

Information Technology Business Value Measurement Framework

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Abstract

This study aimed to develop a scientific framework to identify and measure the IT business value. Focus on finding a basis for determining the value of IT in business and to measure the performance of IT in the organization. According to the nature of the subject that still remains in dispute despite multiple studies, the meta-synthesis method was selected. After collecting scientific resources, the researcher observed, controlled and evaluated several studies. In the end, information technology business value framework was extracted and to ensure the generalization of the results were compared with literature.

Introduction

Measuring Information technology business value is about valuing the contribution of information technology towards organization success. Although there are several studies on Information technology business value (Chang and King 2005; Pitt, et. Al., 1995; Scott, 1995; Seddon, et. al, 2002; Gacenga, 2013), but it is still considered as one challenge which needs more research.

Given the importance of information technology to realize organization's purposes, the present research aims to find answers for following questions:

- What are scientific requirements and theoretical framework to identify and to measure information technology business value?
- What are situations and contexts to form information technology business value?
- What are aspects and components of information technology business value?

This study aimed to develop a scientific framework to identify and measure the information technology business value.

Case study

According to the nature of the subject that still remains in dispute despite multiple studies, the meta-synthesis method was selected. The sample of literature and studies on the subject was chosen between 1990 to 2017 AD and 1380 to 1395 Persian date.

Materials and Methods

The present research has an exploratory and qualitative nature, and has done via a meta-synthesis strategy. After collecting scientific resources, the researcher observed, controlled and evaluated Several studies. After the final selection of the sample, 6-stage meta-synthesis approach was conducted.

Discussion and Results

The importance of information technology has been emphasized as a strategic obligation among other technologies. According to this viewpoint, information technology is considered as a strategic answer and its successful practice can alert the organization competitive procedure to increase the industry's attractions (Porter and Millar, 1985). In some previous studies, business processes and capabilities as the context and environment for making information technology value have a great importance and they can rise the contribution of information technology in the business (Moller and Chaudhry, 2012; wang, et al., 2015; Pan et. Al., 2015; Bardhan, et al., 2005). There are several evidences on alignment. Accordingly, the existence of alignment in information technology and business will strategically lead to value improvement (Brocke and Rosemann, 2015; Paul and Kenneth, 2003; Henderson and Venkatraman, 1999). Expenditures of information technology are identified as costs and expending for investment in the field of information technology. Some researchers are considered, the

costs into two groups include operational and investment costs. For instance, communication and coordination costs, substructure development costs as well as application development could be mentioned (Fuchs and Otto, 2015).

Information technology assets include all resources applying to establish a business in the organization such as hardware, media and components of communicative networks like internet and web (Kouns and Minoli, 2010). Managing, conducting and organizing resources and capitals of information technology will lead to information technology results. If information technology resources are managed successfully, they will have a significant influence over the business performance (Brocke and Rosemann, 2015). The role of information technology and its subdivisions as empowering items for making value in the organization have been emphasized in the literature review. For instance, applying electronic commerce in the value chain leads to improve customer services, processes performance and activity of the provision network (Fuchs and Otto, 2015). Again, information systems relevant to internal and external logistics could improve the performance; accordingly, logistics costs, inventory turnover, the capacity of ordering coverage, flexibility in orders, flexibility in delivery and customer satisfaction will be optimized (Fuchs and Otto, 2015). Decision making is one of the most important roles of managers. In various levels of management, managers need information for decision making. The information technology ought to contribute managers so as to share and to facilitate the availability of information. The supportive role of information technology to managers' decision making will make value (Harris, Herron, and Iwanicki, 2008; Cundius and Alt, 2017; Andersen et al., 2015). The basis and environment for implementation of information technology includes a business context which ensures the successful accomplishment of information technology projects. Alignment between information technology and business, leads to increase value of information technology. The competitive situation of a company doesn't entirely achieve from information technology substructures. But if the substructures combine with other company's skills and competencies, they will have significant influences on the company's performance (Cao, 2010; Cao et al., 2016 ; Pang, Lee, & DeLone, 2014; Brynjolfsson, Hitt, Yang , Baily and Hall, 2002). Identifying information technology risks and pursuing an appropriate strategy indicates maturity of business

processes and consequently it guarantees a successful investment in the field of information technology (Kouns and Minoli, 2010; Keyes, 2016).

Conclusion

Focus on finding a basis for determining the information technology business value and to measure the performance of information technology in the organization. Research findings include framework of information technology business value with 13 categories such as: Strategic perspective of information technology, stakeholders' perspective, information technology expenditures, information technology assets, information technology impacts, presentable value, decision making, measurement, contextual and environmental conditions, alignment, business processes, business skills and competencies and risk management. Organization survival in the competitive environment entails a strategic perspective to organization's sources and flow of value in the organization. If information technology is considered as one of organizational resource, the strategic perspective to organization will contribute it to organize and to make value through information technology.

Key Words: Information technology value, Information technology business value, Information technology contribution to business value, Meta synthesis.