

M-Commerce: A Revolution in E-Business

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Abstract –With the advancement of traditional business to electronic business and then electronic business to mobile commerce, the technology changed rapidly. Mobile-Commerce (M-Commerce) has come into existence with the advancement of wireless technology which increases the number of mobile device user and gives a rapid development of e-commerce using these device. M-Commerce is a special type of E-Commerce where all transaction has to be done by mobile phones. Earlier mobile devices are used only for phone calls and SMS but nowadays mobile devices are part of our daily life for doing different type of transaction like mobile banking, mobile ticketing, mobile money transfer etc. More and more users are connected with Smartphone and access their mobile services by installation of applications.

Keywords-M-Commerce, E-Commerce,

1. Introduction- Nowadays Information Technology and Communication are growing faster. Mobile devices are one of the useful invent of Information Technology. It is available approximately in each hand not only in India but also all over the world. Internet is the base for acquiring services, it provides the information anywhere and anytime just by clicking or touch the screen of device, it develops the interaction between business and consumer and provides different types of services. Mobile entered in India in 1995 and spread over country very fast within a decade, so it became a necessity to everyone. According to the report by the “Internet & Mobile Association of India (IAMAI) and IMRB International”; there were 173 million mobile internet users in India in December 2014 and mobile internet users are expected to reach 213

million on June 2015 due to growing of smart phones. Many companies started doing business in India through mobile application

Commerce is an association which deals with exchange of goods and services from producer to final consumer. It contains trade of economics value such as goods, services, information or money between two or more entities. Nowadays different types of commerce applications developed such as E-Commerce, M-Commerce, V-Commerce, P-Commerce, U-Commerce etc. Our main concern is “M-Commerce”; M-commerce is a subset of E-Commerce, E-Commerce means electronic market where transactions are conducted over the internet.

2. Mobile-Commerce (M-Commerce) -M-Commerce deals with buying and selling of goods and services through wireless handheld devices. In M-Commerce payment for goods and services are

also done by mobile phone or personal digital assistant (PDAs) and other devices with a wireless connection. Main idea behind the M-Commerce is access the services anytime and anyplace to buy tickets for any event, download any content, booking, mail checking, surfing, playing game, and also checking prices for any goods etc. The technologies used in Mobile-Commerce are GSM (Global System for Mobile Communication) and HSCD (High Speed Circuit Switched Data).

2.1 History- In November 1997, M-Commerce was fully launched in London; More than 100 companies joined the global mobile commerce forum, in this first meeting Kelvin Duffey was elected as the Executive Chairman. The first m-commerce hosted in the city Helsinki in Finland, in using to pay Coca cola vending machines. For paying the bill, Consumers can use the mobile SMS text messages. After that in the same year, the mobile banking service could be used by SMS text messages in Merita Bank in Finland. Fund transaction has been started by Phillipines and Japan using M-Commerce. Since 1999 Australian can buy train tickets and Japanese can also buy the plane ticket using M-Commerce. In 2000 in Norwegia buying parking tickets is another great invention regarding M-Commerce.

3. Communication Technology- The M-Commerce technology has totally based on wireless network. The wireless communication technology is divided into basically two parts; they are Long Range and Short Range.

Long Range- Long Range is divided into two parts; they are

- Personal Communication
- LAN/MAN.

Personal Communication-The personal communication consists of following technology-

- 1G- It is first generation of mobile technology. It was based on analog transmission and emerged in 1980. It was first launched in Japan.
- 2G- It is second generation wireless telephone network launched on the GSM Standard in Finland in 1991. The data transfer speed of 2G is 9.6Kbits/Second. 2G services started with text message and SMS. It also provides the services like picture messages and Multimedia messages (MMS).

- 2.5G- It is known as second and half generation, it is based on GPRS (General Packet Radio Service). It also used for WAP, MMS, SMS, Internet. The maximum speed of 2.5G is 40Kbits/Second.
- 2.7G- It is based on EDGE (Enhanced Data Rates for GSM Evolution) technology; it is basically used for internet connection. The maximum speed of 2.75G is 230Kbits/Second.
- 3G- It is third generation mobile telecommunication technology. The first 3G network introduced in 1998, it is high speed internet access which is based on UTMS (Universal Mobile Telecommunication System). It also supports video and voice data for communication. The maximum speed of 3G is 2-10Mbits/Second.
- 4G- It is also known as fourth generation mobile telecommunication technology. It supports high network capacity like HDTV video, Mobile TV, video conferencing, 3D television, cloud computing, it is first released in 2009. The speed of 4G is 100Mbits/Second for moving client and 1Gbits for stationary client.

LAN/MAN- The LAN/MAN consists of following technology

- 802.11 Wi-Fi- It is a family of IEEE802.11 standards, it is used for short range IP networking (WLAN). The speed of this technology up to 54Mbits/Second. It is also available in many Smartphone. Wi-Fi hot spots are an example of it.
- 802.16 WIMAX- It is also a family of IEEE802.16 standards. It is also accessible all over the world. The maximum speed of this technology is 70Mbits/Second.

Short Range- The communication technology for short range consist of following parts they are-

- Bluetooth- It is a wireless technology which is used for exchange of data in short distances like 1meter, 10 meter, 100 meter. It is invented by telecom vendor Ericsson in 1994, it consumes less power. The maximum speed of V.1.2 is 1Mbits/Second and V.2.0 is 3Mbits/Second.
- RFID- It stands for Radio Frequency Identification. It is basically an integrated

circuit for storing and processing of information. Radio signal is also modulated and demodulated and antenna is also used for receiving and transmitting the signal.

4. Areas/Uses of m-commerce- In the recent trends, mobile commerce has been emerged almost each and every sector and it is accepted as a popular way of business.

Finance Sector-M-Commerce is growing faster in finance sector including all popular financial institutes, banks, share brokers and stock market. A user can access the services by using voice call or Short Message Services (SMS). WAP based mobile services allow the user to access the official website of the institute.

Telecommunication Sectors-Mobile has also boomed in telecommunication sector, in which services are accessed by mobile devices like bill payment, account review etc. Bills can be paid through mobile and user can also check the available balance, the status of bill and also customer care support.

Service/Retail Sector-M-Commerce provide a better platform for service and retail sector customer can able to book the order like hotel booking, restaurant booking, and hire courier services etc

Information Sector- M-Commerce has spread out in information sector for knowing about sports, new, railway enquiry, ticket booking information and other activities of user interest, only after downloading the simple application.

5. Services of M-Commerce-Mobile services and application can be used in almost every field.

Mobile Ticketing- It is the process where a consumer can order and pay for booking of tickets anywhere at anyplace. Tickets can be booked and cancelled on the mobile device with the help of simple application downloading; tickets can be delivered in form of SMS and MMS. It provide guaranteed security because only one entry per code. There are certain ways for purchasing of tickets through online, text messaging or in a secure mobile application. It is used in many applications such as Airline ticketing, Cinema ticketing, Railway & Bus ticketing, concert or event ticketing, consumer voucher distribution.

After purchasing, instant delivery of ticket and it reduces the queue system.

Mobile Money Transfer (MMT) - All the payment services which have done by using a mobile phone is consider under MMT. ICICI bank has started IMPS (Interbank Mobile Payment Service). The sender registers with mobile banking and gets money ID and mobile pin, a user can downloads and activates the IMPS application.

Content Purchase and delivery- The sale of ring tones, wall paper, and mobile games are considered under Content Purchase and delivery. A part from this purchase and delivery of video player, full length music track and video has done with this.

Information Services- Different types of information services like news, stock quotes, traffic reporting, sports score etc. can be delivered through mobile phones by downloading application. It is trendier to gain information and accessed by almost most of the users.

Mobile Banking- A consumer can access the mobile banking service to know their account information and different type of transaction details such as stock purchasing, remitting money, transfer money to other bank. A part from this mobile banking services contain checking the balance, mini statement and checking of account history, PIN provision like change of PIN, cash-in and cash-out transaction on ATM.

Location Based Services-Location based services are more appreciative feature of M-Commerce. It is used for knowing the location for user preferred choice. Suppose you are in remote area and don't much aware about that place and you have need to go restaurant then you can use location based services, to find the nearest restaurant from that place. There is no need to take help from anyone. A part from this location based services provide information regarding location discount offers and tracking and monitoring of people.

Mobile Marketing & Advertising- Through marketing and advertisement, M-Commerce business has to be expanded. There are various types of Mobile marketing & advertisement such as Web poster, SMS advertising, MMS advertising, Mobile games, and Mobile video, audio advertisements.

6. M-Commerce Emerging Application –

Mobile Financial Application (MFA) - It is one of the important parts of m-commerce which involve mobile banking, mobile money transfer, mobile payments etc.

Mobile Advertising (MA) – Advertisement is the basic of any product, wireless service providers collect all the information and advertise that in user's Smartphone.

Mobile Inventory Management (MIM) – This application involves location tracking of goods, services and people. It helps service provider to track the time of delivery to customer, therefore it improves the customer services.

Product Location and Search (PLS) – To find an item with certain specifications like location is being done by this category of application whether the item is available or not.

7. Payment Method- There is different types of payments method which is used by consumer they are-

Direct Mobile Billing- It is a method of paying which involve a PIN (Personal Identification number), OTP (One Time Password). The user account is charged the amount of purchase plus additional taxes for a processing fee.

Macro and Micro payment service- In Macro payment, more than US \$10 amount is paid by credit card where as in Micro payment, usually we paid less than US \$10, the amounts are charged to user's phone bills.

Mobile Wallet- In mobile wallet technology, details of credit card and debit cards are being uploaded in digital account and this account is directly linked to Smartphone which have mobile wallet app. It is based on NFC (Near Field Communication) technology which uses radio frequencies to exchange information between Smartphone and other devices.

8. Advantage of M-Commerce- M-Commerce has several major advantages, such as ubiquity, personalization, flexibility etc. It is beneficial for both type of businesses large scale and small scale.

User's need- Mobile is the only technology which is now become necessary for each person for their social and business life. A man can survive without laptops but it is too difficult without mobile.

Saving- There is direct communication takes place between companies and consumer, there is no

need of any physical store, so it's save time and money both.

Ubiquity- By the use of wireless technology we can access m-services from anywhere and anytime.

Quick access- Connecting through a mobile is faster than dial-up connection, so through mobile device user can access anywhere and anytime. Mobile devices are easily to carry from, it avoids the user to go any physical store and also avoid the user to use laptop and desktop.

Instant Connectivity (2.5 G) – Instant Connectivity means “always available” is the emergence of 2.5 G networks, GPRS or EDGE. After using of these, services are easier and faster for internet.

More Convenience- The small size and ease of use of mobile users are providing higher degree of user convenience.

Easy to use- A user can easily use of m-commerce services, there is no need of skilled consumer, users have a choice of more items through their mobile and there is no any waiting queue and no need of online check out process.

Consumer's deals- Companies provide different types of deals in comparison of their competitor.

Personalization- Each mobile is personal to the user who is using it so that a user can change and modify appearance, setting, themes and contact information. A part from this users have controls of sending e-mails, e-payment and on the activity.

Increasing Productivity- It is quite amazing that you can do anything by simple handy device. You can do business all throughout the world by using mobile application.

9. Disadvantage of M-Commerce- Every invention has certain merits and demerits

Smart phone limitation- Mobile has no big screen like desktop or laptops, so sometimes it's too difficult to use, so it affects the services.

Risk factor- All the transaction has to be done wireless, there is less security in wireless network, and the chance of hacking for data transfer is more

Connectivity-For better utilization of M-Commerce services a high speed 3G connectivity required, otherwise it is hectic for the user to utilize m-commerce services.

Language Barrier- in India, most of the people are not familiar with English language, all the m-commerce applications are mostly in English language. So it's difficult to communicate for that people.

10. Conclusion and Future Scope – M-Commerce is growing very fast due to wireless technology. It changed the entire business environment; companies developed their business exponentially after opting m-commerce application apart from this consumer get also benefited by using m-commerce application and save their useful time and money. It has spread all over the global business mobile market. After development of M-Commerce, everything is on the finger tip of consumer like booking a hotel, movie ticket, sports information, news, online payment, railway enquiry and ticket booking and many more.

Mobile-Commerce is most demanding sector for the growth of retail not only in India but all over the international platform, Mobile phone and Smartphone is becoming a much larger used device as compared to PC's. People in the rural sector are also using Smartphone and almost each and every household have broadband connection. 70% of the transaction of E-Commerce is being carried by mobile phones. Myntra is also doing their business only by mobile application. Snapdeal, Flipkart etc these are latest site which are more in demand.

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