

Factors Influencing the Extent of Deployment of Electronic Commerce for Small-and Medium-Sized Enterprises

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ABSTRACT

This study surveys the perceptions and experiences of Australian small- and medium-sized enterprises (SMEs) in the implementation of Internet-based Electronic Commerce (EC) as seen from the perspective of the extent of deployment. With a sample of 115 small businesses in Australia, this article uses regression modelling to explore and establish the factors that are related to the extent of deployment in EC. A multiple regression analysis shows that seven factors: perceived relative advantage, trialability, observability, variety of information sources, communication amount, competitive pressure, and non-trading institutional influences, significantly influence the extent of EC deployment by SMEs in Australia. The managerial implications are discussed.

Keywords: B2B e-commerce; e-commerce in SMEs; e-commerce implementation; electronic commerce theory

INTRODUCTION

The commercialization of the Internet and World Wide Web (WWW) has driven Electronic Commerce (EC) to become one of the most promising channels for inter-organizational business processes. Despite the economic downturn and the burst of the “dot-com” bubble, EC is expected to

continue its significant growth. EC has emerged as a whole business strategy that enables organizations to improve business processes and communication, both within the organization and with trading partners. In the U.S. alone, the second decade of EC would boost online sales from \$172 billion in 2005 to \$329 billion in 2010 (Forrester

Research, 2005), while Asia Pacific's B2B EC is forecasted to grow rapidly at a Compound Annual Growth Rate (CAGR) of 59% percent (IDC, 2004). Specifically in Australia, EC is estimated to be worth \$11.3 billion dollars annually (Australian Government Information Management Office, 2005).

RESEARCH PROBLEM

According to the report of the Information Economy (NOIE, 2002), Australia is well positioned to benefit from the emerging information economy. On a number of metrics, Australia is among the leading nations in terms of measures of Internet infrastructure, penetration and activity. In fact, Australia is ranked the top second country in Asia Pacific region by EC infrastructure (eMarketer, 2005). However, in comparison with other countries and larger Australian businesses, small- and medium-sized enterprises (SMEs)¹ have been relatively slow in adopting EC (The Age, 2002; NOIE, 2002; Sensis, 2005). Even if SMEs were able to overcome the barriers of initial adoption, they still face challenges when trying to implement the new system into their business. Most SMEs perceive the challenge of integrating EC into their business operations as risky, complex, time-consuming, and an expensive initiative (NOIE, 2002). Yet it should be noted that if EC implementations are successful, the potential benefits to small businesses can include increased sales, improved profitability, increased productivity, reduced costs associated with inventories, procurement and distribution, improved quality of service, and secured competitive positions (see Dholakia & Kshetri, 2004; Grandson & Pearson, 2003a; Puroo & Campbell, 1998; Stockdale & Standing, 2004; Whiteley, 2000).

The need to adopt EC for survival in the international marketplace, especially due to physical and economic distance faced by Australian SMEs is imperative. An awareness of the critical success factors of EC implementation also becomes essential for SMEs to appropriately address the relevant issues and move forward, since failed implementation may have severe repercussions on small businesses with their limited resources. Despite the salience of these issues, there is little empirical research that examines the success of EC deployment after the technology has been implemented. In addition to that, there is little of the prior information systems (IS) and information technology (IT) literature, and none from EC literature, that has investigated the relative importance of the identified factors of extent of deployment. Without knowing the relative importance of these factors, SMEs may be expending their limited resources and energy on less important factors which have limited contribution to EC implementation success. Hence, the principal contribution of the current report can be asserted to be its provision of a model for EC adoption that takes into account the relative importance of various factors that encourage or inhibit the extent to which it is deployed. It may also provide a theoretical tangent that authors and facilitators of future research may wish to follow.

SCOPE OF STUDY

In this study, the term Electronic Commerce principally includes, but is not limited to, Internet-based EC. The scope of EC applications is limited to the utilization of the Internet as the technological infrastructure to communicate, distribute, and conduct information exchange and transactions with business partners. The overwhelming

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