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Information Technology Governance in a Higher Education Institution:
An IT Professionals' Perception Analysis

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ABSTRACT

This study characterizes and analyzes information technology governance in a Brazilian institution of higher education. The methodological aspects included the quantitative approach, with application multivariate analysis, clusters and descriptive statistics from a sample of 62 individuals, and qualitative by means semi-structured interviews of ten professionals responsible for institution IT sectors. Analysis are presented a scenario in which IT governance can be characterized as a non-adopted practice and without planning for adoption. Aspects such as, lack of personnel, training, and planning of projects were observed as critical factors to IT governance implantation success. A bidirectional communication absence between IT and organizational management has led the institution to responsibilities dispersion and lacks horizontal integration with possible investments without adding value. The governance model identified was considered anarchic.

KEYWORDS

Brazilian Federal Education Institution, COBIT, Information Technology Professional, IT Governance, ITG Domains, ITG Enablers, ITG Framework, Public Administration, Strategic Alignment, Universities

INTRODUCTION

In face of an economy based on digital information, information and communication technologies (ICTs) have become a key element for the success of several businesses, including public sector organizations. To the extent that the reliance on ICTs intensifies in order to support, sustain and promote the attainment of strategic objectives and IT investments increase, governance practices become elements that can ensure greater value to the services provided by organizations and provide alignment with strategic plans. The World Economic Forum relates the ICTs to efficiency and development of governments, especially in emerging economies (Baller, Dutta, & Lanvin, 2016). Albertin and Albertin consider that Brazilian State actions in using ICTs as a mechanism for adding value to public services will only be successful once all the organs have absolute control of their information (Albertin & Albertin, 2008). There is a need for well-designed and applied IT governance policies in all organizational spheres, not only in the financial and state-owned companies (Cepik & Canabarro, 2014), but also in those public bodies that use these resources and apply them as services for citizens.

The Brazilian Federal Higher Education network is experiencing the greatest expansion in its history. More than 500 new units were built between 2003 and 2016, totaling 644 operating campuses and 106 federal educational institutions (MEC, 2018). In 2017, the Brazilian State invested more

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than 8 billion reais (about 2 billion dollars) in ICTs; the Ministry of Education itself invested more than 750 million reais (about 200 million dollars) (BRASIL, 2018). Significant investments in ICTs have led the Federal Audit Office (TCU), the main inspection body of the Brazilian Federal Public Administration (APF), to devote special attention to governance and management aspects in ICTs. Every two years (since 2010), IT Governance (ITG) situation of bodies linked to APF is evaluated with a scoring system assigned to institutions individually and in groups. The last evaluation (2016) attributed an average score of 0.42 points to Federal Education Institutions, which represents a basic level by TCU's defined scale. It should be emphasized that such scale may vary from initial (0 to 0.25), basic (0.26 to 0.50), intermediate (0.51 to 0.75) and improved (0.76 to 1.0) (TCU, 2016).

Understanding the governance structures and the mechanisms of strategic alignment between IT and the goals of educational institutions would make it possible to guide reconfigurations in decision-making structures of these organizations and minimize investments in ICTs without real returns to education, extension courses and research practices. In this context, the following research question was raised: what factors influence the low levels of Brazilian higher education federal institutions IT Governance? This study aimed to characterize and analyze IT Governance in a Brazilian institution of higher education. The methodological aspects included the quantitative approach, with application of multivariate analysis, clusters and descriptive statistics to a sample of 62 individuals, and qualitative approach by means of semi-structured interviews with ten professionals responsible for IT sector in the institution. We believe that the research external validity has been amplified through the identification and comparison of correlated studies to the proposed objective.

BACKGROUND

IT Governance

Considered a seminal research on ITG, Weill and Ross aimed to identify "who" makes decision the on "what" in IT at organizations (Weill & Ross, 2004). An academic perspective that spread itself in parallel to Weill and Ross studies, and which aimed at a conceptual understanding of ITG as well as its practical application, was presented by De Haes and Grembergen (2004). For De Haes and Grembergen, ITG key element is IT and business alignment with business value aggregation. This goal could be achieved through ITG recognition as part of corporate governance and by applying a set of best market practices. ITG implementation should be carried out by a combination of structures, processes and relational mechanisms.

De Haes's and Grembergen's (2004, 2006) studies can be considered a milestone for market frameworks ITG implementation in organizations, such as Control Objectives for Information and Related Technologies [COBIT] (ISACA, 2012), and international standards for ITG such as the International Organization for Standardization [ISO] 38500 (ISO, 2015). De Haes, Grembergen and Debreceny consider COBIT framework as ideal for implementation and evaluation of ITG in organizations, as discussed below (De Haes, Grembergen, & Debreceny, 2013).

COBIT 5 Framework

The Information Systems Audit and Control Foundation [ISACF] published, in 1996, the first edition of the best practices set called COBIT, with the objective of creating a guide for Information Systems evaluation, control and management (ISACA, 2012). Since then, this set of best practices has been used as a basis for ITG implementation and development in private and public organizations, as well as an analysis model for academic studies. (Bartens, De Haes, Lamoen, Schulte, & Voss, 2015; Omari, 2016).

COBIT's new version [fifth version] (ISACA, 2012) brought relevant changes to the ITG deployment process. The framework establishes five principles: (i) meeting stakeholders needs (shareholders, auditors, senior management, consultants, suppliers, citizens, society, etc.); (ii) involve

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