

Information Technology Strategic Alignment

Fernando José Barbin Laurindo

University of São Paulo, Brazil

Marly Monteiro de Carvalho

University of São Paulo, Brazil

Tamio Shimizu

University of São Paulo, Brazil

INTRODUCTION

Information technology (IT) has assumed an important position in the strategic functioning of leading companies in competitive markets (Porter, 2001). Particularly, e-commerce and e-business have been highlighted among IT applications (Porter, 2001). Two basic points of view can be used for understanding the role of IT: the acquisition of a competitive advantage at the value chain and the creation and enhancement of core competencies (Porter & Millar, 1985; Duhan et al., 2001).

Several problems have been discussed concerning IT project results and effectiveness of their management. Effectiveness, in the context of this article, is the measurement of the capacity of the outputs of an information system (IS) or of an IT application to fulfill the requirements of the company and to achieve its goals, making this company more competitive (Laurindo & Shimizu, 2000; Walrad & Moss, 1993; Maggiolini, 1981; Drucker, 1963).

There is a general consensus about the difficulty in finding evidence of returns over the investments in IT (the “productivity paradox”), even though this problem can be satisfactorily explained (Brynjolfsson, 1998). In order to better use these investments, organizations should evaluate IT effectiveness that allows for the strategic alignment of objectives of implemented IT applications and their results with the company business vision (Laurindo et al., 2003; Laurindo, 2002; Smithson & Hirscheim, 1998).

The comparison and evaluation of business and IT strategies and between business and IT structures must be a continuous process, because the company situation is constantly changing to meet market realities and dynamics.

FINDING STRATEGIC IT APPLICATIONS

Critical success factors (CSF) is a widespread method used for linking IT applications to business goals, and for

planning and prioritizing IS projects. This method was proposed by Rockart (1979), although King and Cleland (1977) had suggested a similar idea (critical decision areas) before.

According to this method, the information systems, especially executive and management information systems, are based on the current needs of the top executives. These information needs should focus on the CSF. Rockart defined CSF as the areas where satisfactory results “ensure successful competitive performance for the organization.” This author states that CSF prime sources are the structure of the industry, competitive strategy, industry position, geographic location, and environment and temporal factors.

Basically, the CSF method includes the analysis of the structure of the particular industry and the strategy and the goals of the organization and its competitors. This analysis is followed by two or three sessions of interviews with the executives, in order to identify the CSF related to business goals, define respective measures (quantitative or qualitative) for the CSF, and define information systems for controlling CSF and their measures (Carvalho & Laurindo, 2003).

For Rockart, this process can be useful at each level of the company and should be repeated periodically, because CSF can change through the time and also can differ from one individual executive from another.

The CSF method had an important impact on managerial and strategic planning practices, even though it was primarily conceived for information systems design, especially management and executive information systems. Besides the utilization in information systems planning and information systems project management, it has been used in strategic planning and strategy implementation, for management of change, and as a competitive analysis technique (Pollalis & Frieze, 1993). This method leads to a policy-oriented approach by focusing on the essential issues of companies. Furthermore, the continuous measurement of the CSF allows companies to identify strengths and weaknesses in their core areas, processes, and functions (Rockart, 1979; Sullivan, 1985).

More details of the process of implementation of the CSF method can be found in Rockart and Crescenzi (1984) and Martin (1982).

McFarlan (1984) proposed the strategic grid that allows the visualization of the relationship between IT strategy and business strategy and operations. This model analyzes the impacts of IT existent applications (present) and of applications portfolio (future), defining four boxes, with each representing one possible role for IT in the enterprise: “Support,” “Factory,” “Turnaround,” and “Strategic” (Figure 1):

- *Support*: IT has little influence in present and future company strategies.
- *Factory*: Existent IT applications are important for a company’s operations success, but there is no new strategic IT application planned for the future.
- *Turnaround*: IT is changing from one situation of little importance (“support” box) to a more important situation in business strategy.
- *Strategic*: IT is very important in business strategy in the present, and new planned applications will maintain this strategic importance of IT in the future.

In order to assess the strategic impact of IT, McFarlan proposed the analysis of five basic questions about IT applications, related to the competitive forces (Porter, 1979):

- Can IT applications build barriers to the entry of new competitors in the industry?
- Can IT applications build switching costs for suppliers?
- Can IT applications change the basis of competition?
- Can IT applications change the balance of power in supplier relationships?
- Can IT applications create new products?

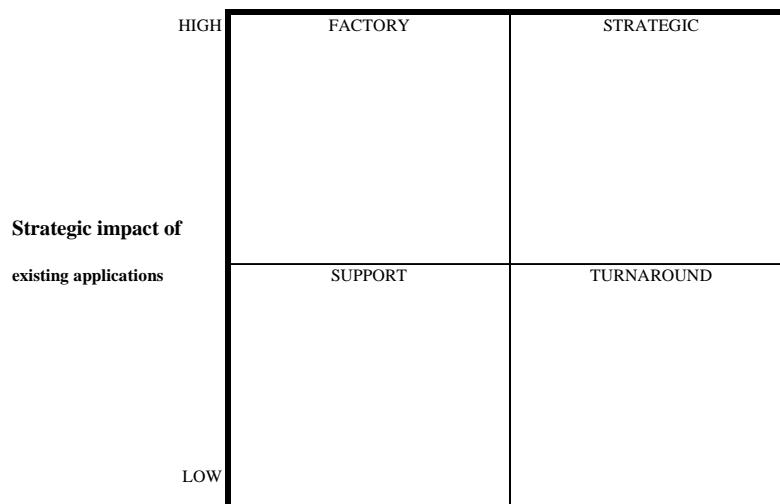
These questions should be answered considering both present and planned future situations.

Thus, IT may present a smaller or greater importance, according to the kind of company and industry operations. In a traditional manufacturing company, IT supports the operations, because the enterprise would keep on operating even when it could not count on its IS. However, in a bank, IT is strategic for business operations, because it is a source of competitive advantage, and a bank cannot operate without their computerized IS.

Henderson and Venkatraman (1993) proposed the Strategic Alignment Model that analyzes and emphasizes the strategic importance of IT in the enterprises. This model is based on both internal (company) and external (market) factors.

Two fundamental concepts in this model are strategic fit (interrelationships between strategy and infrastructure) and functional integration (integration between

Figure 1. Strategic grid of impacts of IT applications



Source: McFarlan (1984)

3 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/information-technology-strategic-alignment/14463

Related Content

A Local Approach and Comparison with Other Data Mining Approaches in Software Application

QingE Wuand Weidong Yang (2017). *Examining Information Retrieval and Image Processing Paradigms in Multidisciplinary Contexts* (pp. 1-26).

www.irma-international.org/chapter/a-local-approach-and-comparison-with-other-data-mining-approaches-in-software-application/177693

An IT-Based Heuristic Model for Enterprise Engineering

Luiz Antonio Joia (2003). *IT-Based Management: Challenges and Solutions* (pp. 160-173).

www.irma-international.org/chapter/based-heuristic-model-enterprise-engineering/24796

Web Initiatives and E-Commerce Strategy

Ron Craig (2005). *Encyclopedia of Information Science and Technology, First Edition* (pp. 3054-3059).

www.irma-international.org/chapter/web-initiatives-commerce-strategy/14742

Jj

(2013). *Dictionary of Information Science and Technology (2nd Edition)* (pp. 531-536).

www.irma-international.org/chapter/jj/76419

A Technology Tool for the Analysis of the Logistical Process in Small Pharmacies

Hilda Angélica Del Carpio Ramos, Dante Alexander Mundaca Martos, Pedro Antonio Del Carpio Ramos, Walter Yoiber Castillo Facundoand Sergio Rafael Bernardo Del Carpio Hernández (2019). *Journal of Information Technology Research* (pp. 50-66).

www.irma-international.org/article/a-technology-tool-for-the-analysis-of-the-logistical-process-in-small-pharmacies/238025