



Chapter XII

**Mobile Data Technologies
and Small Business Adoption
and Diffusion: An Empirical
Study of Barriers
and Facilitators**

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ABSTRACT

The technological environment in which contemporary small- and medium-sized enterprises (SMEs) operate can only be described as dynamic. The exponential rate of technological change, characterised by perceived increases in the benefits associated with various technologies, shortening product life cycles and changing standards, provides for the SME a complex and challenging operational context. The primary aim of this research was to identify the needs of SMEs in regional areas for mobile data technologies (MDT).

In this study a distinction was drawn between those respondents who were full-adopters of technology, those who were partial-adopters, and those who were non-adopters and these three segments articulated different needs and requirements for MDT. Overall, the needs of regional SMEs for MDT can be conceptualised into three areas where the technology will assist business practices; communication, e-commerce and security.

INTRODUCTION

This chapter presents findings from a two-phase study on the perceptions, needs and uses of mobile data technologies by Australian small business owners. In Phase I, focus groups were conducted, and rich information obtained on possible uses and applications of Mobile Data Technologies (MDTs) for three usage groups, that is, non-, partial-, and full-adopters of IT and Internet applications across many industry sectors. Based on findings from Phase I, the second phase of the study involved interviewing 500 small business owner/managers on mobile data technology adoption issues and perceptions of MDT usage.

The primary appeal of mobile data technologies, apart from mobility, is that associated 'services' are delivered on existing devices such as mobile phones, palm-tops, and personal digital assistants (PDAs). In the literature little empirical work exists on applications and services that would encourage the adoption of mobile data technologies by small businesses. This study provides empirical evidence on attitudes of small business owner/managers in a regional setting, Queensland Australia, to mobile data technologies, and identifies the most significant facilitators and inhibitors to adoption.

The development of gateway technologies for service providers supporting WAP are already available and on the market. Further, wireless applications have been developed that provide mobile devices with Internet content and e-business services. These mobile data technologies were expected to affect business in a similar fashion to the Internet and World Wide Web a few years ago (Semilof, 1999). The major appeal of mobile data technology is that it provides information to the mobile user such as reading news, getting stock quotes, sending e-mail, downloading data, locating other users, remote accessing of home and business sites, and making purchases on a device that consumers are comfortable with—the mobile telephone.

In Australia, a small business is defined as an organization employing less than 20 people, typically independently owned and financially controlled by the owner/manager; and [usually] locally based business operations (Annual Review of Small Business, 1998). The adoption of mobile telephones in the past five to 10 years for voice services and messaging, by both small and large organizations in Australia, has been high. Helping to accelerate the demand for the newer mobile data technologies in countries already embracing these technologies (such as Japan) is the explosive growth of the Internet and mobile computing (Clever, 1999). In Australia, this provides somewhat of a conundrum. Although adoption of e-commerce by large organizations in Australia has been relatively high, the same cannot be said for small businesses, where adoption has been slower than other countries, such as Singapore, the United Kingdom, the United States of America, and Japan (Forrester, 1997; Yellow Pages, 2000). In contrast, however, mobile telephone

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