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Mobile Commerce in Modern Business Era

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A B S T R A C T

Mobile Commerce is the subset of e-commerce, which includes all e-commerce transactions, carried out using a mobile (hand held) device. This paper deals with the relevance and potential role that m-commerce can play in the development of business environment. Today, in India, there are more than 76 cores mobile users available. It is also increasing day by day Therefore, mobile commerce has very vital role in modern business. In the today's technology world, we can say that, without mobile, we could not live comfortably. Similarly, in business, without mobile commerce, it is impossible to survive in the competitive commerce world.

Introduction

Mobile Commerce is known as M – Commerce. M – commerce are used to buy and sell goods by using the wireless devices like cell phones, personal digital assistants and other hand held devices that have operated with Internet access. By using m- commerce we can access advanced mobile applications and high-speed services and we can use this devices remotely, anywhere, at any time. We can use the same hand held device for both Telecommunications and for bill payment and account evaluation.

M-commerce is an advanced technology of e-commerce. The time and space limitation

are removed and we can access any time we need. Through m-commerce, we can improve the wide range of productivity. In short, Mobile commerce is defined as the buying and selling of products and services through the use of wireless mobile devices. M-commerce is considered the next generation of e-commerce and this particular technology will allow users to shop through Internet without a plug-in terminal.

Definition of Mobile Commerce

"Mobile Commerce is any transaction, involving the transfer of ownership or

rights to use goods and services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of an electronic device"-Webagency, 2001.

History

Mobile commerce was born in 1997 when the first two mobile-phones enabled Coca Cola vending machines were installed in the Helsinki area in Finland. The machines accepted payment via SMS text messages. The first mobile phone-based banking service was launched in 1997 by Merita Bank of Finland, also using SMS. In 1998, the first sales of digital content as downloads to mobile phones were made possible when the first commercial downloadable ringtones were launched in Finland by Radiolinja (now part of Elisa Oyj).

Two major national commercial platforms for mobile commerce were launched in 1999: Smart Money in the Philippines, and NTT DoCoMo's i-Mode Internet service in Japan. I-Mode offered a revolutionary revenue-sharing plan where NTT DoCoMo kept 9 percent of the fee users paid for content, and returned 91 percent to the content owner. Mobile-commerce-related services spread rapidly in early 2000. Norway launched mobile parking payments. Austria offered train ticketing via mobile device. Japan offered mobile purchases of airline tickets.

The first conference dedicated to mobile commerce was held in London in July 2001. The first book to cover mobile commerce was Tomi Ahonen's *M-profits* in 2002. The first university short course to discuss mobile commerce was held at the University of Oxford in 2003, with Tomi Ahonen and Steve Jones lecturing. As of

2008, UCL Computer Science and Peter J. Bentley demonstrated the potential for medical applications on mobile devices.

Advantage of m-Commerce

M-commerce has several major advantages over its fixed counterparts because of its specific inbuilt characteristics such as ubiquity, personalization, flexibility, and distribution, mobile commerce promises exceptional business market potential, greater efficiency and higher fruitfulness. They are explained as follows.

Ubiquity

The use of wireless device enables the user to receive information and conduct transactions anywhere, at anytime.

Accessibility

Mobile device enables the user to be contacted at virtually any time and place. The user also has the choice to limit their accessibility to particular persons or times.

Convenience

The portability of the wireless device and its functions from storing data to access to information or persons.

Localization

The emergence of location-specific based applications will enable the user to receive relevant information on which to act.

Instant Connectivity (2.5G)

Instant connectivity or "always on" is becoming more prevalent will the emergence of 2.5 G networks, GPRS or EDGE. Users of 2.5 G services will benefit

from easier and faster access to the Internet.

Personalization

The combination of localization and personalization will create a new channel/business opportunity for reaching and attracting customers. Personalization will take the form of customized information, meeting the users' preferences, followed by payment mechanisms that allow for personal information to be stored, eliminating the need to enter credit card information for each transaction.

Time Sensitivity

Access to real-time information such as a stock quote that can be acted upon immediately or a sale at a local boutique. Security depending on the specific end user device, the device offers a certain level of inherent security.

The following list summarises the disadvantages of m-commerce:

Mobile devices offer limited capabilities (such as limited display). Between mobile devices these capabilities vary so much that end user services will need to be customized accordingly.

The heterogeneity of devices, operating systems and network technologies is a challenge for a uniform end user platform. For this reason, standardization bodies consisting of telecommunication companies, device manufacturers and value added service providers integrate their work.

Mobile devices are more prone to theft and destruction.

The communication over the air interface between mobile device and network introduces additional security threats.

Areas / Uses of m-commerce

In the current commerce industry, mobile commerce or M-Commerce has been entered in finance, services, retails, telecommunication and information technology services. In these sectors, M-Commerce is not only being widely accepted but also it is being more used as a popular way of business/ commerce.

Finance Sectors

Mobile Commerce works vastly in finance sector including all big and major financial institutes, banks, stock market and share Brokers. Whenever any user needs money or wants any sort of banking and finance related services, he/she can access the services or register services via voice calling or via Short Message Services (SMS). WAP based mobile handsets allow the user to access the official website of the institute.

User can transact money or transfer money, or pay the bill from its bank account using mobile commerce facilities. Banks also provide round the clock customer care services, which can be used any time through voice calling. Some customer care services are also provides non-voice services on mobile that is known as insta-alert facility.

While in the stock market, the user can access the stock market quotes and get in live touch with current trading status on its mobile in two forms either voice (customer assistance) or non-voice (sms alerts) or both.

The share broker sends market trends and tips of trading on their clients' mobile. Also broker can suggest the appropriate stock for intra-day trading to their users.

Telecommunication Sectors

Mobile has played a giant role in communication technology through its versatility and superiority. The ubiquity and easy usage has further made it extremely popular across the globe. It has already surpassed the fixed phone in the world. Software platform is essential for operating any mobile and this tool has revolutionized the communication world because of its functioning as a small computer.

The booming popularity has forced the corporate world to develop a new commerce platform that can reach to masses. Mobile commerce has attracted massive traffic because of its unique characteristics. The user can change the service of any financial institute or banks if gets better product and service or user is unsatisfied with the service of the subscribing company.

Besides this several bills can be paid using mobile and user can also check the available balance, the status of cheques, and the status of requested processing and customer care support.

Several dealings can be handled through mobile phones.

Service / Retail sectors

Service and Retail sectors are also among the leading sectors, which have nurtured most from mobile commerce. M-Commerce has proved a major boon for these sectors. Several business dealings no matter how big or small are being finalized

on the mobile phone. Customer would be able to book the order, can hire carrier/courier services and above all could also pay the dues related to it through mobile.

Information Sector

After the bursting of dotcom bubble, e-commerce has gone downwards to hell. But the evolution of mobile commerce has again worked as ambrosia for them. A separate sector has been evolved to exercise on this field for the IT experts. The webmasters have skillfully exploited this new area of IT-enabled commerce.

In the IT field, mobile commerce has been used massively to deliver financial news, stock updates, sports figures and traffic updates and many more onto a single handheld device 'mobile'.

Products and services available through M-Commerce

Mobile ticketing

Tickets can be sent to mobile phones using a variety of technologies. Users are then able to use their tickets immediately, by presenting their phones at the venue. Tickets can be booked and cancelled on the mobile device with the help of simple application downloads, or by accessing the WAP portals of various travel agents or direct service providers.

Mobile vouchers, coupons and loyalty cards

Mobile ticketing technology can also be used for the distribution of vouchers, coupons, and loyalty cards. These items are represented by a virtual token that is sent to the mobile phone. A customer presenting a

mobile phone with one of these tokens at the point of sale receives the same benefits as if they had the traditional token. Stores may send coupons to customers using location-based services to determine when the customer is nearby. It is very simple commerce method.

Content purchase and delivery

Currently, mobile content purchase and delivery mainly consists of the sale of ringtones, wallpapers, and games for mobile phones. The convergence of mobile phones, portable audio players, and video players into a single device is increasing the purchase and delivery of full-length music tracks and video. The download speeds available with 4G networks make it possible to buy a movie on a mobile device in a couple of seconds.

Location-based services

The location of the mobile phone user is an important piece of information used during mobile commerce transactions. Knowing the location of the user allows for location-based services such

- Local discount offers
- Local weather
- Tracking and monitoring of people
- Local map

Information services

A wide variety of information services can be delivered to mobile phone users in much the same way as it is delivered to PCs.

These services include:

- News
- Stock quotes
- Sports scores
- Financial records
- Traffic reporting

Customized traffic information, based on a user's actual travel patterns, can be sent to a mobile device. This customized data is more useful than a generic traffic-report broadcast, but was impractical before the invention of modern mobile devices due to the bandwidth requirements.

Mobile banking

Banks and other financial institutions use mobile commerce to allow their customers to access account information and make transactions, such as purchasing stocks, remitting money. This service is often referred to as *Mobile Banking*, or M-Banking.

Mobile Storefront

The reinvention of the mobile phone as a touch sensitive handheld computer has for the first time made mobile commerce practically feasible. 'According to ABI Research, mobile is going to get a lot bigger in the e-commerce market. The research firm is predicting that in 2015, \$119bn worth of goods and services will be purchased via mobile phone.'

Mobile brokerage

Stock market services offered via mobile devices have also become more popular and are known as Mobile Brokerage. They allow the subscriber to react to market developments in a timely fashion and irrespective of their physical location.

Auctions

Over the past three years mobile reverse auction solutions have grown in popularity. Unlike traditional auctions, the reverse auction (or low-bid auction) bills the consumer's phone each time they place a

bid. Many mobile SMS commerce solutions rely on a one-time purchase or one-time subscription; however, reverse auctions offer a high return for the mobile vendor as they require the consumer to make multiple transactions over a long period of time.

Mobile Browsing

Using a mobile browser-a World Wide Web browser on a mobile device-customer can shop online without having to be at their personal computer.

Mobile Purchase

Catalog merchants can accept orders from customers electronically, via the customer's mobile device. In some cases, the merchant may even deliver the catalog electronically, rather than mailing a paper catalog to the customer. Some merchants provide mobile websites that are customized for the smaller screen and limited user interface of a mobile device.

Mobile marketing and advertising

In the context of mobile commerce, mobile marketing refers to marketing sent to mobile devices. Companies have reported that they see better response from mobile marketing campaigns than from traditional campaigns.

Mobile Media

Mobile media is a rapidly changing field. New technologies, such as Worldwide Interoperability for Microwave Access, (WiMax), act to accelerate innovation in mobile commerce. Early pioneers in mobile advertising include Vodafone, Orange, and SK Telecom. Mobile devices are heavily used in South Korea to conduct mobile

commerce. Mobile companies in South Korea believed that mobile technology would become synonymous with youth life style, based on their experience with previous generations of South Koreans. "Profitability for device vendors and carriers hinges on high-end mobile devices and the accompanying killer applications," said Gibran Burchett.

Payment Methods

Consumers can use many forms of payment in mobile commerce, including:

Premium-rate telephone numbers', which apply charges to the consumer's long-distance bill.

Charges added to the consumer's mobile telephone bill, including deductions to pre-paid calling plans

Credit cards

Some providers allow credit cards to be linked to a phone's SIM card.

Micropayment services

Stored-value cards, often used with mobile-device application stores or music stores

Conclusion

Now-a-days, Cellular phones have become so popular that many businesses are beginning to use mobile commerce as a more efficient way to communicate with their customers. In order to exploit the potential mobile commerce market, mobile phone manufacturers such as Nokia, Ericsson, Motorola, and Qualcomm are working with carriers such as AT&T Wireless and Sprint to develop WAP-enabled smart phones. Using Bluetooth

technology, smart phones offer fax, e-mail, and phone capabilities all in one, paving the way for m-commerce to be accepted by an increasingly mobile workforce. IBM and other companies are experimenting with speech recognition software as a way to ensure security for m-commerce transactions.

More recently, brick and mortar business owners, and big-box retailers in particular, have made an effort to take advantage of mobile commerce by utilizing a number of mobile capabilities such as location based services, barcode scanning, and push notifications to improve the customer experience of shopping in physical stores. By creating what is referred to as a 'bricks & clicks' environment, physical retailers can allow customers to access the common benefits of shopping online (such as product reviews, information, and coupons) while still shopping in the physical store. This is seen as a bridge between the gaps created by e-commerce and in-store shopping, and is being utilized by physical retailers as a way to compete with the lower prices typically seen through online retailers.

Thus, the future of m-Commerce seems extremely bright because several experiments are going on to introduce the upgraded version of mobile likely to emerged with the evolution of 4G mobile technology.

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