Chapter 8

E–Innovation as Source of Business Value in Firms

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ABSTRACT

This chapter seeks to assess the relationship between Web infrastructure and Internet-based innovation as sources of business value. To respond to this challenge, a conceptual model, grounded in the resource-based view (RBV) is developed. To test hypotheses, a large sample consisting of Spanish firms is employed. The results show that, as hypothesized, Web infrastructure is not positively related to business value and that Internet-based innovation has a positive significant impact on business value. In addition, the results show no significant complementarity between Web infrastructure and Internet-based innovation.

INTRODUCTION

Recently, much debate about the value of IT and e-business has been raised. The technology itself will rarely create superiority. For that reason, some research studies found that IT spending rarely correlates to superior performance (Carr, 2003; Brynjolfsson and Hitt, 2000; Soto-Acosta and Meroño-Cerdan, 2009). However, even though competitors may copy an IT infrastructure, relative advantage can be created and sustained where the technology leverages some other critical resource. A number of such complementary resources have been identified by previous studies, such as size, structure, culture, and so on, that could make it difficult for competitors to copy the total effect of the technology (Kettinger et al, 1994; Hempel, 2003; Arvanitis 2005; Loukis et al, 2009). This complementarity of resources is a corner stone of the resource-based view (RBV) and has been offered as an explanation of how IT has largely overcome its paradoxical nature and is contributing to business value (Bhatt and Grover, 2005; Clemons and Row, 1991).
Innovation can be defined as the search for, the discovery and development of new technologies, new products and/or services, new processes and new organizational structures (Carneiro, 2000; Meroño-Cerdan et al., 2008b). Many researchers (e.g. Hamel 2002) emphasized the role of IT as an enabler of product and process innovation. Thus, IT may be source of competitive advantage through innovation. Web-based tools allow information and knowledge exchange, as well as work execution by integrating information, documents and employees. Thus, for instance, intranets can be used to distribute and share individual experience and innovation throughout the organization (Bhatt et al, 2005). In this sense, research is starting to focus on analysing how the web is and will change innovation within and between companies (Sawhney and Prandelli, 2000).

Consequently, to respond to these challenges, this chapter develops a conceptual model, grounded in the RBV, to analyze the relationship between Web infrastructure and Internet-based innovation as source of business value at the level of an individual firm. The analysis employs a large sample of companies from different industries for hypothesis testing.

The chapter consists of six sections and is structured as follows: The next section reviews the relevant literature. In Section 3, hypotheses are developed. Following that, the methodology used for sample selection and data collection is discussed. Then, data analysis and results are examined. Finally, the chapter ends with a discussion of research findings, limitations and concluding remarks.

**LITERATURE REVIEW**

The RBV of the firm (Barney, 1991; Schulze, 1992; Hoopes et al, 2003) is a well established theoretical framework from the strategic management domain which provides a solid foundation to differentiate between IT resources and IT capabilities and study their separate influences on performance (Santhanam and Hartono, 2003). Based on this analysis, Bharadwaj (2000) suggested that if firms can combine IT related resources to create unique IT capabilities, they can improve their performance. IS researchers have followed this consideration of IT capability because competition may easily result in the duplication of investment in IT resources, and companies can purchase the same hardware and software to remove competitive advantage (Santhanam and Hartono, 2003).

In this respect, research offers a useful distinction between IT resources and IT capabilities. The former is asset-based, while the latter comprises a mixture of assets formed around the productive use of IT.

In general, IT resources are not difficult to imitate; physical technology is by itself typically imitable. If one firm can purchase these physical technologies and thereby implement some strategies, then other firms should also be able to purchase these technologies, and thus such tools should not be a source of competitive advantage (Barney, 1991). However, firms may obtain competitive advantages from exploiting their physical technology in a better (and/or different) way than other firms, even though competing firms do not vary in terms of the physical technology they possess. IT resources are necessary, but not a sufficient condition, for competitive advantages (Clemons and Row, 1991). IT resources rarely contribute directly to competitive advantage. Instead, they form part of a complex chain of assets (IT capabilities) that may lead to better performance. Thus, some researchers have described this in terms of IT capabilities and argue that IT capabilities can create uniqueness and provide organizations a competitive advantage (Bhardwaj, 2000; Bhatt and Grover, 2005; Mata et al., 1995; Santhanam and Hartono, 2003).

The evaluation of the organisational performance impact of ITs is also an important issue within the area management information systems (Soto-Acosta, 2008). In this sense, firm
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