

## Chapter 4.20

# The Role of Information Technology Knowledge in B2B Development

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### ABSTRACT

The objective of this work is to analyse the importance of firms' previous experience with different information technologies (Internet, electronic data interchange (EDI)) in their implementation of e-Customer Relationship Management (e-CRM) and B2B. Moreover, we also study the role of e-CRM in B2B development. The results show that experience with systems such as EDI or Internet has a direct influence on the use of e-CRM. There is also a direct and positive transmission of knowledge from e-CRM to B2B, though the former has not been adopted intensively by firms yet. Companies should be aware of the interrelations that exist between the different information technologies. The knowledge accumulated

from using a technological innovation can be considered an important aspect of organisational knowledge, which allows firms to obtain a number of benefits as a result of applying systems that are complementary.

### INTRODUCTION

There has been an interesting debate in the literature in recent years about the relationship between the implementation of information technologies (IT) and efficiency, whether in the firm or in the economy in general. On the one hand, some researchers consider that IT does not positively impact on firms' productivity. This point of view is supported by Carr (2003), who considers that

the strategic importance of IT has diminished; indeed, Nobel Prize winner Solow (1987) asserts “*you can see the computer age everywhere these days, except in the productivity statistics*” (p. 36). On the other hand, other works regard information technology as a resource which firms use to generate important competitive advantages since, through knowledge management, IT helps companies to differentiate themselves (Grant, 1996; Teece, 2000). This lack of consensus may be the reason why firms still find it difficult to recognise the strategic value of technological assets (Nonaka, Toyama, & Nagata, 2000; Von Krogh, Ichijo, K., & Nonaka, 2000).

Among all the innovations that have emerged as a consequence of the development of IT, the Internet has been one that has generated the most interest. Clearly, so too has electronic commerce (or e-commerce), which derives from the Internet, and redefines some of the variables and elements of traditional exchanges (Webb, 2002). This application of the Internet provides firms with constant business opportunities, and it is considered an inexhaustible source of value for the modern firm (Rayport & Sviokla, 1994).

Nevertheless, this type of interfirm exchange has not been adopted unanimously and homogeneously by firms. Thus, there are different levels of development of e-commerce responding to managerial decisions and/or factors inherent to the firm itself, such as its experience or sector of activity (Collins, 2001). Observing these differences in technology acceptance, many researchers have suggested the existence of different variables influencing the acceptance of innovations. These factors would conceivably modify not only the adoption rate in each firm, but also the eventual intensity of use.

Thus, if we analyse some studies of IT acceptance, we see that previous knowledge of other IT related to the tool being analysed is a key factor in the implementation process. For example, researchers have shown that knowledge of other IT applications facilitates the assimilation of

Electronic Data Interchange (EDI) (Emmelhainz, 1993; Jiménez & Polo, 1998; O’Callaghan, Kaufmann, & Konsynski, 1992). The link between this tool and B2B e-commerce leads us to suggest that this phenomenon will be repeated between them.

The objective of the current study is to analyse the importance of the organisation’s previous experience with IT in its acceptance of e-CRM and in the development of B2B. For this purpose, we investigate if the previous use of IT tools required for their implementation (such as the Internet) or related to commercial activity (such as EDI) generates a greater affinity and an appropriate internal structure for the successful use of e-CRM and B2B, as has been suggested by Riggins and Rhee (1999), Watson and McKeown (1999), and Ngai and Wat (2002). In addition, we analyse the positive influence of e-CRM experience on B2B development, as has been demonstrated by Bauer, Grether, and Leach (2002), Kincaid (2003), Teo and Ranganathan (2004), and Noori and Salimi (2005). If these proposed objectives are fulfilled, technological experience could be considered a key factor for organisational knowledge, which would allow firms to obtain sustainable competitive advantages as a result of applying previous systems.

Since there are no universally-accepted definitions of CRM and B2B, this work accepts Kincaid’s definition of CRM (2003): “*CRM is the strategic use of information, processes, technology and people to manage the customer’s relationship with your company (Marketing, Sales, Services, and Support) across the whole customer life cycle*” (p. 41). Consequently, e-CRM is CRM software on the Internet, or Internet-based CRM. Similarly, by B2B we mean interfirm e-commerce in its more restrictive definition, that is, conducting commercial transactions via the World Wide Web, not including advertising on the Internet or simple e-mail.

In the following section, we review the literature on the role of acquired experience and

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