

EU SMEs and E-Business Innovation

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INTRODUCTION

Although motivating electronic business (e-business) adoption and implementation by small- and medium-sized enterprises (SMEs) is endorsed by policies and initiatives introduced by the European Union (EU), a number of challenges arise as the result of a limited conceptual understanding of the relationship between SMEs and information and communication technologies (ICTs). Relatively little is known about how SMEs respond to the opportunities provided by ICTs, and even less is known about why and how small businesses use ICTs (Dixon, Thompson, & McAllister, 2002).

In the first section of this critical review of the academic and government bodies of literature related to EU SMEs, e-business and policy initiatives and definitions of SMEs are explained, the unique characteristics of SMEs and entrepreneurial characteristics are outlined, and the case is made that there is a clear need for more comprehensive research on SMEs in the European Union.

The second section concentrates on e-business. Many of the factors that compel organisations to adopt and implement innovation are pertinent to the adoption and implementation of e-business. These have hitherto largely been treated as separate bodies of literature, however. In this section, the benefits of e-business are explored, the factors that motivate or act as barriers to e-business adoption and implementation are outlined, and the organisational and management attributes that would seem to ensure the success of the innovation of adopting and implementing e-business are discussed.

The third and penultimate section explores EU policy initiatives relevant to SMEs and to the promotion of e-business. The most wide-ranging and prominent initiatives directed at SMEs are examined here. The final section of the paper concludes with suggestions for further research.

BACKGROUND

There is no single definition of an SME, but schemes that are targeted at SMEs usually adopt a variety of working definitions depending on their particular objectives. The importance of the SME sector as the cornerstone of a country's economic prosperity is widely recognised:

SMEs comprise approximately 95% of the enterprises in most nations, and are responsible for employing between 60-70% of a nation's workforce (OECD, 2002). Consequently, the SME sector is crucial to the EU's competitive development, collectively and for each individual member nation (Mulhern, 1995). SMEs contribute to local economic growth by providing local services, employment opportunities, and by enabling participation in the economic development of their own communities. They also play a vital role in innovation, as the intermediaries between the public research infrastructure and large organisations, as developers of new ideas, and as adopters of new technologies. SMEs have the potential to act as vehicles for the industrial and economic change of entire regions, as entrepreneurship attracts many who would otherwise withdraw from the labour market. Entrepreneurship can provide a positive way out of unemployment, particularly in disadvantaged communities, where the potential wider benefits of enterprise can be even more significant. Small businesses often stimulate productivity growth amongst rival businesses (BarNir & Smith, 2002; Jeffcoate, Chappell, & Feindt, 2002, 2004; Small Business Service, 2004), and their dynamism can stimulate competition and innovation throughout the economy as a whole.

The unique characteristics of SMEs that set them apart from larger organisations create particular issues, because in day-to-day business operations the organisational, entrepreneurial, familial, and social structures in SMEs differ from those of larger organisations. An understanding of the constitution and circumstances of SMEs is essential in order to be able to identify the fundamental differences between large and small organisations and the effects of these differences on innovation—especially e-business innovation—adoption and implementation (Cheney, Mann, & Amoroso, 1986). SMEs face both economic and organisational constraints, a lack of access to capital, cash-flow difficulties, limited ICT skills, a chaotic organisational structure, and heavy workloads—all factors that may impede innovation (Small Enterprise Telecommunications Centre, 2002). SMEs also have their own unique qualities in terms of their environment, structure, psycho-sociological climate, management, and technology usage and adoption (Castleman, Coulthard, & Hewett, 2000; Smallbone, North, Vickers, & McCarthy, 2000; Thong, 2001). SMEs tend not to have the

resources available to large organisations, and this lack of resources creates time, financial and expertise constraints. Facing these constraints, SMEs are likely to be more cautious than large organisations to adopt new technologies (Huang, Hart, & Wiley, 2004).

Entrepreneurial attributes such as creativity, flexibility, and dynamism are associated with the SME sector. The importance of creating an environment rich with opportunities through the support of entrepreneurial characteristics cannot be overstressed. Entrepreneurship relies not only on individuals or groups possessing the skills to recognise and harness potential, but also on conditions that permit, encourage and sustain them in their endeavours. Governments can create the economic, fiscal and regulatory framework, infrastructure and environment in which entrepreneurs and the organisations they found and run are able to recognise, realise and maximise potential competitive advantage. Although few government policies are specifically directed at creating an entrepreneurial culture, cumulatively all government policies affect the long-term factors that create conditions that (can) foster entrepreneurs (HM Treasury, 2001). A stable and transparent economic and fiscal environment with steady economic growth can not only provide entrepreneurs with appropriate opportunities to foster entrepreneurial experiments, but also with a chance to convince the market of their potential contribution.

Entrepreneurship is closely linked to the psychological and behavioural aspects of individuals, and it would seem that an entrepreneur's personal initiative therefore dominates the potential for the success of many SMEs (Howarth, 2002; Kuemmerle, 2002; Quayle, 2002a, 2002b; Vrazalic, Bunker, MacGregor, Carlsson, & Magnusson, 2002). Entrepreneurs share a commitment to the consistent and methodological exploration of possibilities to improve a business's potential (Drucker, 1998). Entrepreneurs also share the distinctive characteristics of feeling comfortable skirting the boundaries of propriety, assuming enormous personal risk, being willing to shift strategies quickly, being profoundly opportunistic, and doing whatever it takes to close a deal (Kuemmerle, 2002).

Having examined not only a number of the characteristics of SMEs but also the issues pertaining to their operations, we turn now to examine e-business in more detail, as it is a form of technological innovation that can profoundly impact SMEs.

EU SMEs AND E-BUSINESS INNOVATION

E-business presents significant challenges to academic research. These challenges arise from its recent emer-

gence, the rapid change that characterises the domain, the variation in behaviour in (apparently) similar contexts, the enormous media attention it has generated (with its resultant distortion of terminology and data), the lack of familiarity with e-business technologies by many management scholars, and the lack of established research approaches (Drew, 2002). It has been difficult for researchers to isolate trends in the separate innovation, ICT, and e-business canons from more general economic and organisational change drivers. Moreover, research has often failed to examine the roles of size, age, sector experience of ICTs and management support within single integrated studies, types of exporting activities, awareness of benefits, types of customer and imposition by larger trading partners. These factors have served to exacerbate the "patchy" nature of much research (Dixon et al., 2002).

Nonetheless, e-business has profound beneficial consequences for business practice and research. Technology-driven change is revolutionising business, requiring companies to redefine their strategies, products and processes in a business-operating climate that has become increasingly competitive, turbulent, and uncertain (Goldman, Nagel, & Preiss, 1995). Organisations that have adopted e-business believe that it contributes to improved performance in four main ways:

- The development of new products and services;
- The generation of new customers and business channels;
- A reduction in costs; and
- Improved productivity (HM Treasury, 2001).

E-business is a resource that is rapidly innovating not only traditional business processes but also the very nature of competition, as e-business enables market fragmentation, with its ability to treat mass clients as individuals, convergence between products and services, generation of global production networks, and simultaneous cooperation and competition between organisations. As e-business facilitates this radical transformation of both technical and business operations, it is truly innovative. Innovation is an important engine of long-term competitiveness, growth and employment. The OECD estimated that between 1970 and 1995, more than half of the total growth in output of the developed world resulted from innovation, and that this proportion is increasing as economies become more knowledge-intensive (Irwin, 2000). The cross-functional nature of innovation management requires strong leadership in managing through turbulence (Tushman, 2002).

The *Innovation Scoreboard* (which analyses statistical data in the areas of human resources, knowledge creation and the transmission and application of new knowledge, and innovation finance output and markets)

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