Thirst for Business Value of Information Technology

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ABSTRACT

For years information technology (IT) has helped companies improve organizational efficiency and effectiveness. Today’s IT plays a more strategic role in building capabilities for sustaining and creating competitive advantages. The increasing importance of IT has led many organizations to integrate it into their daily operations. To justify the ever-increasing spending on IT, organizations have been searching for evaluation methods to prove the business value of IT. However, this is a challenging undertaking, as there are contradictory answers to questions on whether it is worthwhile to pay substantial sums for IT. To gain insight into the reasons behind the contradictory answers, this article first reviews conflicting research results of past studies on IT business value. It then explains the term IT productivity paradox. Last, it provides five reasons why IT business value is not fully reflected in the way business managers expect it to be.

Keywords: Information Technology, IT Business Value, IT Evaluation, IT Investment, IT Productivity Paradox

INTRODUCTION

A study of the economic impact of IT in 82 countries and regions (IDC, 2007) reported that worldwide IT spending had reached US$1.24 trillion in 2007 and is expected to grow 6.1% a year between 2007 and 2011. In Asia Pacific, IT spending had reached US$242 billion in 2007 and is expected to grow 6.1% per year between 2007 and 2011. For different business objectives, organizations will continue to invest in IT. Ward (1990) proposes an applications portfolio approach to differentiate four types of IT investments, each type supports different business objectives and complements different business strategies. Ross and Beath (2002), along the dimensions of strategic objectives and technology scope, categorize IT investments into four types: transformation, renewal, process improvement and experiments, describing how technology is used to fulfill short-term profitability and long-term growth objectives. Fitzgerald (1998) describes two types of IT projects, i.e. efficiency projects and effectiveness projects. An efficiency project intends to reduce operational costs by automation, while an effectiveness project endeavors to improve business processes, which eventually leads to organizational effectiveness. Joshi and Pant (2008) classify IT projects into four types: purely discretionary, mainly discretionary, mainly
mandatory, and purely mandatory, explaining that organizations have full flexibility in making IT investments at times, but there are situations when they have no choice but to make mandatory IT investments, e.g. Y2K or government regulation compliance.

To seek funding approval of IT projects, business managers write business cases. To write a good business case, Ward et al. (2008) emphasize the need to first identify business drivers and IT investment objectives, followed by identification of benefits and measures. The value of each benefit can then be explicitly stated. They reckon that when investment objectives are achieved, expected benefits will naturally be realized. Bannister and Remenyi (2000) describe two types of value: value in exchange and value in use. In accounting practices, an item has an exchange value. However, the business value of IT is exhibited in its use. Renkema and Berghout (1997) suggest that people form a judgment about the value of information systems (IS) by evaluating the financial and non-financial consequences, positive or negative, as a result of IS. There are growing concerns about business value of IT (Demirhan, 2005) and strategic exploitation of IT (Freedman, 2003). Alinean, in a 2005 survey, identified one of the priorities of global 100 companies as IT value management. The pressure to remain competitive is forcing many organizations to consider a result-oriented approach (Epstein & Buhovac, 2006). Where the central question is: Will there be a return on investment (ROI)?

On the premise that organizations have been spending a lot of money on IT and facing difficulties in evaluating investment returns, business value of IT has been a hot debatable topic and still remains a question among IT researchers, IT specialists and business managers (Kohli & Grover, 2008). In a controversial article, “IT Doesn’t Matter”, Carr (2003) argues that IT is becoming a commodity and that it will not be delivering any discriminate competitive advantage anymore. He suggests that it is thus important to calculate returns on investment to make sure any spending on IT is essential. Disagree with Carr’s proposition that IT doesn’t matter, Urwiler and Frolick (2008) argue the reason why business managers have considerable difficulty conceptualizing IT value is because there is no framework available for that purpose. Learning from Maslow’s Hierarchy of Need model, they propose an IT value hierarchy to describe five different levels of IT value. From lowest to highest, the levels are infrastructure and connectivity needs, stability and security needs, integrated information needs, competitive differentiation, and paradigm shifting. The higher levels of IT value are supported by Bannister and Remenyi (2005) who claim that IT helps create strategic value in different aspects, and in some cases, is a necessity to sustain and grow a business.

Although it is critical to be able to demonstrate value generated from IT investments, there is no single method comprehensive enough for evaluation purposes (Kanungo et al., 1999). There have been past studies attempted to measure performance and relevant business value of IT, however, the formula to weight both sides of a balance is no straightforward. Past studies are yet to draw a definite conclusion about the correlation between IT investment and firm performance (Tangpong, 2008). At times, conflicting findings were reported (Thatcher & Pingry, 2007). Some have positive findings to report. For example, having analyzed 57 customer-related IT investment announcements of 17 firms, Dardan et al. (2006/2007) reported that investment in customer-related IT improved customer satisfaction and yielded positive abnormal shareholder return. Another study by Merono-Cerdan (2008), involving 151 managers of SMEs in Spain, reported that groupware positively affected organizational performance. Liu and Tsai (2007) surveyed 500 managers working in Taiwanese hi-tech companies. Results showed that after the introduction of knowledge management system, there was an average 5.1% to 10% improvement in operating performance. Rivard et al. (2006) analyzed 96 survey responses from CEOs of Canadian SMEs to report that IT contributed positively and significantly to market performance and profit-
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