M-Commerce and its impact on Today's Economy

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Abstract

Mobile commerce, often known as m-commerce, comprises the use of wireless portable devices such as mobile phones and tablets to undertake online commercial transactions such as the purchase and selling of items, banking on the internet, and bill payment. The main difference is that customers do not need a laptop or PC to achieve this. They can make use of portable technologies such as cell phones and tablets. Users can now use online shopping sites and other internet services from anywhere and at any time. For example, when someone purchases any products if they have an Android or iOS app, they are engaging in m-commerce. A mobile device may be used to buy and sell a variety of content assets such as games, programmes, ringtones, subscriptions, and so on. Mobile commerce offers organisations extraordinary market potential, high productivity, as well as elevated profitability due to intrinsic properties such as ubiquity, personalisation, flexibility, and diffusion.

Keywords: M-Commerce, Mobile Phones, Tablets, Payment, Secure Payments, Digital Wallet.

1. Introduction

Businesses are spending more money than ever before advertising online, and they're paying close attention to social media as a new channel for reaching out to consumers. In India, the increase in Internet users is being accompanied by significant growth in the use of smartphones. Customers use mobile phones to share emails/pictures/videos, download music/animations/graphics, look for goods, play games on the internet, access wellness and lifestyle mobile applications, access Global Positioning System information, perform stock purchases, book tickets, find friends, carry out financial transactions, handle bank accounts,

pay via mobile phone credit payment, purchase from vending machines, and even more [1]. E-commerce and M-commerce need different infrastructures. The rapid growth of the Internet, which addresses the worldwide inter-networking problem and assures that computers communicate consistently, has contributed to the expansion of e-commerce. Simultaneously, M-commerce emerged to private mobile communications systems[2]. Private mobile communication firms provide a wide range of wireless media communication technologies, from global to regional, including satellite communication, regional (3G), and Bluetooth technology. M-commerce has the ability to alter customer purchasing behaviours while establishing itself as an important commerce channel. Consumers rely on digital gadgets like never before, and the rise of M-commerce suggests that mobile may soon overtake desktop as the most common method for online buying. Information delivery over wireless devices has gotten quicker, more secure, more scalable over time. App purchases; mobile banking online marketplace applications, such as the Amazon pay and digital wallets, such as Google Pay, phone pe, and Samsung Wallet, are examples of m-commerce [3].

Figure 1.M-commerce

1.1 Services provided by M-commerce

Retail Services: In addition to changes in technological advances and consumer purchasing habits, retailers' assets in mobile platforms are significantly contributing to m-commerce

growth. Retailers across all sectors are developing ways to reach customers via their phones, ranging from social media and advertising to apps & mobile-friendly websites.

Financial Services: Mobile devices are used for mobile banking as well as trading transactions. The use of wireless technology (Such as WAP) to perform sales of products, services, payments and other financial activities, information interchange, and so on is the foundation of mobile commerce.

Information services: Customers may use their phones to receive information such as sports news and political headlines of their choice. Students, for example, may now check their university or public examination results through SMS. Mobile devices provide access to financial, games, weather, traffic, and other news updates.

Intra- Communication: Travelling salesman have no need to wait long for permission from top management. With the use of mobile devices, any information may be readily and rapidly transported. It breaks down barriers to intra-office communication. Mobile phones are used for making service adjustments, pay bills, and review accounts.[4]

2. E-commerce Vs M- Commerce

M-commerce is an emerging technology than e-commerce, and it has seen advances over time. The primary distinction between e-commerce & m-commerce is eCommerce purchasing takes place on desktops and laptops over the internet, whereas m-commerce transactions take place on mobile devices such as smartphones and tablets. Pushing alerts may be sent to mobile devices, and promotional emails can be sent with eCommerce customers. [5,7]

When using e-commerce, tracking one's location and providing regional offers can become tedious; however, location tracking is simple with mobile phones because they have built-in GPS. Based on the location many offers and retail trading could be made easy with the help of e- commerce. In e-commerce, mobile devices are utilised for two-factor authentication. M-commerce benefits from added security using biometrics such as fingerprint and facial recognition.

While the eCommerce purchasing procedure is entirely dependent upon computers and websites, it has limited mobility. You may personalise and give a customised buying experience on m-commerce, allowing customers to make quick purchasing decisions.

3. Mobile commerce

Most m-commerce systems link the mobile device to a wireless network, which is utilised to execute online product purchases as well as additional transactions. Similarly, measuring the smartphone add-to-cart rate can assist developers in determining whether consumers are becoming customers.[8] M-commerce designers may also want to track typical loading times, smartphone cart conversion rates, and SMS subscriptions. Mobile payment products are based on peer-to-peer sharing. Once paired with the customer's bank card information, a mobile device can be raised over a terminal for payment to pay for a product. Near-field communication technology is used in contactless payments made using a mobile device.[2]

3.1 Types of M-Commerce

Mobile banking: A financial institution such as a bank that offers mobile banking allows its clients to execute financial transactions via a mobile device like a smartphone or tablet. Unlike linked internet banking, it makes use of software, sometimes referred to as an app, given by the financial institution. Mobile banking is often available 24 hours a day, seven days a week. Mobile banking is sometimes known as "Net Banking," which is similar to internet banking. Financial institutions, particularly banks, employ text messages, apps, as well as chatbots to communicate warnings and account activity.[9]

Mobile shopping: The mobile device is essential for the effective operation of mobile shopping. However, today's customer expects an omnichannel experience; they want their favourite brands to be readily available on the channel of their choice. For example, if a client scans a QR code in a retail store, they may complete their purchase on Chatbot and continue shopping.

Mobile Banking: Consider the last time you used your bank's mobile app to transfer money from one account to another.

Mobile payments: Mobile payment systems, such as PayPal,Google pay and Venmo utilised for sending money to friends and family members.

Catalogue: M-commerce is transforming how entities conduct retail and industrial operations. Metro provides consumers with a downloaded software that functions as an augmented reality catalogue. Customers may upload photos of their room and use the AR software to superimpose

furniture to "try before you buy." This type of technology provides customers a greater knowledge of a product in their area and can assist businesses minimise the rate of refurbishing and returns.

3.2 Working of M-Commerce

M-commerce, or mobile commerce, is the term used to describe the purchasing and selling of products and services via mobile devices like smartphones and tablets[10]. It includes the use of mobile apps or websites that have been optimised for mobile in order to streamline transactions and give mobile consumers a seamless shopping experience.AlSondos, I., and A. Salameh. "The effect of system quality and service quality toward using m-commerce service, based on consumer perspective." Management Science Letters 10, no. 11 (2020): 2589-2596.. Here is a description of how mobile commerce works:

Mobile Shopping Apps/Websites: Businesses and retailers create mobile applications or adapt their websites for the use on mobile devices. These programmes and websites are made to be adaptable and user-friendly, offering a seamless purchasing experience on smaller displays.

Product Catalog and Display: Product catalogues with extensive descriptions, photos, price, and user feedback are displayed on mobile shopping platforms. Users may browse through multiple groups and look for specific things they want to buy.

User Registration and Account Setup: Typically, the mobile commerce platform requires users to register and set up an account. As a result, they may maintain a list of preferences, monitor orders, and conduct safe transactions.

Order Placement: Users can proceed to the checkout after adding products to their virtual shopping carts. They may supply mailing addresses, examine their order, and choose delivery choices.

Secure Payment Processing: Platforms for mobile commerce include secure payment channels to handle transactions. Users can enter payment information such as credit card numbers or utilise other payment options like mobile wallets or online payment sites.

Personalization and Recommendations: Personalised suggestions are provided by several mobile commerce systems using customization algorithms that take into account user

preferences, past purchases, and browsing activity. By doing this, the shopping experience is improved and more purchases are encouraged.

Push Notifications and Alerts: Apps for mobile commerce notify consumers via push notifications or alerts when new products, sales, discounts, or order changes are available. This promotes user engagement and purchases.

User Reviews and Ratings: Users may provide feedback and evaluations for things they've purchased, which might assist other consumers make more educated purchases. Reviews like this additionally add to the seller's overall reputation and legitimacy.

Customer Support: Customer support channels, including online chat, email, or phone, are provided by mobile commerce platforms to address user issues, give assistance, and manage returns or refunds as needed.

Order Fulfilment and Delivery: When a purchase request is placed, it is processed by the merchant or firm, who then prepares the products for shipment or dispatches the items for delivery. Customers may often follow the status of their purchase orders using the mobile app or website.

As a result of the accessibility and convenience it provides, mobile commerce has significantly increased in popularity. It enables consumers to buy whenever they want and everywhere they are, making purchases with only a few clicks on their mobile devices. Businesses gain from broadened consumer involvement, better mobile user targeting, and improved reach.

3.3 Algorithm of M-Commerce

Mobile commerce (m-commerce) algorithms often include data processing, user behaviour evaluation, and recommendation systems. While individual algorithms may differ based on the platform and company objectives, the following is a high-level summary of the algorithmic components of m-commerce:

User Profiling: When a user registers and interacts on a m-commerce platform, their personal information is gathered and utilised to construct a user profile. It involves demographic information, surfing history, buying behaviour, choices, including any explicit user-provided data.

Data Processing and Analysis: User data is gathered and processed in order to acquire insights into user behaviour and preferences. Machine learning, data mining, and statistical analysis may be used to uncover correlations, patterns, and trends.

Personalized Recommendations: Personalised product suggestions are made according to the consumer profile and data analysis. These suggestions seek to propose things that correspond to the user's preferences and previous purchasing history. collaborative filtering, content-based filtering, and hybrid techniques are examples of recommendation algorithms.

Contextual Recommendations: Contextual information, including location data, time, weather, or user behaviour, may be used by m-commerce systems to provide appropriate suggestions. For example, showing personalised offers based on user behaviour, recommending local businesses, promoting weather-appropriate apparel, or promoting weather-appropriate clothing.

Continuous Learning and Optimization: Algorithms for m-commerce are often designed to develop and change over time. The algorithms may be continually modified and optimised in order to enhance general user experience including business outcomes by gathering user input, monitoring interactions between users, and analysing performance indicators.

It's vital to remember that different m-commerce platforms might have their own customised algorithms adapted to their business models, consumer base, and purposes.

3.4 General Flow process of M-commerce

The below is the general flow process it varies based on the companies and customers.

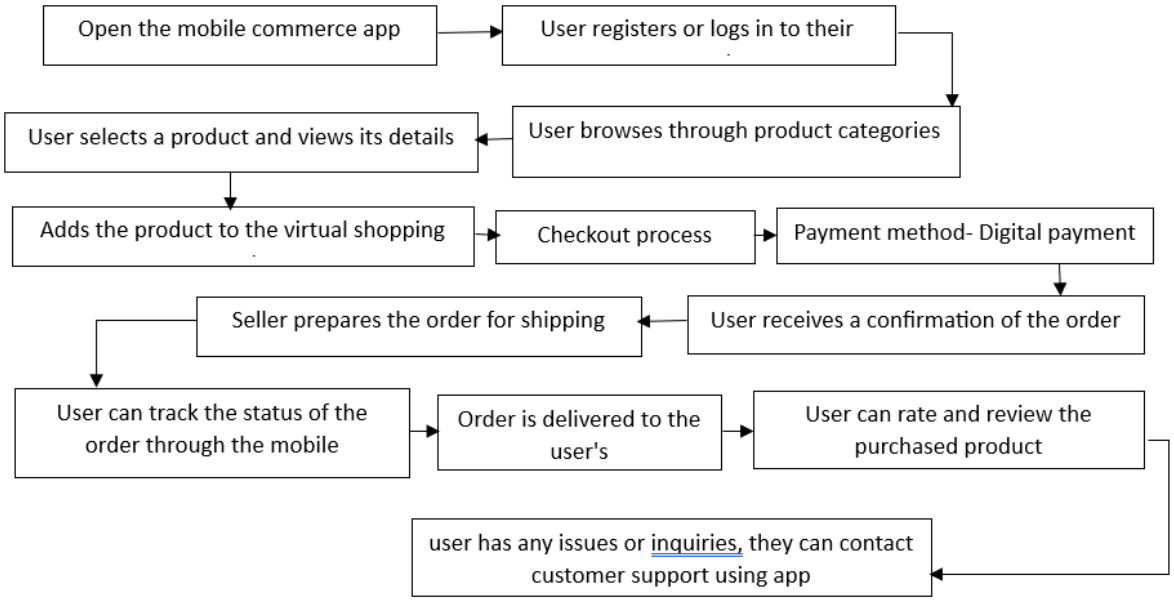

Figure 2. Process flow of M-Commerce

4. Effect of M-Commerce on Today's Economy

M-commerce, often known as mobile commerce, has had a huge influence on the modern economy. It has changed the way firms and consumers conduct business and has impacted several industries. Here are some of the most significant effects of m-commerce in today's economy:

Increased Accessibility: M-commerce has made purchasing and selling products and services easier to a broader audience. People can now purchase whenever and wherever they want thanks to the spread of mobile devices such as tablets and smartphones, resulting in increased customer involvement and improved market reach for businesses.

Growth of E-commerce: M-commerce has accelerated the expansion of e-commerce in general. It has enabled businesses to open online storefronts, allowing them to access clients outside traditional brick-and-mortar restrictions. As a result, online marketplaces have grown in popularity, as have new business models like as exporting and direct-to-consumer companies.

Boost to Small and Medium-Sized Enterprises (SMEs): M-commerce has levelled levels of competition for small and medium-sized enterprises through providing them inexpensive and accessible platforms to promote their products as well as compete with larger corporations. Small and medium-sized enterprises (SMEs) may now access a worldwide client base and compete on aspects such as quality of product, client service, and innovation.

Job Creation and Entrepreneurship: M-commerce's rise has led in the establishment of new job possibilities as the emergence of new entrepreneurial initiatives. It has aided the growth of the mobile app development, online advertising, logistics, and customer service businesses. Individuals may now build their own internet enterprises and become entrepreneurs through mobile platforms.

Digital Payments and Financial Inclusion: M-commerce has been a major factor in the adoption of electronic payment methods. Financial transactions are now more streamlined, safe, and convenient thanks to advancements in fintech like mobile wallets and online banking applications. By giving underprivileged communities and those without bank accounts access to banking services as well as online transactions, m-commerce has also helped to increase financial inclusion.

According to Forrester, m-commerce accounts for around 45% of e-commerce sales. By 2024, m-commerce is expected to account for more than 13% of overall retail sales in the United States, including all channels.[6]

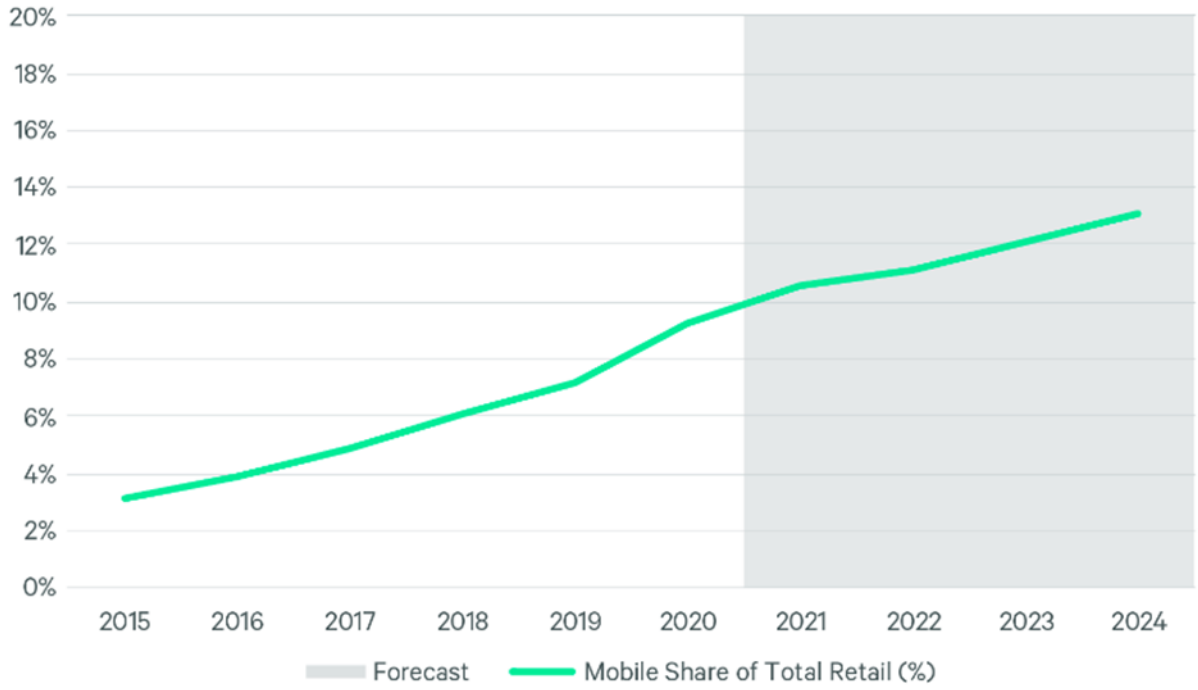

Figure 3 . M-Commerce share on total retail

Overall, mobile commerce is having a transformational influence on today's economy, boosting entrepreneurship, extending market prospects, and improving the overall customer experience. It is still shaping commerce's future by driving creativity, influencing customer behaviour, and changing old company structures.

5. Real time applications of M-commerce

Below are the few real time applications of M-commerce.

- Amazon Mobile App
- Uber
- Starbucks Mobile App
- Walmart Mobile App:
- PayPal Mobile App:
- Apple App Store and Google Play Store

- Ticketmaster

These are just some of the many m-commerce platforms and apps that are available today. They show the wide variety of items and services which can be accessed as well as purchased via mobile devices.[11][12]

6. Conclusion

M-commerce has transformed the way firms and consumers conduct business. Mobile commerce, with the growing usage of smartphones and tablets, provides various benefits to consumers as well as businesses. M-commerce has aided the expansion of e-commerce in general, propelling technical improvements, job development, and entrepreneurship. The augmented reality and virtual reality industries are expected to generate $35 billion in revenue by 2025. So, these are some of the upgrades to mobile commerce, and it is certain that it will develop to a higher level in the future. Overall, m-commerce has transformed the landscape of commerce by providing enterprises and customers with ease, accessibility, and personalised experiences. With ongoing technological breakthroughs and changing customer behaviours, m-commerce is likely to prosper and affect the future of commerce.

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