almost 96 per cent of the information related to ombudsman office was revealed by the universities, and almost 93 per cent of the information related to their employees was provided; however only 44 per cent of the information related to Rector’s agenda was disclosed.

Figure 3.1 (10). Content of public information disclosed by Brazilian universities



With respect to ADI index (Figure 3.2(11)), more than 80 per cent of the information regarding to auditing and expenditures were disclosed by the universities, nevertheless just 24 per cent of information related to management accounting was disseminated, and the least published information was linked to accounting statements. Less than 20 per cent of the information related to accounting statements was published on universities’ website (Figure 3.2(11)). The result that has been found in the Brazilian context is similar to that found by Galego et al. (2009), whereby the Spanish universities disclose a low volume of accounting information on their websites.

Figure 3.2 (11). Content of accounting information disclosed by Brazilian universities



3.5.2. Multivariate regression analysis

In order to calculate the degree of linear relationship between the variables, Table 3.4(7) show the Pearson correlation between all independent variables that are part of the analysis. The correlation matrix allows us to verify that the variables related to size, and wealth were highly correlated.

Table 3.4 (7). Pearson`s correlation matrix of independent variables

	Wealth	Costeq	Alumserv	Size (ag)	Size (apg)	Age	Quality (inst)	Quality (prof)	Governance
Wealth	1.0000								
Costeq	-0.2407	1.0000							
Alumserv	-0.2103	0.3449***	1.0000						
Size (ag)	0.8970**	-0.2386*	-0.3589	1.0000					
Size (apg)	0.8002	-0.0995***	-0.0442***	0.7929	1.0000				
Age	0.4159***	-0.4205**	0.0393**	0.2957	0.3528***	1.0000			
Quality (inst)	0.8244	-0.0823***	0.0245***	0.7034	0.7571***	0.3736***	1.0000		
Quality(prof)	0.0974	0.3885***	0.4354***	-0.0569	0.3183***	0.0184**	0.5334***	1.0000	
Governance	0.1288	0.0662	0.0663	0.1131	0.0034	0.0489	0.1018	0.1063	1.0000
VIF	8.66	1.54	1.61	9.59	5.27	1.53	5.58	3.01	1.21

***Significant to 1%; ** Significant to 5%; * Significant to 10%

With the view to verify a problem of multi-collinearity between the variables, we used the "variance inflation factor" statistic, or VIF. According to Table 3.4(7), the values for statistical VIF is between 1 and 9, below the tolerable limit (Wooldridge, 2006), except for the size (ag) variable with a value of 9.59. However, we performed other tests that led us to believe that the model was not compromised. In addition to statistical VIF, we tested adding or deleting variables to the model to verify exaggerated alterations in the model, but, the signs did not change, and values of the estimated parameters have not changed significantly, which shows that the model is stable (Edwin, 2008). Furthermore, the "t" tests applied to the coefficients were statistically significant. For these reasons, it can be argued that in this model, the assumption of multi-collinearity has not affected the results.

The postulate of homoscedasticity was also verified. In the tests performed, we have not encountered problems of heteroskedasticity for UDI and IAI, however, for estimates of ADI the test rejected the null hypothesis of homoscedasticity, indicating the presence of heteroskedasticity. To solve the problem, the estimators have been corrected according to the White (1980) method. The following is a summary of the results:

Table 3.5 (8). Estimation results

Variable Independent	Estimation "UDI"	Estimation "IAI"	Estimation "ADI" (robust)	Expected Signs
Wealth	-0.8749116 (-1.59)	-0.9735284 (-1.51)	-0.2695604 (-0.51)	+
Costeq	-0.0000719** (-2.49)	-0.0001167** (-2.67)	-0.0000114 (-0.36)	-
Size (ag)	-0.0000525 (-1.33)	-0.0000305 (-0.53)	-0.0000821 (-1.65)	+
Size (apg)	0.0002706** (2.57)	0.0002126 (1.33)	0.0003487** (2.67)	+
Alumserv	-3.771764 (-1.27)	-5.873249 (-1.30)	-0.92873 (-0.22)	+
Age	-0.139632** (-2.68)	-0.0205356** (-2.59)	-0.0051067 (-0.80)	+
Quality (inst)	0.308287** (2.29)	0.0304813 (1.46)	0.0311631** (2.19)	+
Quality (prof)	0.3695621 (0.64)	0.8551523 (0.97)	-0.2815094 (-0.71)	+
Governance	0.0666736** (2.50)	0.1041501** (2.57)	0.0158777 (0.49)	+
Observations	45	45	45	
Within R ²	0.4774	0.3838	0.3906	
Durbin-Watson test	1.577	1.607	1.251	
(F statistic)	3.55 (0.0032)	2.42 (0.0295)	1.94 (0.0788)	

***Significant at 1%; ** Significant at 5%; *Significant at 10%

The regression results are presented in Table 3.5(8), which presents the statistical of the three regression models obtained for the dependent variables (UDI, IAI and ADI), including estimated coefficients, statistics "t" and the coefficients of determination adjusted (R^2 adjusted). Table 3.5(8) also shows the sign of the expected relationships between the dependent and independent variables. The "+" sign indicates a positive relationship, the sign "-" indicates a negative relationship.

To test the seven hypotheses established earlier, the proposed models for disclosure extension by federal Brazilian universities were examined for significance. The regression models explained only part of the variance of disclosures. For all models, the observed sign and significance of the t-statistic for the regression coefficients were examined to determine whether the research hypotheses associated with each variable was supported.

An initial analysis of the results obtained by the three models reveals that there are two hypotheses that were not confirmed by any of the analyzed disclosure levels. The hypothesis related with wealth (H1) of the institution and the relation between employees and students (H6) were not statistically significant in any of the three regression models. Other studies (Caba, Rodríguez, & López, 2008, and Gallego, García, & Rodríguez, 2009) have obtained similar results to ours. Furthermore, the size and quality variables that had as proxy the number of undergraduate students and the degree of specialization of the teachers, respectively, showed no significant results for all of the regressions.

On the other hand, there are five hypotheses that have been confirmed at least in two of the three models presented: efficiency (was measured by cost per student), size (number of graduate student), the age of the institution; quality (quality of the institution), and governance.

The hypothesis that argue that there is a negative relationship between cost per student (H5) and disclosure information was confirmed with a significant result, demonstrating that efficient universities disclosure more information. This result is consistent with a study conducted by Católico (2012), which argue that the highest quality in public administration presupposes access to information requirements and greater transparency.

Similar to the present paper, previous studies like Carbara and Garcia (2010), and Gandía and Archidona (2008) found a positive and significant relationship between the institution size (H2), and information dissemination on the internet.

The results shown in Table 3.5(8) suggest that university age (H3) has a negative and significant relationship in relation to the disclosure of information on the internet. This variable had an unexpected negative sign, taking into account we expected that the oldest universities would disclose more information as demonstrated in previous studies. This result also suggests that we should analyze this variable with caution, because the statistical information reveals that the federal Brazilian universities are relatively young with 75 percent of the sample having less than 67 years old. Statistical tests were performed using dummy variables in sections of age, and revealed that older universities, over 67 years old, has a greater influence on the results presented, because these institutions affect negatively and significantly the variable age. Nevertheless, the results demonstrate that the universities with less than 67 years old reported more information on their websites, especially those under 11 years old.

The result of our study in relation to the university quality (H7), also came out as expected, in other words, universities that had better quality released more information than those of lower quality.

The results confirm the hypothesis that the governance (H4) is related to disclosure of information, and the result shows a positive relationship, as predicted. This result is in agreement with the one proposed by Gallego et al. (2009), and Gordon et al. (2002), although these studies did not obtain a significant result for the governance variable in their samples.

Finally, the results obtained by each regression showed that the aspects related to quality, efficiency, governance, size, and age provided to be determining factors to disclosure of information on internet of the universities analyzed.

3.6. Conclusions

The results of this study revealed important findings, and contribute to the literature through detailed analysis of the issues related to the actual regulation on access to information, accounting disclosure, and the identification of different motivational factors for voluntary disclosure among Brazilian public universities.

The empirical evidence suggest that the aspects related to quality, efficiency and governance showed to be determining factors for the dissemination of information with statistically

significant results. Another interesting aspect verified in the Brazilian context was that the younger universities showed better results in relation to the proposed indexes. Perhaps this result was related to the fact that younger universities have to disclose more information to capture more students, especially those universities that have approximately one decade of existence, as demonstrated in the statistical analysis.

It must be emphasized that the level of e-disclosure in federal Brazilian universities are middling, however, considering the partial indexes, the general information dissemination level is medium-high, although the level of accounting information disclosed demonstrated to be quite small.

The present study shows that the index to access to information, which is regulated by the access to information law, afforded a much higher result than the accounting disclosure index, of voluntary disclosure. This result demonstrates that the regulation of access to information has brought benefits to citizens, to the extent that the institutions analyzed in our study increased their transparency.

Several limitations to the study must be addressed. First, regards the composition of the sample. The study was conducted with federal Brazilian universities, however, there are other higher education institutions, with different forms of registered composition that were left out of this study. Therefore, the present results cannot be generalized to all higher education institutions in Brazil, but only for the sample of this study. A second limitation in our study is related to the extent of information disclosed, once the quality of information has not been evaluated. A single sentence description of compliance received the same score as a detailed report of several pages. The subjective nature of classification based on the quality prevents this approach. Third limitation to our study is the possible problem with multi-collinearity between variables. The use of highly correlated variables that could measure the same attribute, such as wealth and size of university, may be a limitation, even though the variance inflation factor (VIF) did not exceed the level suggested by Wooldridge (2006, p. 99). In spite of these limitations, our work provides significant results about the determinants of e-disclosure.

This study brings empirical evidence and knowledge to the academic literature on transparency and e-disclosure, especially with regard to the context of Brazilian public universities. With the implementation of the law on access to information in many countries, allied to the need to

improve and expand the dissemination of information and services via internet, it is expected that more academic studies will be interested in this field.

Future studies aiming to check the aspects and necessities to improve and expand the disclosure of information on the internet from the perspective of public administrators might help on the development of the e-government.

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CHAPTER 4: E-Government Use and the Public Manager Perception – evidence from Brazilian public universities

Abstract

4.1. Introduction

4.2. Theoretical development and hypotheses formulation

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Appendix

References

Abstract

The use of the internet by the government could become an effective instrument to provide reliable, timely, and periodic information on public finances. As a result, citizens are able to continuously follow how public managers administer their financial resources and assets. In order to assist with the accountability and control processes, which are essential in achieving the objectives proposed by the New Public Management, it is important to verify that public agencies are aware of the importance of disclosing their accounting information on their websites. Based on a survey on Brazilian public universities with those responsible for e-government services, this paper contributes to the accounting literature by examining the role of public managers in use of e-government as a tool to disclose accounting information. This study presents three hypotheses that directly relate the adoption of e-government with the perception of public managers. Moreover, we hypothesized that the use of e-government can bring benefits to universities. The structural equation model was used to study the data. The empirical results show that the causal relationship among latent variables are partially confirmed.

4.1. Introduction

The internationalization of markets and the globalization of the economy amplify the negative effects, provided by inefficient governments and high tax burdens, as these features directly disturb the productivity and competitiveness of the private sector and the public sector itself (Gimeno, 2015). Issues such as public debt, fiscal pressure, besides the need to improve efficiency and effectiveness in the use of public funds, led to the development of public reforms (Boston, Martin, Pallot & Walsh, 1996)

In this context, and driven by technological and social progress experienced in recent decades, the so-called New Public Management (NPM) was developed (OCDE, 2006). The NPM transferred management practices from the private sector to the public, with special focus on results, performance measures, efficiency, effectiveness, accountability, transparency, among other attributes (Hood, 1991; 1995). Some authors considered the NPM as a response to the criticism directed to public sector, who were appraising the incompetent and bureaucracy (Almqvist, Grossi, Van Helden & Reichard, 2013).

According to Hood (1991), the NPM proposes a cultural change in the public administration, bringing to the public: context professional management; implementation of performance measures, economy and accountability in the use of public resources; efficiency and effectiveness in service delivery; increased transparency; and greater interaction between government and citizens.

The administrative culture of the NPM began to develop in England, then has gained strength in Anglo-Saxons countries (Hood, 1991), later its principles gained strength in the European Union and other countries around the world (Bolivar & Navarro, 2007). The recently occurred in public administration reforms have been characterized by a change in administrative culture, inspired by new management focused on improving the quality of service delivery, with special emphasis on the citizen, in accountability, in control mechanisms, and informational transparency (Bolivar & Navarro, 2007).

Hood (2006) defines public transparency with a meaning "quasi-religious". Lapsley (2008) states that transparency of public affairs has a "goldfish bowl" effect, since all aspects of public bodies are under heavy public scrutiny, particularly in cases related to public finances. Through the precepts of NPM public agencies must improve accessibility and informational transparency (Hughes, 1994).

The environment proposed by the NPM has developed the transparency of accounting information by governments and their agencies in the last decades. However, one of the biggest obstacle faced accounting for its development was precisely the lack of standers, that could address the implementation of homogenous and comparable accounting reports across countries (Sutcliffe, 2003).

The support, of a set of international accounting standards, can give the necessary security conditions, where governments have to improve the quality of financial and non-financial information, and therefore their users also be benefited (Bolivar & Navarro, 2007).

The new information systems and accounting management need a comparable, relevant and useful basis to guide decision-making, allocation of responsibilities, and to increase transparency (Bolivar & Navarro, 2007). The standardization of accounting rules is the basis of the ongoing process of modernization of public administration, taking into account new needs arising in the light of the NPM.

The accounting management is an essential part in implementing the practices proposed by the NPM (Bolivar & Navarro, 2007; Chan, 2003; Lapsley, 1999; Lapsley & Pallot, 2000; Yamamoto, 1999), once the accounting is developed as a dynamic activity and streamlined in construction of this doctrine (Lapsley, 1999). The accounting practices have the potential to make necessary changes to develop the NPM through interaction among managers, citizens and public policy (Lapsley, 1999).

However, it should be carried out an analysis of the usefulness of accounting information, and whether this information is being disseminated, especially on the internet, which in theory should be the most comfortable environment for citizens to be informed. Moreover, the adoption of new communication and information technologies such as the internet as a tool of transparency and provision of public services has become a global trend.

In particular, in this study, we want to analyze the role of public managers when it comes to make use of the internet to disclose accounting information, identifying the difficulties encountered, the assessment that they do regarding this information, and its use, in the NPM environment.

Therefore, we propose the following research question: What is the role that public managers can play in face of adoption e-government as a tool of transparency in the context of the New Public Management?

The aim of this study is to verify the role of public managers, in Brazilian public universities, facing the use of e-government, through the analyzes of their perception in the importance of disclosure accounting information online, the influence of institutional and contextual factors, and the perceived benefits from its use.

To achieve this objective, four hypotheses have been raised that were contrasted through structural equations whose results have confirmed three of them and rejected one.

The following sections are structured as follows. Section 2 presents the literature review and the hypotheses developed. Section 3 describes the research method used. Section 4 presents the results. Finally, section 5 addresses the discussions, conclusions and limitations of this study.

4.2. Theoretical development and hypotheses formulation

4.2.1. Endorsement of IPSAS in Brazil and the advertising of accounting information

The International Public Sector Accounting Standards (IPSAS) are global standards for the preparation of the financial statements of public entities that are being used in major economies of the world, and provides the basis for reforms in the accounting area, in several countries. The International Public Sector Accounting Standards Board (IPSASB), of the International Federation of Accountants (IFAC), issues these standards. The IPSAS aims to improve the quality of accounting information produced by governments, as well as improve the comparability of this information between different countries.

The IPSAB encourages the adoption of IPSAS, however, it is devoid of authority to establish their standards and guidelines since the national governments are who determine how, when and in what form implement IPSAS (IPSASB, 2014). Therefore, the IPSASB recognizes that at the national level, within each country is a right of governments to establish their own rules and guidelines for the preparation of the financial statements (CFC, 2010). By the inability to impose their standards, one of the greatest challenges faced to the IPSASB is the legitimacy and acceptance of the rules issued (Gimeno, 2015).

The idea of convergence glimpsed when overcome the legal and political obstacles encountered during the evolution process of international harmonization, as well as economic effects, generated by application of accounting standards. (Pacter, 2005). The convergence process entails to the existence of different standards, but its principles converge towards the same set by international norms (Villegas, 2013).

The process of convergence aims to reduce the negative effects of accounting heterogeneity, such as the complexity in the consolidation of the financial statements, access to foreign capital and the lack of comparability between the financial statements of companies based in different countries (Carvalho & Salotti, 2010).

Carvalho and Salotti (2010) warn that the adoption of an international standardization is not a simple task, because of political, bureaucratic, cultural and legal issues hinder the convergence process. Despite the difficulties presented, the adoption of international accounting standards

applied to the public sector is a process that is in full expansion in several countries (IFAC, 2008).

The Brazilian case is no different, and the accounting model adopted by the Brazilian government, counties and public agencies are undergoing a process of modernization and convergence with international accounting standards.

In Brazil, the Ministry of Finance commissioned the Federal Accounting Council (CFC) responsible for converging the criteria for the production of financial information of the Public Sector with IPSAS. Thus the CFC, a private entity, is also responsible for regulate accounting for the business sector, passed to issue converged standards with IPSAS for the Public Sector.

Until 2015 the CFC has issued 11 Brazilian Accounting Standards applied to the Public Sector (NBCASP), the last one published in 2010. However, a study presented in 2014, in the Brazilian Congress of costs (Padrones, Colares & Santos, 2014), showed that 34% of public bodies investigated had not implemented any of the NBCASP, and only 6% had begun to implement a system costs, referring to the NBCASP 16.11 (CFC, 2012), published in 2010, besides that public bodies should have already completed implementation in 2014.

As concern for public transparency and disclosure of financial information, the main pronouncements (PGCP, 2010; IPSASB, 2014) have specified that the accounting must fulfill two major objectives: to allow the assessment and accountability in the use of resources, and facilitate decision-making.

Corroborating with international standards, the NBCASP 16.1 (CFC, 2012) states that the purpose of accounting is: to provide users information on the results achieved, into the aspects of budgetary, economic, financial, and physical assets of the public agencies, in supporting the process of decision-making, proper accountability and the necessary support for the instrumentalization of social control.

Another Brazilian accounting standard applied to the public sector, the NBCASP 16.6 (CFC, 2012), states that accounting information should be made available to society on various media, including electronic. Modern forms of governance require new forms of disclosure, both for financial reporting as for any information that is interested to citizens (Shaoul, Stafford, & Stapleton, 2012).

It is important to be aware of quality, clarity and timeliness of the accounting information disclosure. Without transparency and accountability will not be possible to improve the confidence of citizens towards their rulers (AECA, 2012a). Otherwise, this can lead to the relationship between citizens and public bodies become a vicious circle (Gimeno, 2015) where the lack of interest and little use of information by citizens, demotivate those who prepared to provide additional information. On the other hand, if the available information does not prove to be useful or understandable, can lead to low utilization.

4.2.2. The use of e-government at Universities

The use of e-government can promote the development of several state functions, and change the way that the politicians manage the institutions, improving the efficiency and effectiveness of administrative processes, saving financial resources of the government, creating and increasing electronic networks, and saving users time (Garson, 2004). The new information and communication technologies, as the internet, as well as the knowledge of factors related to e-government can help public managers to build and improve online services, distribution of information and external collaboration (Ho, 2002). These advances may result in several benefits for citizens and for the own government, such as improvement of government accountability, expanding transparency and access to information, and saving cost (Carter & Balenger, 2005).

The ability of managing the information technology (IT) is a determining factor for the adoption of e-government at the state level. Studies indicate that administration focused on innovation is another important factor in the adoption of e-government in municipalities (Reddick, 2004; Norris & Moon, 2005). Implement innovations and new management models is not easy or cheap, so that counties with advanced e-government practices showed spend much of their budget to the IT sector (Carrizales, 2008).

Although virtually, all government institutions have evolved technologically over the past 20 years. Academic studies have focused on analyzing the evolution of e-government on federal, state and municipal level (Manoharan, 2013), leaving out, or investigating with less intensity, some specific public organizations, such as the public universities. Understanding the situation of e-government in this specific level and the factors that influence its adoption is therefore essential.

Not many academic studies focused on e-government in public universities, especially in the Brazilian context (Silva, Ensslin, Ripoll & Crespo, 2014). Brazilian public universities are organizations that depend on public funds for their activities and, therefore, should be accountable to society and comply with the principles of legality and publicity (Platt & Cruz, 2009). Brazil has 59 federal universities scattered throughout the country through its more than 400 campuses. These universities are subordinate to the Ministry of Education (MEC) of the Federal Government. They are responsible for more than 1.200.000 students, and their overall budget represents more than 0.6% of the Brazilian gross domestic product (INEP, 2015).

Because of its characteristics and all necessary physical and human infrastructure for its smooth operation, universities are under pressure from society both in relation to the effectiveness of its results, and in relation to responsible management of public funds. The liability of university administrators requires the adoption of management practices that will help them in the process of decision-making and control of the actions that allow them to achieve corporate goals (Marra & Mello, 2005).

Over the past 12 years, the Brazilian federal universities have significantly increased their presence in the interior of the country, since before they were more concentrated in the state capitals.

Nowadays, Brazilian public universities play an increasing role in regional and national perspective, especially with respect to academic, technologic, environmental, social, cultural, and economic field, promoting the development for the citizens and business. Therefore, scholars and academicians need to recognize this increasing role and focus more attention on public universities in their research, especially with regard to e-government.

Research focused on the development of e-government has tended to focus primarily on institutional and contextual variables (Manoharan, 2013). There is a consensus on extensive research on e-government, that internal factors are determinants for its adoption (Carrizales, 2008; Holden, Norris, & Fletcher, 2003; Moon, 2002; Norris & Moon, 2005; Tolbert, Mossberger, & McNeal, 2008). However, the adoption of innovations, such as the use of e-government to provide information and public services is an organizational process that is subject to the influence of internal organizational factors. One of the most important issue in this context is the perception of those who have the power to make decisions. (Berry & Berry,

1999). Ho and Ni (2004) state that a fundamental internal organizational element is knowing in which decision makers believe respect to adopting innovations.

Even though some studies have focused on the influence of public managers to adopt e-government in the federal and state level, (Ho & Ni, 2004; Wilkinson & Cappel, 2005), none have given its influence through Brazilian public universities. This research seeks to ascertain the influence of public managers on e-government use at the public universities in Brazil.

For this study, we have adopted the concept of e-government as widely as possible, as set forth Norris, Fletcher and Holden (2001): “e-government is the delivery of services and information, electronically, to business and residents, 24 hours a day, seven days a week”; and O’Looney (2000): “e-government refers to the usage of the internet and the World Wide Web to provide information and services to the public and improve communication with citizens” (emphasis added). We stressed the appointment because the information disclosure over the internet – e-disclosure – will be our major focus in this study, especially related with accounting information.

Coming up next we discuss the hypotheses developed based on the role and the influence of manager’s perceptions on e-government adoption.

4.2.3. The influence of the public manager

The adoption of innovation, such as the implementation of e-government to provide public services and information to citizens and businesses, is a process that involves various aspects of the organization, and which is subject to the influence of internal factors, especially factors related to the perception of decision makers (Ho & Ni, 2004; Berry & Berry, 1999).

We know that ultimately it is the Board of Directors of the organization who makes the decision to adopt and extent the implementation of new systems (Naranjo-Gil, Mass & Hartmann, 2009). The same applies to public organizations, despite those ones suffering more with institutional pressures, ultimately are the public managers who have the power to determine the implementation of innovations, and its judgment is a determinant of the successful accomplishment.

According to the precepts of NPM and with a special focus to the role of the public manager in the adoption of innovations, such as e-government, we conducted a survey at Brazilian public

universities with those responsible for e-government services to capture their point-of-views and perspectives on e-government use, electronic transparency, and e-disclosure of accounting information.

It is important to investigate the perception of public managers, who are in charge of universities, to see as far as their knowledge of issues related to transparency, disclosure of accounting information, accountability, and e-government goes; and from this information to try to verify if their perceptions influence on e-government use.

Spreading the opinion of public managers is critical to the contribution of this work, since they play a key role in the success of e-government. Their vision can steer a strategic planning in the implementation of innovations in public institutions. So, we can say that the adoption of e-government can be directly influenced by the perception of public managers (Carrizales, 2008). In addition, Berman and Wang (2000) claim that the support of managers and other employees, even those who are not specialists in IT, it is essential for the success of the implementation of e-government.

Studies (Ho & Ni, 2004) in local governments verified that counties with greater IT support, had better e-government practices. Even organizations with restrictive fiscal budgets could still be innovative, since the management was committed to finding innovative solutions. This finding demonstrates that the managers of the institutions can work as institutional catalysts capable of ensuring that the public institutions continue to evolve with changes in technology and keep pace with the growing public demand (Ho & Ni, 2004). To the adoption of innovations become effective, it is necessary that those who have the power to make decisions believe that the innovation is essential, especially in organizations where there are cultural and political resistance, because the decision makers exert pressure on individuals to demonstrate the necessity and the advantages of implementing innovations (Rogers, 1995).

If an institution has personnel with technical and intellectual ability to perceive the importance of innovation and are willing to spend time and effort to convince and motivate others to implement the changes, probably will surpass the organizational resistance and it will become an innovative institution (Holzer & Callahan, 1998; Ho & Ni, 2004).

One of the restrictions identified in the studies on the implementation of e-government is precisely the lack of experience, training and staff capacity. However, if the technological and

administrative innovations are very complex, and not in harmony with the vision and values of the organization members, its adoption is likely to face resistance (Ho 2002; Ho & Ni, 2004; Moon, 2002; Norris, Fletcher & Holden 2000; Tolberger & Mossberger, 2006).

Moreover, we want to know the extension to which public managers believe that the institutional and contextual characteristics influence the implementation, and use of e-government in the university, once there is general agreement on extensive research that institutional and contextual factors influence the adoption of e-government (Manoharan, 2013).

4.2.4. Institutional and contextual characteristics

One of the most important institutional factors for the implementation of e-government is the financial support that the organization intended to sectors and the personnel responsible for the implementation and maintenance of these services (Ho & Ni, 2004). Studies have demonstrated that municipalities with an advanced e-government platform tend to spend large percentages of the annual budget for the development and implementation of new information technologies (Carrizales, 2008).

To have availability of resources can be a great advantage for innovative organizations, considering that this factor may determine the routing of the organization against internal and external demands related to innovation, mainly because it is a key factor in deciding the amount of resources that can be invested in software, hardware, physical structure, staff training, among other investments (Berry & Berry, 1999; Moon & Bretschneider, 2002). With more resources, an university can have more capability to interact with other institutions promoting the exchange of information, ideas and experiences, enabling the transfer of knowledge to inner reality (Berry & Berry, 1999; Moon & Bretschneider, 2002). Organizations with more financial resources tend to be more consistent in executing their budgets, allowing them to be more consistent in applying innovations. Therefore, they have a greater ability to maintain the implementation of innovation by providing adequate staff, technology and management support (Brown, 2001; Norris, 1999).

Previous research also suggests that the contextual factors, as the influence of other similar institutions and regional pressure between government bodies, significantly influence the adoption of e-government (Manoharan, 2013). The influence exerted by peers can facilitate the adoption of innovations, especially in those situations where results are unknown and it is

unclear whether the consequences will be positive or not. This environment of uncertainty tends to encourage decision-makers to seek information and share experiences with other entities to know until what extent it would be interesting to adopt innovations (Ho y Ni 2004)

A study in the United States find that the neighboring counties can influence others to adopt innovative strategies, because of their structural, economic and political similarities, and also because their constant exchange of experiences and information, leading to an inevitable competition and regional comparison, a fact that also extends to the implementation of e-government (Manoharan, 2013).

Therefore, those public bodies that have prioritized external collaboration have in e-government an important ally for the strengthening of relations with their peers (Manoharan, 2013).

However, public organizations tend to protect their own autonomy, and its characteristic has generated a barrier in the process of development of e-government, particularly as regards standardization of websites, both on the content and on the layout of the webpage, and this lack of cooperation hinders the search for information on public portals, as the absence of a pattern creates problems for citizens who have difficulty in finding services and online information (Silva, Ripoll & Crespo, 2015; West, 2004).

Based in which was discussed above, we test the following hypotheses:

- *H1: The perception of public managers about accounting information directly and positively affects the use of e-Government on university.*
- *H2: In the perception of public managers, the contextual characteristic of university directly and positively affects the use of e-Government.*
- *H3: In the perception of public managers, the institutional characteristic of university directly and positively affects the use of e-Government.*

4.2.5. Perceived Benefit

According with previous researches (Manoharan, 2013; Tolberg & Mossberger, 2006) we also predict that the adoption of e-government can bring positive results to the organization, and the public manager perceives these benefits. The perception of the benefits and costs provided by the innovations incorporated into an organization is an important internal factor that could

determine the decision for the adoption of certain IT devices, once believed that such devices have the potential to save costs (Ho & Ni, 2004; Rocheleau & Wu, 2002).

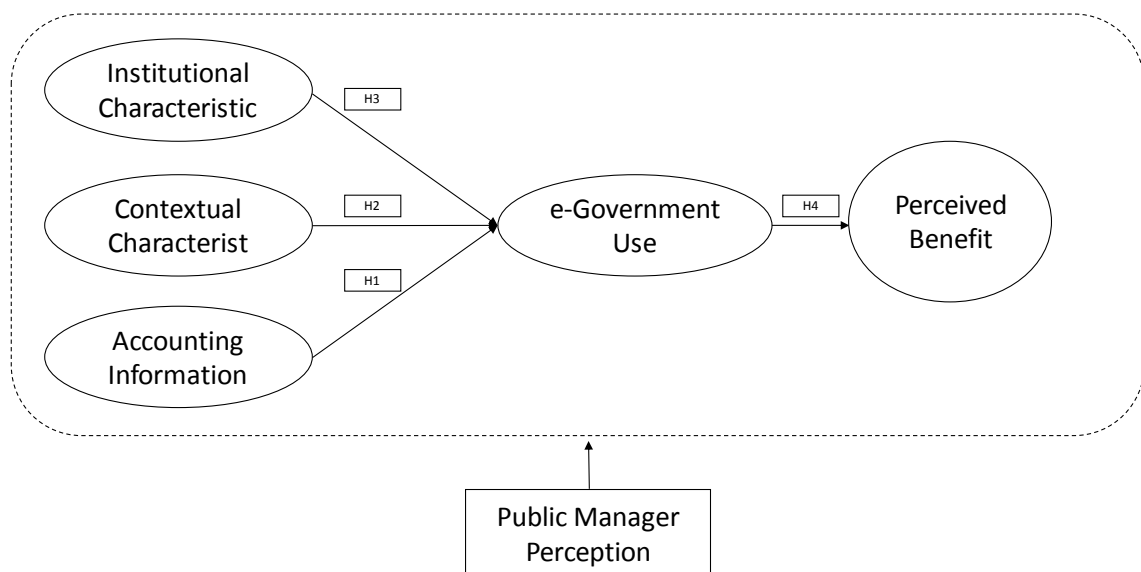
The use of e-government should be focused on improving the transparency and the relationship of the institution with citizens and businesses, besides of enabling an increase in the ability to develop their activities with better efficiency. Therefore, these improvements should be perceived by the organization. E-government practices are able to improve the overall efficiency of public administration, however, many public managers believe that these practices reduce the time required for execution of the activities, but on the other hand, increase the amount of tasks to be performed, and require more expertise and personal skills (Moon, 2002).

Considering the arguments mentioned above, once we believe that the implementation of e-government practices provides benefits to the organization, and the public managers perceive this, we developed the following hypothesis:

- *H4: The e-Government use directly and positively influence the perceived benefit by the public managers.*

Figure 4.1(12) summarizes all hypothesized relationships.

Figure 4.1 (12). Causal model



4.3. Methodology

This section seeks define all issues related to the design of empirical research that has been conducted and the measurement of the variables that allow to test the hypotheses formulated in the theoretical section. The collection of information for the accomplishment of the empirical work has been conducted through a questionnaire whose first version gathered the most relevant variables considered from the literature review, with special emphasis in the survey performed by Manoharan (2013). After the conceptually validation of this questionnaire by a group of three academic experts in the field of research a previous test was conducted, considering a sample of two interviewees (one vice chancellor of administration, and one IT department head).

Once the contributions provided by the experts and respondents were introduced, the final version of the questionnaire was obtained. The questionnaire consisted of closed questions with a Likert scale of five options, in which 1 (lowest score) meant none or the respondent did not agree with the statement submitted, and 5 (highest score) meant very much or his total agreement with the statement.

To test the hypotheses, we surveyed 59 federal Brazilian university to evaluate the perception of their managers about the importance of accounting information for external users. Their perception about the difficulties or institutional and contextual barriers affect the implementation of e-government, as well as know user's insights about the praxis of these innovations and the benefits perceived by your application.

In the survey, we asked those responsible for e-government service at the university (vice chancellor of administration, chief information officer, IT department head, or IT manager) to report how they perceived the disclosure of accounting information on the internet, the interest and usefulness of this information, technical and institutional support received, the cooperation with external entities, and if there was the perception of the benefits of e-government adoption.

This survey methodology is consistent with what has been used by Manoharan (2013). Based on the survey results, we analyze how public managers influence the e-government features adopted, and how they perceived the influence of institutional and contextual characteristics at the e-government adoptions.

The questionnaire was designed and administered in accordance with the guidelines of Dillman’s Tailored Design Method (2000) and was sent between March and April 2015 via Survey Monkey platform. In order to obtain the most complete possible results with the empirical study, it has tried to get the answer of all the universities in the sample. Thus, the questionnaire was sent by email (Survey Monkey) to 118 professionals responsible for e-government services in 59 federal Brazilian universities. Of the 118 questionnaire emailed, 48 were returned, belonging to 32 different universities, providing a response rate of 40.68% (See Table 4.1(9)).

Table 4.1 (9). Technical details of the research

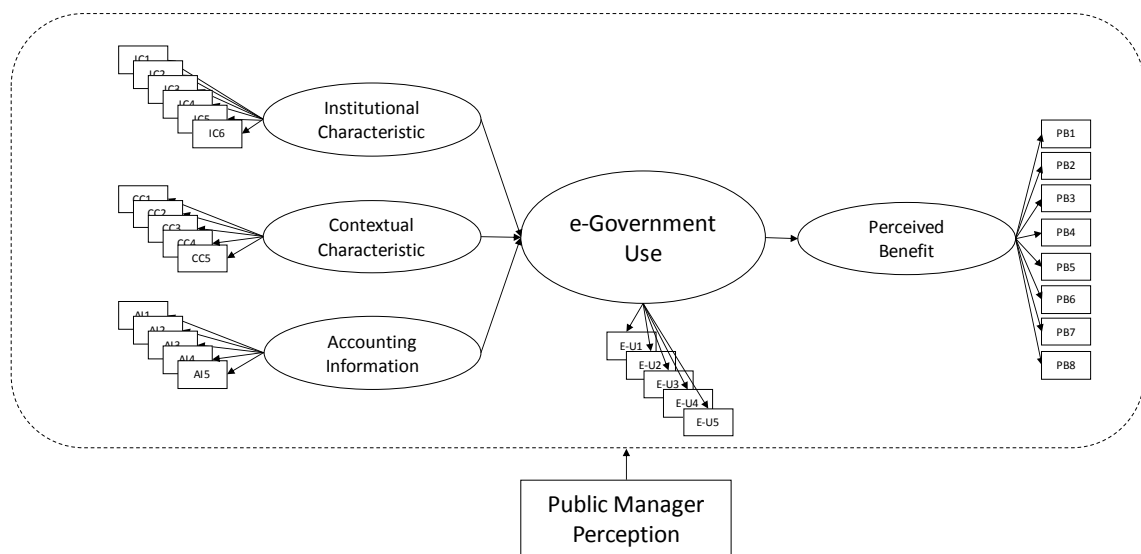
Sector of application of empirical study	Brazilian public universities
Personal surveyed	Responsible for e-government service
Population (2015)	118 surveys
Sample measurement	48 responses
Response Rate	40.68%
Sending method of the questionnaire	E-mail via Survey Monkey platform
Period of information collection	March to April 2015

With regard to the characteristics of the respondents, 60% were male and 40% female. An 85.11% of the respondents were aged between 26 and 55 years old, and, of the total, 53.2% were over 45 years, and none of the respondents was under 26 years. Besides this, most of the respondents (85.1%) answered that works at the University for more than 6 years and 44.7% of those over 21 years, which indicates that respondents are mature professionals with experience in university management. The academic level of respondents also highlights, once 89.4% have at least a MBA, master degree or Ph.D., indicating that those responsible for e-government services at public universities have a high degree of academic instruction.

For the measurement of the public manager perception, we worked with a construct formed by 5 dimensions and 29 items (See Figure 4.2(13), and Appendix). Based on previous studies developed by Berman and Wang (2000); Carrizales (2008), Ho (2002); Ho and Ni (2004); Manoharan (2013); Moon (2002); Tolberg y Mossberger (2006), the dimensions were measured as follows: institutional characteristics (6 items), contextual characteristics (5 items), accounting information (5 items), e-government use (5 items), and perceived benefit (8 items).

Items that share the same dimension were clustered to form compounds patterns (Bou-Llugar, Escrig, Roca, & Beltrán, 2009; Forgas, Palau, Sánchez & Callarisa, 2012). The Compounds patterns was submitted to confirmatory factor analysis (CFA) with the rest of the scales appreciated in the study, to make them valid. Others studies used the composite measures in CFA because it permits to better satisfy the normal-distribution condition of maximum likelihood estimation, increase the stability of the parameter estimated once it reduces the number of variances and covariance to be estimated and the effect of sample error on the estimation process (Forgas, Palau, Sánchez & Callarisa, 2012; Little, Cunningham, Shahar, & Widaman, 2002; McCallum, Widaman, Zhang, & Hong, 1999). To ensure the comparability between the estimated parameters, it was verified the invariance of the measuring instrument (Satorra, 2015).

Figure 4.2 (13). Research model



To get started, a study of dimensionality, reliability and validity of the public manager perception scale was performed to ensure that we were measuring what we really wanted to measure. These analyses have allowed us to debug the scales and exclude non-significant items. Subsequently, we determine the causal relationships for the whole sample in order to test hypotheses 1 – 4.

For the analysis of the data, we used a structural equation models by means of a multi-group analysis, in line with earlier studies on management accounting research (Abernethy & Bouwens, 2005; Naranjo-Gil, Maas & Hartmann, 2009). The structural equation model was estimated in the EQS 6.2 (Bentler, 1995) statistical program, using the matrices of variance and covariance by maximum likelihood procedure.

The estimation process involves three stages: the weights between indicators and constructors are estimated; values for each construct, and the parameters for the structural relationships are calculated (Fornell & Bookstein, 1981). This technique offers advantages over covariance based models (Models SEM), as described by Fornell and Bookstein (1981): greater convergence for its simplicity, predictive applications, more suitable for studies with small sample sizes (up to 250 cases), most appropriate for formative constructs, more flexible to allow the incorporation of reflective and formative indicators, and recommended when the number of indicators for latent variable is high.

4.4. Findings

4.4.1. Result of descriptive analysis

The results obtained for the 29 variables that define the perception of public manager on e-government, their benefits, and the characteristics that influence their use in Brazilian public universities showed in Table 4.2(10). The variables related to institutional features that collect information on the support offered by the institution regarding the physical, financial and human infrastructure are those that, according to public managers, have higher score when assessing the aspects that influence the e-government use. Physical infrastructure and the need for training the employees were the most valued factors in this section, with a score of 4.36 and 4.68 respectively. This means that these two items are important for the development of e-government and that perhaps there is a lack, or the need to improve these elements in universities. Furthermore, the need to purchase new software was the least valued item with 3.79 points, indicating that managers are, to some extent, satisfied with the software available, or they give priority to other elements in detriment to this.

Table 4.2 (10). Descriptive result of the public manager perception.

Latent variable	Indicator		Media	Typical deviation
Institutional Characteristics	IC 1	Employees	4,23	0,98
	IC 2	Training	4,68	0,52
	IC 3	Financial resources	4,28	0,77
	IC 4	Infrastructure	4,36	0,82
	IC 5	Equipment's	4,21	0,86
	IC 6	Software	3,79	0,86
Contextual Characteristics	CC1	State government	2,78	1,20
	CC 2	Municipal government	2,95	1,22
	CC 3	Education institutions	3,21	1,23
	CC 4	Nonprofit organizations	2,76	1,14
	CC 5	Business	2,67	1,15
Accounting Information	AI 1	Accounting statements	2,80	1,41
	AI 2	Audit report	3,10	1,48
	AI 3	Management report	3,63	1,63
	AI 4	Management system	2,93	1,50
	AI 5	Strategic plan	3,65	1,64
e-Government use	e-U 1	Citizens	3,89	0,81
	e-U 2	Students	3,85	0,91
	e-U 3	Employees	3,98	0,94
	e-U 4	Business	3,66	1,05
	e-U 5	Press	4,04	0,75
Perceived Benefit	PB 1	Save financial resources/funds	3,17	0,79
	PB 2	Improvement of transparency	3,83	0,84
	PB 3	Improvement partnership	3,40	0,77
	PB 4	Capacity to hire	3,26	0,85
	PB 5	Improvement the management	3,49	0,80
	PB 6	Improvement the interaction	3,70	0,81
	PB 7	Improvement the relationship	3,77	0,84
	PB 8	International relationship	3,28	0,78

On the other hand, the variables that have obtained lower scores were related to contextual characteristics, which is precisely the variable that tries to gather information about the relationship between the university and other institutions, and tries to verify if the external pressure affect the use of e-government.

For the contextual characteristics, the most highly valued item was the relationship with other educational institutions with 3.21 points, indicating that external relationships are more

intensely with other educational institutions, and diametrically opposed, would find the relationship of universities with business that got a score of only 2.67 points.

Regarding the descriptive analysis of the variables of the accounting information disclosure, which, in the respondent personal opinion, the financial statements, with 2.80 points, are the least important to reveal and it is generating less interest. However, the strategic plan of the university and the management report, have obtained a good evaluation with 3.65 and 3.63 points respectively. It was also in this section that we find the biggest typical deviation of the sample, indicating a variety of answers from respondents, which shows very different opinions on this issue.

The section dealing with the use of e-government has received a good evaluation by the public managers, indicating that universities are using the internet to disclose accounting information, and therefore generates interest among stakeholders.

Finally, the respondents awarded a score to the question of the questionnaire referring to the benefits perceived by them for the use of e-government, and with an average of 3.83 points, with a standard deviation of 0.84, increased transparency was the benefit most valued by public managers for the use of e-government. However, such an instrument has not been able to generate financial economy, or in other words, this has been the least benefit perceived by respondents who have reviewed this item on 3.17 points, the lowest in this section.

All these findings seem to corroborate with the proposals presented, based on previous work like Manoharan (2013) and Silva, Ripoll, and Crespo (2015), and not all characteristics inherent to the organization have the same nature and are equally important as factors that influence the construct. However, this proposal can only be definitely corroborative after the completion of the corresponding statistical analysis.

4.4.2. Validation of scales and invariance test

This section will highlight the statistical power of the sample and the evaluation of the measuring instrument. Following Bou-Llusar et al. (2009) and Forgas et al. (2012), after we formed the composite measures of the items that share the same dimension in the public manager perception scale, the statistical properties of the scales that form the model was analyzed.

The first analysis highlights the need to eliminate some reflective items by having a load lower than 0.6. Specific: three indicators of institutional feature, IC1 (amount of employees), IC2 (train employees), and IC6 (purchase software); one indicator of contextual feature, CC5 (business); two indicators of accounting information, AI3 (management report) and AI5 (strategic plan); two indicators of e-disclosure use, e-U4 (business) and e-U5 (press); and three indicators of perceived benefit, PB3 (external collaboration), PB6 (control agencies), PB7 (international relationship). After removal of these indicators, the results presented an adequate specification of the proposed factorial structure.

The Items CC1/CC2, PB1/PB4 and PB2/PB5 (see Table 4.2(10)) share the same dimension, and were clustered to form compounds patterns (Bou-Llusar, Escrig, Roca, & Beltrán, 2009; Forgas, Palau, Sánchez & Callarisa, 2012).

Table 4.3 (11). Measurement model of reliability and convergent validity.

Latent variable	Indicator	Load (t)	α Cronbach	CR	AVE
Institutional Characteristics	Financial resources	0.98 (6.35)	0.88	0.876	0.75
	Infrastructure	0.80 (3.57)			
	Equipment's	0.73 (4.89)			
Contextual Characteristics	Government	0.80 (6.78)	0.87	0.945	0.72
	Education institutions	0.72 (4.37)			
	Nonprofit organizations	0.94 (5.79)			
Accounting Information	Accounting statements	0.93 (8.61)	0.90	0.772	0.77
	Audit report	0.85 (6.83)			
	Management system	0.80 (7.12)			
e-Government use	Citizens	0.66 (5.29)	0.85	1.037	0.69
	Students	0.82 (4.88)			
	Employees	0.92 (6.51)			
Perceived Benefit	Save financial resources/funds	0.80 (5.67)	0.91	0.681	0.79
	Improvement the management	0.99 (7.25)			
	Improvement the relationship	0.82 (6.95)			

Note: Fit of the model: Chi-squared – 95.2490, df – 79, p – 0.10283; RMSEA – 0.075; CFI – 0.953; NNFI – 0.938.

CR – Composite reliability.

AVE – Average variance extracted.

With regard to the measurement of manager perception, from the confirmatory factor analysis of the 15 items that finally make up the scale, we obtain five dimensions: institutional characteristics, contextual characteristics, accounting information, e-disclosure, and perceived benefit. Table 4.3(11) shows the probability associated with chi-squared is higher than 0.05 (0.10283), suggesting a proper global fit of the model (Jöreskog & Sörbom, 1996). The value of statistical power for the sample is 0,952 to the global model, higher than the stipulated minimum of 0.8 (Cohen, 1988).

With respect to the validation of the measuring instrument, first the measurement model was analyzed in terms of reliability and convergent validity. The indicators used for calculating the reliability of the dimensions showed satisfactory levels: Cronbach alpha near or above 0.7 (Nunnally & Berstein, 1994); composite reliability (CR) above 0.7 (Fornell & Larcker, 1981); and the average variance extracted (AVE) for each of the factors is higher than 0.5 (Fornell & Larcker, 1981). Therefore, the reliability of the scale was confirmed as measuring instrument.

As presented, reliability is necessary, but not the only requirement for validity. Therefore, it has also been checked the convergent validity of the scale used in this research. The results show factor loadings of the measuring variables higher than 0.6 (Bagozzi & Yi, 1988), and significantly different from zero (table 4.4(12)). This confirms the existence of convergent validity.

Table 4.4 (12). Discriminant validity of the scales associated

	f1	f2	f3	f4	f5
f1. Institutional	0,86				
f2. Contextual	0,16	0,85			
f3. Benefit	0,20	0,01	0,89		
f4. CIO view	0,29	0,14	0,41	0,88	
f5. e-Gov use	0,55	0,08	0,47	0,60	0,83

Below the diagonal: correlation estimated between the factors.

Diagonal: square root of average variance extracted (AVE).

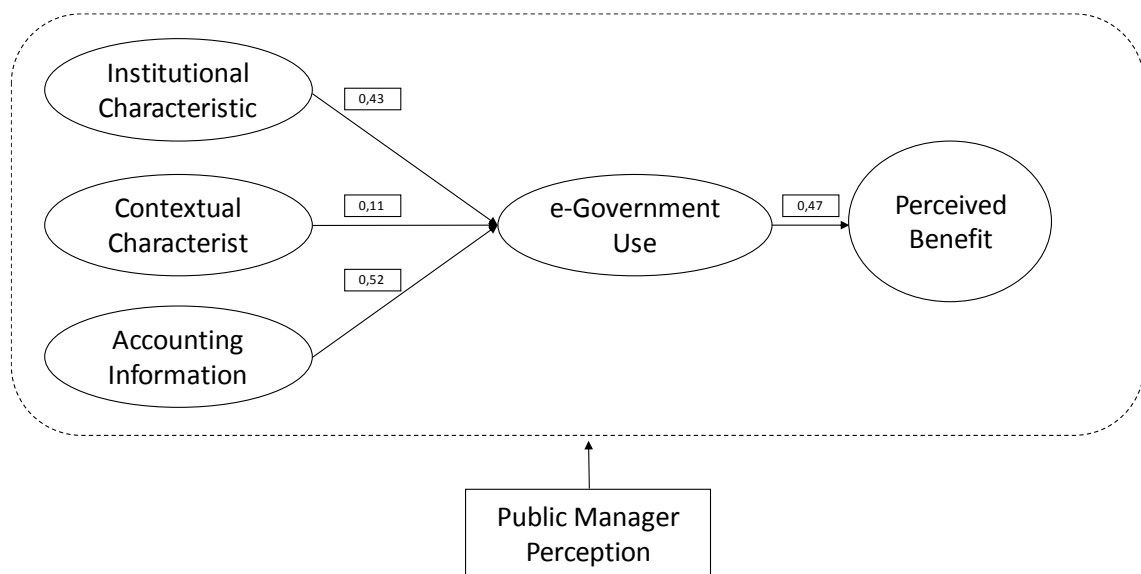
Table 4.4(12) demonstrated the discriminant validity of the construct elaborated, analyzed by average variance extracted-AVE (Fornell & Larcker, 1981), that compare the squared

correlations among the constructs. For this propose, the construct need to share greater variance with their indicators than the others construct of the model. Ratifying the discriminant validity, in this construct, the square root of the AVE between each pair of factors is higher than the estimated correlation between those factors.

4.4.3. Causal relationships and moderating effects

Figure 4.3(14) show the model tested. Table 4.5(13) contains the results of the statistical analysis of the path coefficients, and the degree of significance resultants from these analyses, based on the data resulting from the 48 samples corresponding the responses received on the questionnaire.

Figure 4.3 (14) PLS model tested.



To test hypotheses 1 – 4 we next perform an analysis of the causal relationships for the total sample (Table 4.5(13)). This is adequate, because the probability of the chi-squared is higher than 0.05 (0.25662), GFI (0.978) is close to one and RMSEA is close to zero (0.052).

The result of the analysis showed that three of the four proposed relationships in the model were consistent with the sample as a whole. Thus, the manager perception of institutional characteristics and accounting information are an antecedents of the e-government use (H1 y H3), which in turn is directly and positively related to the perceived benefit from its use (H4). With regard to the construction model, it was observed that the investment of financial

resources, as an institutional characteristic, and the accounting statement, as an accounting perception, have more influence than others items for the construct, as could be observed in Table 4.3(11).

Table 4.5 (13). Structural model relationship obtained.

Hypothesis	Path	Parameter	t	Results
H1	accounting information → e-government use	0.52	3.57	Supported
H2	contextual factors → e-government use	0.11	1.34	No supported
H3	institutional factors → e-government use	0.43	2.55	Supported
H4	e-government use → benefit perceived	0.47	2.61	Supported

On the other hand, contextual characteristics do not present a significant effect as a precedent for the e-government use (H2). This result is consistent with that found by Manoharan (2013). Public Universities are yet to realize the potential of e-government in integrating with others public bodies and universities, so in the perspective of public managers, the collaboration with distinct public institution has not presented as an antecedent of e-government.

The perception of accounting information is in turn an antecedent of e-government, being confirmed the first hypothesis (H1), as demonstrated for Berman and Wang (2000) and Carrizales (2008). Besides, the perception of accounting information is the construct that most influences this relationship, as demonstrated on Table 4.5(13).

The third hypothesis (H3) has also been confirmed, and demonstrated a strong influence among the institutional characteristics and dissemination of information on the Internet. These results are consistent to that found for Carrizales (2008).

The use of e-government, for its part, fulfils in the overall sample the causal relationship noted in the model, that is to say, e-government use acts as a clear antecedent of perceived benefit (H4). The mediating relationship exercised between e-government and perceived benefit is consistent with earlier research into the public accounting (Ho & Ni, 2004; Rocheleau & Wu, 2002).

Consequently, based on the data examined in this study, we confirm totally the hypotheses H1, H3, H4, and reject H2 of the proposed structural model.

4.5. Discussion, conclusion and limitations

The aim of this study was to explain the role of public managers in using the internet to disclose accounting information, and we worked specifically on the case of Brazilian public universities from the NPM perspective. Moreover, this paper set out to increase our understanding of institutional and contextual characteristics, plus the perception of accounting information affect the use of e-government, and if this tool generates benefits to the organization.

We predict that the use of e-government would be influenced by the accounting information perception, the contextual and the institutional characteristics, and we predicted that the e-government usage generate benefit for the organization. In support of our hypotheses, we found evidence that the public manager's perceptions influence directly and positively the use of e-government, especially their understanding of accounting information. The interview observed that the institutional characteristics also influence the results, but not the contextual characteristics. This result is consistent with Ho and Ni (2002), who found that the perception of decision makers in organizations is a significant factor in e-government adoption.

For the public managers, institutional characteristics, as financial support, as well as their own perception of the importance, usefulness and application of accounting information, influence directly and positively the disclosure of accounting information over the internet. In addition, it was demonstrated that there is a direct relationship between the use of e-government and the perceived benefits from their users. There was a perception of the benefits brought by the disclosure of information via the internet, particularly with respect to increasing public transparency, resources savings, improvement management capacity, and improvement of the relationship with citizens, as evidenced on Table 4.2(10).

The item that most influences the perception of the accounting information was the disclosure of accounting statements (see Table 4.3(11)), however this item received a low rating (see Table 4.2(10)), in other words, it was rated as one of the least interesting to be disclosed, which is consistent with the low index online disclosure of such information by the universities as a result found by Silva, Ripoll, and Crespo (2015). On the other hand, the perception of the

accounting information was the latent variable that most influenced the use of e-government in the surveyed universities. The second was the institutional characteristics, taking into account that the contextual characteristics did not achieved a statistically significant result (see Table 4.5(13)).

The results have tested the conceptual model proposed, verifying that, in the interviewed perceptions, the institutional characteristics, and accounting information perception are an antecedent of e-government, and e-government is an antecedent of perceived value. These results can be useful for the public universities, both in the sense to address the identified institutional weaknesses, and improve accounting transparency, as well in order to awareness among institutions on the importance and usefulness of this information.

This study contributes to the literature on accounting, as it unveils the perception of public managers regarding the accounting information. It was evident from the results presented in the questionnaire that public managers give more importance to aspects related to the audit, strategic plans and management reports. The financial statements, in the view of respondents, have less interest. In short, the perception that public managers have about accounting, and what it represents and provides, is key to its disclosure. Universities must contribute in order to create a virtuous circle between the publication of information and its use, in the sense that the information be useful to whom it is addressed and motivate those that disclose.

We must take into consideration on the results of this study the limitations that it presents. One of the limitation of the study is that is based only on federal universities, which does not permit generalized the results for all universities in Brazil, as private universities for example. Futures studies could be extended to other kinds of universities to enable observation in other types of institutions of superior education.

Other limitation inherits to the survey method, using measures based only as of the perception of respondents, which in turn, responded to the questionnaire through internet. However, we have strictly followed the guidelines of Dillman (2000) to tempt minimize these problems.

With increasing use of the internet in various electronic devices, future studies may check the disclosure of accounting information through social networks and other forms of electronic media, including specialized applications in this type of service. This study bothered to check

the perception of those who provide accounting information on the internet, but future studies could work with stakeholders to obtain also the perspective of those who use the information.

Appendix. Questionnaire Items (used in this study)

Managers Characteristics:

- Age
- Gender
- Educational level
- Tenure in organization

Accounting Information:

Please indicate the degree of interest that you believe, that have the following information over the internet (related to your university):

(AI 1) Accounting statements	1	2	3	4	5
(AI 2) Audit report	1	2	3	4	5
(AI 3) Management report	1	2	3	4	5
(AI 4) Management System	1	2	3	4	5
(AI 5) Strategic plan	1	2	3	4	5

Contextual Characteristics:

In your perception, how closely your university collaborates with the following entities?

(CC 1) State government	1	2	3	4	5
(CC 2) Municipal government	1	2	3	4	5
(CC 3) Educations institutions	1	2	3	4	5
(CC 4) Nonprofit organizations	1	2	3	4	5
(CC 5) Business	1	2	3	4	5

Institutional Characteristics:

Indicate your level of compliance with each of the following statements: at my university, the following measures could improve the "e-government":

(IC 1) Increase the numbers of employees	1	2	3	4	5
(IC 2) Train the employees	1	2	3	4	5
(IC 3) Increase the financial resources	1	2	3	4	5
(IC 4) Improve the physical infrastructure	1	2	3	4	5
(IC 5) Improve the equipment's	1	2	3	4	5
(IC 6) Improve the software's	1	2	3	4	5

E-Government Use:

Do you believe that the disclosure on the Internet of accounting information of your university is useful (for the following stakeholders)?

(e-U 1) Citizens	1	2	3	4	5
(e-U 2) Students	1	2	3	4	5
(e-U 3) Officials	1	2	3	4	5
(e-U 4) Business	1	2	3	4	5
(e-U 5) Press	1	2	3	4	5

Perceived Benefit:

Indicate your level of compliance with each of the following statements: at my university "e-government" provided:

(PB 1) Save financial resources	1	2	3	4	5
(PB 2) Improvement of transparency and accountability	1	2	3	4	5
(PB 3) Improvement partnership	1	2	3	4	5
(PB 4) Improvement the capacity to hire	1	2	3	4	5
(PB 5) Improvement the management	1	2	3	4	5
(PB 6) Improvement the interaction with control agencies	1	2	3	4	5
(PB 7) Improvement the relationship with students and citizens	1	2	3	4	5
(PB 8) Improvement the international relationship	1	2	3	4	5

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GENERAL SUMMARY OF THE RESULTS, DISCUSSION AND CONCLUSIONS

This dissertation, developed as a compendium of publications, (1) analyzed the main scientific articles published in the last decade with respect to the topic related to e government; (2) analyzed the status of e-government of all federal Brazilian universities, and the determinants factors for use of this tool; and finally, (3) analyzed the role of public managers in the use of e-government to disclose accounting information.

In total, we have developed three scientific articles, and the first (Silva, Ensslin, Ripoll, & Crespo, 2014) aimed to identify and analyze the most relevant scientific articles related to e-government and to verify opportunities for future research. To achieve this objective we made a bibliometric and content study through the methodology named “Knowledge Development Process Constructivist – Proknow-C” (Tasca, Ensslin, Ensslin, and Alves, 2010). Thus, we selected 28 relevant articles on the subject under study to verify its main characteristics and theories. As a result, we found that the most relevant journals were Public Administration Review, American Review of Public Administration, and Online Information Review. The most cited articles were Moon (2002), Ho (2002), and West (2004), all with more than 600 citations. Moreover, the authors with the greatest number of relevant articles published were Vicente Pina and Lourdes Torres, with five articles each. In the results presented in the content analysis, it is concluded that 10% of the selected articles were theoretical, 59% collected the data analyzed in the physical context, and 31% collected information with citizens or managers. In 89% of the studies presented a diagnosis of the current situation of e government in municipalities, communities or central governments, but none of them evaluated public universities in Latin America. There is also no information on the perception of public managers on issues related to accounting and its disclosure in the selected articles. As a result, this presented a gap in the literature, and based on this we create a question that guided the following articles.

In the second article (Silva, Ripoll & Crespo, 2015), the aim was to contribute through empirical evidence by examining the extent of accounting information and the access of information by

the Brazilian public universities on their websites, as well as the factors that could affect the level of transparency. To achieve the proposed objective, we created an index which enables systematize the analysis of the universities websites, and using a multiple linear regression we were able to analyze the factors that determine the implementation of e-government at the federal universities. Following the institutional and agency theory, we created seven hypotheses that created the foundation for the main factors that lead public institutions to disclose information on the internet. Using a sample of 59 federal Brazilian universities, we conduct the research, and the results showed that the universities disclose less than 40% of accounting information, which means a very low index, however these results are consistent with others studies (Pina, Torres, and Royo [2010], and Gandía and Archidona [2008]).

For the multivariate regression analysis, the results showed that the hypotheses related with wealth, and relation between employees and students was not confirmed. These results are consistent with that found by Caba, Rodríguez, and Lopez (2008), and Gallego, García, and Rodríguez (2009). Otherwise, the hypotheses that related efficiency, size, age, quality, and governance were confirmed. The efficiency on the expenditure of public research demonstrated to be a significant aspect for e-government, and this is consistent with the results found by Católico (2012). The size was significant too. The same results was presented by Carbara and Garcia (2010), and Gandia and Archidona (2008). The age presented a significant result, but the signal was different that we predicted. This variable presented a negative sign, which suggested that the youngest universities were more transparent. These results are in contrast with those published by Banks, Fisher, and Nelson (1997), and Murias, Miguel, and Rodríguez (2008), but these authors evaluated European universities who were much more established than the Brazilian universities. In addition, the sample presents a relatively low average age of only 51 years, compared with the Spanish or English universities. In relation to the variable quality, the results came out as expected, that is, the universities that had better quality released more information (Gallego, García, & Rodríguez, 2009). The last variable contrasted was governance, which has a positive and significant relationship in relation to disclosure, as predicted (Gordon, Fisher, & Malone, 2002).

This study added several contributions to the study of accounting, especially regarding the disclosure of accounting information on the internet for public universities. This study presents an updated report about the situation of access to information and accounting disclosure on the websites of federal Brazilian universities. It also demonstrates statistically, the factors that most

influence the dissemination of information on the internet. Another important contribution is to provide an index that is able to monitor the dissemination of information. This allows the realization of diagnostics that enable the evaluation of websites of universities.

The third study (for publication) examined the role of public managers on e government adoption, under NPM environment. To achieve this objective we raised four hypotheses that were contrasted through structural equation model, and the results partially confirmed of them. In this study, we attempted to measure the influence of institutional and contextual characteristics of the universities on the adoption of e government and the disclosure of accounting information, through the perception of public managers. In addition, we analyze if the perception of public managers on the accounting information affect their disclosure of information on the internet. The last hypothesis sought to verify that e-government generated benefit to the university.

For the collection of data necessary to carry out the research, we conducted a survey with the managers of the evaluated universities. Following Dillman's (2000) guideline, we sent 118 questionnaires' via SurveyMonkey®, we received 48 responses (40.68%.) As a result, we found that the institutional characteristics that public managers best valued was the staff training and infrastructure provided by the university. The better-rated contextual characteristic by respondents was the relationship between the university and others higher education institutions, and the strategic plan and management report were the most important accounting information to be disclosed.

However, statistically, not all items evaluated by public officials affect the use of e government as accounting transparency tool, moreover, not all items resulted statistically reliable, and therefore they were removed. The results showed that the contextual characteristics did not present significant relationship for the use of e government. The institutional characteristic showed a significant result and the perception that public managers have about financial support, infrastructure, and equipment available were the indicators that most influenced this variable. Regarding the perception of the accounting information, the result was also significant, and the statistics results show that the financial statements, the audit report, and management systems were the most relevant items. As a final answer to the hypotheses, we found that the use of e-government as a transparency tool to accounting disclosure generates benefits for universities, especially in aspects related to the economy of resources, improved management, and relationship with citizens.

The main contribution of this study is to identify the perception issues related to accounting, transparency, e-government and other characteristics related to the universities, by government officials that have the responsibility to control the web pages of the federal Brazilian universities. This is important because these officials are responsible not only for maintaining the websites in operation, but also the content and the services provided.

The results showed that public managers play a key role in the use of e-government. Statistically, it was observed that there is a direct, positive and significant relationship between their perception of the accounting information, and disclosure on the internet of such information. These results may help the Brazilian public universities to improve the disclosure of accounting information on the internet and e-government services. Increases in the resources allocated to e-government service, improve infrastructure and adequate equipment have been shown to be significant institutional factors for the growth and improvement of this service. According to the results presented, even more important than the institutional characteristics is the perception of public managers about accounting information. If the public managers themselves do not believe that the accounting information is useful, its disclosure may be limited, as in reality was, as published in the second article (Silva, Ripoll, & Crespo, 2015). It is important to raise awareness among public managers about the importance and the benefits of providing accounting information. Providing to users information about the results achieved, and the aspects of budgetary nature, economic, financial and physical assets of public entities, supporting the decision-making process, proper accountability, and the necessary support for social control are just some of the objectives that accounting applied to the public sector they reach.(IPSASB, 2014).

In conclusion, the three papers developed in this dissertation achieved their goals and together, have achieved the objectives of this dissertation to answer the research question: How to build a study model where it is possible to generate knowledge and support the creation of qualitative and quantitative instruments capable of assessing and improving the context of e-government and disclosure of accounting information on the Internet in Brazilian public universities?

In short, to answer this question, we first carried out a bibliometric and systemic study to meet the most relevant scientific articles on the subject, and analyze the theories and methodologies used. From there, we started to analyze the gaps that the literature had, and thus developed the basis of this study. In addition, , pursuing what has been revealed in the first study, we performed an empirical study in federal Brazilian universities to see which information they were

publishing on their websites, and what factors influence the disclosure of information over the internet. To achieve these objectives, we created a disclosure index that took into peculiar account aspects inherent to universities, in addition to legal and accounting aspects. Finally, with a well-founded theoretical basis and with the empirical findings about the current situation of disclosure of accounting information by the universities on the Internet, we conducted the third study, to work with the managers of universities to understand their perception of the topic and see how it affects the use of the internet to disseminate information.

It is important to note, there is an extensive literature on the use and implementation of e-government, but not so much focused to universities as an object of study, especially in Brazil. It is also important to clarify that there is a long way to go until federal Brazilian universities reach excellent levels of disclosure of accounting information, and currently, this ratio is very low, and these universities are not using the full capacity of the internet can provide, both as a place to disseminate information and to interact with citizens. Finally, we stated that the role of public managers is essential to increasing the accountability and accounting transparency. However, we have to take into consideration the institutional support and awareness of the importance of accounting information both as a tool of management and control and as a transparency and social control; instrument indispensable for officials to perform their duties.

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PUBLICATIONS

The studies from this dissertation have been presented in the following conferences and workshops. The articles presented in Chapter 2 and 3 of this dissertation have been published in scientific journals (Scopus). The paper presented in Chapter 4 will be sent for publication.

- 1** Silva, R. V., Ensslin, S. R., Ripoll, V. F., & Crespo, C. S. (2014). **E-Government and public accounting information: bibliometric and systemic analysis**. *International Research Journal of Finance and Economics*, 122, pp. 76-91.
 - *IX Congreso Iberoamericano de Contabilidad de Gestión., Valência, 3-5 julho de 2013;*
 - *19th Workshop on Accounting and Management Control: “Memorial Raymond Konopka”, January (2014), Burgos (Spain);*
 - *II Jornada sobre Implementación de la Contabilidad Analítica en las Universidades Españolas, April (2014), Valencia (Spain);*
 - *Annual International Conference on Business, Law & Economics, May (2014), Athens (Greece).*
 - *International Research Journal of Finance and Economics – ISSN: 1450-2887.*

- 2** Silva, R. V., Ripoll, V. F., & Crespo, C. S. (2015). **E-Government process: the access to information and accounting disclosure – Evidence from Brazilian public universities**. *International Journal of Economic Research*, Vol. 12, nº 4.
 - *20th Workshop on Accounting and Management Control: “Memorial Raymond Konopka”, January (2015), Segovia (Spain).*
 - *Conferencia Euro-Latinoamericana: El Rol de la Universidad en el Cambio Social, February (2015), Valencia (Spain).*
 - *International Journal of Economic Research - ISSN: 0972-9380.*

3 E-Government use and the public manager perception – Evidence from Brazilian public universities.

- *II Research Forum: Challenges in Management Accounting and Control, May (2015), Sevilla (Spain).*
- *III Jornada Sobre Implantación de la Contabilidad Analítica en las Universidades Españolas, Septiembre (2015), Valencia (Spain).*



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Dear Author,

After having carefully evaluated your article titled “**E-government and Public Accounting Information: Bibliometric and Systemic Analysis**” and taken the referees' advice into consideration, the editors came to the conclusion that your paper is suitable for publication in our Journal

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Author : Rodrigo Valverde da Silva¹, Vicente Ripoll Feliu and Cristina Crespo Soler

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We have completed the review of your paper submitted to the **International Journal of Economic Research ISSN: 0972-9380**

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RESUMEN EN ESPAÑOL

(Summary in Spanish)

A) Introducción

B) Teoría institucional y teoría de la agencia

C) La nueva gestión pública, e-government y la información contable

D) El papel del administrador público

E) Gestión de las universidades públicas

F) Preguntas de investigación y contribuciones

Bibliografía

A) Introducción

La evolución de las tecnologías de la información y comunicación, así como la demanda de la sociedad, están presionando a los gobiernos de todo el mundo para cambiar e innovar la forma de prestar servicios e interactuar con los ciudadanos (Pina, Torres y Royo, 2010). La apertura de información, la transparencia y el derecho a acceder a la información pública pasan a ser considerados internacionalmente, en los países democráticos, cuestiones esenciales para muchas funciones de los gobiernos y la confianza en los mismos, tales como, la participación ciudadana, la prevención de la corrupción, la toma de decisiones fundamentadas, la exactitud de la información del gobierno, y el suministro de información a los interesados y el público en general (Bertot, Jaeger y Grimes, 2010). Así, muchos países han adoptado las tecnologías de la información y comunicación (TIC) como medio para aumentar la transparencia del gobierno y reducir la corrupción (Bertot, Jaeger y Grimes, 2012).

Esta tesis doctoral está centrada en el e-government (gobierno electrónico) especialmente en lo que respecta a cuestiones relacionadas con la transparencia pública y divulgación de información contable en internet en el ámbito Brasileño, más específicamente en las universidades públicas. En la actualidad no existen muchos estudios empíricos relacionados con la divulgación de información financiera en las universidades públicas y, además, los artículos relacionados con el tema no han generado gran impacto académico (Silva, Ensslin, Ripoll, Crespo, 2014). No obstante, la literatura presenta algunos estudios académicos (Cave et al., 1997; Coy & Goh, 1995; Coy et al., 2001; Engstrom & Fountain, 1989; Fisher & Gordon, 1991; Gordon et al., 2002; Murias et al., 2008; Nelson et al., 1997; Nelson et al., 2003) que analizaron la información presentada por las universidades, identificando las relativas a docencia, investigación, extensión académica, cumplimientos de objetivos administrativos y asignación de gastos, siendo, entre otros, estos los aspectos que llevaron a avanzar hacia una perspectiva relacionada con la responsabilidad pública (Gallego et al., 2009). Respecto a la información financiera revelada por las universidades en distintos países se pueden citar como representativos estudios de: Silva et al. (2015) para las universidades Brasileñas; Católico (2012) para las universidades Colombianas, Gallego et al. (2009) para las universidades Españolas, Pettersen y Solstad (2007), para las universidades de Noruega; Fisher et al. (2004) y Gordon et al. (2002) para las universidades Norte Americanas, Angluin y Scapens (2000) para las universidades del Reino Unido, y por último, Nelson et al. (1997) para las universidades Australianas.

Para llevar a cabo este trabajo, se han elaborado tres artículos científicos relacionados entre ellos, lo que ha permitido avanzar en la investigación de cada trabajo, aprovechando los hallazgos de cada uno de ellos para llegar al resultado final. Los trabajos que integran esta tesis doctoral analizan qué información divulgan las universidades públicas en internet, qué factores determinan el grado de divulgación revelado, y cómo los gestores públicos influyen en la adopción del e-government en las universidades.

Para alcanzar los objetivos propuestos, nos hemos basado en la literatura previa, especialmente en los estudios que han utilizado la teoría institucional y la teoría de la agencia como forma de explicar los avances proporcionados por los organismos públicos. Se han llevado a cabo dos estudios empíricos y uno bibliométrico y sistémico, obteniendo como resultado tres artículos científicos publicados o en proceso de envío para la publicación en revistas indexadas.

En el primer artículo (Silva, Ensslin, Ripoll y Crespo, 2014), el núcleo central versa sobre la divulgación de información contable en internet en el sector público. Se ha realizado un estudio bibliométrico y sistémico con el objetivo de aportar conocimiento sobre el tema objeto de estudio mediante el uso del instrumento de intervención “Knowledge Development Process Constructivist – Proknow-C” (Tasca, Ensslin, Ensslin y Alves, 2010), el cual fue fundamental para la selección de un portfolio bibliográfico, la realización del análisis bibliométrico y sistémico, además de permitir la identificación de vacíos en la literatura relacionada con el tema investigado. El resultado de este primer trabajo ha sido conocer y analizar los 28 artículos científicos más relevantes publicados en revistas científicas, entre los años 2000 y 2013. El análisis de estos permitió poner de manifiesto los vacíos existentes en la literatura relacionada con la transparencia pública y gobierno electrónico, siendo utilizados de base para los siguientes trabajos.

El segundo estudio (Silva, Ripoll y Crespo, 2015), de naturaleza empírica, se centra en analizar el alcance de la información contable divulgada por las universidades públicas brasileñas en sus websites, así como, verificar qué factores explican el nivel observado de la información revelada. Para alcanzar tales objetivos se desarrolló un índice de divulgación con el fin de captar la principal información que emitían las universidades y, se plantearon siete hipótesis que se contrastaron a través de una regresión lineal múltiple. Esto permitió identificar estadísticamente qué factores son determinantes para incentivar a las universidades públicas a divulgar información en sus websites. Un dato importante verificado en este estudio fue la necesidad de estandarización de los websites de las universidades. Cada una de las universidades analizadas posee un website distinto, es decir, la organización de la información y la ubicación de determinados materiales se plasman en apartados diferentes, haciendo que la búsqueda de la información se inicie desde cero en cada institución, creando una verdadera “Torre de Babel” (West, 2004) que dificulta la comunicación y la utilización de la información online.

Los resultados indican un nivel medio de divulgación electrónica en las universidades federales brasileñas, siendo los principales factores determinantes de dicha divulgación, los aspectos relacionados con la calidad, la eficiencia y la gobernanza. Por otra parte, este estudio presenta una contribución importante en la medida que sistematiza el análisis de las páginas web de las universidades públicas brasileñas, demuestra los puntos donde todavía hay lagunas presentes en materia de transparencia digital, y guía a los gestores públicos para mejorar la relación electrónica entre la institución y los ciudadanos.

Por último, el tercer trabajo (pendiente de publicación) analiza el papel que juegan los administradores públicos en la adopción del gobierno electrónico como herramienta de divulgación de información contable en las universidades públicas brasileñas. La metodología utilizada es un cuestionario realizado a los responsables de los servicios de gobierno electrónico en dichas organizaciones. Este estudio plantea hipótesis de investigación que relacionan directamente la adopción de prácticas de e-government y ampliación de la transparencia pública con la percepción de los administradores públicos, las características contextuales e institucionales de las universidades y la percepción del beneficio generado por la adopción de estas prácticas. Se trata de analizar, haciendo uso de las ecuaciones estructurales, la relación entre las características de los administradores y sus percepciones sobre temas relacionados con el gobierno electrónico y la divulgación de la información contable en internet así como la efectiva adopción de estas prácticas.

Los resultados demuestran una fuerte influencia de los administradores públicos en las prácticas de e-government en la divulgación contable, aunque las características institucionales también influyeron en los resultados. Por otra parte las características contextuales no han logrado presentar resultados significativos. La última relación propuesta en el modelo de ecuaciones estructurales fue verificar si había una percepción de los beneficios proporcionados por la implementación del e-government, y esta hipótesis se ha confirmado en el modelo, es decir, se verificó que la utilización del e-government proporciona un beneficio para la universidad, en la percepción de los administradores públicos.

La contribución de este estudio está en el hecho de mejorar la comprensión de la influencia que tienen los gestores públicos en la difusión de información, adopción de prácticas de e-government, y la percepción de los beneficios que estas prácticas pueden generar.

Con carácter general, esta tesis pretende aportar una contribución a la literatura que versa sobre el gobierno electrónico, la transparencia pública, divulgación de información contable, y el papel que juegan los gestores públicos en la adopción del e-government. Los tres artículos científicos aquí descritos, corroboran esta aportación, principalmente en el contexto brasileño y más específicamente con estudios relacionados a universidades públicas, que carecían de este tipo de investigación.

B) Teoría institucional y teoría de la agencia

Para alcanzar los objetivos propuestos, esta tesis se ha basado en la teoría de la agencia (Barber, 1983; Evans & Patton, 1987; Jensen y Meckling, 1976, and Zimmerman, 1977) y la teoría institucional (DiMaggio & Powell, 1983), dos de las teorías más utilizadas en los estudios que buscan explicar la adopción del e-government en organismos públicos.

La Teoría Institucional considera que las instituciones se ven influidas por las presiones externas y reaccionan ante estas para legitimar socialmente sus acciones, y no tanto como una forma de reflexión de eficiencia de los procesos de mejora (DiMaggio & Powell, 1983). Para entender los motivos que llevan las instituciones a adherirse a ciertos modelos, a determinados estándares o convenciones, o conductas y costumbres, sin tener en cuenta si estas prácticas tendrán un resultado ventajoso o al menos conveniente para ellas mismas, debemos comprender lo que plantea la teoría institucional.

Dicha teoría se centra en analizar la influencia que el entorno ejerce sobre el comportamiento organizacional, a través de diferentes perspectivas, ya sean políticas, económicas, sociales e, incluso históricas (Rivas, 2003). Las organizaciones, sean públicas o privadas, crean estructuras y adoptan ciertos procedimientos como una forma de copiar a otras organizaciones semejantes que han llevado a cabo estas prácticas anteriormente y han sido aceptadas por la sociedad o por el entorno al que ella pertenece. (Mizruchi y Fein, 1999; Carpenter y Feroz, 2001). Adoptan dichos procedimientos como una forma de respuesta a las presiones ejercidas por el entorno institucional al que está ligada.

Las organizaciones tienden a mostrar conformidad con las normas predominantes, las influencias sociales y las tradiciones, y como consecuencia de este proceso, las instituciones presentan un cierto grado de homogeneidad entre ellas, es decir, adoptan las mismas prácticas administrativas y estructurales como una forma de dar una respuesta a las presiones institucionales. Este proceso, según DiMaggio y Powel (1983) denominado isomorfismo institucional hace que las organizaciones adopten acciones y estructuras parecidas unas con las otras, que, sin embargo, no necesariamente tienen que suponer una mejora para ellas.

El isomorfismo institucional puede ser considerado como una consecuencia de las presiones externas e internas sufridas por las organizaciones, en la medida en que buscan legitimar sus acciones frente a aquellos que forman su entorno. En especial, las instituciones públicas se ven

muy sensibilizadas por esta conducta, dado que normalmente presentan metas poco exactas y frecuentemente necesitan recurrir a procedimientos isomórficos para legitimar sus acciones y demostrar sus beneficios tanto económicos como sociales, tal y como ocurre con la burocracia pública, que se presenta como una forma de estandarizar los procesos y estructuras del sector público.

Por tanto según DiMaggio y Powell (1983) el isomorfismo trata de un proceso cultural y político que prioriza la legitimación y el poder más que la eficiencia. Se trata de una homogenización entre organizaciones de un mismo entorno que es llevado a cabo por diferentes mecanismos denominados por DiMaggio y Powell (1983) como: isomorfismo coercitivo, isomorfismo mimético e isomorfismo normativo.

El isomorfismo coercitivo se refiere a las presiones ejercidas sobre unas organizaciones por otras de las cuales hay una dependencia jerárquica y por lo tanto imponen obligaciones o condicionan su comportamiento a través de reglas, normas o leyes. Los gobiernos pueden ser considerados uno de los agentes que utilizan esta práctica, una vez que tienen poder para imponer reglas a las organizaciones e incluso con poder para sancionar.

El isomorfismo mimético, se entiende como aquel proceso a través del cual las organizaciones pretenden imitar el comportamiento de otras de su entorno. Tienden a adoptar la misma estructura y comportamiento practicado por los demás, por considerarlos un modelo exitoso o de buenas prácticas, sin tener en cuenta si estas conductas le reportaran beneficios, simplemente replican las acciones que los demás realizan. Esta actitud puede ser explicada por cuestiones relacionadas con la incertidumbre del medioambiente que las rodea.

El isomorfismo normativo busca la convergencia y la homogeneización en la actuación de las organizaciones, como resultado del cumplimiento establecido por determinados estándares que se imponen sobre determinados oficios, tales como normas, técnicas de trabajo y preceptos éticos. Puede ser considerado como el resultado del cumplimiento de patrones establecidos por entes externos que se imponen sobre la propia organización, como ocurre con las universidades, por ejemplo, que difunden los valores y comportamientos socialmente aceptados por la sociedad a la que pertenece.

En el ámbito del isomorfismo institucional, la contabilidad surge como un mecanismo de legitimidad, con sus procedimientos, técnicas y rutinas, sumados a los procesos de producción,

selección de personal, procesamiento de datos, divulgación de información, entre otras actividades que completan una estructura formal prediseñada que demuestra responsabilidad y racionalidad, más allá de la discrecionalidad de aquellos que gestionan la organización. De acuerdo con esta teoría, la transparencia y la divulgación de información externa son señales de confianza, progreso, y mejora en la relación con los ciudadanos (Pina, Torres y Royo, 2010).

Para las universidades públicas, el Estado representa unos de los principales agentes que intervienen en sus conductas, a través, principalmente, del isomorfismo coercitivo al imponer ciertos procedimientos de obligado cumplimiento por imposición legal o normativa. También se ven influidas por otras instituciones del mismo grupo, a través del isomorfismo mimético, una vez que se ven presionadas a seguir o copiar las prácticas puestas en marcha de manera inédita por otras universidades y que fueron aceptadas de forma positiva por su entorno, sin conocer si tales prácticas conllevan a una mejora en la eficiencia. El ambiente institucional también se ve afectado por distintos grupos de *stakeholders* con los que se relaciona la institución, una vez que las demandas que han sido propuestas por estos, requerirá una acción que, sin embargo, podrá generar controversias dentro de su entorno, por conflictos de intereses o la propia búsqueda por el poder que conduce a la legitimación de sus demandas.

La otra teoría que apoya esta tesis, la Teoría de la Agencia, ha sido también ampliamente desarrollada en estudios que pretenden conocer los incentivos para la adopción del e-government y que está centrada en cuestiones relacionadas con el conflicto de intereses y la búsqueda de poder.

Esta teoría surge inicialmente, en el sector privado, para tratar problemas de conflicto de intereses existente por la separación entre la propiedad y la gestión de la empresa. Según Jensen y Meckling (1976) la relación de agencia es definida como el contrato entre el cual una o más personas (principal), propietario o accionista, contrata a otra persona (agente), ejecutivo o administrador, para desarrollar algunos servicios, incluso delegando poderes para que estos puedan decidir en nombre de aquellos. Esta relación, entre agente y principal, puede generar ciertos conflictos de interés en la medida en que ambas partes intentan maximizar sus beneficios particulares, y por lo tanto, en este escenario, se puede suponer que el agente no siempre actuará de acuerdo con los intereses del principal.

Para reducir estos conflictos de interés que son conocidos por la literatura como costes de agencia, el principal busca aplicar mecanismos institucionales de control. Sin embargo, existe

un problema que puede hacer que el principal pierda su capacidad de control sobre el agente, o en otras ocasiones conlleve a un análisis miope de la situación, que es la asimetría informacional. Según Akdere y Azevedo (2006), esta ocurre cuando hay una limitación en la capacidad del principal para controlar el trabajo del agente, justificada por cuestiones conocidas por el propio agente, es decir, información interna, o sea, privilegiada, conocida solamente por el agente y sin dar a conocer al principal.

La teoría de la agencia se puede trasladar al sector público, una vez que el Estado es una organización en la que existen diversos contratos entre los propietarios de los recursos económicos, ciudadanos (principal), y los políticos (agentes), responsables por la gestión y control de estos recursos (Slomski, 2003). Así, las relaciones entre ciudadanos y políticos pueden ser caracterizadas desde la perspectiva de la teoría de la agencia (Zimmerman, 1977) donde se asume que los ciudadanos y los políticos son sujetos racionales que intentaran maximizar sus intereses particulares y consecuentemente pueden generar conflictos de interés.

La divulgación de información, especialmente la información contable, puede ser considerada como parte de los mecanismos e instrumentos de control para reducir los costes de agencia, y puede ser explicada por el interés de los políticos (agente) en ser reelectos y a la vez, disminuir la asimetría informacional para que los ciudadanos (principal) puedan fiscalizar las acciones de los agentes y tomar las decisiones adecuadas a sus intereses (Villegas, 2013; Laswad, Fisher y Oyelere, 2005, y Pina, Torres y Royo, 2001b).

La divulgación de la información contable siempre ha estado estrechamente relacionada a la teoría de la agencia, tanto en el sector público como privado, dado que la contabilidad tiene como función primordial informar a los usuarios externos que a su vez no tienen acceso a la información interna (Pina, Torres y Royo, 201b).

Centrándonos en el caso de estudio de esta tesis, interesa conocer quién es el principal y quién es el agente en las universidades públicas brasileñas. Según Banker y Patton (1987), en el sector público el votante es el principal y el gestor político es el agente. Por lo tanto, siguiendo esta línea, en el caso de las universidades públicas se puede inferir que el agente son los administradores públicos que llevan las riendas de las universidades, especialmente el Rector, que es elegido mediante votación y es el más alto mandatario de la institución. Por otra parte, podríamos destacar que el principal son los alumnos, profesores y técnicos administrativos, todos con poder de voto.

La discusión propuesta en este apartado, conlleva a la conclusión de que tanto la teoría institucional como la teoría de la agencia, demuestran grandes incentivos al sector público para la divulgación de información.

C) La nueva gestión pública, gobierno electrónico e información contable pública

Para superar los retos económicos y sociales, la gestión pública debe estar basada en el equilibrio financiero, calidad en los servicios prestados y transparencia en la información y en la gestión (Montesinos y Gimeno, 1998). Villegas (2013) afirma que los ciudadanos se vuelven más exigentes e incorporan en sus expectativas frente a los gestores públicos la transparencia, la rendición de cuentas y el e-government.

Para satisfacer las demandas y necesidades de los ciudadanos, los organismos públicos buscan nuevos e innovadores modelos de control y gestión, además de nuevas herramientas de gestión (Beuren, Moura, y Kloeppe, 2013). Estas innovaciones, ampliamente conocida como e-government, comenzaron a desarrollarse en la década de los 90 y están siendo adoptadas por los organismos públicos en los últimos años (Manoharan, 2013). El e-government se podría definir como "la prestación de servicios e información, vía electrónica, las 24 horas del día, siete días a la semana" (Norris, Fletcher, y Holden, 2001, p. 5).

En la década de 1990s, los gobiernos empezaron a utilizar las innovaciones del e-government, sin embargo, las razones que llevaron a este cambio no fueron homogéneas, y en realidad la variedad de factores que justificaron estas innovaciones fueron variados, así como el alcance y la velocidad de implementación, variando desde la simple implementación de un sitio web sin mayores informaciones, pasando por los servicios electrónicos, amplia divulgación de información, participación ciudadana y otros servicios online (Moon, 2002).

Son diversos los factores que pueden influir en la utilización y amplitud del e-government, tales como las presiones electorales, los factores institucionales, contextuales e inclusive la propia percepción del administrador público sobre la importancia de las innovaciones. La percepción de los beneficios económicos, tales como el ahorro de los costes y el aumento de la eficiencia pública, permiten que los funcionarios hagan más con menos y esto puede influir positivamente en la adopción del e-government (Moon, 2002, y Ho y Ni, 2004). Los gestores públicos

frecuentemente se preocupan de aspectos relacionados con la rendición de cuentas y la transparencia, e internet les permite alcanzar estos objetivos de buena gobernanza (Ho y Ni, 2004).

Los gobiernos con intenciones reales de transformación utilizan la tecnología no sólo como una herramienta mecánica, sino también como un activo estratégico y una nueva forma de planificar las acciones de la administración pública. La tecnología por sí sola no transforma el gobierno, pero el gobierno no puede transformarse para satisfacer las expectativas de los ciudadanos sin ella (Lapsley, 2009).

Las nuevas prácticas de utilización de la tecnología de la información y comunicación han sido objeto de diversos estudios académicos centrados en el área pública, especialmente relacionados con el gobierno electrónico (Torres et al., 2005). En este contexto, internet se ha convertido en una herramienta fundamental para lograr un mejor gobierno (OECD, 2003), optimizando la transparencia de las organizaciones públicas, con un bajo coste y permitiendo el cambio de un gran volumen de información así como la comunicación en tiempo real, reduciendo la burocracia (Franco et. al., 2012).

El papel que juega internet también se traslada al desarrollo de un gran número de medidas relacionadas con la Nueva Gestión Pública (NGP) (Gandía y Archidona, 2008), la cual intenta acercar la administración pública a la privada, trasladando sus herramientas, concepciones e instrumentos de gestión, buscando su modernización (Hood, 1995). El concepto de NGP sugiere, la utilización de prácticas de gestión empresarial, mayor rigurosidad en la utilización de los recursos públicos en la búsqueda de la eficacia, eficiencia, y la implementación de medidas de desempeño y control (Hood, 1995). Dichos conceptos han demostrado que pueden ser perfectamente aplicados en los debates para la actual y futura evolución del sector público en las economías avanzadas, y cada vez más en los países en desarrollo (Lapsley, 2009). En esta línea, Hughes (1994) destaca que bajo los preceptos de la NGP los gobiernos deben basarse en el incremento de la participación ciudadana y de la accesibilidad y transparencia.

Los postulados propuestos por la NGP empezaron a ganar fuerza en los modelos administrativos Anglo-Sajones, especialmente en Inglaterra en el principio de la década de 1990s (Hood, 1991). A través de la OCDE, el Banco Mundial y el FMI, hicieron una presión global para que los demás países introdujeran las reformas propuestas por la NGP en el sector público (Torres, Pina y Royo, 2005).

Los principales componentes que definen esta nueva gestión son: gestión profesional y transparencia en el sector público; parámetros y medidas de desempeño; prioridad en la satisfacción del ciudadano como si fuera un cliente del sector privado; competitividad; desarrollo de herramientas para la comparación sistémica de las unidades de gestión; centrada en los resultados y cautela en la utilización de los recursos públicos (Hood, 1991).

Según Lapsley (2008), el principal enfoque de la NGP está en el proceso de gestión y, explica este proceso a la luz de tres elementos o atributos claves: administración general, iniciativa empresarial, transparencia y rendición de cuentas. Los países precursores y fuertes partidarios de la NGP enfatizan la importancia de cambiar el viejo estilo de los administradores públicos por las nuevas prácticas proactivas, estimuladoras del cambio, una vez que estos pueden servir como instrumentos eficaces en la implementación de las ideas de la NGP (Lapsley, 2008). El comportamiento empresarial también es otro atributo de la NGP, y no debe estar limitado al sector privado, pues se trata de utilizar los recursos públicos de forma más eficiente y eficaz (Osborne & Gaebler, 1993). El tercer atributo de la NGP es la transparencia y la rendición de cuentas, el cual permite el control de los gastos públicos; sin embargo, hay numerosas interpretaciones sobre lo que realmente constituye la transparencia y lo que se pretende de ella.

Gordon et al. (2002) destacan que la definición de transparencia contable puede ser subjetiva, pasiva, y con diversas interpretaciones. Comprende desde los estados financieros y las notas explicativas, hasta cualquier información que pudiera ser empleada por un usuario para llegar a conclusiones sobre el estado económico de la entidad. El “*International Public Sector Accounting Standards Board*” (IPSASB, 2014) destaca que el objetivo de la información contable pública es proporcionar a los usuarios información sobre los resultados obtenidos y los aspectos de la naturaleza presupuestaria, los recursos económicos, financieros y físicos de las entidades públicas, el apoyo al proceso de toma de decisiones, la adecuada rendición de cuentas, y el apoyo necesario para el control social. Estos objetivos pueden ser alcanzados, si la contabilidad se aplica de manera adecuada. La información contable debe ayudar a los usuarios en la evaluación de los resultados de la entidad gubernamental, y a evaluar el nivel de servicios que pueden ser proporcionados por la entidad así como su capacidad para cumplir con sus obligaciones.

Los instrumentos de control y gestión pueden contribuir al buen desempeño de las instituciones públicas, que desde el punto de vista de los ciudadanos está relacionado con la eficacia y eficiencia en la utilización de los recursos públicos y en la búsqueda de un mayor bienestar

social. No se puede negar que la NGP ha cambiado el estilo de la administración pública y exalta atributos como la responsabilidad pública, las buenas prácticas de gobernanza y nuevas prácticas contables (Bermúdez, 2009). En efecto, la contabilidad fue clave en este proceso de reforma (Lapsley, 1999), siendo utilizada como mecanismo de control al mostrar los estados económicos y financieros de las organizaciones públicas, reflejando la actuación de los gestores públicos (Hood, 1995; Lapsley, 1999). En este sentido, la información contable se convierte en relevante al ser una de sus funciones ofrecer información para el usuario externo, el cual no tiene acceso a la información interna (Pina, Torres y Royo, 2010).

Según Hendriksen y Van Breda (1999), la información contable debe ser relevante, oportuna, comprensible, exacta, neutral y representada de forma fiel. La rendición de las cuentas públicas debe estar direccionada a los intereses de sus usuarios y debe dar apoyo al proceso de toma de decisiones. Por lo tanto, los elementos que deben caracterizar la transparencia pública son la publicidad (divulgación y acceso), comprensibilidad (lenguaje y presentación) y utilidad (relevancia, comparabilidad y confiabilidad) (Platt, Cruz, Ensslin y Ensslin, 2007).

Teniendo en cuenta los diversos objetivos de la información contable pública, y que la misma puede servir tanto para la toma de decisiones como para rendir cuentas, es importante identificar los usuarios de la misma, en las universidades. En este sentido, Platt et al. (2007) y Coy et al. (1997) han identificado alguno de los grupos de usuarios interesados en la información divulgada por las universidades, tales como: comunidad interna del campus (profesores, gestores, personal técnico, alumnos), organizaciones similares (otras universidades e instituciones de enseñanza), órganos de control (entidades fiscalizadoras y de regulación), asociaciones profesionales, patrocinadores, ciudadanos, investigadores y periodistas.

Un gran impedimento para la consecución de una mayor rendición de cuentas y transparencia financiera de los gobiernos y de las entidades públicas fue la ausencia de normas contables generalmente aceptadas (Sutcliffe, 2003). Consecuentemente, los nuevos sistemas de gestión pública requieren mayor relevancia y comparabilidad de la información contable para hacer que esta sea útil para la toma de decisiones en el sector público (Bolívar y Navarro, 2007).

El respaldo dado por el conjunto de Normas Internacionales de Contabilidad (NIC) ha proporcionado el entorno adecuado para la sensible mejora de la información contable, con el aumento de su comprensibilidad y comparabilidad. Los usuarios de las cuentas publicadas, por

los organismos públicos y los interesados por la transparencia pública podrán beneficiarse de esta evolución.

Aunque la reglamentación al respecto de la publicación de información contable ha evolucionado, no quiere decir que esta se implemente automáticamente y ni siquiera después de implantada surtirá los efectos deseados de forma inmediata. Primero hay que tener en cuenta su utilidad para el usuario final y sus necesidades; además de esto, es importante preparar a los gestores públicos para los cambios y conocer su percepción sobre la transparencia contable y sus limitaciones sobre esta cuestión, así como sobre el entorno en que serán aplicadas (Bolívar y Navarro, 2007).

D) El papel del administrador público

Según los preceptos de la NGP y con un enfoque especial al papel que juega el gestor público en la implantación de los nuevos sistemas de gestión y, adopción de innovaciones, tales como el gobierno electrónico, en este trabajo se ha llevado a cabo una encuesta con los responsables del servicio e información disponible en internet de las universidades públicas brasileñas para conocer sus opiniones y perspectivas sobre e-government, transparencia pública y divulgación de información contable en internet.

Es importante investigar la opinión de los administradores públicos que están al mando de las universidades y, hasta donde llegan sus conocimientos sobre cuestiones relacionadas con transparencia, divulgación de información contable y e-government, entre otros aspectos; y, a partir de estas informaciones intentar determinar qué influencia tienen ellos en la aplicación de las innovaciones y estrategias para la implantación de modelos de gestión capaces de satisfacer las necesidades de la sociedad.

Dar a conocer la opinión de los administradores públicos es fundamental para la contribución de este trabajo, dado que estos juegan un papel fundamental en el suceso del e-government. La visión que ellos tienen puede dirigir la planificación estratégica a la hora de implementar las innovaciones en las instituciones públicas, por lo tanto podemos decir que la implementación del e-government puede estar directamente influida por la percepción de los altos funcionarios administrativos (Carrizales, 2008).

Es sabido que en última instancia es el Consejo de Administración de la compañía quien toma la decisión de la adopción y la extensión de la implementación de nuevos sistemas en la organización (Gil, Mass y Hartmann, 2009). Esto mismo es aplicable a los organismos públicos que, a pesar de sufrir con más intensidad las presiones institucionales, en última instancia son los administradores y directivos públicos quienes tienen el poder de determinar la implementación de innovaciones, y su posicionamiento ante las mismas es un factor determinante del éxito de su implantación.

En un estudio conducido por Modell (2001) se analizaron las respuestas y reacciones de los directivos de un hospital público de Noruega debidas a la implementación de cambios en el sistema de control financiero y en el modelo de evaluación de desempeño, resultantes de las presiones institucionales ejercidas por la administración general. Los resultados encontrados desvelaron distintas conductas de resistencia ante las presiones hacia el cambio, desde una postura tolerante y pasiva del cumplimiento de las normas, hasta situaciones extremas en contra, tales como conductas malintencionadas. El estudio ha demostrado casos en que la gerencia estaba de acuerdo en implantar las innovaciones, sin embargo algunos grupos de profesionales especialistas pusieron barreras frente a los cambios, por entender que estos eran contrarios a sus intereses. Al final, el hospital tuvo que llegar a un acuerdo con los profesionales realizando algunos ajustes con el fin que las innovaciones pudiesen ser implantadas.

Diversos estudios indican que los contables reaccionan de distintas formas a los cambios, y las investigaciones académicas generalmente argumentan que los gestores financieros tienden a imponer ciertas resistencias a los cambios y son reacios a tomar actitudes proactivas (Gil, Mass y Hartmann, 2009).

Johnston, Brignal y Fitzgerald (2002) demostraron que los gestores financieros eran reacios a participar en las decisiones operativas, principalmente cuando se trataban de decisiones relativas a innovaciones y cambios en programas operacionales. Por otro lado, Emsley (2005) estudio la disposición de los gestores financieros en la implementación de innovaciones relacionadas con la contabilidad de gestión y sus resultados demostraron una alta capacidad para la innovación, una vez que los gestores financieros se veían más envueltos en el proceso de toma de decisiones y que las innovaciones podrían traer beneficios. En este sentido, es importante que los sectores que sufrirán con los cambios participen del proceso de innovación, y de esta forma se sentirán más comprometidos con los cambios.

Los empleados de dirección y confianza con poderes para tomar decisiones pueden ser eficaces y proporcionar incentivos extras para la adopción de una innovación, especialmente cuando estos líderes creen que esta es necesaria, y utilizan su capacidad y autoridad para presionar a los demás individuos a reconocer los beneficios de la innovación y aceptar la necesidad de cambio (Ho y Ni, 2004).

Por lo tanto, esperamos, de manera general, que la adopción del e-government y las buenas prácticas de transparencia pública estén más relacionadas con la conducta de los gestores públicos y su compromiso en abogar por las innovaciones, que a factores relacionados al contexto y a las características institucionales de la universidad.

E) Gestión de las universidades públicas

Las universidades públicas Brasileñas son organizaciones que dependen de recursos públicos para desarrollar sus actividades y, por lo tanto, deben rendir cuentas a la sociedad y obedecer a los principios de la legalidad y publicidad (Platt y Cruz, 2009). Por sus características públicas y por toda la infraestructura física y humana necesarias para su buen funcionamiento, las universidades sufren la presión de la sociedad tanto en relación a la efectividad de sus resultados como en relación a gestión responsable de los fondos públicos.

En otras palabras, las universidades pueden ser definidas como sistemas que utilizan recursos materiales, humanos y financieros que son utilizados en el proceso de enseñanza, transferencia de conocimiento e investigación, los cuales se traducen en un producto final que genera conocimiento a los alumnos, desarrollo científico, avances tecnológicos y desarrollo regional, entre otros beneficios culturales y sociales (Brotti y Lapa, 2007).

La responsabilidad de los gestores de las universidades exige que estos busquen la adopción de prácticas de gestión que les ayuden en el proceso de toma de decisiones y control de las acciones que les permitan alcanzar los objetivos institucionales (Marra y Mello, 2005). La gestión y la rendición de cuentas de las universidades federales Brasileñas son, generalmente de atribución al área de planificación y administración de la entidad, que es responsable por la gestión de las actividades administrativas y operacionales que comprenden la planificación y control presupuestario, ejecución financiera, contratos, control patrimonial, contabilidad y rendición de cuentas.

Los ciudadanos, que son los que financian las actividades públicas, deberían tener acceso a la información contable, sin embargo, a pesar que este acceso está garantizado por ley, aún existe una carencia por lo que respecta a la divulgación de dicha información, especialmente en internet. En las últimas décadas los organismos públicos Brasileños sufrieron cambios impulsados por presiones sociales hacia la implementación de la NGP en el sentido de dar mayor transparencia y rendición de cuentas, así como mejorar en la eficacia y eficiencia en la utilización de los recursos públicos. Desafortunadamente, debido a motivos, políticos, administrativos, burocráticos, institucionales y contextuales, la transparencia y divulgación de información pública en el contexto Brasileño está limitada, en muchos casos, al cumplimiento del ordenamiento legal (Bonacim, Araújo y Miranda, 2008).

Sin embargo, las limitaciones presupuestarias y la presión de la sociedad están impulsando a los gestores públicos a aplicar nuevas prácticas de gestión y nuevas tecnologías de información y comunicación con el fin de mejorar y ampliar la transparencia financiera de las universidades, proporcionando la reducción de la asimetría informacional. (Bonacim, Araújo y Miranda, 2008; Lyrio, Brotti, Ensslin y Ensslin, 2008; Albuquerque, 2011). También se exige la ampliación de los servicios prestados por las universidades sin que las mismas tengan la proporcional contrapartida presupuestaria, es decir, los gestores públicos necesitan de instrumentos que apoyen la gestión responsable y competente para, por un lado, satisfacer la demanda de la sociedad, y por otro respetar la legalidad y los principios básicos de la administración pública (Albuquerque, 2011).

Actualmente la demanda de la sociedad contrasta con la forma que las universidades públicas divulgan la información contable, una vez que los informes presentados son muy amplios y elaborados para complacer las exigencias legales, sin embargo, para el ciudadano medio son poco informativos y complicados de comprender (Valmorbida, 2012).

De este modo, se percibe la necesidad de crear modelos capaces de guiar a los gestores públicos en el sentido de ampliar la transparencia y facilitar el acceso de la información contable, demostrando a los ciudadanos cómo se están utilizando los recursos consumidos por las universidades públicas, permitiendo que la sociedad fiscalice la aplicación de los fondos públicos.

F) Cuestión de investigación y contribuciones

Como consecuencia de lo descrito en los epígrafes anteriores, esta tesis pretende dar respuesta a la siguiente cuestión de investigación: ¿Cómo construir un modelo de estudio donde sea posible generar conocimiento y permitir la creación de instrumentos cualitativos y cuantitativos capaces de evaluar y mejorar el contexto del e-government y la divulgación de información contable en internet en las universidades públicas Brasileñas?

Para responder a esta pregunta hemos llevado a cabo tres estudios. El primero, tiene el propósito de seleccionar un Portfolio Bibliográfico (PB) para comprender el estado del arte sobre el tema “gobierno electrónico y divulgación de información contable en el sector público” y proceder a un análisis bibliométrico y sistémico, utilizando el instrumento de intervención Knowledge Development Process Constructivist – Proknow-C (Tasca, Ensslin, Ensslin y Alves, 2010). A través del desarrollo de este proceso se ha estructurado un PB compuesto por 28 artículos científicos relevantes alineados con el tema de interés y para ellos se ha propuesto: (i) un análisis bibliométrico para describir: aquellas revistas que publicaron en este tema con más frecuencia, los artículos más citados, los investigadores con más experiencia en el tema, las palabras clave más recurrentes, los métodos de investigación y la evolución temporal de las publicaciones relevantes; y (ii) un análisis sistémico para investigar el contenido de los artículos que componen el PB. Como resultado se presentan algunas cuestiones para futuras investigaciones, que representan los posibles vacíos en la literatura donde se puede avanzar en la construcción del marco teórico sobre el tema objeto de estudio. Por otra parte, las principales brechas identificadas están vinculadas a la construcción de modelos enfocados en el gestor público y en la propuesta de medidas de mejora de la gestión y difusión de la información contable en internet en el sector público.

El segundo estudio tiene como objetivo examinar el alcance de la información contable divulgada por las universidades públicas brasileñas en sus websites, y verificar qué factores explican el nivel observado de la información revelada. Además de esto, el artículo se propone verificar los procedimientos que se han adoptado ante la nueva ley de acceso a la información (Brasil, 2012), que entró en vigor en el año de 2012 y que revolucionó y amplió el derecho de los ciudadanos al acceso de la información pública en Brasil. Los datos para realizar el estudio fueron recogidos en base a un análisis de contenido de la página web de las universidades. Los websites fueron evaluados utilizando un indicador del gobierno electrónico que se denomina

“índice de divulgación universitaria” y que está compuesto por 47 ítems que fueron creados a partir de la ley de acceso a la información, y las instrucciones y guías proporcionadas por el Tribunal de Cuentas y el Ministerio de Hacienda. Los resultados indican que el nivel de divulgación electrónica en las universidades federales brasileñas son medios, y los aspectos relacionados con la calidad, la eficiencia y la gobernanza mostraron ser factores determinantes para la divulgación de información.

Finalmente, el tercer estudio examina el papel del administrador público en la adopción del gobierno electrónico en las universidades públicas brasileñas. Este estudio relaciona el uso del e-government con las percepciones personales de los gestores públicos sobre temas relacionados con la transparencia pública, la divulgación de la información contable en internet, y el e-government. Los datos se han obtenido a través de una encuesta enviada a 118 funcionarios de 59 universidades federales brasileñas. Todos los encuestados formaban parte del equipo de la alta dirección de las universidades, y participaban directamente en el proceso de desarrollo del e-government y divulgación de información. Los resultados confirman tres de las hipótesis planteadas y demuestran que la percepción de los gestores públicos afecta directa y positivamente a la utilización del e-government en las universidades, y que la adopción de esta herramienta genera beneficios para ellas.

Esta tesis tiene como objeto de estudio las universidades federales brasileñas, proporcionando una contribución a la literatura relacionada a las instituciones de enseñanza superior, que han experimentado una fuerte expansión en los últimos años en Brasil. Al centrarnos en este sector en Brasil, nosotros ampliamos las evidencias en la adopción del e-government más allá del contexto Anglosajón y Europeo donde se han realizado los principales estudios sobre este tema. Además, esta tesis contribuye a la literatura de contabilidad, transparencia pública, gobierno electrónico y la influencia de los gestores en las organizaciones.

Esta investigación presenta a través de un estudio bibliométrico y sistémico cuales son los artículos y autores más relevantes, y cuáles son las metodologías más utilizadas en los estudios relacionado con el e-government, demostrando como resultado final los vacíos que se han encontrado y por tanto donde se puede avanzar en la literatura. Extiende el marco teórico planteado por la teoría institucional y la de la agencia a las adopciones de innovaciones en el sector público. En concreto, se muestra cómo las presiones institucionales y cómo la relación entre principal y agente impulsan a las organizaciones a los cambios, y cómo los gestores públicos se ven motivados a adoptar innovaciones.

Una aportación destacable es que es el primer estudio que analiza empíricamente la divulgación de información contable en las universidades federales brasileñas incluyendo los preceptos desarrollados por la reciente ley de acceso a la información. Además de esto, este estudio contribuye con el desarrollo de la metodología de investigación en contabilidad, una vez que aplica el Proknow-C (Tasca, Ensslin, Ensslin y Alves, 2010) como instrumento de intervención en la consecución de un estudio bibliométrico y sistémico para temas contables.

Esta tesis también da respuesta a la demanda existente en la literatura contable sobre qué factores influyen en la divulgación de información y adopción del e-government en el contexto brasileño, y relacionados con las universidades públicas. Además, hay una aportación de carácter empírico sobre qué información está siendo publicada por las universidades públicas brasileñas y que aspectos de esta información se están divulgando, ofreciendo una clara contribución a la transparencia pública. Para llegar a estos resultados, y aquí se presenta otra aportación original, hemos creado un índice de divulgación de información para las universidades públicas brasileñas teniendo en cuenta peculiaridades y cuestiones exclusivas para estas instituciones, de forma que se puede evaluar de la divulgación de información contable en internet. Haciendo referencia a este índice destacar que permite el análisis sistematizado de los websites de las universidades públicas brasileñas, demostrando los puntos débiles relacionados a la divulgación contable, y sirviendo como guía para que las universidades mejoren la transparencia contable y las relaciones con los ciudadanos.

En línea con los estudios que tratan del papel que juegan los directivos y su influencia sobre la implantación de innovaciones en las organizaciones, los resultados de esta tesis muestran que la percepción que los gestores públicos tienen sobre la importancia y utilidad de la información contable, y las características institucionales de la organización, influyen positivamente y directamente en la utilización del e-government como herramienta para divulgar información contable. Además, este estudio traza un mapa actual de las características de aquellos que están al frente del desarrollo de las plataformas electrónicas de las universidades, incluyendo sus opiniones personales sobre temas relacionados con la contabilidad pública, transparencia pública y gobierno electrónico. Para llegar a estos resultados, hemos creado un cuestionario en base a la literatura previa, más principalmente, y aquí se presenta otra **aportación** de esta tesis, teniendo en cuenta aspectos peculiares al entorno de su aplicación, con la validación de tres expertos en el tema, y dos funcionarios de una de las universidades investigadas.

En este sentido este trabajo extiende la investigación previa en contabilidad de gestión, analizando no sólo las páginas web de las universidades, los factores que influyen en su desarrollo y la influencia de los directivos sobre ellas, sino también verifica cómo la implementación del e-government puede presentar notorios beneficios.

Respecto a las implicaciones prácticas de esta tesis decir que, el Procknow-C es una metodología eficaz en la búsqueda por artículos relevantes en Contabilidad. Los resultados sugieren que, en el contexto brasileño, los aspectos reglamentados por ley tienden a ser más divulgados que otros de naturaleza voluntaria. La eficiencia en la gestión de los recursos financieros en las universidades es una característica relevante y tiene una influencia sobre la transparencia, así como la calidad de la institución y los aspectos relacionados con la gobernanza. Las universidades en las que existe un mayor número de personas participando en los consejos universitarios tienden a ser más transparentes. También se puede concluir que la percepción de los gestores públicos influye directamente y positivamente sobre la utilización del e-government en las universidades federales Brasileñas. Por último, se ha demostrado empíricamente en esta tesis que la utilización del e-government proporciona diversos beneficios para las universidades públicas, especialmente, en la mejora de la gestión, el incremento de las relaciones con los ciudadanos, y economía de recursos financieros.

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