

Agile Management Trends and Services of Dynamic Collaboration in Motile Applications

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ABSTRACT: **Electronic Commerce**, commonly known as **E-Commerce**, is trading in products or services using computer networks, such as the Internet. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, Electronic Data Interchange (**EDI**), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle, although it may also use other technologies such as e-mail. The phrase **Mobile Commerce** was originally coined in 1997 by Kevin Duffey at the launch of the Global Mobile Commerce Forum, 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".

KEYWORDS: E-Commerce, M-Commerce, M-Commerce life cycle, MFS&CRM, MCSP, WAP, NFC

I. INTRODUCTION

M-Commerce (Mobile Commerce) is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and Personal Digital Assistants (PDAs). Known as next-generation E-Commerce, M-Commerce enables users to access the Internet without needing to find a place to plug in. The emerging technology behind M-Commerce, which is based on the Wireless Application Protocol (WAP), has made far greater strides in Europe, where mobile devices equipped with Web-ready micro-browsers are much more common than in the United States.

In order to exploit the M-Commerce market potential, handset 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, the industry's answer to the Swiss Army Knife, and ways to reach them. 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.



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As content delivery over wireless devices becomes faster, more secure, and scalable, there is wide speculation that M-Commerce will exceed wire line E-Commerce as the method of choice for digital commerce transactions. The industries affected by M-Commerce include:

- Financial services, which includes mobile banking (when customers use their handheld devices to access their accounts and pay their bills) as well as brokerage services, in which stock quotes can be displayed and trading conducted from the same handheld device.
- Telecommunications, in which service changes, bill payment and account reviews can all be conducted from the same handheld device.
- Service/retail, as consumers are given the ability to place and pay for orders on-the-fly.
- Information services, which include the delivery of financial news, sports figures and traffic updates to a single mobile device.

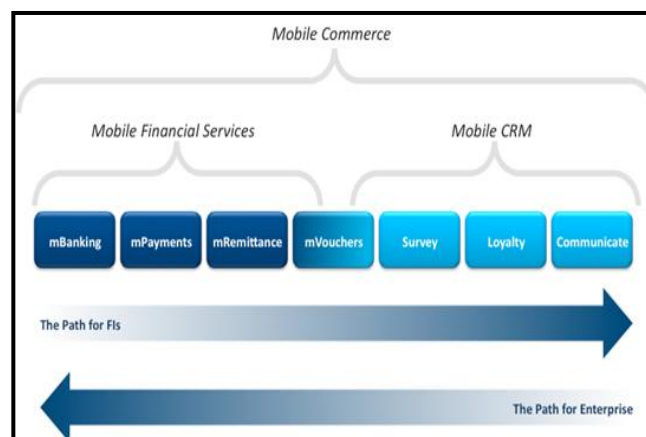
The use of wireless handheld devices such as cellular phones and laptops to conduct commercial transactions online. Mobile Commerce transactions continue to grow, and the term includes the purchase and sale of a wide range of goods and services, online banking, bill payment, information delivery and so on.

The range of devices that are enabled for mobile commerce is growing, having expanded in recent years to include smart phones and tablet computers. The increasing adoption of electronic commerce provided a strong foundation for mobile commerce, which is on a very strong growth path for years to come.

The rapid growth of mobile commerce is being driven by a number of positive factors - the demand for applications from an increasingly mobile customer and consumer base; the rapid adoption of online commerce thanks to the resolution of security issues; and technological advances that have given wireless handheld devices advanced capabilities and substantial computing power.

II. M - COMMERCE LIFE CYCLE

First, there are **Mobile Financial Services (MFS)**, which include mobile banking, payments and remittance. Banks typically offer mobile banking so their customers can access their finances on the move. Mobile payments enable the mobile device to act as a payment instrument for real-world goods and services and person-to-person payments. Finally, mobile remittance is a special case of a person-to-person payment with the payment crossing an international border.



Then, there are mobile **Customer Relationship Management (CRM)** services, which include mobile marketing (communication), loyalty programs, vouchers and surveys. These services attract customers by encouraging them to make transactions by building loyalty and promoting additional transactions. CRM services draw consumers

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in, to and through the typical customer life cycle. It is the joining of these two types of services that creates a complete mobile commerce service.

Financial Institutions have most likely launched a mobile banking service today, and operators or independent service providers have launched some form of mobile payments or remittance service. Now that the service is launched, the next steps are to promote the service (communicate), and begin understanding how customers use the service (survey) and then promote repeat business (loyalty and/or vouchers).

Enterprises, such as retail, are approaching M-Commerce from another direction. Most enterprises have curved in their toes into the mobile services water with simple marketing push services via SMS. By adding survey, they can start tracking behavior and encouraging repeat business via loyalty. In the longer term, future purchases could even be completed in the mobile channel with mobile payments.

III. PRODUCT AND SERVICES

Mobile Commerce Service Provider (MCSP) - An organization company that provides any combination of consulting, software and computer systems for mobile E-Commerce platforms, mobile devices (cellular phones, smart phones), mobile commerce, mobile content or mobile web sites.

MCSPs supply businesses with the tools and services they need to distribute and sell products and services over both the Internet and Mobile Internet and manage their online enterprises. Specifically, these firms specialize in all aspects of mobile commerce, including for all digital goods (games, video, ringtones, wallpapers and applications) that are downloaded to mobile devices.

MCSPs provide service in areas such as

- Mobile device databases
- Billing systems
- Text messaging services
- Hardware/Software design
- Mobile payments
- Brand recognition
- Distribution control
- Web site development and hosting
- Web site performance monitoring
- Fulfillment management
- Online marketing
- Order processing and delivery
- Mobile app development

Mobile Money Transfer

A **money transmitter** or **money transfer service** is a business entity that provides money transfer services or payment instruments. Money Transmitters in the US are part of a larger group of entities called Money Service Businesses or **MSBs**.

Mobile ATM

Mobile ATM has been specially engineered to connect to mobile money platforms and provide bank grade ATM quality.

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.

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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.

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:

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

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.

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 web sites that are customized for the smaller screen and limited user interface of a mobile device.

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In-Application Mobile Phone Payments

Payments can be made directly inside of an application running on a popular smart phone operating system, such as Google Android.

Mobile Marketing and Advertising

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. The consumer can receive a marketing message or discount coupon and, within a few seconds, make a decision to buy and go on to complete the sale - without disrupting their current real-world activity.

IV. EMERGING NEW TRENDS IN M - COMMERCE 2015

- 2014 was the year Mobile Commerce came of age, heralded with the launch of Apple Pay in October.
- It was one of the tech company's key innovations within the iPhone 6, which integrated NFC technology with easy Point of Sale (POS) transacting.
- In other words, the iPhone 6 provided the ability to tap your phone to another NFC equipped device and pay for purchases at real world stores.
- Of course, using your smart phone as your credit card isn't, on the face of it, any more exciting than using it as a flashlight.
- However, Apple's entry into the world of online payment is about much more than just its latest smart phone wizardry.
- It adds to the growing number of web companies as towering and diverse as Google and Amazon, who are looking to process cash.
- What this means for the online business owner is that 2015 is likely to provide more opportunities and more diverge trends to keep abreast of.
- By 2015, US internet users will join a growing list of countries that access the web through mobile devices more than through PCs.
- The macro trend for the coming year is clear as the variety and complexity of devices continues to grow.
- In fact, Goldman Sachs is already predicting that consumer spending via Mobile Commerce will grow to \$626 billion by 2018.
- However, the term Mobile Commerce is a rabbit hole which can easily apply to a range of divergent technologies that are available on touch devices.
- A Square-enabled mobile POS, FeLiCa's tap-to-pay system at train stations, a game offering in-app purchases and a retailer's mobile-enabled website all fit the criteria, but there's very little overlap between them.
- There are many areas into which Mobile Commerce can be categorized. For now, these are the big six:
 1. Commerce website accessed via mobile device
 2. Mobile-optimized/responsive website purchase via device
 3. Mobile device payment at retail POS
 4. Mobile app-only purchases (e.g. Uber, Square)
 5. In-app social media purchases (e.g. Face book, Twitter)
 6. Mobile-specific rewards, couponing to drive physical store traffic/transactions
- Let's look at the trends to expect in the industry in 2015. I've based them on existing market indicators and new technological innovations.

In-App Purchases

Users may have become more comfortable making in-app purchases. In 2015, social game developers may look to Face book credits and similar schemes as a means of generating revenue. Other less obvious companies also think they can offer mobile payments, and will become a feature in 2015. Add Amazon with its payment processing to

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the mix, and app developers in 2015 will have a growing number of viable options to service customers “locked in”, into one of these providers pre-existing ecosystems.

More than Online Shopping on Your Phone

Handheld devices continue to innovate the retail experience and bricks and mortar companies have begun to capitalize on the trend. Stores are now using mobile to capture customers in an effort to bridge the gap between “bricks and clicks.”

From scannable in-store products to discount coupons, established retailers will begin to embrace the mobile experience in 2015 rather than choosing to cower in the corner.

New start-up Buzztala just launched a user-generated social video platform for other retailers and brands to leverage this trend and make it simpler for customers to contribute their own video reviews and testimonials directly to their favorite sites. As far as social media goes, retailers have been quick to take hold of its marketing potential, which means that in 2015 the importance of Face book ‘likes’ and Pinterest ‘pins’ will continue to grow.

Don't Forget the Mobile Web

In most cases this trend will continue, as customers prefer to visit mobile sites like Amazon and eBay to place orders rather than download native.

Online businesses need to see that, with the exception of certain niches like gaming, the mobile web is essential and apps are added bonuses. In 2015, the mobile web should be viewed as a stream for bringing in new business, whereas apps should be used as loyalty programs for repeat customers.

The Smartphone Credit Card

Just as the magnetic strip revolutionized payment by plastic credit card, NFC and other fast-evolving technologies will facilitate the move to payment using mobile technologies in 2015.

NFC chips inside most new smart phones transmit customer payment and banking data when scanned on a reader. Unlike a credit card, smart phones can include interactive payment processing and other financial services which PayPal president, David Marcus, calls Money 3.0.

There is also rival technology, such as PayPal's Beacon and Apple's iBeacon, which use proximity-based Bluetooth connections instead. These are able to use alerts sent to customer handsets after they cross a store's “digital fence”. This then syncs with apps to provide inventory, floor plans, discounts, and preordered items.

A Mobile Revolution

These developments may seem far from implementation at this stage, but the technology is already with us. Biometrics, for example, including everything from voice recognition to fingerprint and retina scans, has paved the way for more secure mobile transactions. Now we need banks and customers trust the technology.

V. ADVANTAGES AND DISADVANTAGES

Advantages

- **Cost Effective**-The entire financial transactions will eventually become electronic, so sooner conversion is going to be lower on cost. It makes every transaction through E-Commerce payment a lot cheaper.
- **Higher Margin**-E-Commerce also enables us to move better with higher margin for more business safety. Higher margin also means business with more control as well as flexibility. You can also save time from the E-Commerce.
- **Better Productivity**-Productivity here means productivity for both companies and customers. People like to find answers online because it is faster and cheaper, and it costs a lot cheaper expense as well for the company.
- **Quick Comparison**-E-Commerce also enables you to compare price among several providers. In the end, it leads you to smart shopping. People can save more money while they shop.
- **Economy Benefit**-E-Commerce allows us to make transaction without any needs on stores, infrastructure investment, and other common things we find. Companies only need well built website and customer service.

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- **Cover wild distance-** Mobile is the only technology which is now become necessary for any person in social and business life than computers. So, it is easy to reach users through M-Commerce.
- **Consumer deals-** As more users use M-Commerce, there are lots of companies use M-Commerce site to reach them by giving different and better deals in comparison of their competitor.
- **Savings-** Companies try to reach to the consumer directly through M-Commerce, so users have no need to go far to the store physically and at the end it saves user's time and money.
- **Easy to use-** There is no need of skilled consumer. Buyers can have look thousands of items on their cell phones and there is no need of online checkout process.

Disadvantages

- **Security-**Customers need to be confident and trust the provider of payment method. Sometimes, we can be tricked. Examine on integrity and reputation of the web stores before you decide to buy.
- **Scalability of System-**A company definitely needs a well developed website to support numbers of customers at a time. If your web destination is not well enough, you better forget it.
- **Integrity on Data and System-**Customers need secure access all the time. In addition to it, protection to data is also essential. Unless the transaction can provide it, we should refuse for E-Commerce.
- **Products People-**People who prefer and focus on product will not buy online. They will want to feel, try, and sit on their new couch and bed.
- **Customer Service and Relation Problem-**They sometimes forget how essential to build loyal relationship with customers. Without loyalty from customers, they will not survive the business.
- **Smart phone limitation-**Mobile has no big screen like desktop or laptops, so sometimes users tired to navigate more and more to choose just one item from thousands. It affects shopping rates.
- **Habituate-**Every new technology has some problem at the starting phase. Here M-Commerce is new application, so sometimes people avoid changing which are rapidly changed.
- **Risk factor-** Each business has its own risk. Same Mobile Commerce is the growing field and a lot of investment in this field is become risky, because technology changes day by day. Moreover, there less security in wireless network, so in data transfer hacking chances are more.
- **Risk of fraud-** Credit card, PIN numbers are stolen by hackers so consumers are very affected by these types of instances.
- **Connectivity-** Mobile Commerce needs high speed connectivity of 3G. Otherwise it is become excited for user to go through entire product purchase process.

VI. M - COMMERCE PAYMENT

- There are four primary models for mobile payments:
 1. Premium SMS based transactional payments
 2. Direct Mobile Billing
 3. Mobile web payments (WAP)
 4. Contactless NFC (Near Field Communication)

Premium SMS / Premium MMS

In the predominant model for SMS payments, the consumer sends a payment request via an SMS text message or an USSD to a short code and a premium charge is applied to their phone bill or their online wallet. The merchant involved is informed of the payment success and can then release the paid for goods.

Direct Mobile Billing

The consumer uses the mobile billing option during checkout at an E-Commerce site—such as an online gaming site—to make a payment. After two-factor authentication involving a PIN and One-Time-Password (OTP), the consumer's mobile account is charged for the purchase.

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Mobile Web Payments (WAP)

The consumer uses web pages displayed or additional applications downloaded and installed on the mobile phone to make a payment. It uses WAP (Wireless Application Protocol) as underlying technology.

Contactless Near Field Communication

Near Field Communication (NFC) is used mostly in paying for purchases made in physical stores or transportation services. A consumer using a special mobile phone equipped with a smartcard waves his/her phone near a reader module. Most transactions do not require authentication, but some require authentication using PIN, before transaction is completed. The payment could be deducted from a pre-paid account or charged to a mobile or bank account directly.

VII. CONCLUSION

Electronic Commerce draws on technologies such as Mobile Commerce, and it provides a lot of technologies for online commerce. Wireless handheld devices and WAP technology are used for transferring transactions all over the world. MFS&CRM are used in M-Commerce life cycle; these two types of services are mainly focused payments and marketing. MCSP provides different services in different areas for online business. A direct link to consumers through 24x7 billing/sales/service/assistance is available. No time limitation for M-Business so consumers are attracted to online commerce. No middle man in purchasing and selling product so it reduces the cost. In this M-Business payment and transactions having some advantages and disadvantages but it will provide some security services. Emerging new trends in 2015 provides innovative services for business people and public consumers. These new trends will enhance the M-Commerce and reduce their cost and response time in future.

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