Mobile – Commerce

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ABSTRACT

Mobile Commerce is an evolving area of e-Commerce, where users can interact with the service providers through a mobile and wireless network, using mobile devices for information retrieval and transaction processing. M-Commerce services and applications can be adopted through different wireless and mobile networks, with the aid of several mobile devices. However, constraints of both mobile networks and devices influence their operational performance; therefore, there is a strong need for taking into consideration those constraints in the design and development phases of m-Commerce services and applications. Another important factor in designing m-Commerce services and applications is the identification of mobile users' requirements. Furthermore, m-Commerce services and applications need to be classified based on the functionality they provide to the mobile users. This kind of classification results in two major classes: the directory and the transaction-oriented services and applications. This paper suggests a new approach for designing and developing m-Commerce services and applications. This approach relies on mobile users needs and requirements, the classification of the m-Commerce services and applications, as well as the current technologies for mobile and wireless computing and their constraints.

INTRODUCTION

The phrase **mobile commerce** was originally coined in 1997 to mean "the delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology." Many choose to think of Mobile Commerce as meaning "a retail outlet in your customer's pocket."

According to BI Intelligence in January 2013, 29% of mobile users have now made a purchase with their phones. Walmart estimated that 40% of all visits to their internet shopping site in December 2012 was from a mobile device. Bank of America predicts $67.1 billion in purchases will be made from mobile devices by European and U.S. shoppers in 2015. Mobile retailers in UK alone are expected to increase revenues up to 31% in FY 2013–14.

REVIEW OF LITERATURE

According to Rottenberg, et al. (2002) Mobile commerce which is commonly referred to as m-commerce has become an important concept in today's business environment.

The study of lyytinen (2001) explains that mobile-commerce involves the use of mobile computing devices in carrying out different types of economic transactions or

enabling them to take place over space and time. The M-Commerce includes use of such technologies as SMS services over a number of carriers, blue tooth applications, and the integration of low-level digital carriers to IP based services through WAP or Compact HTML like the Japanese I-Mode service. This integration is one of the fastest growing markets of E-business and it will involve the development and design of a host of new applications, services, business models and technological solutions.

According to Malladi et al. (2002) and Dubendorf, (2003) mobile wireless technologies consist of two aspects—mobility and computing. They claimed that mobile computing represents users'continuous access to network resources without limitation of time and location. Wireless means that transmission of any form of data—text, voice, video or image—is conducted through radio waves, infrared waves or microwaves rather than using wires. mobile wireless technologies is defined as any wireless technology that uses radio frequency spectrum in any band to facilitate transmission of text data, voice, video, or multimedia services to mobile devices with freedom of time and location limitation.

The study of Ng-Kruelle et al (2002), Turban, et al. (2002), Camponovo & Pigneur, (2003), BenMoussa, (2005) reveals that the freedom of time and location is related to the concept of anytime and anywhere access that represents the two main characteristics of mobile wireless technologies: mobility and reachability.

Au. (2007) and Mahil (2008) clarifies that Mobile Commerce is natural successor to electronic Commerce.

According to Ting (2004) with the rapid proliferation of mobile devices, including mobile phones, Personal Digital Assistant, and handheld computers, mobile commerce is widely considered to be a driving force for next- generation e-commerce.

Scornavacca et. Al. (2006) explains that M-commerce should not be viewed as e-commerce with limitations, but rather as a unique form of e-commerce with its own unique benefits. M-commerce is not a substitute for PCs. Rather; it is a new and a much more powerful way to communicate with customers.

According to Paavilainen (2002) Ubiquity, intimacy, time sensitivity and location awareness are key concepts that make mobile commerce so different from traditional' e-commerce.

The study of Coursaris and Hassanein, (2002) Kumar and Zahn (2003) explains that while electronic commerce continues to see phenomenal growth, mobile commerce is still in its infancy. However, as wireless network grows, it is expected that emerging wireless and mobile networks will provide new avenues for growth in mobile commerce, create new business models for mobile operators and offer new applications to business and consumers.

According to the Gartner Group, consumer to business e-commerce will soon come from smart phones using mobile commerce technology. Many researchers suggested that next phase of electronic

business growth will be in wireless and M-commerce. To better understand the potential impacts of mobile commerce on businesses, a quick review of definition and background information about it would be helpful. Urbaczewskj, et al, (2003), Matthew, et al, (2004), O'Connell (2005), Smith (2006), Ngai and Gunasekaran(2007)

According to Stafford et al., (2003) M-Commerce is also known as mobile electronic commerce or wireless electronic commerce. It is believed to be the next gold rush after e-commerce. Business organizations of different industries are rushing to stake a claim. M-commerce is many things to many people. Some people conceive m-commerce as an extension of e- commerce to mobile phones. Some people think it is another new channel after the Internet. In general, m-commerce refers to any transaction with a monetary value that is conducted via a mobile telecommunications network.

The study of Yeo et al. (2003) reveals that M- Commerce is believed to be driving fundamental changes in the way business is conducted in many industries, particularly in telecommunications, information technology, media and financial services. M-commerce is so important because it represents the extension of the Internet beyond the static terminal of the PC, or even the television, into a more nimble, anytime, anyplace and anywhere context. It will enable millions of people to access web information services wherever they go.

Sadeh (2002) explains that Today, the mobile Internet is emerging even faster, in part because providers, content partners, customers, and investors are leveraging lessons from e-commerce. Cellular carriers, both nationally and globally, have made significant advances to enable next generation data or ―wireless Web‖ services and mobile, ―m -commerce. Broadly defined, m- commerce involves an emerging set of applications and services people can access from their Web enabled mobile devices.

According to Yankee Group (2002) m-commerce is facing many obstacles as an emerging market, particularly in the U.S. For example, in addition to lack of standards, cost and speed issues, a Yankee Group survey suggests that U.S. consumers are not convinced they want or need mobile services and many think it is simply too complicated. . In Korea, reports suggest that one-third of all mobile phone subscribers' use their handsets for m-commerce activities.

The study of InStat (2002) identifies that in Asia and Europe where ―going online‖ means reaching for a mobile handset, not turning on a PC

PRODUCTS AND SERVICES AVAILABLE

1. MOBILE MONEY TRANSFER

In Kenya money transfer is mainly done through the use of mobile phones. This was an initiative of a multimillion shillings company in Kenya. Mobile money transfer services in Kenya are now provided ag. (M-PESA and ZAP). the oldest has and is now generally used to refer to mobile money transfer services even by other companies other than. ·

2. MOBILE ATM

With the introduction of mobile money services for the unbanked, operators are now looking for efficient ways to roll out

and manage distribution networks that can support cash-in and cash-out. Unlike traditional ATM, sicap Mobile ATM have been specially engineered to connect to mobile money platforms and provide bank grade ATM quality. In Hungary, Vodafone allows cash or bank card payments of monthly phone bills. The Hungarian market is one where direct debits are not standard practice, so the facility eases the burden of queuing for the postpaid half of Vodafone's subscriber base in Hungary.

3. 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 mobile phone at the ticket check. Most number of users are now moving towards this technology. Best example would be IRCTC where ticket comes as SMS to users.

4. 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 sales 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.

5. CONTENT PURCHASE AND DELIVERY

Currently, mobile content purchase and delivery mainly consists of the sale of ring-tones, 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 or m-commerce transactions. Knowing the location of the user allows for location based services such as:

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

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

1. News
2. Stock quotes
3. Sports scores
4. Financial commerce
5. 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 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—customers 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.

EFFECT ON YOUTH MARKET

Mobile media is a rapidly changing field. New technologies, such as Wimax, act to accelerate innovation in mobile commerce. Early pioneers in mobile advertising include Vodafone Orange and SK Teleom.

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.

Goal Oriented	Experimental	
Person Interaction	Information	Messaging
Machine Interaction	Payment	Gaming

Classification of Mobile Internet Service

CHARACTERSTICS OF M-COMMERCE

Mobile commerce, sometimes called "M-Commerce," is the process of purchasing or selling items using mobile devices. The buyer can use a variety of electronic devices, such as cell phones, smart phones or portable Net books to browse and process orders. There are a few characteristics of this type of business that make it a viable choice, even for very small business owners who may have limited resources.

FAST PROCESSING
One important characteristic of mobile commerce is that it allows the user to process a transaction fast. Not only does the customer receive his item almost instantly via download, e-mail or another form of electronic delivery, the business owner receives payment for his product or service more quickly compared to traditional methods. The customer must set up a payment option, such as a credit card or an agreement to pay using a specified account, to process the payment

immediately before downloading the item. Of course, the speed of delivery is dependent on the reliability of the Internet and network services.

REDUCED BUSINSS COSTS

Mobile commerce also helps reduce costs for the seller. He rarely needs to pay for a separate office space, overhead costs or employees. In some cases a small business owner who sets up a mobile commerce operation doesn't need an office at all. The seller can monitor sales online or by receiving statements from a processing service. The main expense for this type of business owner is advertising to disseminate information on how users can access the product or service. The lowered cost allows the business owner to take advantage of a higher per-sale profit. He also can offer the product at a lower price compared to delivery in other formats.

LITTLE NEED FOR MAINTENANCE

Another characteristic of mobile commerce is that it requires very little maintenance from the seller. The owner sets the product up for mobile delivery one time and then receives payment for sales automatically. From time to time, he may need to perform a few maintenance duties, such as correcting a technology error or updating the product, but overall it is a selling format that requires very little management compared with other selling strategies.

PROBABILITY

The customer can access services and be reached anywhere anytime.

TRUSTWORTHINESS

Sensitive information can be stored securely on the mobile device, secure transactions can be carried out.

LOCALIZATION

Information and services can be adapted to the user's position.

ACCESS TO USER PROFILES

Information and services can be adapted to the user's preferences.

- **M-COMMERCE SERVICES**

✓ **Financial Services**

1. Secure banking services

2. Mobile financial services

✓ **Shopping Services**

1. Purchase of goods

2. Mobile Auctions

✓ **Entertainment Services**

1. Games on mobile devices

2. Mobile gambling

3. Mobile dating

✓ **Information Services**

1. Maps and Routing directions

2. Local information

3. Mobile alert services

PROMINENT FEATURE OF MOBILE COMMERCE

- Geo-based category-wise stores listing
- Efficient checkout of product availability
- Payment option via Paypal/Creditcard/Cash-on-delivery/Pay-in-shop

- Supports multiple mobile platforms iPhone/Android/iPad/Blackberry/Windows
- Easy customization
- Public profile storage
- Mobile application for Stores
- Interactive backend admin panel
- Interactive frontend panel for the stores.

PAYMENTS METHODS

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

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

- Charges added to the consumer's mobile telephone bill, including deductions to pre-paid calling plans
- Credit Cards
o Some providers allow credit cards to be linked to a phone's SIM Cards SIM Card
o Micropayment Services
- Stored- value cards, often used with mobile-device application stores or music stores.

RESEARCH PROBLEM

Now a days we are surviving in 21st century which is truly an information technology based time. Every person is using advanced technology. Mobile commerce is one of them where companies provide information to their prospective and regular consumers with the help of mobile and continuously interacts with them.

PURPOSE OF STUDY

Mobile commerce has become the latest topic for today. Business organizations have been restlessly evaluating the revenue potential of the m-commerce market and

developing business models to exploit the huge profit potential of this new market. So the main purpose of this paper is to:

1. Provide an brief description about mobile wireless technologies

2. Understand the relationship between m-commerce and e-commerce.

3. Help businesses to define what benefits they could derive from mobile commerce.

4. Show what are the categories of mobile commerce applications?

5. Understand the situation of the Indian mobile telephony market and m-commerce.

RESEARCH MEHTODOLOGY
SAMPLE COLLECTION

To determine the number of respondents that will be asked to participate and give information regarding the study convenience sampling will be used. Convenience sampling means to collect or interview individuals who actually experience the phenomenon. Convenience sampling will focus on individuals who are using mobile as a services or information provider.

METHODOLOGY AND DATA COLLECTION

Primary and secondary sources of data would be used for the study. Surveys will the primary method of data collection. Internet survey would be the primary source of data. Internet surveys have been both hyped for their capabilities and criticized for the security issues it brings.

Internet surveys would also require less time for the researchers and the respondents. Secondary source of data would involve the use of books and journals, websites and magazines etc.

FINDING

Mobile has become a basic necessity of our life. It provides advantages to buyers as well as sellers. It reduces cost; provide information regarding goods and services. There is no need of direct interaction between buyers and seller. With the help of this wireless technology all commerce activities has become very easy. In India our young youth mobile phone subscribers' use their handsets for m-commerce activities.

CONCLUSION

The development of wireless technology and mobile network has created a challenging research and application area, mobile commerce. As an independent business area, it has its own advantages and features as opposed to traditional e-commerce. The aim of the paper is to explore the specific advantages of m-commerce over traditional e-commerce so that new potential applications and services could become possible in m-commerce adoption. In the meantime, several cases involving mobile commerce applications in today's Japan were presented to show successful penetration and positive perspective of mobile business thanks to the unique features of mobile technology. In such a rapidly changing environment, it is important to make overall in-depth analysis for future research to take full advantage of the strengths of m-commerce to increase competitiveness in this global mobile marketplace.

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