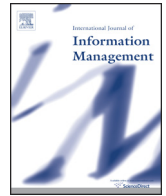




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Description of the framework's structure of the process of IT demand management

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ABSTRACT

Due to the IT demand management is considered as one of the processes of the IT Governance, considered a key process for business success and that actually it is not managed properly from a strategic point of view for achieving the objectives of the business in the organizations, this paper presents the framework's structure of the process of IT demand management, denominated framework for the entire process of IT demand management, and its description which identifies the phases, main activities, and sub-activities of each of the phases of the IT demand management viewed from a strategic level view. This framework is the result of the combination of conceptual models and standards related to IT and business currently there is a lack of frameworks or methodological guides to assist senior executives and IT professionals in the organization to manage the IT demand and help them to bridge the gap that exists between business and IT. To evaluate the proposed framework, we conducted a supplementary survey incorporating forty two respondents. Our work has a twofold contribution: First, is the IT artifact design. Second is the positive evaluation of the IT artifact.

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1. Introduction

Today, many organizations increasingly rely on Information Technology (IT) for the decision making, sustaining business growth, and due the fundamental importance of IT can hardly be refuted. Considering that IT is a broad field that during the last years have had many different publications and conceptual models in relation with IT Governance (Aguilera & Cuervo-Cazurra, 2009; Calder, 2009 Isaca, 2013; Oecd, 2004; Quaadgras, Weill, & Ross, 2014; Symons, Cecere, Young, & Lambert, 2005; Weill & Ross, 2004). For a long time the concept of IT Governance was an interesting subject of discussion since the late nineties, introducing numerous definitions by both academic and professional of the different areas focusing on different aspects with the objective of achieving the best use of technology for achieving business success, as well as is detailed to follow.

The IT Governance framework of the IT Governance Institute (ITGI) (Institute, 2003) defined five cover domains: strategic alignment of IT with the business, value delivery of IT, management of

IT risks, IT resource management, and performance measurement of IT.

The Institute of Directors in Southern Africa (IoDSA) formally introduced the King Code of Governance Principles and the King Report on Governance (Wyngaard & Hendricks, 2010). After many proposals, the Corporate Governance of IT was standardized with first edition ISO 38500-2008 (Southgate, 2007): Corporate Governance of IT and after that it was modified by the second edition with ISO 38500-2015: Governance of IT for the organization, this standard establishes clearly the difference between governance and management of IT. Mark Toomey in his book (Toomey, John, November, Thorp, & Toomey, 2009), illustrated clearly the revised model for governance of IT developed from ISO/IEC 38500, wherein put together three key governance tasks: evaluate, direct, and monitor; on the other hand, highlighted the three fundamental tasks of management which are: planning, building, and running the business tasks no very well defined before for governance and management. The publication of Forrester Research (Symons et al., 2005), establishes that implementing a good IT Governance requires a framework based on three major elements: structure, process, and communication. Similarly, other researchers have the same opinion (Janahi, Griffiths, & Al-Ammal, 2015), indicating that other researchers efforts continue to develop models of IT Governance and mainly focused on structure, process, and people (Dahlberg & Kivijarvi, 2006; Nugroho, 2014). Craig Symons argues

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that IT demand management (IT-DM) is one of the processes of the IT Governance, considered a key process for business success. However, the concept of “IT-Demand Management” has not been exploited well. In this regard, we express our opinion that the IT-DM has been overlooked or has been understated by board of director and senior executives (Alonso, Verdún, & Caro, 2009) of the organizations. The demand for products and IT services comes from the needs of the different business processes of customers in the form of ideas, new business opportunities with high level information schedules deadlines, and costs and benefits, which is defined as a mega-project, that IT projects which are determined should be classified and qualified to be implemented by the IT department. Within the management of demand there are some requirements that are frequently used, while others are strategic and complex, such as new applications to support new business opportunities (Gentle, 2007).

Today one of the problems facing boards of directors and financial managers is how to establish the most profitable on IT project investments. The major obstacle of the IT-DM process, it is not managed properly from a strategic point of view for achieving the objectives of the business, affecting the governance and management of IT.

Having carried out the Systematic Literature Review (SLR) process and due to the lack of studies, models or standards that provide specific guidance for the IT-DM in its different types (strategic, tactical and operational) (Aguilar Alonso, Carrillo Verdún, & Tovar Caro, 2008; Alonso, Verdún, & Caro, 2008; Alonso, Verdún, & Caro, 2010a; Symons, Cameron, Orlov, & Sessions, 2016), as argue Susan Cramm (Cramm & Coach, 2006), and thesis by Aguilar Alonso (Aguilar Alonso, 2013) that prevent the best practices for IT-DM, and other problems that affecting IT organizations, as well as the difficulty in deploying applications and organizational culture (PricewaterhouseCoopers & IT Governance Institute (Hrsg.), 2009); unawareness of the importance of IT investments is to create value to the business (Alonso et al., 2009). For this reason, there is a need to have a very close link between strategic planning and project processes from the beginning (Alonso et al., 2008), taking into account the Design Science Research (DSR) (Gregor & Hevner, 2013; Von Alan, March, Park, & Ram, 2004), specifically in sub-field of the information technology (IT) and information systems (IS) discipline (Drechsler & Dörr, 2014; Drechsler, 2015); we proposes the design of an IT artifact called “Framework for the Entire Process of IT Demand Management”¹; with a new vision, considering the IT from the first moment of the planning, establishing the phases, main activities, and the identification of sub-activities. The objective of this paper is to describe the framework’s structure of the process of IT demand management, structured in phases, main activities, and sub-activities, and show the results of the evaluation of the proposed framework design realized with a survey in different organizations and professionals of high level, contributing to solve identified organizational problems in a context composed by the confluence of people, organizations, and technology (Davis & Olson, 1985). This will allow helping the business owners, members of the board of directors, senior executives, and IT professionals to manage business demand.

The following sections present the development and implementation of the research path. Section 2 describes the antecedents and including related works. Section 3 describes the research context and methodology used for the IT artifact proposed for IT-DM. Section 4 describes the phases, main activities, and sub-activities. Section 5 describes in detail each of the components of the frame-

work. Section 6.2 describes the evaluation of the responses of the survey concerning with the IT artifact design. Section 7 describes the significance of the results of the survey realized for the evaluation of the framework, and finally we present the conclusions and future works.

2. Related works

The section describes the works realized by different authors and in other hand, we detailed about our realized works, including the surveys in organizations different with regard to the IT-DM, since a comprehensive understanding can help in the proposed framework design. During the literature review process, we find very little academic research that explore this topic, some publications are conceptual type useful for IT artifact design and summarized as the following.

Derek Thomason (Thomason, 2004) argues that the demand management as the way to achieve profitability to satisfy customer needs at the same time which guarantees service and quality. It consists of four components (creation, communication, supply planning, and order management) which should be carried out at three levels (strategic, tactical, and operational). The same way Craig Symons (Symons et al., 2006) said that demand for IT services is very large; it has been segmented into three broad categories: strategic demand, tactical demand, and operational demand. Susan Cramm (Cramm & Coach, 2006) said that the demand management is defined as a process to which it is assigned limited capital and human resources necessary for the overall benefit of the business, and allows improving the relationship between IT and business, in her model, she indicated six key mechanisms of demand management: strategic planning, portfolio management, delegated authority, financial planning, prioritization and, value management. In the proposed method for the IT strategic alignment by Yiming Xiang (Xiang, Wu, & Hu, 2008), that consists of four main parts, the enterprises’ strategies, the IT strategies, the organizational infrastructure and flow and, the IT infrastructure and flow. The Method takes into accounts four types of demand of information technology in enterprises, according to McFarlan’s strategic grid: support, turnaround, and strategic (McFarlan, McKenney, & Pyburn, 1983), and Henderson’s strategic alignment model (Henderson & Thomas, 1992). John Kamauff (Kamauff, 2009) argues that the demand management as the science and art of understanding, coordination and control of all sources of demand so that operations can efficiently deliver products or services on time to satisfy the customer needs. IT-DM is a process for management of the requests made by customers, this process is one of the elements of the impact on the Corporate Governance of IT, in fact, it is an excellent starting point for the implementation of the strategies of government (Mercury, 2006). However, Christine Legner (Legner & Löhe, 2012) in her research aims at developing a design theory for an end-to-end demand management process. It is based on an extensive Action Design Research study (ADR) involving experts from thirteen companies, her main contribution is a set of seven principles that guide the effective design of IT-DM. Joao Pombinho (Pombinho, Aveiro, & Tribolet, 2013) said that the role of IT-DM is instrumental in addressing this issue due to its unique positioning between business and IT. He advocates that the classical Business/IT alignment should primarily be reformulated as a more general Business/Business alignment.

Our previous exploratory study in 2013 in different companies in the world to determine the status of the strategic demand management of IT (IT-SDM) (Alonso, Verdún, & Caro, 2013), involved to 130 respondents distributed as follows: IT professionals had a share of 28%, business owners a share of 14%, chief operating officers (COOs) a share of 13%, chief executive officers (CEOs) and chief

¹ This article corresponds to the extension of the reviewed and extended version of the paper titled: designing an IT Artifact: framework for the Entire Process of IT Demand Management, presented in the WorldCist’16 Conference.

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