

## Chapter XIII

# An Exploratory Study of “Killer Applications” and Critical Success Factors in M-Commerce

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### **ABSTRACT**

*This research deals with two aspects of mobile commerce (m-commerce); namely killer applications and critical success factors. After compiling significant information from the related literature, a Delphi panel was assembled by selecting a group of experts who has significant knowledge about m-commerce and wireless communications. The panel was requested to comment on a number of m-commerce issues and scenarios gleaned from the literature review, and members of the panel also were asked to indicate which issues were more important and which of the presented scenarios were more likely. Three separate rounds of the Delphi survey were carried out and the final results indicated that the short message service (SMS) and a killer portfolio were the two most likely killer applications of m-commerce. Additionally, four factors—convenience, ease of use, trust, and ubiquity—were identified as the most important to m-commerce success. According to the Delphi results and the experts' comments, the highlighted features of the killer applications were found to match the most significant critical success factors as voted by the panel.*

## INTRODUCTION

Many experts proclaim that the decade of mobile commerce (m-commerce) has arrived. There are hundreds of millions of regular mobile subscribers in the world, and there is potential for many more, but m-commerce seems to hesitate to move forward. China Mobile (Hong Kong), one of the world's largest mobile phone carriers, stated in its 2002 annual report that the corporation is facing increased pressure from flagging average revenue per user (ARPU) per month and minutes of usage (MOU) per user per month. In fact, these same pressures have been taking place in the U.S., Europe, Korea, Australia, New Zealand, and elsewhere. A key obstacle to the progress of m-commerce is a lack of appropriately defined killer applications. To promote m-commerce, there should be less focus on increasing the speeds of wireless data networks now and more on developing compelling applications (Diercks, 2001). Also, in order to help mobile providers to avoid following the same old disastrous road of the e-commerce providers in 2000, critical success factors for m-commerce need to be defined in order to help launch new mobile services.

Therefore, one of the main objectives of this research is to discover and define the likely killer applications in m-commerce from the expansion of current e-commerce applications in a mobile setting and innovative ideas from researchers and practitioners. Hopefully, a set of well-defined

killer applications will drive m-commerce from its current limited acceptance to a new, more progressive level. Second, the research attempts to discover and explore the critical success factors that will encourage the uptake of mobile as opposed to conventional e-commerce services. The likely critical success factors will indicate a new way to conduct m-commerce. In addition, it also will attempt to demonstrate links between these two aspects and to highlight the commonness between them.

The findings provided by the research will help vendors, carriers, providers, content partners, and investors in the creation of compelling value for users, based on the following research questions:

1. What are the likely killer applications in m-commerce?
2. What are the critical success factors that will make m-commerce successful?
3. What are the common factors that killer applications and critical success factors share?

## LITERATURE REVIEW

Although there are many definitions of the term *mobile commerce*, in this research, m-commerce is simply referred to as *electronic commerce* that uses a mobile device over wireless telecommunication networks.

Table 1. M-commerce application framework (Seen, 2000, p. 150)

CATEGORY	APPLICATIONS	
	Passive (self-activated)	Active (user-activated)
Transaction management	Tolls, payments, automatic updates	Shopping
Digital content delivery	E-mail, short messages	Information browsing, directory services, video
Telemetry services	Status monitoring, interactive marketing, smart messaging	Stock quotations, appliance management

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