The Futuristic Approaches of M-Commerce with 5G Technology

Rajesh Kumar[1], Dr. Pankaj Dadhich[2]

Research Scholar, Computer Science, Bikaner, Rajasthan, India [1]
Research Supervisor, Sh. Jain Girls' P.G. College, Bikaner, Rajasthan, India [2]

Abstract

In today's fast paced world technology helps everyone to make their life a little bit easy. Mobile Phones make some essential works convenient for them, with a single click you can transfer funds without going to bank, pay electricity bill, purchase goods and many other works, All these works are possible due to m-commerce. M-commerce means any monetary transaction through mobile phone.

M-commerce is a rapidly growing sector of e-commerce. M-commerce enables the user to do e-commerce transactions with a mobile phone. Mobile networks are more convenient in comparison to fixed networks. In the field of mobile wireless communication people are seeing advancements rapidly, almost every year we see innovations in mobile generations. The journey of mobile wireless communication began with 1G followed by 2G, 3G, 4G and latest is 5G. This paper throws light on the fifth generation of mobile networks. Also will it meets the expectations of m-commerce. Goods and service sectors of all over the world are integrating m-commerce technology into their business models.

Keywords - m-commerce, mobile networks, wireless, 5G

I. INTRODUCTION

M-commerce (mobile commerce) means the purchasing and selling of goods and services through wireless handheld devices such as smartphones and tablets. M-commerce enables users purchase and sell goods and services without a desktop computer, it only requires a mobile phone and a wireless connection. M-commerce offers a variety of products and services on competitive pricing. Examples of m-commerce include mobile banking, virtual marketplaces like the Flipkart, Myntra mobile app or the digital wallets such as Google Pay, Phone-Pe etc. Banks are also developing their own applications for various transactions for eg. **YONO** (**Y**ou **O**nly **N**eed **O**ne) is an integrated digital banking platform offered by State Bank of India to enable users to access a variety of financial and other services such as flight, train, bus and taxi bookings, online shopping, or medical bill payments.YONO is offered as a smartphone app for both Android and iOS. iMobile is another example of banking application it is ICICI Bank's mobile banking application that lets you transfer funds, pay bills, book travel or movie tickets, recharge your prepaid mobile and DTH

Connection, locate an ATM and do a lot more while we are on the go.

The main reason behind people adopt mobile commerce is because of its ease of access. The days are gone when we have to go to bank for various transactions or to a grocery store to purchase goods etc. Now everything is just a click away whether it is paying bills, purchasing clothes, booking tickets etc. M-commerce made our day to day life much easy. Mobile wireless connectivity played a vital role in the development and growth of m-commerce. With most m-commerce enabled platforms, the mobile devices are connected to a wireless network that is used to make online payments and purchasing etc. In terms of mobile payment products specifically, they use peer-to-peer (P2P) sharing. Once a mobile device is paired with a bank card's information, the phone can be waved over a payment terminal to pay for a product. M-Commerce uses the many type technology in all generation. These technologies are SDR, Digital Signal Compression, Biometric and Turbo Codes etc.

According to statista in India in 2018, 390.9 million people accessed the internet through their mobile phone across India. It was estimated that by 2023, there would be over 500 million mobile phone internet users in the south Asian country. The PayPal and IPSOS 'M-Commerce Report', based on a survey conducted across 11 countries "88 per cent of the surveyed Indians use a mobile device to make payments, way above the global average of 71 per cent." It also said 45 per cent of merchants have made mobile optimisation a business priority in the next 12 months. "Time saving and ease of transacting is the main drivers for mobile commerce," it said and added social commerce adoption is led by the young.
According to the study, apps are a popular way of transacting, wherein 98 per cent of Indian mobile shoppers pay through apps as against 90 per cent of the global average.

Radio technologies have evidenced a rapid and multidirectional evolution with the launch of the analogue cellular systems in 1980s. Thereafter, digital wireless communication systems are consistently on a mission to fulfil the growing need of human beings (1G, …4G, or now 5G).

5G is the 5th generation mobile network. It is a wireless standard after 1G, 2G, 3G, and 4G networks. 5G enables to connect virtually everyone and everything together including machines, objects, and devices.5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users. Higher performance and improved efficiency empower new user experiences and connects new industries. 5G speeds will range from ~50Mbit/s to over 2Gbit/s at the start. The fastest 5G, known as mmWave, delivers speeds of up to and over 2Gbit/s.

Need for the study

Mobile Commerce is the need of the today's fast paced world. Due to better transport facilities people are having various things at their doorsteps and with the help of 5G technology this will open new gates and opportunities to virtual shopping platforms. 5G is the latest technology so m-commerce companies are seeing it as a huge profit potential technology as well as they want to exploit it as much as possible. Also 5G is expected to be 10 times faster than 4G.

Objectives of the study
- To understand the basic concept of Mobile Commerce
- To understand the need of virtual shopping platforms
- To analyse the 5G technology
- To analyse the benefits of Mobile commerce
- To study the security concerns of m-commerce

Benefits of M-commerce

From the customer point of view m-commerce provides convenient and easy to use platform to do various transactions, its reach is very wide. According to Statista, the current number of smartphone users in the world today is 3.5 billion, and this means 45.04% of the world's population owns a smartphone. This figure is up considerably from 2016 when there was only 2.5 billion users, 33.58% of that year's global population.

According to outer box statistics nearly 4 out of 5 smartphone users have made at least one purchase in the last 6 months. This includes users who are experiencing mobile transactions for the first time and joining the large cohort that's already converted over. Users are inclining more and more towards online payments because it is convenient and time saving. In 2018, an estimated 1.8 billion people worldwide purchased goods online (Statista, 2018). In the same year, global e-retail sales amounted to $2.8 trillion and projections show that global e-retail sales are going to grow to up to $4.8 trillion by 2021. People are choosing online shopping because they are getting a great variety of products, deals and they can compare goods, their prices etc in few moments.

Success of a business is directly proportionate to its satisfied customers, more the satisfied customers more successful a business is. M-Commerce provides various businessmen a platform through which they can provide ample services to their customers also with the help of m-commerce a person can run a business successfully through his home. M-Commerce enables traders and buyers to exchange services and make payments through a secure channel based on real time constraint.

M-Commerce and 5G

Most of the m-commerce users complain about the loading time of the application or website, they face problem in making transactions. Theyexpect pages to load fast. 5G can provide a solution of this problem. Tech companies are claiming that 5G is 100 times faster than 4G it means that users now need not to be worry about lengthy load times, transactions with 5G will complete in short time span and users can find there desired goods and services quickly. Access to high speed networks is important to providing 'rich' application. The 5G network that will deliver higher speeds for mobile connections are on the way but have not yet arrived in whole India.
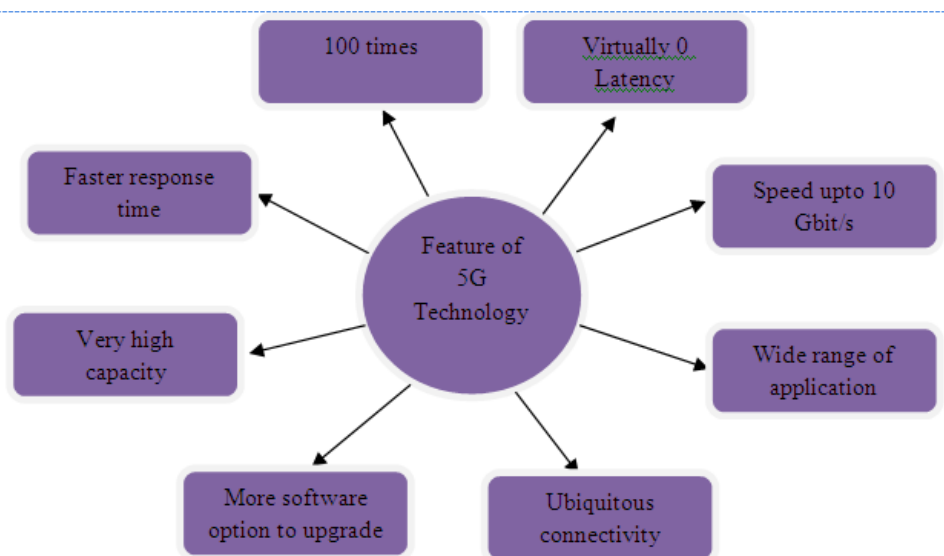
5G Technology

Mobile technology is an ever changing field, in every decade a new technology comes and provides better and secure communication with many other facilities m-commerce is amongst one of them. The First Generation (1G) came in 1980s, Second Generation (2G) in 1990s, Third Generation (3G) in 2000s, Fourth Generation (4G) in 2010s, and now Fifth Generation (5G), we are advancing towards more refined and discreet technology.

The 5G technology is expected to provide a much wider frequency bands along with the wider spectral bandwidth per frequency channel than its precedessors. Question is how is 5G better than 4G ?

5G is expected to be 10 times faster than 4G.Also 5G uses a new digital technology, MIMO (Multiple Input Multiple Output) it improves coverage, speed and capacity by using multiple targeted beams and follow users around a cell. 5G has high increase bit rate. It supports large number of devices with low infranstructural development cost, higher reliability with better connectivity.

Features of 5G

5th Generation of Mobile Network or simply 5G is the futuristic revolution in mobile industry that will change the whole mobile industry.One of the main features of this technology is its ultra high speed which will provide great connectivity with more security.

This feature will surely have a great impact on the virtual shopping platforms and payment facilities. Other features that fasciante people are more gaming options, wider multimedia options, connectivity everywhere, zero latency, faster response time, and high quality sound, downloading and uploading of HD Videos within seconds.

Security concerns in M-Commerce and 5G

Mobile data traffic around the world is projected to increase by 700% between 2016 and 2021. (Source: Marketing Land)

According to Cisco's Global Mobile Data Traffic Forecast, world will see a rapid growth in this sector. Though most of the data traffic is due to video contents and gaming but we cannot neglect the rise in shopping through mobile phones also.

M-Commerce is totally based on wireless communication, so security risks are higher than e-commerce mainly related to confidentiality, integrity etc. Visa was among the first in the field of m-commerce to implement payment verification.

Visa allows cardholders to authorize the payment in real time and makes sure that payment information sent over the network system cannot be accessed, thus enabling users to secure their visa a/c by not all owing illegal use.

Ravishankar Borgaonkar, a research scientist at the Norwegian tech analysis firm SINTEF Digital says "5G has really good promise for security," "Encrypting identifiers is a really good thing, and network slicing is a network paradigm shift. But there are still other ways that users can be tracked. He states that "Even 4G was relatively secure, but many operators were not implementing certain recommended protocols at all, because it was costly," this can be a issue with 5G security, if operators does not implement the recommended protocols but if they do implement then it will create a great environment for m-commerce because the main concern in today's world is about personal information security. The security and privacy gains of 5G will make a real difference in protecting users from manipulation and threats like tracking attacks. And as a massive horde of new internet connected devices comes online through 5G, features like network slicing will hopefully help manage their security.

II. CONCLUSION

The growing sector of information and technology is affecting our day to day life in many positive aspects one of them is m-commerce. M-Commerce has leadthe world to newer opportunities for the service providers as well as for the users to obtain benefits in terms of convenience, freedom and speed of work. . With the help of mobile commerce can access &manage their bank accounts, without going to bank, shopping, entertainment, health care, education, and ticketing and many other sectors.

Though there are some speed related issues and security concerns but 5G technology with its better security, higher speed will surely help m-commerce sector effectively with improved wireless security, privacy through data encryption etc.

In the current business organizations, mobile commerce has been entered in finance, services, retails and telecommunication and information technology services. Mobile Commerce is not only being widely accepted but also it is being more used as a popular way of doing business today.

BIBLIOGRAPHY

[1]. https://www.bankmycell.com/blog/how-many-phones-are-in-the-world
[2]. The Future of Mobile Commerce With 4G Wireless Technologies by Emmanuel OshogweAkpeokhai International Journal Of Marketing Research | Volume 2 | Issue 2 | December 2016 |E-ISSN 2469-4029
[3]. https://www.lyonscg.com/2018/08/13/5g-and-mobile-commerce/International Journal of Advanced Research in IT and Engineering ISSN: 2278-6244 Vol. 2 | No. 2 | February 2013 www.garph.co.uk IJARIE | 54
[4]. M-Commerce In India: Emerging Issues Dr. Sunil Batra* Dr.NeenuJuneja*
[5]. International Journal of Emerging Research in Management &Technology ISSN: 2278-9359 (Volume-6, Issue-8) India Goes Digital..Smartphone is the New Shopping Destination Dr. Shankar ChaudharyAssociate Professor, Pacific Business School, Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan, India

Dr. Pankaj Dadhich
Research Supervisor Sh. Jain Girls
P.G. College, Bikaner, Rajasthan

Rajesh Kumar
Research Scholar
Computer Science
Maharaja Ganga Singh University
Bikaner, Rajasthan