IT GOVERNANCE AND ORGANIZATIONAL CULTURE: A BIBLIOGRAPHICAL REVIEW OF STUDIES CARRIED OUT AND PUBLISHED

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ABSTRACT: The aim of this paper is to carry out a bibliographic study, which intends to identify the impact that the organizational culture has within the IT governance. This task is performed by measuring the growth of the articles in the dissemination of information in scientific journals in Sciello and SPELL databases. The research method used in this study was the comparison of 18 articles searched in the databases through the keyword "IT Governance and Culture" applied to the title and summary of the periodicals. In the complete analysis of the results, the article verified that the analyzes carried out in the NVIVO Software 11, coincide with the theoretical basis of this work, aligning points that show a direct relationship between Organizational culture and IT Governance, and a strong evidence of the need of an alignment between the two for improving the system performance and for attaining greater transparency in the information and constant perpetuity of the business. The article concludes that Organizational Culture and IT Governance are directly linked and influence each other within companies.

KEY WORDS: IT governance; Culture; NVIVO.

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Governança e cultura organizacional: uma revisão bibliográfica dos estudos realizados e publicados

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RESUMO: O objetivo deste artigo é realizar um estudo bibliográfico, que pretende identificar o impacto que a cultura organizacional tem dentro da governança de TI, medindo o crescimento dos artigos na disseminação da informação nas revistas científicas nas bases Sciello e SPELL. O método de pesquisa utilizado neste estudo foi o confronto de 18 artigos pesquisados nos bancos de dados por meio da palavra chave “Governança de TI e Cultura” aplicada ao título e resumo dos periódicos. Na análise completa dos resultados, o artigo verificou que as análises realizadas no Software NVIVO 11, coincidem com a fundamentação teórica deste trabalho, alinhando pontos que demonstram que existe relação direta entre cultura Organizacional e Governança de TI e foram constatados fortes indícios de que existe a necessidade do alinhamento de tais pontos para que haja um funcionamento correto do sistema e para que exista maior transparência nas informações e constante perpetuidade do negócio. O artigo conclui que a Cultura Organizacional e a Governança de TI, estão diretamente ligadas e que influenciam uma a outra dentro das empresas.

PALAVRAS-CHAVE: Governança de TI; Cultura, NVIVO.

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INTRODUCTION

The area of information technology (IT) is present in companies' daily life, as one of the most important areas, directly influencing the organizational culture, which leads us to this research on articles that show the impacts. That an organization's organizational culture has in IT governance. Boeckmann and Andrade argue that the process of computerization causes cultural impacts in the organization (Boeckmann, Andrade, 2006).

Given this scenario, it should be understood how corporate culture is constituted and how they impact IT governance. Hofstede (Hofstede, 1984) and Schein (Schein, 1986) define organizational culture as a set of elements that define the functioning of a specific organization, and Fleury (Fleury. 1987) believes that the values and beliefs of individuals should be against the organization's culture.

Business culture is constructed by individuals with their beliefs and values and also by the elements that make it work, as Schein (Schein, 1992) defined culture as a set of basic assumptions involving people who interact by pursuing their goals and pursuing corporate goals. Hofstede and Minkov (Hofstede, Minkov, 1984) define organizational culture as a collective programming of a group of people influenced by standards, values and beliefs.

With a differentiated way of view, Bio (Bio, 1996) shows that the organizational culture is influenced by the leaderships of the companies. According this scenario, companies have the need for managers to have their organizational culture to disseminate it to employees. Using the two concepts of Hofstede and Minkov and Bio, we can understand that the organizational culture of the companies is centered in its collaborators.

The IT governance area that emerged in the 1990s (Kuper, Adam, 1993) is new, despite this it is one of the areas with the greatest investment, since it must follow the technological development of the market where the company is located, thus the implementation of IT governance can increase business profitability (Lunardi, Becker, Maçada, 2012).

Chin, Brown and Hushow the importance and influence of Organizational Culture in the definition and structuring of IT Governance. Due to this relationship, the article aims to show the importance of culture within IT governance.

These differentiated visions help to understand that the strategy must be oriented in order to define thought shape and actions, influencing the culture of the companies. IT governance seeks to use this influence in ways of thinking so that the organizational culture helps in its implementation.

The study is justified because business culture can make it difficult to implement new technologies, and with the increase of technologies involved in the development of companies' daily lives, companies depend on them to achieve the expected results.

The study has as main academic contribution the measurement of the growth of articles relating to the topics organizational culture and IT governance.

The objective of this article is to carry out a bibliographic study, which intends to identify the impact that organizational culture has within IT governance, measuring the growth of articles in the dissemination of information in scientific journals in Sciello and SPELL databases.

LITERATURE REVIEW

The Governance term comes from the Government and implies different interpretations. According to Garcia (Garcia, 2005), Governance is the way in which power is exercised in the administration of a country's social and economic resources for development, and the capacity of governments to plan, formulate and plan policies and perform functions. The term Governance, as organization, can be understood as the organ to which the general administrative conduct of a country or an organization is responsible or can be understood as measures adopted by the Government of a Nation to govern the country in question. Also according to Tricker Governance can be exercised in a country, or organization, and its principles are valid regardless of their objectives. The principles of Governance are currently applied in companies, in order to establish greater transparency and accountability to organizations.

The term Corporate Governance was used with greater emphasis from the early 1990s in developed countries, with the aim of defining rules of conduct within organizations, in order to ensure a knowledge of the stakeholders of the conditions that guarantee an Efficient State (Garcia, 2005).

There are several definitions on Corporate Governance. According to Cadbury (Cadbury, 1992), Corporate Governance is the system by which companies are managed and controlled, defined by the boards of directors.
which are responsible for the management of their companies and the role of shareholders. Among its functions is to appoint managers and auditors to make sure that there are adequate structures in the company to guarantee the interests of the shareholders. Directors' responsibilities include establishing strategic business objectives, providing the leadership to put them into practice, overseeing business management, and reporting to shareholders. The actions of the Board of Directors are subject to legislative, regulatory and shareholders' provisions in the general meeting.

According to the Brazilian Institute of Corporate Governance (IBGC, 2013), Corporate Governance is the relationship between managers of companies, directors and shareholders and institutions that save and invest their capital to obtain a return, attributing to the Board of Directors the Responsibility for the pursuit of corporate objectives and that the corporation itself is in compliance with the Law and the regulations of the Government. Corporate Governance is a key element in improving efficiency and economic growth, as well as increasing investor confidence, involving a set of relationships between the management of a company, its Board of Directors, its shareholders and other stakeholders. Corporate governance also provides the structure through which the company objectives are set, and the means to achieve these objectives and to monitor their performance, establishing how organizations are managed, monitored and encouraged the involvement of the following stakeholders: Owners, Board of Directors, Board of Executive Officers and control bodies (IBGC, 2013).

Good Corporate Governance practices translate principles into objective recommendations, aligning interests with the purpose of preserving and optimizing the value of the organization.

The term IT governance emerged in the early 1990s and was conceptualized in two ways (Loh, 1993). First, the term was used as the way to show how the IT interaction should be with the business relations of the company. Second, in a more comprehensive way, it involves structural mechanisms that are used to obtain the capabilities required by IT. Second (Bowen et al., 2007) IT governance involves much more than the emphasis on structure, also involves an emphasis on processes. In this way IT Governance can be understood as a responsibility of the executives and the management, constituted by the leadership, organizational structures and processes that guarantee the sustainability of the organization's IT, and that extends to the corporate goals and strategies (Isaca, 2015). IT Governance, Second Luciano and Wiedenhöft (Luciano, Wiedenhöft, 2015) can be understood in three aspects. First, compliance, in which the company needs to be to maintain or extend a condition that is fundamental to its operation, with a focus on responsibility. Second, performance, in order to align IT with organizational strategies, focusing on resource utilization and value creation. Third, Behavioral, with the use of IT focusing on the perenniality of the organization and the fulfillment of its social role.

Lunardi et al. (Lunardi et al., 2014) found that companies that have adopted IT governance practices have improved performance, particularly in terms of profitability. Wu, Straub and Liang (Wu, Straub and Liang, 2015) affirm that the alignment between strategic planning and IT Governance is very positive for organizational performance.

There is a difference between management and IT Governance. According to Peterson (Peterson, 2004), IT management has an emphasis on providing internal IT services and products, and managing the organization's current operations, while IT governance is much broader and focuses on the execution and transformation of IT to meet to business demands. According to Weill and Ross (Weill, Ross, 2004) IT Governance determines who should make decisions and IT Management is the process of creating and implementing decisions. For Peterson, IT Management is focused on the services and products provided by IT as well as in its operations, since IT Governance has a much broader responsibility than IT Management and is focused on realizing and transforming IT organization to better meet the present and future, business demands (internal) and business (external) customers.

Individuals have their own characteristics, each of which has its own performance, companies in turn, with responsibilities and economic and social objectives, are also endowed with their own characteristics that differ from each other. This differentiation among companies is a consequence of their organizational culture, which impacts their performance (Santos, 1992).

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1 IBGC. Instituto Brasileiro de Governança Corporativa.(2004). Código das melhores práticas de governança corporativa. 3. versão. Disponível em: <http://www.ibgc.org.br>. Acesso em: 20 fev. 2017.
Cultural proper to the human being, is extremely complex and involves the study of various branches of knowledge. According to Fleury, there are three branches of knowledge very important for the understanding of culture: Anthropology, Sociology and Psychoanthropology.

Anthropology, as science is expressed According to Marconi and Presotto (Marconi, Presotto, 1989) as follows: "As a science of humanity, it is concerned with knowing the human being in its entirety scientifically." Kuper (Kuper, 1978) defines Anthropology in the form of schools of thought namely: Evolutionism that always takes into account the development of culture dependent on previous phases; Diffusionism that represents the interaction between cultures; Functionalism that emphasizes the identification with values and beliefs; Configurationism that takes into account meanings; And Structuralism that understands culture as a structure of interaction, both within the group with individuals, as with the group and society.

Psychoanthropology has the vision of looking from the individual to the group. Individual culture, beliefs, images, tend to influence the group as a whole. For Psychoanthropology culture may be affected by individual experiences that could affect group behavior.

According to Bio, the organizational culture is influenced by the company leaders, more specifically the owners and managers who impose their personal convictions as a consequence of their authority. For Fleury (1987) the culture of the company determined by the values and beliefs shared by the individuals of an organization must meet the other aspects of that organization, ie, technology, structure, leadership style, hierarchy, etc.

For Schein (Schein, 1992) organizational culture is a set of basic assumptions involving a group of people with individual beliefs and values, who interact with each other, influencing each other, in the search for solutions to achieve their goals.

According to Hofstede and Schein, organizational culture is defined as a set of elements that define the functioning of a specific organization. Hofstede and Minkov define organizational culture as a "collective programming" that distinguishes one group of people from another group of people, influenced by standards, values and beliefs. Organizational culture is influenced by the culture of the Country of Regional culture. From local culture and is a set of beliefs, values, myths, meanings, rites, etc. Which are shared by members of an organization.

Organizational culture influences both positively and negatively the success of organizations. Positive influence manifests itself through the motivation of its employees, which is the consequence of interaction. The culture of the company must be oriented to motivation, which must be aligned with the company's strategy, in order to enable the understanding of its objectives. According to Geertz, the strategy must be oriented to define forms of thought and action influencing the culture, giving rise to collective preferences within the organization.

There are several studies relating Organizational Culture to IT Governance. Brown and Magill (Brown, Magill, 1994) emphasize ten factors for the adoption of IT Governance, including Organizational Culture as one of the elements. Brown and Grant (Brown, Grant, 2005) emphasize the importance of Organizational Culture in the definition of IT Governance, as do Chin, Brown and Hu, who discuss the influence of Organizational Culture on IT Governance structures. Robinson (Robinson, 2005) stresses the importance of excellence in terms of IT, and it is necessary to establish a good model of IT Governance in line with Organizational Culture of corporate governance. Neela and Mahoney (Neela, Mahoney, 2003) deal with Organizational Culture as a powerful influencer in the success or failure of IT Governance mechanisms. Also, Dallas and Bell (Dallas, Bell, 2004), discuss the role of IT Governance and emphasize the relevance of the analysis of Organizational Culture in the definition of its mechanisms. El-Mekawy, Rusu and Perjons support an alignment of IT and business areas presenting the impact on Organizational Culture, showing, as a result of the research the existence of a clear interrelationship between IT and business, which impacts in Organizational Culture.

**METHODOLOGY**

The article was developed by means of a survey of scientific articles that deal with IT Governance and Organizational Culture. The papers were confronted by specific software for this purpose, together with the content analysis technique, were finding the points highlighted in each article and key words that characterize the study of those articles.

The libraries used for the confronted articles database were Scielo (Scientific Electronic Library Online) and Spell (Scientific Periodicals Electronic Library), both are important database of scientific and journal articles.
data were encontrados18 researched articles in the databases, by means of the key word "IT Governance and Culture" applied to the title and summary of the periodicals.

The confrontation between these articles was done through specific software for this purpose, finding the highlights in each article and key words that characterize the study of these articles. The software used was NVIVO 11, a qualitative data analysis system that supports the analysis of qualitative and varied research. It was developed to collect, analyze, and organize the content of interviews, open research responses, scientific journal articles, social media, and internet content. By means of this tool the article intends to demonstrate the situations found in the researched data.

**RESULTS**

Through analyzed data, the article verified that all the issues addressed in the theoretical framework should be fully aligned so that there is harmony between the cases studied, since a good organizational culture connected to information technology are fundamental for the success and survival of an institution, IT Governance according to PRASAD; Heales and Green (Heales, Green, 2010) contains in its objective, institutional and strategic aspects of a business, relating to information technology and its stakeholders.

The relationship between IT Governance and Stakeholders according to Brown and Grant, is the IT Governance plays a key role in transparency assurance process the information of organizations as a way to meet the demands of stakeholders,

The analysis in NVIVO 11, showed a total correlation between the points cited in this study, bringing tables that link the bibliographies searched.

According to the analysis performed in figure 1, the article created in NVIVO 11 two nodes containing the words „Culture and Governance„, the result was a direct correlation between all the articles, based on the context of the need for harmony between the two points so that there is a correct functioning of all practices that involve the Governance process.

According to Fleury, company culture determined by the values and beliefs shared by the individuals of an organization must meet the other aspects of that organization, ie, technology, structure, leadership style, hierarchy, etc.

In Figure 2, a research was carried out based on the word „Culture„, and the result obtained was a direct relation between the constructs based on the theory of this study.

Through the analysis of all the articles, it was verified the need of alignment between the Organizational Culture with all the other aspects of the organization so that there is synergy of the processes and consequently the success of the organization.

According to Schein, organizational culture is a set of basic presuppositions involving a group of people with individual beliefs and values, who interact with each other, influencing each other, in the search for solutions to reach their goals. Motta (Motta, 2001) states that change is fundamental and indispensable and inevitable for the survival of organizations in order to maintain their perpetuity.

According to the analysis of figure 3, a correlation analysis was performed on the articles researched based on the words „Culture and IT„, and again NVIVO 11 brought a direct correlation between Organizational Culture and Information Technology, again the interdependence was detected of the points researched so that there is a balance in the processes of the organization, so that there is success in the goals and objectives outlined. This analysis reinforces the rationale of this article, based on the interconnection of the nodes with the mentioned constructs in the theoretical reference of the research.

El-Mekawy, Rusu and Perjonssupport an alignment of IT and business areas presenting the impact on Organizational Culture, showing as a result of existence of a clear interrelationship between IT and business, which impacts in Organizational Culture. In fact, it was found by similarity of words in the researched articles that Governance, IT and culture are interconnected and there is only one interconnection with the word stakeholders that directly relates to governance. Reinforcing the idea that interconnection of governance makes the organization's relationship more solid and transparent to stakeholders.

The adequacy of good corporate governance practices suggested by the Brazilian Institute of Corporate Governance (IBGC) is a factor in generating value creation and corporate visibility.
Figure 1  Correlation Analysis Between Governance and Culture
Source - Of the research done

Figure 2  Tree of Words Related to Culture
Source - NVIVO 11 - Authors
Similarly happens with IT governance, creating a data network and information aligned to the interests of the company and its stakeholders. The technology is deployed in a way that directs transparent information and facilitates business fluency in a faster, more solid and cohesive way. In the complete analysis of the results, the article verified that the analyzes carried out in the NVIVO Software 11, coincide with the theoretical basis of this work, aligning points that demonstrate that there is a direct relationship between Organizational culture and IT Governance, and strong evidence was found to exist The need for alignment of such points so that there is a correct functioning of the system and for there to be greater transparency in the information and constant perpetuity of the business.

CONCLUSION

Based on the objective of the research to identify the impact that the organizational culture has within the governance of TI, measuring the growth of articles in the dissemination of information in the scientific journals in Scielo and SPELL databases, it was verified that the number of articles on the subject in the two Electronic libraries are still small, since only 18 of them have the words "IT Governance" and "Culture" in their respective summaries and / or titles.

The NVIVO 11 software analyzes demonstrate that there is a direct relationship between Organizational Culture and IT Governance. There are strong indications that there is a need for alignment among the subjects studied.

Based on the data surveyed the article concludes that the Organizational Culture of companies directly influences the implementation of IT Governance, it is verified that companies have to consider at the moment of implementation the cultural aspects of the company, since without considering these aspects, the process of Implementation of IT Governance can generate noise within the company, causing employees not to adopt the practices endorsed by the area of technology. We can say that the inverse is also very impacting, that is, now of implementation of IT Governance, it has a direct impact on the Organizational Culture of companies.

The article concludes that Organizational Culture and IT Governance are directly linked and influence each other within companies, and for future studies, we propose to study how the implementation of corporate governance may impact the organizational culture of companies. We consider as the main limitation of the study the number of electronic libraries surveyed, since we direct our efforts in the libraries Scielo and Spel.
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