Chapter 19

# Constrains Associated to E-Business Evolution

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## ABSTRACT

*Technological advance of the last decades created an atmosphere in which the organizations are forced to look actively for new options for the cost reduction, in addition to, simultaneously, seeking to compete more effectively in their markets. This context requires focused, swift, more flexible and more competitive organizations which are forced, many times, to implement radical changes in the way they conduct business, employ people and use technology. Despite the recognition and the attention given to electronic business (or e-business) over the last years, this type of business hasn't yet achieved a desirable maturity stage. This problem, current and stated over the last years, demands research efforts so that a solution can be found to solve it. In this chapter, the authors explore a range of constraints which are suggested by the literature to influence e-business evolution, so that organizations could be better equipped in anticipating any difficulties while in progress through their e-business initiatives.*

## INTRODUCTION

New economy, new tools, new rules. Few concepts have revolutionized business more profoundly than e-business. To compete effectively in the e-business world, a company must structurally transform its internal foundation. This structural change requires a company to develop an inno- vative e-business strategy, focusing on speed to market and breakthrough execution (Kalakota and Robinson, 2001).

Since the introduction of computer technology into organizations in the 1960s, there have been numerous attempts to develop models of Infor- mation Systems/Information Technology (IS/IT) maturity (Nolan, 1973; Gibson and Nolan, 1974; Nolan, 1979; McFarlan et al., 1983; Earl, 1989; Hirschheim, 1996; Galliers and Sutherland, 1991;

Auer, 1995; Zachman et al., 1997; Khandelwal and Ferguson, 1999). All of these models are premised on the idea that organizations pass through stages of maturity with respect to the way they use and manage IS/IT to support and facilitate business activities, processes and operations.

New maturity models, better adapted to the realities of e-business, have been developed by other researchers and practitioners. Recent research on growth stages and e-business has shown the usefulness of these models in describing the company position in terms of e-business development and of its possible development in the future (McKay et al. 2000; Earl 2000; Prananto et al. 2001; Rayport and Jaworsky 2002; Rao et al. 2003).

Achieving a high level of maturity of e-business is desirable, meaning that the e-business would be deeply embedded in all aspects of the organization, as with all business partners. Therefore, it is crucial for an organization to identify potential constraints to e-business in order to minimize the risk derived from its e-business initiative. The objective of this chapter is to explore the constraints that could act as a barrier to the development of e-business. Environmental, organizational and technological constraints were identified.

## E-BUSINESS AND MATURITY MODELS

The terminology involved within the field of Information Communication Technology (ICT) usage on the Internet is vast and contradictory. Two frequently used terms are e-commerce and e-business.

Kalakota and Whinston (1996) define electronic commerce as the "… buying and selling of information, products and services via computer networks". Laudon and Travel (2006) define electronic commerce as the "use of the Internet and the Web to transact business". Sewell and McCarthey (2001) identify e-business as business facilitated by ICT. Others argue that e-business en-

compasses the entire world of internal and external electronically based activities, including electronic commerce (Kalakota and Robinson, 2003). In the scope of this chapter, electronic commerce will be regarded as a subset of e-business.

Based on various types of trading partners, there are many categories of e-business, for example: Business to Business (B2B), Business to Consumer (B2C), Consumer to Business (C2B), Business to Government (B2G), Consumer to Consumer (C2C), Pear to Pear (P2P), Government to Citizen (G2C), Citizen to Government (C2G) and Business to Employee (B2E). Without the use of face to face operations, all e-business transactions are performed electronically by using computer and communication networks.

The rules of business game are being rewritten to become the rules of e-business, as listed in Table 1.

In (Morais et al., 2007) was used a comparative framework to evaluate e-business stages of growth models. This comparative framework contained the following eight elements (Jones et al., 2006): perspective, development, emphasis, verification, barriers, focus, source and stages. Eight maturity models (KPMG, Grant's Model, McKay's Model, Earl's Model, SOG-e, Rayport and Jaworski's Model, Rao's Model and Chan and Swatman's Model) were compared.

After comparing the models, the authors concluded that none of the models considers constraints on development and strategic development within the framework, but it is obvious that enterprise growth is inhibited by barriers to development such as limited skills and finance.

## CONSTRAINTS TO E-BUSINESS EVOLUTION

After conducting an exploratory study, we identified a set of constraints, which were then grouped into organizational, technological and environment constraints.

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