

## Chapter 9

# M-Commerce Location-Based Services: Security and Adoptability Issues in M-Commerce

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### **ABSTRACT**

*Truthful authentication with secure communication is necessary in location-based services to protect from various risks. The purpose of this research is to identify security risks in mobile transactions especially in location-based services like mobile banking. The factors need to be identified the reasons of customer distrust in mobile banking. In addition, the security issues with mobile banking systems and mobile devices are highlighted. The chapter finds which approach is more suitable and secure for mobile banking transaction between customer and bank. The research predominantly focuses upon customer trust, security issues, and transaction costs owing to different technology standards of mobile commerce. The first phase highlights the various location-based services in m-commerce, various technology standards, customer trust, and perceived risk, and further, at next level, it highlights the various problems associated mobile database and a comparative study of various replication protocols, transaction security issues, and LBS security challenges.*

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## INTRODUCTION

Mobile communication has become the basic need of people and society in today's world as it improved the lifestyle as also the business processes with its innovative applications. The information availability unsurpassed and everywhere is the mobilizing force for the growth of internet, portable computing devices and wireless communication. Communication is 2-way 'transmission' and 'reception' of data streams wherein voice, data or multimedia streams are transmitted as signals and received by a receiver. Mobile communication requires transmission of data to and from handheld devices whereas out of the two or more communicating devices at least, one is handheld or mobile. The location of the device varies, locally or globally and communication takes place through wireless network. In the beginning stages of wireless communication, the mobility range was defined by type of used antenna, transmitter power and the frequency of operation. The transmission and receiving of various allotted channels is conducted from the antenna atop tower. Any vehicle within range could try to seize one of those channels and complete the call. However, the number of channels made available never came even close to satisfying the requirement. The solution of this problem was given by cellular radio. In this, the area coverage were divided into cells and average cell was 2-10 miles across and depended actually on the number of users in the cell and reduce the cell size as more mobile users add up to increases because of nearby the transmitter. In addition to this, the upcoming wireless and mobile networks have added another dimension of mobility and moved the E-Commerce to M-Commerce. New business opportunities have been opened due to Mobile Commerce with addition of location-based services (LBS) which has not been provided by stationary Internet. For example, the nearest petrol pump location, traffic route, nearby good restaurant etc. could only be provided by determining the current geographic position of the mobile user. There are basically three Mobile Commerce applications which need location support and these location-intensive applications are mobile financial applications, mobile advertising and location-based services.

These services utilize location of mobile user to provide location-aware content like information about nearby petrol pumps, ATM machines and products. 'Pull mode' and 'Push mode', both type of services are offered in Location-based services. For instance, in case of pull mode a mobile user may want to know the availability and waiting time on one or more theatres close to his/her current location. And in the case of push mode the mobile user, as an instance, might like to be informed as to if one of his relatives is located in the same area. In general, these services need location tracking of fixed, portable, and of mobile entities. Location information of all fixed entities are kept in a separate database area-wise while location tracking

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