

# Chapter 1.13

## Environmental Drivers of E-Business Strategies Among SMEs

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### **ABSTRACT**

In front of traditional interpretations of the digital gap based on endogenous conditions of the firms, this chapter intends to emphasize the importance that some external pressures may have on the e-business strategy of small and medium enterprises (SMEs). The environmental factors analyzed here are market position, competitive intensity, and institutional pressures. SMEs have been grouped according to their level of e-business involvement, in relation to the number of e-business solutions adopted so far. Three layers are proposed: excluded, tentative, and integrated e-business SMEs. A multinomial logistic regression was used to predict these strategies. A general conclusion is that different models seem to explain exclusion and involvement. Specifically, two factors among

those analyzed reveal to be more suitable in explaining e-business exclusion. They are the size of a SME and a lack of institutional pressures to adopt. On the other hand, e-business involvement seems to be primarily prompted by a selective competitive environment and not by imitative behaviors, as in the previous case.

### **INTRODUCTION**

In this chapter, our general attention is on the adoption and diffusion of e-business solutions among small and medium enterprises (SMEs). More specifically, our interest is focused on some external factors that may affect this process, since we are persuaded that external forces are especially important within small organizations, while

largely understated by the literature. We will try to analyze whether these factors do relate to the e-business involvement of an SME.

E-business is an umbrella term referring to a wide variety of Internet-based management solutions. The solutions considered here are: interactive Web sites, e-commerce platforms, e-procurement systems, customer relationship management systems, and telework.

## **BACKGROUND: SMES AND EXTERNAL FACTORS AFFECTING E-BUSINESS**

Many researches explain the adoption of e-business solutions in terms of endogenous factors, that is variables which are internal to the organization. Among these factors, different typologies of variables are recursive: the level of financial resources able to affect any investment decision; the managerial culture, influencing the propensity to innovate; and the organizational readiness, which is relevant for the integration of new technologies (for a review, see Lee, Runge, & Baek, 2001). Conversely, the potential influence of exogenous pressures have been largely understated. Within this handbook, a review of internal factors is out of the scope of the current chapter. Instead, our goal is to deepen our understanding about the following environmental drivers: market position, competitive intensity, and institutional pressures.

When focusing on SMEs, environmental elements must be considered as especially important because of the high dependency of these organizations from the context: SMEs appear more sensible to external pressures, in terms of both competitive and social “rules of the game” (Fink, 1998). Therefore, important explanatory factors of adoption strategies shall be easily found by studying the environment where SMEs play, rather than focusing only on internal conditions. Above all, since e-business is basically considered

an instrument to improve firm’s competitiveness (Amit & Zott, 2000), we could expect that the competitive features of the arena where SMEs play require special attention.

Starting from the current literature, then, the environmental forces analyzed in this work are: (1) the level of perceived competition (Kuan & Chau, 2001; Riemschneider, Harrison, & Mykytn, 2003); (2) the pressure to be considered technology savvy (Iacovou, Benbasat, & Dexter, 1995; Zhu, Kremer, & Xu, 2003); and (3) the competitive position occupied in the marketplace (Daniel & Grimshaw, 2002; Lal, 1999).

Our chapter will briefly review the theoretical antecedents for each of these factors and then we will provide a set of hypotheses.

### **Competitive Intensity**

According to the well known industrial organization framework (Andrews, 1971; Porter, 1985), it can be observed that an increasing competitive intensity worsens the balance between opportunities and threats, requiring firms to adopt more innovative strategies to survive and make profits.

Within this view, Gatignon and Robertson (1989) found that competitive pressure in the adopter industry has a positive impact on adoption of information and communication technologies. In the same way, Thong and Yap (1995) found that the CEO attitude towards new technologies adoption is positively correlated with the degree of competition faced in the market. Similarly, Premkumar and Roberts (1999) demonstrated that the degree of competitive rivalry in the adopter’s industry affects the rate of adoption of digital technologies.

Also adopting the more recent resource-based approach (Barney, 1991; Peteraf, 1993), it could be observed that the strength of competition in the factor markets reduces the power of isolating mechanisms sustaining the competitive edge, thus requiring continuous innovation strategies. Within these contexts, innovations lead to re-

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