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IT Governance Structures in Brazilian, Dutch and Portuguese Universities

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Abstract

Effective IT governance is determined by how the IT function is organized and where the IT decision-making authority is located within the organization. Three different IT governance structures may be considered: centralized, decentralized and federal. The appropriacy of these structures is based on the organization's context. This article aims at analyzing how appropriate the IT governance structure adopted by universities is. Using a qualitative approach, we carried out six interviews in three countries, namely Portugal, the Netherlands and Brazil. The findings show that the centralized structure allows economizing on skills and applications, leading to cost reduction and standardization. While the decentralized mode calls for a duplication of resources, higher risks and a difficulty in communication in faculties, a centralized IT system emerges in the university. We can conclude that the federal structure is more suitable for universities where the infrastructure and strategy is centralized and the execution and operation are decentralized. Our findings are in consonance with the literature. This article will end presenting the limitations and future work.

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1. Introduction

Human activities are becoming increasingly dependent on Information Technology (IT), which is at the core of complex systems to support individual and group work in a diversity of organizational settings [1]. Organizations have been using IT to perform business processes, integrating customers, distributors and suppliers in order to achieve competitive advantage. In fact, IT is essential to support the growth and sustainability of all types of organizations [2, 3] and its pervasive use has created a critical dependency on IT which highlights IT Governance (ITG) in particular [4].

Three types of mechanisms (structures, processes, relational) can be considered for decision-making regarding the implementation of IT governance [5] which can impact organizations positively and enhance business/IT alignment [3, 6]. In other words, an adequate combination of these mechanisms are necessary in managing a variety of technologies as well as supporting IT-related decisions, actions and assets [7, 8]. In addition, the adoption of formal mechanisms at the highest level of the organization for governing IT, as claimed by several authors [9] and [10], brings benefits and improves organizational performance.

Universities are complex organizations that require adequate information systems to fulfill their mission by running a variety of premise and cloud applications, on different platforms, to what emerges as a rather heterogeneous technological environment [11]. This environment should provide the right conditions for teaching and learning, research, and service activities as well as management activities [11-13]. Provided it is an heterogeneous technological environment, it requires appropriate IT governance [14, 15] with mechanisms at a high level of maturity [16] for the effective and efficient use of IT by professionals, which are very demanding.

The question now is not how important IT governance is for organizational success, but what types and appropriate sets of mechanisms make it effective. One of these types is the structures for governance. The universities should be focused on implementing the best IT governance structures to improve decision making while pursuing their strategy. However, the literature is scarce on the advantages and disadvantages of structures for IT governance [14]. Motivated by these recommendations, this research aims at analyzing how appropriate IT governance structure adopted by universities is.

2. Research Background

Effective IT governance is determined by how the IT function is organized and where the IT decision-making authority is located within the organization. In the literature, we found two different approaches. The first approach is provided by Sambamurthy and Zmud [17] and another approach is provided by Weill and Ross [9]. In this article, we used the first approach, since it is more pragmatic and the different archetypes of the second approach are included. Therefore, the organizations are classified into the following structures: Centralized Structure, Decentralized Structure and Federal Structure [17, 18].

The centralized type is made by the business or IT management which can generate standardization and efficiency. According to Weill & Ross [19] the most organizations with a profitability tend to be centralized in their approach of IT governance, with emphasis in strategies to efficient operations. Winkler [20] argues that centralized structure is more suitable to public organizations yielding better outcomes. The IT governance structure in small and medium organizations tend to be centralized than decentralized or federal [21].

In the decentralized structure, the decision making is made for business units and the IT decisions reflect a bottom-up, local work unit perspective [21]. This type of structure has more flexibility to the business units.

The last structure is federal. The federal structure, known to be the best one, mixes the centralized infrastructure control with decentralized application control. The managers and IT professionals share the decision making [17, 18]. According to Chong and Tan [22] the adoption of a federal structure is more appropriate for a collaborative network.

The IT governance structure in small and medium organizations tends to be centralized rather than decentralized or federal [21]. However, few studies attempted to analyze the ITG governance structure at universities. Universities are organizations with characteristics different from industry [14] due to the politics, administrative and financial

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