

Chapter 11

Evaluation and Benefits Realization of E-Business Investments in Healthcare Organizations

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ABSTRACT

Despite high expectations for the value of e-business in healthcare, its adoption remains poorly understood and under-researched. The adoption and effective utilization of e-business in the healthcare industry can potentially lead to many benefits, such as: an increased accessibility to healthcare providers, improved work-flow efficiency, a higher quality of healthcare services, decreased scheduling conflicts, and reduction in healthcare costs. Healthcare organizations have started to fully make use of e-business technologies to overcome many of the challenges they face. However, healthcare executives have found it increasingly difficult to justify rising IT expenditures and are often under pressure to find a way to evaluate the contribution of their e-business investments to business performance, as well as to find reliable ways to ensure that the business benefits from the investments are actually realized. Hence, the case study approach was conducted to examine the evaluation practices and processes of their e-business investment. The key objectives of the study are to: (1) examine current e-business investment evaluation and benefits realization practices and processes among different types of healthcare organizations; and (2) identify issues and factors that are critical in evaluating and managing e-business investments in healthcare organizations. One contribution of the study is the examination of the relationship between e-business investments and evaluation practices and processes of healthcare organizations.

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INTRODUCTION

The adoption of electronic business (e-business) offers a significant opportunity for organizations (including healthcare) to access potential global customers and suppliers via the Internet. It has been defined as the utilization of information and communication technologies (e.g. the Web, the Internet, intranets, extranets) in support of all business activities (Lin et al., 2007; Standing and Lin, 2007). It has played a critical role in the growth of world economy (Timmers, 1999). For example, Forrester Research has estimated that US e-business sales will grow from US\$155 billion in 2009 to US\$250 billion in 2014, with a compound annual growth rate of 10% (Forrester Research, 2010a). In Western Europe, the e-business sales has been forecasted to increase from US\$93 billion in 2009 to US\$156 billion in 2014, with an annual growth rate of 11% (Forrester Research, 2010b).

Not too long ago, Australian healthcare procurement system has been still a mainly paper based system with manual processing (GS1, 2004). Effective utilization of e-business technologies in the healthcare industry has the potential to lead to an increased accessibility to healthcare providers, improved work-flow efficiency, a higher quality of healthcare services, improved inventory management, and improved supply chain of manufacturing and distribution of goods and services, reduction in healthcare costs and medical errors (Bhakoo & Sohal, 2008; Heeks, 2006; Lin et al., 2008a, 2008b). Driven by concerns about escalating procurement costs in the industry, several e-business related initiatives (e.g. the Monash, PECC and PEG projects) have been launched by Australian Federal and State governments during the last decade to develop better ways of ordering and procuring medical supplies electronically within the Australian healthcare industry (More and McGrath, 2002).

Despite this, the adoption of IT in healthcare is often difficult, time consuming, and expensive exercises (Sallas et al., 2007). They may proceed

slowly, and difficulties in successful adoption of IT by healthcare organizations are well-documented (Heeks, 2006; Lorenzi & Riley, 2004). Factors contributing to low adoption include high investment costs, productivity loss, and lack of financial incentives (Heeks, 2006; Lorenzi & Riley, 2004; Reardon & Davidson, 2007). Another important factor is the inability by healthcare organizations to evaluate the business value of their IT investments (e.g. e-business) and in ensuring the expected benefits are eventually realized or delivered (Devaraj & Kohi, 2003). In particular, the problems and difficulties in measuring benefits and costs are often the main reason for uncertainty about the expected benefits of e-business investments and hence are the major constraints to investments in e-business (Lin et al., 2007).

Indeed, the evaluation of investments in e-business is a complex tangle of financial, organizational, social, procedural and technical threads, many of which are currently either avoided or dealt with ineffectively (Lin et al., 2008; Standing & Lin, 2007). Often e-business projects fail to deliver what is expected of them because most organizations focus on implementing the technology without the adoption of the tools or processes necessary to help to track and measure the e-business projects (Lin et al., 2007). For example, a survey by PriceWaterhouseCoopers (2003) found that organizations achieved expected pay-offs only 25-75% of the time. In addition, the major benefits organizations can gain from IT investments in e-business are inherently qualitative (i.e. customer satisfaction and systems efficiency) and cannot be easily assessed beforehand and calculated in monetary terms (Soliman & Janz, 2004). The less precisely bounded environment of e-business technology adds more complexity to the traditional IT measurement problem as this type of investment is physically distributed between suppliers and customers (Torkzadeh & Dhillon, 2002; Straub et al., 2002). Some of the problems and challenges associated with evaluation of e-business investments are listed in Table 1.

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