

## Chapter 24

# Mobile Payments for Conducting M-Commerce

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### ABSTRACT

*Mobile commerce or M-commerce facilitates users to conduct commercial activities using mobile equipment like Smartphone, tablet etc. M-commerce has come a long way since its inception in 1997. With adoption of 4G networks, it is believed that M-Commerce will outpace E-commerce soon because of its high speed, convenience, flexibility and mobility features. Mobile payment is an integral component of M-commerce. Any transaction on mobile devices involving monetary value has to go through a payment mechanism. With increased interest of users in M-Commerce, the mechanisms available for mobile payments are becoming more prevalent and are continuously evolving. This chapter describes stakeholders of the mobile payment ecosystem, mobile payment technologies, payment carriers, payment gateways and issues involved with them. We also discuss the popular payment options available in M-commerce market space today.*

### INTRODUCTION

Smartphone and Internet penetration in large number of households has changed the consumer's concept of performing business. With E-Commerce already a hit, M-Commerce is soon to follow the success path. Mobile Commerce is any transaction which involves buying/selling of goods, services, apps etc. using wireless technology. From downloading games, ringtones, apps, and other digital content to online shopping, online banking, and funds transfer, M-Commerce has come a long way. Apart from using traditional SMS based mobile payments and M-Commerce payment gateways, the consumers are now ready to experiment new innovative payment modes like NFC, mobile wallets etc. There are a wide range of choices available for the consumers in the mobile payment world. Several online payment methodologies available for merchants and consumers include debit/ credit cards, bank account transfers, direct debits, prepaid/gift/loyalty cards, third-party payment agents like PayPal. Mobile Payment technology like NFC, 2D barcodes have also started redefining the mode of payment at PoS (Point of Sale) termi-

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nal. The mobile payment ecosystem comprises of many stakeholders. Looking at the rapid growth of M-Commerce each player wants to capture their space in the value chain, from the increasing volumes and values of products/services delivered using mobile based payments. Each stakeholder is trying to get its revenue share by providing their own payment carriers and modes.

Mobile Payment is a promising digital sales channel of the next generation. The Asia-Pacific region currently dominates the world mobile payment market with Japan and Korea being global leaders, but its use in other parts of world is also expanding faster. According to an April 2012 study by the Pew Internet and American Life Project (Smith, Anderson, & Raine, 2012), “The Future of Money in a Mobile Age,” by 2020, most consumers will have embraced and fully adopted the use of smart-device swiping for purchases, nearly eliminating the need for cash or credit cards. President of Visa Europe, Peter Ayliffe, has predicted that 50 percent of Visa’s transactions would be carried out on a mobile device by 2020.

According to Gartner, Inc., (Gartner Inc., 2013) a global information technology firm, have predicted that worldwide mobile payment transaction values would increase from an estimated \$235.4 billion in 2013 to \$721 billion by 2017, with a corresponding increase in an estimated 245.2 million mobile payment users worldwide in 2013 to more than 450 million users by 2017. Gartner forecasts that NFC will account for only 5 percent of the total transaction value in 2017, although growth is expected to increase somewhat from 2016 when the penetration of NFC mobile phones and contactless readers increases. Asia/Pacific will overtake Africa to become the largest region by transaction value, reaching \$165 billion in 2016.

In this busy world where people are always short of time, doing financial transactions from anywhere anytime will be very advantageous. This chapter gives insights into mobile payment system, various stakeholders, technologies, benefits, payment modes, carriers, gateways, challenges and issues. It also discusses popular payment options available today.

## **BACKGROUND**

With increase in the number of mobile users and availability of high bandwidth 4G networks, mobile phones are not merely being used for communication and entertainment purpose. Consumers have steadily started using mobile phones as tools for banking, paying bills, budgeting and shopping. In the past, consumers used mobile payments mainly to purchase digital services that they consumed on their mobile devices. Recently, however, consumers have expanded use of mobile payments and have adopted it for purchases of physical goods, payment of bills, shopping, ticketing, paying at kiosks, toll plazas, automated vending machines etc. A Survey of Consumers’ Use of Mobile Financial Services by Federal Reserve Board’s Division of Consumer and Community Affairs (Governors, 2014) on US adult population revealed that by 2014, usage of mobile payments had increased to 22 percent for mobile phone users and increased to 28 percent for Smartphone users. Forrester forecasts that US mobile payments will reach US \$90 b in 2017.

With many merchants showing interest in expanding their business using M-Commerce, the mobile payment market is rapidly evolving. Blackhawk Network Shopper (Blackhawk Network, 2015) study conducted in July, 2015 found that 25% of Smartphone owners now use Mobile wallets. According to Boston-based independent research firm Aite Group (Cluckey, 2011) mobile payments will total \$214 billion by 2015, 77 percent of which will be payments made at a physical retail location in the United States.

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