A Profile of Adopters and Non-adopters of eCommerce in SME Professional Service Firms

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Abstract

The new spatial possibilities of Internet-based technologies provide a powerful route to innovative marketing strategies. Consequently, firms of all sizes are finding it necessary to establish a Web presence to increase their ability to survive in an increasingly dynamic and competitive business environment. This study reports on the differences between adopters and non-adopters of electronic commerce in SME professional service firms in New Zealand. Six factors relating to a firm's external/internal environment were found to underpin adoption. These are: response to technological environment / opportunities afforded by technology; negative attitudes or perceived barriers/impediments to electronic commerce; electronic commerce capability; response to new technology/innovation; customer orientation; and sensitivity to competitive/customer environments. T-tests reveal differences between adopters and non-adopters, and logistic regression is used to assess the extent to which these six factors actually predict electronic commerce adoption.

Keywords: Electronic commerce, Professional service firms, SMEs.

1. Introduction

The rise of the information economy and the challenges of the global market have secured a strategic place in all firms for electronic commerce (hereafter referred to as EC). More than just an Internet façade, EC has the potential to streamline central organisational policies and procedures. In fact, to remain competitive in global markets, EC has become imperative (Maguire et al., 2001, p.1) and encompasses activities such as electronic data interchange, having a Web site that is linked with key business processes, and capabilities to buy online (European Commission, 1998; Watson et al., 2000; Reedy et al., 2000; Turban et al., 2000; and Fillis et al., 2004). It has been argued that competing in the new millennium without Internet-enabled capabilities will be similar to "trying to compete today without a sales force or a telephone" (Frank, 1997, p. 31). In this paper, EC is defined as "any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact" (European Commission, 1998). It includes business-to-consumer and business-to-business activities conducted using electronic data transmission via the Internet and/or WWW.

There are many studies documenting the advantages associated with adopting Internet-enabled technologies for business purposes (e.g. Quelch and Klein, 1996; Hamill and Gregory, 1997; Burgess and Cooper, 1998; Keogh et al., 1998 Zampetakis, 2000). Despite these much-publicised advantages, recent research has shown that a large number of small to medium sized enterprises (SMEs) have been slow to capitalise on this new mode of carrying out business (see for example Clark et al., 2001, 2002; Smyth and Ibbotson, 2001).

EC uptake in New Zealand has been particularly slow compared with some of its major trading partners, including the United States, United Kingdom, and Australia (Gray et al., 1999; Clark et al., 2003; Reed, 2003; McCole and Ramsey, 2004). This suggests that the New Zealand Government's vision to "…be world class in embracing EC for competitive advantage" may not be going according to plan. It also suggests that the goals outlined in the New Zealand Government EC Strategy document are not being met.

The aim of this paper is to understand why some New Zealand firms in the professional services industry have been slow to embrace EC activities? This question is explored in three parts. First of all the extent of EC adoption in the professional service sector is explored. Second, professional service firms that have/have not adopted the Internet for business purposes are compared on internal /external factors that are reported to underpin adoption. Third, a logistic regression is performed in order to discriminate between factors that predict adoption/non-adoption.

2. Literature Review

Many studies have examined the use of new technologies in SMEs (see for example Chong, 2001; Cragg and King, 1993; Dos Santos and Peffers, 1998; Fillis, 2004; Ramsey et al., 2003, 2004). With particular reference to EC, Chong (2001) notes that 'although there is growing body of literature dedicated to the analysis of the technical and operational aspects of EC, there is little empirical research on topics relating to the factors that lead to the successful adoption of this emerging technological innovation and business practice' (p. 3). Our research seeks to find out which factors have the greatest influence on the adoption and use of EC for business purposes in a sample of SMEs in New Zealand. Similar to Chong (2001) who recognises that 'in the absence of empirical studies to assist in the selection of the most significant variables for EC adoption, all relevant factors have been identified and grouped into broad categories of internal and external environment factors' (p. 4).

2.1 Internal Environment Factors

Simpson and Docherty (2004, citing Bodorick et al., 2002; Jeffcoate et al., 2002; Cragg et al., 2002; Darach and Lucas, 2002; Sadowski et al., 2002; Kalakota and Robinson, 2001; Lawson et al., 2003; Timmers, 2000) provides a detailed discussion of the reasons for and barriers to EC adoption in SMEs. From their summary, we refer to those that are internal to the firm. These include: management resistance; technology concerns; resource issues; lack of awareness; and lack of information (see Simpson and Docherty, 2004, p. 320 for a fuller discussion). We add to this work by considering whether market orientation influences EC adoption.

Another internal factor that is likely to influence technology adoption is market orientation. Market orientation (or market-oriented behaviour) can be viewed as the implementation of a particular corporate philosophy, the marketing concept (Gray et al., 1998a, 1998b, 2000). Market orientation goes beyond simply responding to customer needs: it also includes countering competitor actions. Since the initial empirical research by Kohli and Jaworski (1990) and Narver and Slater (1990), a growing number of studies have supported the links between market-oriented behaviour and company performance, including recent studies in the services sector (Chang and Chen, 1998; Han et al., 1998; Van Egeren and O'Connor, 1998 as cited in Gray et al., 2000, p.149).

A market orientation essentially involves doing something new or different in response to market conditions, and may be viewed as a form of innovative behaviour (Gray et al., 1998a). The opportunities for growth as well as the need to keep up with competition are often regarded as the driving forces behind EC adoption (Drew, 2003, p.84). This implies that a market-oriented firm will adopt Internet based technologies and develop a Web presence to facilitate and practice e-marketing – thus allowing that firm to compete on (and in) the same grounds as their bigger counterparts. More market-oriented firms therefore will show greater responsiveness to Internet-enabled technology.

2.2 External Environment Factors

Chong (2001, citing Fink and Kazakoff, 1997; Hart and Saunders, 1994; Iacovou et al., 1995; Kettinger, 1994; Pennings and Harianto, 1992; Robertson and Gatignon, 1986; Tan, 1998; Takac and Singh, 1992) provides an excellent discussion of some of the external environment factors likely to influence the successful adoption of EC. These include: environmental uncertainty; pressure from other trading partners as well as other industry-specific competitive pressures; government influences; critical mass; issues related to infrastructure; and technological standards (see Chong, 2001, p. 5 for a fuller discussion). We add to this discussion by including issues relating to general technological innovation.

To study adoption of general technological innovation, Tornatsky and Fleischer (1990) developed the technology-organisation-environment framework, which identified three aspects of a firm's context that influence the process by which it adopts and implements technological innovation. A firm's environment is one of these contexts and consists of: competitors; access to resources supplied by others; and dealings with government (Tornatsky and Fleischer, 1990, p. 152-4 as cited in Zhu et al., 2002, p. 338).

Experience tells us that technology adoption is primarily market-driven, either by competition or by the availability of new technologies and the search for new industrial applications (Rogers, 1995; Porter, 2001). In