Chapter 10
E-Business Adoption and its Impact on Performance

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ABSTRACT

Organizations today face intense competitive and economic pressures leading to large scale transformation of existing business operations and transactions. In addition, organizations have adopted automated business processes to deal with partners and customers. E-business diffusion is a multi-phase process, moving from initiation through to routinisation and an insight into the adoption processes helps organizations to adopt e-business more effectively. It is imperative that organizations effectively manage the e-business environment, and all associated changes to accommodate the changing relationships with customers and business partners and more importantly, to improve performance. This chapter discusses the process of e-business implementation, usage and diffusion (routinisation stage) on business performance.

INTRODUCTION

The Internet provides an excellent opportunity to increase sales while maintaining lower overheads. Indeed, firms that pass up this tremendous opportunity will possibly not survive in the 21st century competitive environment (Saunders, 2000).

E-business is commerce conducted online; it is the result of combining digital communication networks, typically the Internet with existing information technology (IT) systems and infrastructures. E-business is an innovation that has enabled modern day organizations to undertake transactions, share information, collaborate across geographical boundaries and across computing platforms and networks. E-business has helped organizations benefit from improved competitiveness, efficiencies, increased market share, and business expansion (Singh, 2003). Research on organizational adoption of IT and e-business, continues to be popular

and a sizable body of literature (Cooper & Zmud, 1990; Moore & Benbasat, 1991; Ramamurthy *et al*., 1999; Frambach & Schillewaert, 2002; Zhu *et al*., 2003; Lin & Lin, 2008; Zhao *et al*., 2008) continues to grow.

E-business can be considered as a cluster of interrelated technologies and innovations working in concert with each another (Van Slyke, 1998). Subsequently, e-business implementation is often seen as a multi-phase process, moving from an organization's first awareness of e-business technologies to potentially, acquisition and widespread deployment (Meyer & Goes, 1988; Zhu *et al*., 2006). Correspondingly, organizational adoption of e-business is judged by the degree of implementation of activities such as the use of online advertising, e-mail for inter-organizational communication, electronic supply chain management (e-SCM), website presence, online ordering and payments (Hong & Zhu, 2006; Levenburg,2005). E-business technologies help companies to develop the appropriate functionalities to capitalize on the Internet's potential; such as using open standards, public networks, and global connectivity (Zhu & Kraemer, 2005). However, despite the increasing pervasiveness of studies on e-business (Wu *et al*., 2003; Zhu *et al*., 2003; Lin & Lin, 2008) very few have attempted to holistically explore the process of e-business and Internet technologies adoption (e.g. Dholakia & Kshetri, 2004; Zhu *et al*., 2006).

This chapter therefore considers innovation diffusion and e-business implementation literature (e.g. Zhu *et al*., 2006; Fichman, 2000; Meyer & Goes, 1988) focusing on three stages, namely from a firm's initial evaluation of e-business at the pre-adoption stage (initiation), to its formal adoption decision being made by the appropriate decision maker(s), and finally to its full scale deployment and installation at the routinisation stage (post-adoption). It is in this last stage that e-business becomes a routine feature of the firm and it is fully utilized by its members, clients and customers.

The aim of this chapter is to provide an understanding of the process of e-business implementation and the impact of e-business on business performance in terms of revenue generation, cost reduction and operational efficiency. This chapter will be of value to organizations considering e-business and those at the early stages of e-business adoption, since it delineates the route travelled by other similar firms.

Having introduced the topic of e-business assimilation and its associated benefits, our chapter is comprised of four parts, namely a section that explores the possible benefits and challenges of e-business adoption; followed by a section that provides a coherent and comprehensive picture of the processes of e-business implementation in organizations; then a review of the literature related to the impact of e-business use on firm performance will be outlined; finally, the last section concludes with a discussion of the main implications and forwards suggestion for further research

WHAT ARE THE POSSIBLE BENEFITS AND CHALLENGES OF E-BUSINESS?

An organization will only choose to adopt an innovation such as e-business if it perceives that doing so will provide comparatively greater benefits than existing methods. Many practitioners and researchers identified the potential benefits or opportunities of e-business as one of the most critical adoption factors (Saunders, 2000; Beatty *et al*., 2001; du Plessis & Boon, 2004; McIvor & Humphreys, 2004). Moreover, almost all studies acknowledge that the Internet provides an opportunity that business cannot afford to pass (Saunders, 2000).

Benefits of e-business adoption can be categorized into two groups, namely direct and indirect benefits. The direct benefits involve operational savings related to the internal efficiency of the

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