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R50. What is in or out of a particular field of knowledge? Reflections on IT Governance Studies

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Abstract

The goal of this research is to understand the conceptualization of IT Corporate Governance (ITCG) and discuss the dichotomy and sometimes paradoxical approach between the definitions in literature and what is included as part of IT Governance field. The data collection has been conducted through a systematic research of ProQuest databases. As a result, 536 publications have been found between 1983 and 2014 with the search terms. Through content analysis, the research has been refined to a group of 457 articles published between 1995 and 2014, considering nature of research, base theories, research strategy, and use of basic concepts. The results show that numerous studies are not using ITCG theory as a foundation to support their arguments. Only 110 publications deal with the context and definition of the seminal concepts. As a result of content analysis it is observed that 237 publications could be considered as inclusion errors because they do not address enough artifacts to be worked as the subject of IT Governance, most of them portray of best practice models in a conceptual basis. Through the preliminary results, it is possible to think about the extent to which these basic concepts even are enough to what is being researched as IT Governance, or at what point the researches has indeed addressed the proposed subject.

Keywords

IT Governance, IT Governance studies, Base Theory, Conceptualization, Exclusion errors, Inclusion errors.

1. Introduction

Information Technology Governance has been one of the ten priority items on the agenda of executives and discussions between Chief Information Officers (CIO) worldwide (Mahoney, 2012) and has also been present in the major international and national conferences of Management Information Systems (MIS) area as a theme, track or minitrack. In a context of strong relationship between Information Technology (IT) and business, governance mechanisms

contribute greatly in meeting the objectives of an organization regarding IT, at the same time enabling the collegial decision-making and the transparency of these decisions.

Literature and routine of organizations show various concepts of IT Governance. To Sambamurthy and Zmud (1999), IT Governance can be considered the organizational arrangements and patterns of authority for key IT activities, including in its scope IT infrastructure issues and desirable behaviors of IT use and management. Weill and Ross (2004) also focus on stimulating the desirable behavior in IT use, by specifying the decision rights and responsibilities framework. According to Van Grembergem, De Haes and Guldentops (2004), IT governance is characterized by a set of arrangements and practices associated with structure, processes and relationships, aiming, according to Xue, Liang and Boulton (2008), to lead and control the organization focusing on its goals, contributing to the mitigation of risks related to IT return. This set of arrangements and practices, also called mechanisms, enables the practical application of IT Governance principles and definitions of an organization, making tangible the high-level definitions on how IT should operate in an organization.

These approaches are broad and feature IT Governance from the establishment of IT operation controls more related to market models up to more theoretical and symbolic elements, involving Institutional Theory, Organizational Culture or Human Behavior Theories. It is possible to understand the different manifestations of IT Governance in an organization such as the model definition phase to be adopted, choice mechanisms, adoption of these mechanisms, and even evaluation of effectiveness. The wide range of approaches raises the theoretical and practical complexity of the subject and generates discussions on its conceptualization, comprised in a partial or diffuse way along with other related subjects, however, different.

In this context, we have identified the use of the term to nominate publications that only partially address the definitions proposed by the researchers mentioned above. A simple search through tools such as Google using the term "IT Governance" returns: ITIL (Information Technology Infrastructure Library, related to IT Service Management), COBIT (Control Objectives for Information and related Technology, that can be used as a support for some activities when adopting IT Governance), Cloud Computing, IT service management and computer tools to implement IT Governance. Other market events, such as a group of professionals on LinkedIn with more than 10,000 members (called IT Governance) deals only with frameworks like ITIL, COBIT, Cloud Computing, Service Level Agreements, mobility, Big Data, data discovery, project management, BSC, only discuss subjects without going deeper into the main concepts. Another relevant point is books publications whose titles are IT governance, but whose content is strictly ITIL, a set of the best management practices of IT services. It is observed also in similar situations, although to a lesser extent, this type of manifestations in academic articles. It seems that these results are not aligned with the seminal concepts found in literature and proposed by Sambamurthy and Zmud (1999); Peterson (2004); Weill and Ross (2004); Van Grembergem, De Haes and Guldentops, (2004).

The situation reported above raises the discussion about what is in or out of a particular field of knowledge, in this case, IT Governance. The goal of this article is to discuss about the dichotomy that sometimes is paradoxical between the definitions in the literature and what is included as part of IT Governance field. Even though it focuses on IT Governance, this paper wants to

discuss the role of a theoretical core in more recent subjects. In this paper, we focused on IT Governance itself, considering the IT Governance concepts showed above. Thus, topics like Corporate Governance, IT architecture and relational governance are not in the scope.

The motivation for this work lies in the ongoing and growing debate about delimitation of the study field of Information Systems and Management Information (Benbasat and Zmud, 2003) and the aforementioned discussion of legitimacy, identity crisis, visibility, and impact of research in MIS. We also want to discuss if it is better to follow the seminal definitions when starting publications in a field or work in a wider perspective. The idea is to use the papers selected for this analysis as a source for reflection about the role of theoretical seminal basis in this process.

2. Definition of IT Governance concepts

Some negative events involving large corporations in the 2000s, including auditing firms, questioned the efficiency of management methods mostly performance-based ones, bringing to the field of management the need to observe principles and transparency in relation to the stakeholders. In this context emerged Corporate Governance, which can be understood as the system by which organizations are directed, monitored and encouraged, involving the relationships among owners, board of directors, management and control staff (IBGC, 2009). Corporate governance also acts to convert principles into objective recommendations in order to align the interests of stakeholders and shareholders, to preserve and enhance the value of organization, facilitating their access to resources and contributing to their longevity (Muller, 2013).

The link between Corporate Governance and IT is clear. To the extent that organizations are encouraged to adopt principles such as transparency, fairness and accountability, IT professionals are challenged to examine their Information Systems, their infrastructure, processes and procedures to facilitate and contribute in order to help the organization meet these principles (Van Grembergem and De Haes, 2009; Peterson, 2004). For example, for the transparency principle to be achieved, advice aiming at collegial decision should be made. It does not involve IT in the directive form; however, the fulfillment of this principle requires changes in the Information Systems, both in terms of instances of approval, reports detail or format, as well as providing information on websites or devices.

IT Governance responsibilities are part of Corporate Governance responsibilities. Among these responsibilities are organizational strategies guidance and review, definition and monitoring of objectives and management performance goals, the organization's systems integrity assurance, and respect for the principles of Corporate Governance (Hardy, 2006). According to Weill and Ross (2004), IT Governance is part of Corporate Governance, because informational assets are among the assets that are necessary to manage. In this context, IT Governance is the specification of the decision rights and the responsibilities framework to encourage desirable behavior in the use of IT (Weill and Ross, 2004).

In terms of specifications of decision-making structures, processes, and relational mechanisms for direction and control of IT operations, IT Governance is identified as an organizational ability of great importance to strategic alignment, value delivery, and resource management

associated with IT (Sambamurthy and Zmud, 1999). For ITGI (2007), IT Governance must ensure that IT field is aligned with the business and act as a business enabler, helping to maximize the benefits of the use of IT in organizations. Besides, it should create conditions so that IT resources are used responsibly, IT risks are managed appropriately, and IT performance is monitored.

IT infrastructure, use and projects management are among the main decisions about IT, according to Sambamurthy and Zmud (1999). IT key decisions, according to Peterson (2001), cover IT infrastructure issues, IT applications and development. Despite the differences among the classifications given by the authors, the key decisions of IT Governance revolve around the same issues. Weill and Ross (2004) define a set that includes the following key issues: definition of the principles that guide IT objectives and mechanisms, definition of the arrangements of IT architecture and infrastructure, identification of business applications, and prioritization of IT investments.

For a better understanding of how IT Governance practices are embedded in different institutional contexts, it is necessary to understand the dimensions and the role of the institutions. Therefore, IT Governance can be defined based on the above text as a set of organizational arrangements and patterns of authority to the main activities of IT, including in its scope issues of IT infrastructure and desirable behaviors of IT use and management (Sambamurthy and Zmud, 1999). Being also characterized as a set of mechanisms associated with decision-making structure, decision-making rights, and responsibilities to encourage desirable behavior in IT use (Weill and Ross, 2004), processes, and relationships, these mechanisms must be associated with one or more organizational objectives (Van Grembergen, De Haes and Guldentops, 2004).

IT Governance is considered as part of Corporate Governance scope (Weill and Ross, 2004; Peterson, 2004), and it is related to organizational effectiveness, to compliance with laws and regulations, to meeting the interests of stakeholders and to the pressure of the return on IT investments. In this research the effectiveness of ITG mechanisms is regarded as the relationship between ITG mechanisms with their objectives and principles, as well as how these mechanisms address and support ITG principles and objectives (Wiedenhöft, Luciano and Testa, 2014). For the authors, ITG effectiveness is achieved when ITG principles are respected by their objectives and these, in turn, are met and addressed by their mechanisms or facilitators. ITG mechanisms are contained in the necessary arrangements for ITG implementation and management, and ITG mechanisms effectiveness is related to critical factors for organization and how IT contributes to their success (Macdonald, 2005).

3. Research Method

This research is characterized as a cross-sectional exploratory descriptive study with a qualitative approach. It is recognized that scientific research can be considered a dynamic and evolving process composed of steps related to each other and with a common goal (Sampieri, Collado and Lucio, 2006).

The procedure used for this study was the desk research, which is directly related to a theoretical research that aims to equip the researcher, increasing their knowledge about a subject seeking to retrieve theories, frameworks, explanatory conditions of research conducted, and discussions

relevant to a particular topic (Demo, 2000). It is understood that the desk research, according to Kerlinger (1973), consists of a qualitative method in which the research is carried out through a systematic search in the main data sources.

For this study, the search for publications on the subject IT Governance was conducted through individual and exact query of the following terms: a) IT Governance; b) IS Governance; d) Information Technology Governance; e) Information System Governance. Searches were conducted in ProQuest databases, using the "advanced search" tool. As criteria for the articles selection, we used the presence of the term (without setting publication date) in at least one of the following search fields: a) title and b) keywords. The results of this first search were: Articles (2,136), Newspaper Articles (1,152), Conference Proceedings (635), Books (297), Dissertations (292), Text Resources (159), Reviews (39), Reference Entries (15), Technical Report (5), Research Datasets (4), Other (19). For the next step, 2136 articles were considered.

Only peer-reviewed publications and full text availability were also used as search filter options. As a result, 536 publications were found between the years 1983 and 2014, and then these articles were submitted to an analysis based on reading their abstracts and so refining them by using as criteria the presence of the search terms in the abstract. As a final result, 457 articles were obtained between 1995 and 2014, published in 31 different journals.

Considering the paragraph above, it is important to mention that this paper is not saying that there are only 457 articles about IT Governance published worldwide, but that there are 457 papers mentioning IT Governance in the paper abstract among those published (with full text available) in peer-reviewed journals presented in ProQuest. The purpose of this paper is not to conduct a meta-analysis, but to verify the presence of the seminal concepts in papers related to IT Governance and the role of these seminal concepts.

This research involved the methodological assessment of the articles with empirical basis. Conceptual and non-academic articles were not used because they do not have a methodological structure for the assessment carried out in this research. The review process of empirical research publications consisted of checking the basic methodological elements of scientific research. The variables analyzed for each article selected were: a) research nature; b) base theories; c) Research strategy; d) use of basic concepts. Variables were adapted from Hoppen (1997). Data were analyzed using Bardin (2010) content analysis technique and Nvivo 7® software as a support and processed through Sphinx Survey 5® software. It is important to note the qualitative focus of this study. Considering that, the non-use of statistics techniques is aligned with the chosen research strategy.

4. Results

This section is dedicated to the presentation of the results obtained by applying the above methodological procedures. It is important to remember that even though articles were analyzed, the purpose was not to conduct a meta-analysis. The differences are mainly in terms of data analysis technique and goals, and it was considered that the desk research was more appropriate for the purpose of this research.

4.1 Research Nature

The nature of the studies was analyzed taking into account the classification proposed by Malhotra (2001) e Sampieri, Collado and Lucio (2006). Table 1 below shows the result of this procedure.

Categories	Freq.	%
Exploratory descriptive	186	40.7%
Exploratory	178	38.9%
Descriptive	76	16.7%
Confirmatory	17	3.7%
Total	457	100%

Table 01: Nature of studies in the IT Governance analyzed

The studies were categorized according to nature as: a) Exploratory - nature of studies that seek the expansion and acquisition of knowledge about a research topic; b) Exploratory descriptive - nature of studies that seek to improve the knowledge about a research topic and description of the characteristics that compose the observed phenomenon; c) Descriptive - nature of research that aims to describe a phenomenon and its occurrence feature; d) Confirmatory - nature of studies that seek to certify certain phenomenon related to an object of study.

It is observed through the analysis of Table 01 the prevalence of exploratory and exploratory descriptive studies. A possible explanation for the results presented might be the fact that IT Governance theme is incipient, which means that researchers become more focused on the understanding and description of phenomena related to IT Governance.

4.2 Research Strategy

Regarding the verification of research strategies used by different studies, the prevalence of Survey studies and Case studies (single and multiple) were found as presented in Table 02.

In examining Table 02, it can be seen that, as it was seen in the studies nature, the main concern of IT Governance researchers is to understand the knowledge on the subject of IT Governance; however, the absence of confirmatory studies contributes to spray different concepts about the theme.

Categories	Freq.	%
<i>Surveys</i>	169	37.0%
Case studies	144	31.5%
Interviews	85	18.5%
Theoretical essay	59	13.0%
Total	457	100%

Table 02: Research Study Strategy in the IT Governance analyzed

There was also the absence of Base Theories to support the argument in publications, as presented in the following section.

4.3 Base Theories

Base Theories variable check was made through the reading of 457 selected articles, seeking to identify the use of theories, such as Institutional Theory, Agency Theory, Transaction Cost Theory, among other theories, which could be presently in use as a support to the ideas proposed by the studies analyzed. Table 03 presents the results of content analysis for this variable:

Categories	Freq.	%
Not using base theories	424	92.7%
Agency Theory	17	3.6%
Transaction Cost Theory	8	1.8%
Multiple Contingencies Theory	8	1.8%
Total	457	100%

Table 03: Base Theories present in the IT Governance publications analyzed

It is possible to observe that the vast majority of studies (92.70%) do not use any theories as a foundation for developing their arguments. Although, much of the research analyzed mention the strong relationship between IT Governance and Corporate Governance, and the latter, in turn, has in its publications a strong grounding in Agency Theory, Transaction Cost Theory and Multiple Contingencies Theory (Müller, 2013). The use of the basis between the topic of IT Governance and other theories which were already used to explain similar phenomena in other areas of organizational studies has not been observed while reading the articles analyzed. The following section shows another relevant fact regarding research on IT Governance considering the use of basic and seminal concepts of the theme.

4.4 Use of basic concepts

As presented in the subject exposure, there are different IT Governance structures, and different interpretations in relation to the concepts can be found in the literature. However, some elements are consensual for authors who triggered IT Governance as the subject of scientific research. Among the minimal elements when dealing with IT Governance, there is the respect of the principles of Corporate Governance, such as fairness, transparency and accountability (Van Grembergem and Haes, 2009; Peterson, 2004). The authors said that IT Governance is run through a set of mechanisms that can differentiate among organizations but can be classified in Structure, Processes, and Relationship mechanisms. Another key element for Weill and Ross (2004) and Sambamurthy and Zmud (1999) concerns the boldness and decision-making structures that is critical to the success of IT Governance goals. These goals differ from company to company but, according to ITGI (2007), they are IT strategic alignment, Resource management, Risk management, Performance measurement, and Value delivery by IT.

In this context, the representation of the basic concepts of IT Governance in a publication must include at least the definition of IT Governance Principles, Objectives and Mechanisms and how the decisions about IT should be made in order to show the essence of governing IT. The results obtained after the categorization of the Source of Basic Concepts variable found that 220 papers were based on literature, as shown in the following Table 04, and just 110 papers dealt with the context and definition of the seminal concepts.

Categories	Freq.	%
Based on literature	220	48.20%
Based on COBIT and ITIL	110	24.10%
Based on other frameworks	127	27.80%
Total	457	100%

Table 04: Origin of basic concepts in the IT Governance publications analyzed

It is important to emphasize the relevance of market frameworks like COBIT, ITIL, and ISO 38500, among others. These frameworks are rich in mechanisms and contribute to organizations working as a guide for Management and IT Governance. However, the simple adoption of these practices does not guarantee the fulfillment of the basic elements for IT Governance (Looso and Goeken, 2010), beyond what they present not enough conceptual strength to serve as a base for researches. It is understood that these frameworks include only one set of IT Governance mechanism and in some cases, such as ITIL, they are strictly focused on IT service management in organizations, so dealing with management instead of governance and in the operational-tactical level.

Considering that, it is possible to observe that the development of studies having the best practices models as their conceptual basis, can be characterized as errors of inclusion within the research topic of IT Governance. This occurs because they do not address enough artifacts to be worked as theme of IT Governance. These publications can be best worked in other research lines, for example, IT Management, Risk Management and Information Security. This is known as errors of inclusion, according to Benbasat and Zmud (2003), which occur when IS research models involve the examination of constructs best left to scholars in other disciplines, producing extensive theoretical ambiguity. As a result of content analysis it was observed that 237 publications, as was shown in Table 04 above, could be considered off the topic of IT Governance.

Still regarding Basic Concepts variable, it was evidenced by content analysis that 110 (24.10%) of the papers analyzed declare in their titles and keywords they deal with the theme of IT Governance. However, in fact they do not conceptualize IT Governance or using the concepts presented in the literature or presenting their own concepts. Instead, they cover diverse topics such as, adoption of information systems, encouraging information laws, compliance audits with SOX, among others, characterizing nominal vision (Orlikowsky and Iacono, 2001) and also exclusion errors (Benbasat and Zmud, 2003). In the research of Orlikowsky and Iacono (2001), 25% of papers IT were classified as nominal vision, which means that the term is present in the title but not actually present in the body of publications. In this research, 51,9% of papers can be classified as nominal view.

5. Conclusions

The presence of the above terms was found in the literature since the 80s; however, from the 90s on IT Governance is consolidated as a research topic. It is noteworthy that, as a research topic, IT Governance can be considered a young subject, especially when compared to others such as Marketing and Strategy. This statement is based in the observation that 364 of the published studies are exploratory, and 304 of these use technical and methodological procedures (Case Study, Interviews and Theoretical Articles) that do not allow generalization of results (Malhotra,

2001; Hair, 2010). This justifies its maturity stage (considering the significant amount of errors of exclusion and inclusion), which also contributes to justify the issue of identity of IT Governance in the approaches of the analyzed articles. It denotes a search from researchers for greater understanding of IT Governance as a topic to be used in their research.

Although it is understood that there are many differences between IT Governance concepts and structures, IT Governance can be understood on three approaches, namely compliance, performance and behavior, considering the main ideas from Sambamurthy and Zmud (1999), Van Grembergen, De Haes and Guldentops (2004), Peterson (2004), Weill and Ross (2004). Additionally, their goals need to be achieved (through a set of mechanisms of structure, processes and relationships) in the same way that the principles of Corporate Governance are respected. When pursuing IT Governance or working under a governance cloak is not just about achieving the goals, or achieving the goals either way. It is necessary to achieve the goals and respect the IT principles in the same way. If the focus is just to achieve goals, it is a management effort, but if it is a goals-principles combined strategy, we are talking about governance.

In this sense, the analysis showed that despite the presence of the terms in the search field title, abstract and keywords, when semantically analyzing each article, one cannot notice the presence of fundamental concepts of IT Governance. The analysis showed that only 110 (24.10%) articles showed the presence of the fundamental concepts in the theoretical reference section to address IT Governance. Finally, it is noteworthy that most articles address IT Governance superficially or even myopically, as the approach used for some articles in which they have as criteria for the existence of IT Governance in organizations the fact that it declares to be aligned with a framework such as ITIL; COBIT; ISO 38500. In the same way, some articles discuss aspects of IT Management instead of dealing with matters pertaining to IT Governance, only addressing the definition of SLAs, process management, audit, e-government, project management, bringing what Orlikowsky and Iacono (2001) call as nominal vision, that is when the term is present only in the title but not actually present in the body of publications.

The propositions drawn here are limited to scenarios analyzed and demonstrate the opportunity to develop exploratory studies that could contribute both to the advancement of research on IT Governance conceptualization, as well as for its practice. The construction of an approach based on organizational theories represents an opportunity to bridge the gap on this issue in which how it interferes with the functioning of organizations and how organizations can raise their performance through the application of IT Governance elements and mechanisms. This is a path to be pursued, as according to the reports analyzed, IT Governance approach is being built on a superficial or even myopic base, which is damaging to the studies in this research field and also for the practice in organizations. In a research about IT Governance adoption in USA and Brazil, Pereira et al. (2013) identified that the mimetic effect was the main reason to adopt IT Governance mechanisms (specially in Brazilian companies), instead of a detailed analysis of the characteristics and necessities of the organizations. Although it is interesting to analyze the results of other organizations, IT Governance mechanisms adoption is a very particular process. Thus, the adoption of mechanisms that have been effective in other organizations may not achieve the expected results and may not help the organization in governing its IT.

This study reinforces the importance of the topic for academics and executives due to the fact that IT Governance can provide a better understanding of the structure of organizations and the environment in which they are operating. Moreover, it is possible to consider that, due to the pace of change that organizations are exposed, IT Governance can interfere with the perception of how organizations practice their principles, the way they are structured and how quickly they can respond to ever-changing environmental uncertainties.

The choice of how to develop and in which specific situations apply the mechanisms and elements suggested by the authors presented here can be considered a strategic decision. Future research may contribute to the understanding on the topic IT Governance and its Base Theories and the strengthening of fundamental concepts, by classifying the 457 articles according to the errors of inclusions and exclusion, considering the research of Benbasat and Zmud (2003), and the theory used, according to the typology presented by Gregor (2006). Additionally, a meta-analysis could be conducted, in order to verify which other areas of study may be related, in order to deepen the results of this RIP.

Through the preliminary results of this study, some issues are evident. One is the extent to which these basic concepts even are enough to what is being researched or understood under the name of IT Governance, or at what point the researches (considering as a starting point the articles reviewed here) has indeed addressed the proposed subject. If the concepts are not enough, what should be the appropriate concept to orient the subject and contribute to strengthening its core? If the analyses are showing that the papers are mentioning IT Governance as a subject but not addressing the main concepts, it would be necessary to considerate the changing or widening of the IT Governance concept in order to amass the field core. What is not suitable is to use a concept if the results are not considering its theoretical basis and concepts. Making an analogy with the study of Orlikowsky and Iacono (2001), it would be necessary desperately seek the “IT Governance” in IT Governance research?

These are questions to be explored during the next steps of the study. The theoretical approach that supports the theme is a key element to support the conceptualization proposed by the authors that make up this line of research.

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