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# INFORMATION TECHNOLOGY GOVERNANCE IN PUBLIC ORGANIZATIONS: UNDERSTANDING THE EXPECTATIONS OF ITS ADOPTION THROUGH THE LENS OF ORGANIZATIONAL CITIZENSHIP

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# INFORMATION TECHNOLOGY GOVERNANCE IN PUBLIC ORGANIZATIONS: UNDERSTANDING THE EXPECTATIONS OF ITS ADOPTION THROUGH THE LENS OF ORGANIZATIONAL CITIZENSHIP

*Research in Progress*

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## **Abstract**

*The evolution of Information Technology (IT) stimulates several changes in citizen's profiles and government openness. It generates new demands whose operationalization depends on IT solutions. Managing IT is no longer enough; it is necessary to go one step further in governance process. IT Governance (ITG) can support the organizational decision-making on its IT initiatives, increasing the alignment IT/business. The goal is to understand how ITG influences the behaviour of individuals within organizations. We selected Organizational Citizenship Behaviour (OCB) concept to analyse individuals' voluntary commitment within an organization that is not part of their contractual tasks. Our premise is that ITG acts on the antecedents of the organizational citizenship behaviour such as job satisfaction and rewards perception. The research was conducted through a focus group made up of the members of an IT State Governance Committee in Brazil. Questions based on OCB were discussed in order to understand the behavioural changes expectations along the ITG mechanisms adoption. The preliminary results showed that citizenship behaviour could improve because of the ITG process. Based on the results, we proposed a preliminary conceptual model, which will be tested in the next steps through a survey research in all Brazilian states.*

*Keywords: IT Governance, IT Governance adoption, Organizational Citizenship Behaviour, Public organizations.*

## **1 Introduction**

New models of the relationship between state and society have been arising with the development of Information and Communication Technology (ICT), generating opportunities to transform the connection between government and citizens (Cunha and Miranda, 2013). This has brought up the claim for a more efficient state focused on the citizens' social rights (Bresser-Pereira, 2013). In public organizations this claim is translated as participation, transparency and accountability, which are part of electronic governance efforts (Cunha and Miranda, 2013). Electronic governance can be understood, according to Ferguson (2002), as the association of citizens, key members of a society and legal representatives that work together (mediated by technology) to influence the government.

As the discussion about a new model of relationship between citizens and government evolves, it is possible to observe a gradual change in the government initiatives from tools that improve the services to tools that support the citizen participation (Yildiz, 2007). This set of changes – citizen profile, government positioning and openness – generates new demands for data, information and services whose operationalization depends, evolves or is enhanced by ICT solutions. It may be a challenge not just because the focus is changing from internal to external, but because changes related to technology and process are also necessary. By using ICT in an innovative way, governments have been improving services to citizens and interacting in a more open and transparent way with all stakeholders (Luna-Reyes et al. 2012).

However, the demands for fast reliable ICT solutions that could be accessed from highly available platforms are increasing. Considering this scenario, managing Information Technology (IT) is no longer enough; it is necessary to go one step further in a governance process. Van Grembergem and De Haes (2009) indicate that the differences between management and governance are related to time and business orientation: management involves short term and internal aspects, while governance deals with long term and external aspects. Governing IT, consequently, can assist an organization in meticulous IT decision-making, increasing or maintaining the alignment between IT and stakeholders' expectations.

For a public organization, to consider long term and external aspects is mandatory, considering that they are part of a complex network of actors. In this kind of organization, an integrated operation of several actors is typically required to have the concretization of a service. A special challenge in public organizations is to turn the IT decisions perennial and related more to the state than to the government. As shown by Meijer and Bolivar (2015), the demands of the population need to be thought in the long term. IT decisions that are not changed in every administration are more consistent and their implementation is more likely to be kept over the years within an IT Governance process.

IT Governance may be considered as a set of organizational arrangements and patterns of authority for primary IT activities and may include IT infrastructure issues and desirable IT use and management (Sambamurthy and Zmud, 1999). Weill and Ross (2004) claim that ITG is characterized as a set of mechanisms associated with the structure, processes and relationships of IT that defines the decision-making structure, rights and responsibilities for encouraging desirable behaviour.

Studies on IT Governance suggest the existence of two main pillars of action in the ITG mechanisms adoption. The first and most common centers on the legal and regulatory aspect and involves, according to Peterson (2004) and Van Grembergen and De Haes (2004), the specification of the key IT decisions and every actor's IT decision rights. The second pillar focuses on the behavioural aspect inherent to individuals dealing with IT. According to Weill and Ross (2004), Huang, Zmud and Price (2010) and Bradley et al. (2012), the IT Governance mechanisms should be able to encourage individuals desired behaviour regarding IT issues.

The encouragement of desirable behaviour complements the normative side of IT Governance and goes beyond regulatory compliance and also contributes to a more consistent and aligned relationship between business and IT. This behavioural expression of IT Governance is the focus of this research-

in-progress. We intend to understand individuals' behaviour, which is influenced by several aspects and situations. The Organizational Citizenship Behaviour (OCB) concept was used to understand these phenomena. According to Smith, Organ and Near (1983), it describes a person's voluntary commitment to an organization or company that is not part of his or her contractual tasks. OCB is characterized by the existence of employees' protective actions that aim the safeguard of an organization and whatever belongs to it, contributing to a favourable environment. Our premise is that IT Governance acts on the antecedents of the organizational citizenship behaviour such as job satisfaction and rewards perception. Thereby, citizenship behaviour might improve because of the ITG process. The understanding of this process is the purpose of this study.

The proposed relationship between IT Governance and the Organizational Citizenship Behaviour is based on the potential moderator effect that the ITG mechanisms adoption can exercise on the Organizational OCB constructs. As an example, we can mention the adoption of relationship mechanisms that can influence the individuals' perception on the organization's isonomic treatment. The same occurs in the adoption of structure mechanisms, that can turn the decision-making process more transparent, giving to the employees a perception of equitable IT decisions.

The research question that leads the whole study is on what extent IT Governance adoption influences the behaviour of individuals through the lens of Organizational Citizenship Behaviour concepts. This paper aims to preliminarily identify if the adoption of IT Governance influences individuals' behaviour changes through ITG mechanisms, principles and objectives.

## **2 Theoretical background**

### **2.1 IT Governance**

The main issues related to IT have gradually ceased to be about the types of technology to be adopted, becoming instead about the definitions and policies regarding how these technologies and resources should be used to generate a competitive advantage for organizations (Nfuka and Rusu, 2011; Barten-schlager and Goeken, 2010) and increase the level of alignment between IT and business. IT Governance is part of these new issues, pursuing long term IT and not just managing but also governing IT. This is because IT has become a way to competitive leverage the organizations and at the same time the need to direct and govern IT reaching the expectations of different stakeholders.

According to Weill and Ross (2004), IT Governance can be understood as the specification of the decision rights and accountability framework that encourage desirable behaviour in IT use. ITG involves specifying decision-making structures, processes and relational mechanisms for the direction and control of IT operations (Sambamurthy and Zmud, 1999). It is further characterized as a set of mechanisms associated with the structure, processes and relationships; these mechanisms must be related to one or more objectives of the organization (Van Grembergen, De Haes and Guldentops, 2004).

ITG is considered part of the scope of corporate governance (Weill and Ross, 2004; Peterson, 2004). It is related to organizational effectiveness, compliance with laws and regulations, meeting stakeholder necessities and adequately reacts to the pressures to demonstrate good returns on IT investments. Tiwana, Kosminsky and Venkatraman (2013) represent IT as which is governed, who is governed and how it is governed. The ITG involves a set of high-level definitions, such as principles, values and goals, operationalized through mechanism. ITG mechanisms are practical manifestation of these high-level definitions that are turned part of the day-by-day activities as a way to turn the ITG practicable.

### **2.2 Organizational Citizenship Behaviour**

According to Barnard (1938), organizations can be understood as an activity system where two or more people integrate efforts in a conscious and coordinated manner. People aggregate themselves to

an organization due to the human ability to share a purpose, the willingness related to organizational processes and the ability to communicate (Cruz Jr, 2004). These three factors are the core of the Organizational Citizenship Behaviour construct (Siqueira, 2003). Katz and Kahn (1978) denote some fundamental behaviour for organizational dynamics, namely: a) enter and remain in a system; b) show reliable, innovative and spontaneous behaviour. According to the authors, innovative and spontaneous behaviour is essential to the organization because it constitutes a higher performance compared to the requirements for the achievement of organizational demands.

Organizations' members are intrinsically cooperative and inter-related just like they are in their private lives. According to Smith, Organ and Near (1983), Organizational Citizenship Behaviour is characterized by the existence of system protective actions, aiming to safeguard the organization and whatever belongs to it. It is also characterized by the efforts of members to take responsibility for their own education. The objective is to improve the performance in their activities and to prepare them to take more responsibilities in the organization. Members are frequently presenting new ideas to the managers, and cooperating to develop a favourable environment to face the organizational external challenges.

There are other similar denominations for the OCB concept, such as prosocial behaviour (Brief and Motowidlo, 1986); civic virtue (Graham, 1991); extra-role performance behaviour (Pearce and Gregersen, 1991); and civics in organizations (Siqueira, 1995). However, some important differences can be identified between the concepts (Podsakoff et al. 2000). OCB was chosen because its meaning is aligned with the Corporate Governance conceptual bases, and as a consequence with the IT Governance. Organ (1988) argues that such behaviour is associated to a set of informal contributions that the participants of an organization can manifest or inhibit without having to answer to formal objectives of sanctions (Siqueira, 1995).

### 3 Research Method

This research-in-progress is exploratory, descriptive and cross-sectional because of the studied phenomena and both data collection and analysis techniques. The approach is qualitative-quantitative, considering the definitions of Gibbs (2008).

The research is organized in three distinct phases. The preliminary results presented in this manuscript are based on a qualitative approach, but the continuity of this research-in-progress (detailed in section 5) will involve a quantitative one. Figure 1 demonstrates schematically the Phase 1.

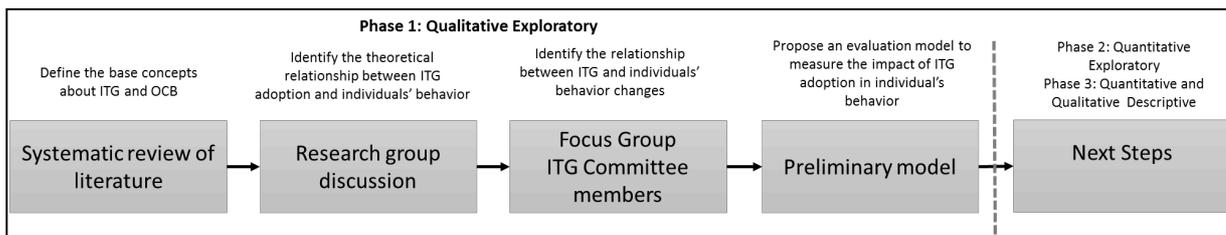


Figure 1. Research schema – Phase 1

The first phase presented a qualitative exploratory strategy aiming to acquire greater understanding of the topic discussed to further define the concepts and criteria that are the focus of this study. The goal of this phase is to define a conceptual model to identify the relationship between IT Governance adoption and individuals' attitude changes, based on OCB concepts. This model is based on the relationship among ITG mechanisms, objectives, principles and expectations related to the desirable behaviour after IT Governance adoption. Whereas OCB is not restricted to public organizations, one of this kind of organization was chosen because the ITG model is still under discussion, making it possible to identify expectations. The data were collected mainly through a focus group, but secondary sources as

documents analysis and observation were also used.

The focus group was made up of the members of an IT State Governance Committee in Brazil. This Committee is in charge of all high-level IT decisions in the Executive Branch. The committee members established an IT Policy that regulates the IT acquisitions decision-making (hardware, software and services). They have regular weekly meetings, when they analyse IT demands. They have also been discussing an ITG model made up of principles, objectives, mechanisms, decision-making structures and indicators to verify the effectiveness of the model.

The case was selected by both convenience and adequacy to this research purpose. In order to understand the expectations towards ITG, it was crucial that its model be under discussion. The State Committee studied presents legal support and is quite new. The fact that there is an IT semi-public independent company which is in charge of IT projects and infrastructure makes IT decision-making scenario quite more interesting.

In order to ensure that the discussion was based on similar IT Governance concepts, an introductory discussion on the matter was held. Respondents showed a very similar understanding of the concepts used in this research, probably because they had participated in a course when the IT Governance concepts, objectives and impacts were discussed.

A total of 11 members (out of 13) of this Committee participated in the data collection. The group represents ten State Offices and one semi-public company. Four of these offices have up to 50 civil servants, three have between 100 and 500 civil servants, two have between 500 and 1,000, and two offices and the semi-public company have more than 1,000 civil servants. The size of each IT local team is up to 25 civil servants in eight offices, between 26 and 50 in two offices and more than 1000 civil servants in the semi-public company. Table 1 shows the respondents' profiles.

Gender	Education	Current Position	IT Experience*	Experience in the position*
Male (10) Female (1)	Master's degree (2); MBA (6); Graduate (3)	IT Director (3); IT Manager (4); ITG Coordinator (2); ITG Analyst (2)	16,5	5,7

\* Average number of years.

Table 1. Profile of respondents

At first, they were separated in three groups. Statements based on OCB were discussed in order to understand the behaviour change expectations along the ITG mechanisms adoption. Initially (step 1) the groups discussed the first three questions, which were more generic, as a warm up. Their perceptions about the theme were recorded. The following statements were presented to the respondents:

- a. IT Governance's adoption impacts employees' tasks within or outside IT area in the organization;
- b. There are differences concerning the impact of IT Governance adoption between IT team members and other employees;
- c. IT Governance adoption contributes to affect the employees' behaviour in a way that it contributes to reduce offenses, misdemeanours and legal and ethical non-conformities.

In the step 2 they distributed the following statements (based on OCB) on the quadrants of a relationship panel, as shown in Figure 2.

- a. IT Governance adoption contributes in a way that employees will be willing to assist their colleagues and new employees in issues related to work in the organization;
- b. IT Governance adoption encourages beneficial behaviour among employees in a way that it benefits the whole organization more than just specific individuals or groups;
- c. IT Governance adoption encourages employees to promote the organization's reputation at external entities and to maintain the effort under adverse conditions;

- d. IT Governance adoption contributes to promote higher tolerance towards the issues of the organizational routine;
- e. IT Governance adoption contributes in a way that employees are willing to participate in the organization's management;
- f. IT Governance adoption contributes in a way that employees volunteer to accept the extra tasks;
- g. IT Governance adoption contributes in a way that employees are willing to improve their knowledge, competences and skills.

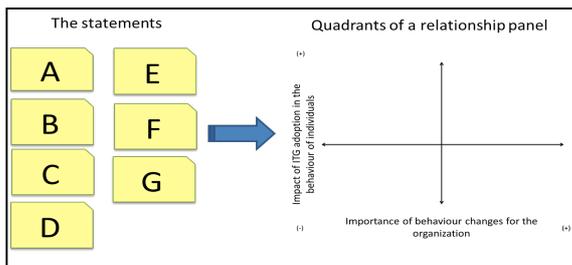


Figure 2. Activity of the Focus Group

The panel was divided in four quadrants formed by the intersection of the importance of the behavioural change for organization with the impact of ITG adoption in the individual behaviour. For example, if they believe that statement “c” has higher impact, they should place this statement in the first quadrant and explain why they made this decision.

## 4 Results

The result of this step has contributed to verify the premise that the adoption of IT Governance influences the behavioural changes of individuals through its mechanisms, principles and objectives. Figure 3 shows the resulted panels for the three groups of respondents.

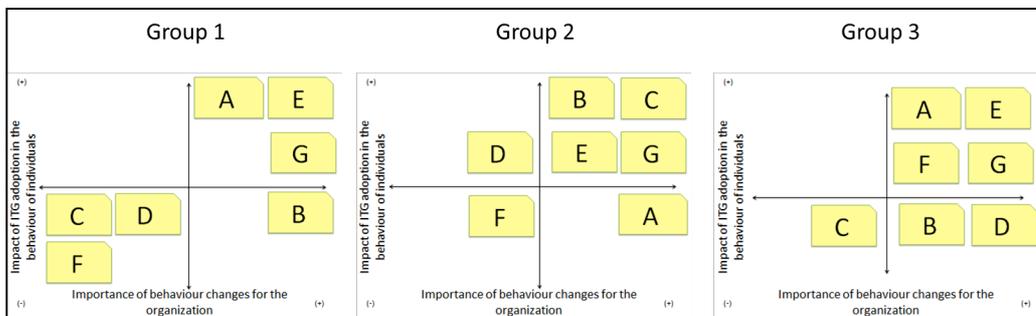


Figure 3. Statements distributed in Panels

Observing Figure 3, it is evident the relation between the two analysed aspects due to the fact that most statements were placed in the upper right quadrant. This represents the respondents' perception that the adoption of IT governance has a major impact in changing the behaviour of individuals and that the behavioural changes are of great importance to the organization where they work. The objective of this research step was not to identify which kind of behaviour is changed by ITG adoption, but whether there is a relationship perceived by public organizations agents between the behaviour changes and ITG adoption.

Another relevant point is the relationship specifically perceived in the OCB observed in Group 1 quote: "[...] the adoption of IT Governance helps ensure that the employees provide volunteer help because they understand why they are doing certain activities [...].

The OCB concept is related to behaviours that are not specifically part of individuals' roles, but they are very important for the organization. It is relevant to consider the desirable behaviours as a way to go beyond compliance behaviour usually reported in the literature because of ITG practices adoption. The presence of desirable behaviour and citizenship behaviour is very important to have a long term IT and to increase the results of ITG adoption. Based on these results and on the theoretical background, the following conceptual model shown in Figure 4 was created.

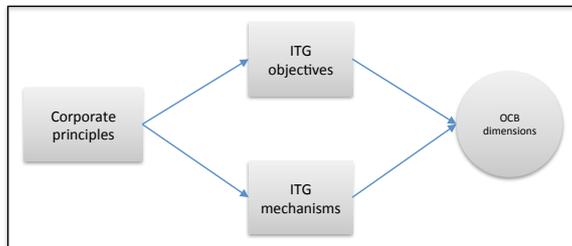


Figure 4. Conceptual preliminary model

It is possible to observe a relationship between OCB and ITG in the statement that shows benefits for the organization rather than specific individuals or groups because of the relation between ITG adoption and OCB, as quoted by Group 2: "[...] we believe that this relationship exists, because ITG mechanisms establish a collective sense for the organization as a whole [...]". Group 3 was in the same direction: "[...] yes, because the default settings provide a route to people in their decisions [...]". Considering the answers, it is possible to perceive a relationship between ITG adoption and Organizational Citizenship Behaviour dimensions in public organizations.

The proposed conceptual model shows that the principles of Corporate Governance are responsible for guiding the ITG objectives and mechanisms, as mentioned by Weill and Ross (2004). The ITG objectives at the same time come from of the organization's strategies and are moderated by the principles of corporate governance, and are responsible for determining the IT Governance mechanisms that will be adopted by the organization.

In turn, the ITG mechanisms are responsible for expressing the aspirations of Corporate Governance related to IT (Weill and Ross, 2004; Van Grembergen and De Haes, 2009). This structure influences the behaviour of individuals and the organizations performance as they may influence the ability of employees to commune a purpose, the goodwill related to organizational processes and the ability to communicate.

The adoption of IT Governance can influence the OCB dimensions cited by Podsakoff et al. (2000), namely: willingness to help, sportsmanship, organizational loyalty and obedience (conscientiousness). Individuals positively view the ITG mechanisms as facilitators of the efficient organizations functioning and collaborate so that people employ efforts to benefit the organization, making it a more attractive place to work.

## 5 Next steps

In the next phase of this study, several data collection techniques will be used, as shown in Figure 5.

Interviews and a survey research will be carried out. The interviews data will be analysed using the content analysis technique (Bardin, 2009). Survey data will be analysed using the method of Partial Least Squares (PLS). This method was planned to maximize the predictive accuracy of the models, offering flexibility for exploratory modelling (Hair, 2013). The result of this analysis will be a measurement model of the relationship between ITG and OCB.

The second phase will be the application of the pre-defined conceptual model upon completion of the exploration phase. The model will be verified in case studies (Phase 3) at public organizations. As mentioned by Yin (2002), the case studies are adequate when the aim is to understand complex social phenomena preserving the meaning of the events in real life.

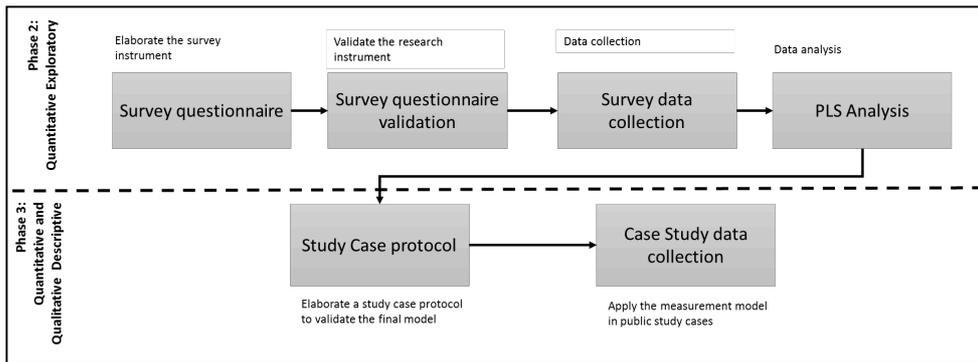


Figure 5. Research schema – Next steps

Semi-structured interviews will also be used in the case study with public organizations representatives in order to deeply understand the impact of IT Governance adoption in behaviour of individuals and how the organization is affected by these relationships. The change of focus from the internal to the external application of IT will also be considered.

We expect that this research may contribute to address some ITG adoption issues and to improve its effectiveness. Nfuka et al. (2009) mention that the most common problems are the difficulty of holding individuals accountable for IT Governance results and the use of ad hoc solutions due to team frustrations. Considering that the adoption of IT Governance influences individual behaviour, organizational citizenship may reinforce the goals and organizational needs related to IT Governance, which can create a virtuoso cycle that contributes to the IT Governance effectiveness.

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