

UNIT -IV

M-COMMERCE

INTRODUCTION:

Mobile Commerce, or m-Commerce, is about the explosion of applications and services that are becoming accessible from Internet-enabled mobile devices. It involves new technologies, services and business models. It is quite different from traditional e-Commerce.

Mobile phones impose very different constraints than desktop computers. But they also open the door to a slew of new applications and services. They follow you wherever you go, making it possible to look for a nearby restaurant, stay in touch with colleagues, or pay for items at a store.

As the Internet finds its way into our purses or shirt pockets, the devices we use to access it are becoming more personal too. Already today, mobile phones know the phone numbers of our friends and colleagues. They are starting to track our location. Tomorrow, they will replace our wallets and credit cards. One day, they may very well turn into intelligent assistants capable of anticipating many of our wishes and needs, such as automatically arranging for taxis to come and pick us up after business meetings or providing us with summaries of relevant news and messages left by colleagues. But, for all these changes to happen, key issues of interoperability, usability, security, and privacy still need to be addressed.

M-Commerce is a part of E-commerce which allows people to do the transaction through mobile devices. There are already several existing M-Commerce applications and services nowadays that bring many **M-commerce advantages** to us.

In the current commerce industry, M-Commerce has been entered in finance, services, retails, telecommunication and information technology services.

MEANING OF M-COMMERCE

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.

MEANING

- Buying and selling of goods and services through wireless handheld devices such as cellular phone and PDA'S.
- It enables users to access the internet without needing to find a place to plug in.
- Transaction continue to grow and it includes purchase of goods and services, online banking, bill payment, information delivery.
- The most common applications would involve the services provider sending text message to the subscriber that promote new offerings

OBJECTIVES / BENEFITS FROM MOBILE COMMERCE TO BUSINESS

Boosting retail activity:

In the context of economic difficulties, eCommerce solution with smartphones and software applications plays an important role in retail market, creating close relationship between consumers, retailers and brand merchandise through features, to get the success in both earning high profit and providing great mobile shopping experience.

As a result, Investments in mobile platforms for B2C transactions are defined as strategic investment direction in the future, as indicated in the proportion of investment in mobile platforms accounted for 68% of the investing in research and new technology platforms.

Convenience of electronic payment services on mobile:

19% of people surveyed knew about the payment services on mobile, 10% expressed interest to learn and to use mobile payment services. By applying necessary plugins, payment can be transferred easier and more secure than ever. Due to the fast development, this type of commerce also supports almost all popular payment method for customers to pay bills electronically, purchase prepaid cards as mobile phone cards to solve transactions complex.

Sales of digital content on mobile devices :

Besides retail, digital content is a rich resource that firms can use with mobile commerce. By strengthening the convenience function of mobile devices, sellers can sell the content and buyers can use anytime they want. Users pay directly for each digital content or registered users to use the service online digital content.

ADVANTAGES OF M-COMMERCE :

- **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 mCommerce.
- **Consumer deals :** As more users use mCommerce, there are lots of companies use the mCommerce site to reach them by giving different and better deals in comparison to their competitor.
- **Savings :** Companies try to reach to the consumer directly through mCommerce, 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 the skilled consumer. Buyers can have look thousands of items on their cell phones and there is no need of online checkout process.
- **Convenience:** With just a few clicks on mobile devices, customers can already do shopping, banking, download media files...and more than that. M-commerce also benefits retailers by many of their outstanding features compared with responsive website and mobile site.
- **Flexible Accessibility:** User can be accessible via mobile devices and at the same time be accessible online too through logging on to various mobile messengers and other networking platforms. On the other hand, the user may also choose not to be accessible by shutting down his mobile device, which at times can be a good thing.
- **Easy Connectivity:** As long as the network signal is available, mobile devices can connect and do commerce transactions not only mobile to mobile but also mobile to other devices. No need for modem or WI-FI connectivity set up.
- **Personalization:** Each mobile device is usually dedicated to a specific user so that it is personal. Users can do whatever they want with their handheld devices: modify the wallpaper, change view settings or modify contact information as you send emails or e-payments.
- **Time Efficient:** Doing M-Commerce transactions do not require the users to plug anything like personal computer or wait for the laptop to load.

Disadvantages of Mobile Commerce :

Every invention has its own merits and demerits. It is applicable in this mCommerce business also.

- **Smartphone 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 mCommerce is a new application, so sometimes people avoid to change which are rapidly change. As they are habituated to buy products from eCommerce.
- **Risk factor** : Each business has its own risk. Same Moblie commerce is the growing field and a lot of investment in this field becomes risky. Because technology changes day by day. Moreover, there less security in the wireless network, so in data transfer hacking chances are more.
- **Connectivity** : Moblie commerce needs high-speed connectivity of 3G. Otherwise, it is become hectic for the user to go through entire product purchase process.
- **Bandwidth**
The limited bandwidth that can be support by mobile devices currently is very small which causes web developers to reduce the usage of rich data.
- **Screens Size**
The screen size of a mobile device is very limited. This also limits the viewing capacity of the user.
- **Less Powerful Processors**
Due to the slow processing speed web developer would have to use server side scripting which will bring more load to the servers.
- **Cost of Wireless Connection**
As wireless connection of a mobile device to the internet is still a relatively new technology the cost of using such connection is also expensive as the technology is still under heavy development

FACTORS FOR SUCCESSFULNESS OF M-COMMERCE

There are currently 115 million smartphone users in the U.S. and an estimated 200 million users by 2017. According to Internet Retailer, in 2012 U.S. smartphone and tablet users spent over \$24 billion in mobile commerce sales, accounting for 11% of total ecommerce sales. The digital age

is advancing quickly, and with the boom of ever-increasing technology use and some promising statistics, online businesses can't deny the fact that there is huge moneymaking potential in mobile business. [Mobile commerce](#), or m-commerce, is the browsing, buying and selling of products and services on mobile devices. If being able to shop from your home computer wasn't easy enough, smartphones and tablets enable you to research and compare products in a physical storefront. Often this can lead to a direct sale online – often from a competitor of the storefront. If you are looking to maximize your online business through mobile, this post will give you some important factors to consider when developing your m-commerce strategy.

1. Simplify the Shopping Experience

Retailers benefit when mobile functionalities simplify, accelerate or add convenience to the shopping experience. For example, Target's opt-in mobile coupon distribution program delivers a “smart” coupon with a single 2-D barcode covering all the discounted items offered to that customer. Starbucks recently introduced a mobile payment solution that allows customers to pay for items by having the barcode on selected smartphone models scanned at the POS.

2. Create a Mobile-Specific User Experience

Many retailers simply re-create (or re-size) their e-commerce Web sites for the smaller mobile screen. With a few exceptions, these retailers have gotten predictably mediocre results. Now they are realizing they need to create mobile-specific user experiences. You shake your cell phone using the Pizza Hut app to put pepperoni on your pizza and use your fingers to sprinkle on other toppings. The NMGifts app from Neiman Marcus brings up a different gift suggestion each time the user shakes the device. These functions are not merely gimmicks. They are effective ways to increase customer engagement.

3: Use Mobile's Context-Aware Functionality

Mobile commerce adds the attribute of location awareness to identity data, revealing not just who the customer is but where she is right now, as well as what she is doing with her mobile device. It opens the door to location-based messaging and mobile chat functionalities, which are emerging tools that integrate the mobile customer experience with other channels such as stores and call center.

4. Integrate Mobile into the Store Environment

As we focus on the emerging mobile commerce channel we also have to include store empowerment in a comprehensive m-commerce plan, and therefore digitize the store so it can add to the shopper's mobile experience. This will include creating 2-D barcodes or smart tags that when scanned offer shoppers exclusive, time-sensitive offers, product details, product reviews, digital receipts, augmented reality features, and more.

5. Use Relevant Metrics

Retailers may be tempted to measure their m-commerce success by the raw number of downloads for their apps. However, since most retailer apps are free and since shoppers will delete many apps within 30 to 90 days this metric is of limited value. Instead retailers should be tracking recency, frequency, conversion and sentiment. The latter is a qualitative measurement that can be monitored through Twitter or Facebook, which is necessary to complement quantitative metrics.

6. Provide Superior Service and Support

If a retailer is using the same support personnel for e-commerce and mobile commerce, the associates need to be trained in mobile phone problems. Since many shoppers are just learning how to use the mobile channel mistakes and problems can quickly multiply. These can be converted into positive experiences by well trained customer service reps.

7. Integrate Mobile into the IT Architecture

This is the final step and it should be accomplished last, but it is often the most difficult. Functions such as marketing, payment, operations and customer service need to be tightly coupled into a platform as opposed to integrating disparate point solutions.

OTHER FACTORS FOR SUCCESSFULNESS OF M-COMMERCE

- 1. Do on-going research to determine what mobile devices are popular with your target market.**
- 2. Keep brand consistency across your web and mobile properties.**
- 3. Try to keep it simple at first and then add complexity.**
- 4. Remember to include mobile in your online testing strategy.**

5. Keep reading more about mobile optimization.

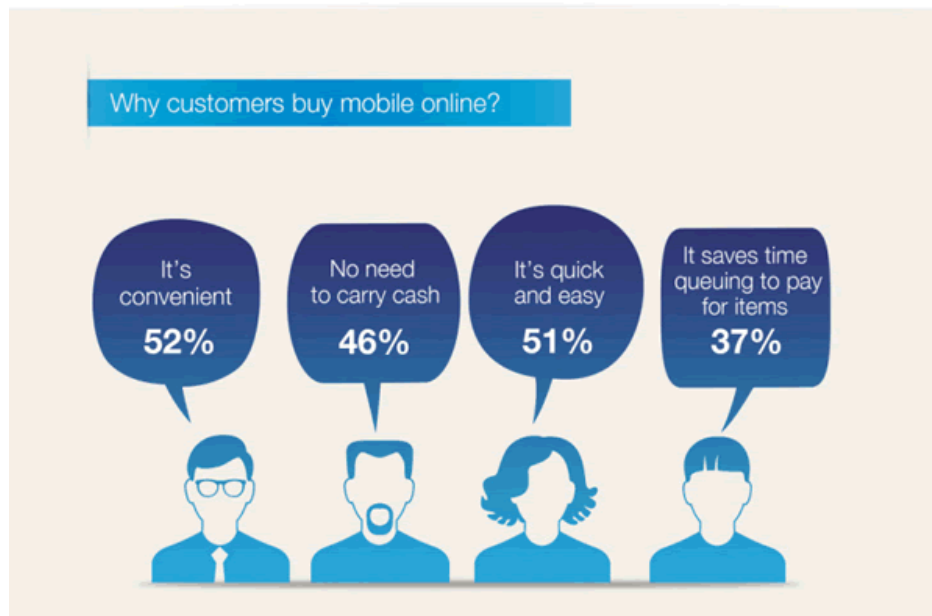
6. Leverage customer feedback..

MAIN BARRIERS FOR M-COMMERCE: MOBILE BEHAVIOR AND EXPERIENCES

Mobile devices play a key role in customer interactions and an increasing number of transactions, including commerce. The rise of [mobile](#) has been exponential in recent years and mobile impacts but also continues to drive many evolutions and trends in marketing (think about [mobile content marketing](#) or [mobile email marketing](#)), usability, user experience, [the customer experience](#) and design of customer-facing tools (responsive websites, apps,...) and really all areas of business, even leading to digital transformations.

Just think about the impact of [BYOD and consumerization](#), mobile work or the increasing adoption of mobile by consumers in various industries and business processes.

In this blog we look at the commerce dimension of mobile and why people often refrain from using mobile forms of shopping and commercial transactions.



Why customers buy mobile online – infographic [PayPal](#) via [PayLane](#)

A survey by [Web credible](#) looked in-depth at the behavior of smart phone users. The company found that they do not use mobile commerce (a.k.a. m-commerce) more

extensively for some easy-to-solve main reasons. Note: tablets have been gradually overtaking smart phones in many regions for specific transactions but the smart phone remains important.

When focusing more on the mobile shopping experience, many of these barriers for m-commerce can be overcome. The three issues that concerned smartphone users and prevented them from using their devices to engage in m-commerce revolve around:

1. Safety and security.
2. Connectivity.
3. Screen size.

Security and safety concerns: consequences for m-commerce

The primary issue revolved around security. Users feared that their devices would be attacked by viruses, resulting in the theft of personal data.

People interested in e-commerce seemed to be most comfortable doing so at home. The home setting gives the buyer familiarity. The software and technology sitting on a desk at home feels secure and protective and keeps the bad guys out. That security is recognizable, and it works. On the other hand, users of mobile media haven't yet given the thumbs up to the security featured in mobile devices.

The survey also found that smartphone users felt exposed in public, concerned about someone peaking over their shoulder as information is keyed. This is why people felt more secure buying from sites where their buying data is already stored.

Mobile commerce and the limits of small screen sizes

Users didn't like the small screen size. The primary complaint centered around the inability to get a good look and feel for the product. Unless a buyer is familiar with a product or the product's appearance doesn't matter, users are hesitant to buy an item on a smartphone.

Screen sizes and the behavior of smartphone users are not taken into account enough in general, whether it concerns e-commerce, mobile websites or mobile email. Obviously, as devices and operating systems evolve and as retailers and other firms look at m-commerce, there are ever more possibilities to make it easy, convenient and user-friendly beyond the screen size limits. And then there is the tablet, which again offers a totally different shopping experience (and shows indeed other behavior).

The mobile user experience and the speed concern

Users also voiced concern over slow or unstable connections, fearing they would be cut off in the middle of an e-commerce transaction. This is another reason why buyers prefer buying from home.

These are matters that remain a challenge to businesses that want to sell products to buyers on mobile devices. The small screen size on smartphones will probably not be solved tomorrow but, as said, tablets become increasingly important and smartphones and apps/website possibilities change. The speed issue is also one that gets solved as we move to faster networks.

M-commerce success is about convenience, good mobile user and customer experiences and the specific behavior of smartphone users

Consumers like mobile convenience yet still want to see detail and sharp resolution before paying money. That sets up a conundrum that is difficult to solve: how do businesses offer detail on a small screen?

This is why buyers are turning to tablets to buy or going to other platforms to continue their e-commerce activities. When better taking into account the behavior of smartphone users, this can be avoided. It's all about providing better mobile e-commerce experiences.

The matter of security and safety on mobile devices is solvable. Consumers can store purchasing data at a business they buy from. Another possibility for businesses is to offer Paypal (companies like Paypal and many others are increasingly [changing the way we pay, pushing mobile and digital payments](#) and challenging [retail banks that undergo digital transformations in many areas](#)). This eliminates the cumbersome ordeal of filling out a form on a small screen. This technique works for big e-commerce businesses like Amazon.

M-commerce is expected to soar in the coming years as the infographic by [Baynote](#) (via [GetElastic](#)) below shows. Those businesses that address these problematic issues of mobile ecommerce and better take into account the behavior of smartphone users will be invited on the mobile cruise and flourish. Businesses that ignore this issue will be set adrift on the Internet sea and be lost.

As the infographic by PayPal above shows customers buy mobile online because:

- It's convenient
- There is no need to carry cash
- It's quick and easy
- It saves time queuing to pay for items

Convenience and context + data and trust seems like the way to go as m-commerce continues to take off.

Mobile

MOBILE BANKING - MEANING Mobile Banking: The Reserve Bank of India recently informed banks to encourage mobile banking. In coming days we will see more number of people getting addicted to the ease of mobile banking. In the internet era, mobile banking can be considered as boon as well as bane. However, many people still are not able to rely on mobile banking due to its exposure to risk. Here are few safety tips which you can consider.

MOBILE BANKING FEATURES AND BENEFITS

Most banks offer an online bill payment service that lets you pay bills electronically using a secure online account. You then designate the amounts and dates that you want to pay utility bills, credit card payments, loan payments, appointment fees and more. Following are five benefits of using an online bill payment service.

Mobile banking can be used for many of the same tasks that you would complete at a bank branch or on your home desktop computer. These include checking account balances, transferring money from one account to another, finding an ATM, setting up alerts (for example, to notify you if an account balance has hit a certain amount), or viewing account statements. In addition to these basic features, mobile banking services may include direct deposit of checks using your device's camera, paying bills, sending money to another person, transferring credit card balances, or even conducting investment transactions.

- **Mobile Banking Is Convenient**

Being able to do most, if not all, of your banking on the go is one of the biggest benefits of mobile banking. No matter where you are, you can “take care of business” without interrupting the rest of your life. Bank branches aren't going away any time soon, but being able to handle your financial life without having to drive to a branch during open hours can be a real time- and schedule-saver.

- **Mobile Banking Keeps You in Control**

Because it's so easy and so convenient, mobile banking helps keep you in control of your finances. You can monitor your balances and always know where you're at financially. With account alerts, you can know if your account falls below a certain threshold and instantly transfer money into that account and avoid overdraft fees. You can deposit checks instantly, which is a big help when you need the cash. You can get reminders

when to pay bills so you never have to pay a late fee. You can even set up recurring bill payments so you don't even have to think about when a bill is due. All these features leave you in control of your money on your time.

- **Mobile Banking Is Secure**

Mobile banking is as secure. All reputable financial institution use encryption that safeguards and protects your privacy, identity and your financial information. Some institutions even offer a security guarantee to make your use of mobile banking truly worry-free.

OTHER FEATURES :

- **Register in less than 5 minutes :**
Our Mobile Banking app is easy to download and registration takes less than 5 minutes.
- **Safe and secure :**
We take security very seriously and do all we can to keep our customers secure.
- **View your statements :**
Keep a check on your spending. You can view your statements on the go at your convenience.
- **Impulse Saver :**
Once activated, you can save little and often with impulse saver - without logging in.
- **Quick Balance :**
Checking your balance is quick and easy with our mobile app. Once activated, there's no need log in.
- **Balances on your smartwatch :**
Once activated, quickly and easily check your balance on your smartwatch, without logging in.
- **Paym mobile payments :**
Paym lets you send and receive money securely, using just a mobile phone number
- **Personal Loans :**
If you have a Nationwide Personal Loan, you can view your loan details and make overpayments on it, using our mobile app.
- **Browse and apply :**
Apply for a Nationwide Current Account, Credit Card, Personal Loan or Savings Account using the app.

ADVANTAGES OF MOBILE BANKING

- **Anytime Banking:**
Mobile Banking gives you the privilege of anytime and anywhere banking. One can do most of the banking transaction after banking hours from anywhere, irrespective of whether you are traveling in bus or auto. Whereas this ease will not be possible if you are connected to a PC or Lap top, especially when traveling.

- **Mobile Banking is Free:**

The service provided by bank is free of charge, there is no limit for number of times you can access your account. Various banking services provided include Account Balance Inquiry , Credit/Debit Alerts, Bill Payment Alerts, Transaction History, Fund Transfer Facilities, Minimum Balance Alerts etc. can be accessed from your mobile. You can transfer money instantly to another account in the same bank using mobile banking.

- **Secure Banking:**

Some banks assure that, by downloading the app directly from the server, the data wont be stored in your mobile as well as SIM card. The app comes with advanced encryption technologies making it safe and secure as Internet Banking.

THE ADVANTAGES OF BANKING WITH A CELL PHONE APP

The rise of mobile technology has been changing the way world does business for nearly two decades. Across industries, mobile technology has reduced paperwork and processing times by allowing the instant exchange of digital information. For some reason, the banking industry as a whole has been slow to follow suit.

At BankMobile, we don't think clinging to obsolete banking practices is the right way to serve our customers. Instead, we take the opposite approach, embracing technology in order to give consumers fast, convenient and flexible banking options that as modernized as their lives are. For example, did you know that on average, it costs about one million dollars each year just to operate a single bank branch? On top of that, traffic to physical branches is on a steady decline. By replacing inefficient brick-and-mortar branches with our easy-to-use mobile banking app, we put the power of a full service bank directly into the palm of your hand. At BankMobile, we keep the pros and eliminate the cons to give you exactly what you want. There's no fluff, no filler, and no fees – just easy, fee-free banking.

DISADVANTAGES OF MOBILE BANKING

To make maximum benefit of mobile banking one should have smart phone. Some banks have specific software for specific mobile such as iphone and Blackberry people should download different apps based on the smart phone they own.

Many experts believe that mobile banking is more secure then internet banking as very few virus or Trojans can exist in phone. However, that does not mean that they are immune to any kind of threats.

As phishing exist for internet banking users, there is "Smishing" for mobile banking users. When a mobile banking user receives a fake text message asking for bank account details from a hacker.

There are also very limited anti-virus software options for mobile devices. People are less careful with their mobile compared to laptop. You must also update your anti-virus on the mobile if you are a frequent user of mobile banking.

WHY USE MOBILE BANKING WITH BANKMOBILE INSTEAD OF TRADITIONAL SERVICES?

So why should you think about making the switch from traditional banking to mobile banking? What are the advantages of banking with a smartphone or a tablet instead of a teller?

We wouldn't have created BankMobile if we didn't think it offered superior customer service to the traditional banking products that are currently on the market. We're confident there are at least four awesome reasons to consider upgrading from a traditional bank to a mobile bank or "neobank."

Benefit #1: Save Time and Money

When you visit a traditional bank, not only do you have to take valuable time out of your busy day just to get there – you also have to battle for a parking place, not to mention waiting around in line.

The banker you need is busy right now? No problem – just take a seat for the next 20 minutes while their appointment finishes. No time to visit the bank during your lunch break? Guess you're stuck waiting until the bank opens tomorrow morning. Don't feel like you have the energy to run errands? Looks like you won't get your checks deposited.

With the BankMobile mobile banking app, you'll never have to worry about bank hours or long lines again. The app lets you bank on your time, with your schedule, whenever works for you. With our app, you can deposit checks and make payments at any hour of the day or night, any day of the week, all from the comfort of your own living room. Saving on gas money while you bank in your pajamas? We don't know about you, but that sounds like a pretty sweet deal to us.

Benefit #2: Instant Access from any Mobile Device

In addition to being speedy, convenient, and cost-efficient, mobile banking also gives customers a much wider variety of options when it comes to account access.

With traditional banks, you essentially have two options: log in from a computer, or visit the bank in person. But what if you're traveling? What if your computer is dead? What if your bank is closed by the time you get off work? That really doesn't leave you with many choices.

With our mobile banking app, you'll never have to worry about account access again. Simply sign in from your iPhone, your iPad, your iPod Touch, or your Android smartphone any time you feel like it. No matter where you are or what you're doing, our app gives BankMobile customers instantaneous, around-the-clock access to their accounts with just a few quick taps of the screen. At BankMobile, it's our philosophy that banks should work for you – not the other way around.

Benefit #3: Enhanced Data Security

1. First, your information is transmitted through SSL or “Secured Socket Layer” technology.
2. Next, your encrypted information is transmitted to our protected database. That means the data gets reworked into a special code that only authorized personnel can access.
3. Finally, we only grant account access to a limited number of authorized personnel. Plus, all authorized personnel are required to keep your information confidential.

Benefit #4: Access to 55,000 No-Fee ATMs

How many times have you traveled out of your way to visit your bank's ATM, just for the sake of avoiding those annoying ATM fees? After all, ATM charges add up fast. If you were to visit an ATM with a \$2.00 surcharge just twice a week for a year, withdrawal and balance inquiry fees alone would cost you almost \$200! That doesn't sound like a good use of your money to us.

ISSUES OF M-COMMERCE

➤ Too many devices, too much choice:

Smartphone adoption has gone stratospheric; led by the innovative iPhone and now being spearheaded by Android devices, it seems almost everyone has one. However, mass adoption leads to confusion, and for retailers this introduces problems. The classic dilemma is the app versus mobile site issue.

➤ Hostile conditions:

If you are developing an m-commerce strategy there is one consideration that needs to be absolutely central to your thinking: the mobile users' browsing conditions and connections will be against you.

M-commerce apps and sites need to cater for these changeable conditions, this is especially important for areas such as the checkout or other sensitive areas of the site.

➤ Payment pain:

As anyone who has done this can confirm, typing your 16-character credit card number into a mobile phone is not a happy experience. Apart from the obvious room for error with a tiny keyboard there are security considerations as well. Mobile payments are a highly innovative area and payment providers are rolling out new solutions at an impressive rate.

➤ Coping with small screen:

The biggest limitation, but one that can be partially addressed, is screen size. The antidote to the limited real estate is to use a much smaller image, sharper messaging requiring less text, and more pages so that more information can be gleaned if the customer requires.

For example, Amazon has clearly done a lot of research with their mobile site. The core approach to its offering is centred around the core belief that browsers generally don't know what they want when landing on the site. This deep understanding of its customer base has driven its design.

➤ Concerns with security:

Even more than with Internet-based e-commerce, users worry about the safety and reliability of conducting business over a wireless connection.

Users will engage in m-commerce only if they trust that the transactions made through their devices are secure

Major Differences Between M-commerce and E-commerce

	E-commerce	M-commerce
ORIGIN		
Sponsorship	Government-sponsored Internet	Private mobile phone industry
Business entry cost	Low	High
Customer access cost	Free or low cost Internet access	High mobile service charge
Customer base	Highly educated computer users	Less educated cell phone customers
TECHNOLOGY		

Message transmission	Packet-switched data transmission	Circuit switched for streamlined voice communication
Protocol	TCP/IP, HTTPML	GSM, TDMA, CDMA, 3G
Standardization	Highly standardized	Multiple incompatible standards
Connectivity	Global	Mainly regional
Bandwidth	High	Low
Identity	URL with IP and domain name	Phone number
Application development	General computer applications	Device-specific applications
Interface device	Personal computers	Cell phones and PDAs
Mobility	Fixed location	Mobile
Display	Big screen	Small screen
Main input mode	Keyboard for full text input	Voice with small key pad
Main output mode	Text and graphics	Voice with small text display
Local processing power	Powerful CPU with large memory and disk space	Limited processing power with small memory chip
Software and Programming	Support a variety of programming languages	Java or specific script languages
Trend	Towards sophistication	Towards minimization
SERVICES		
Service range	Global	Regional
Delivery destination	PC in office connected to the Internet	Person accompanied by a mobile device
Transaction complexity	Complete and complex transactions	Simple transactions
Information provided	Rich information	Simple and short messages
Timing	Less time-critical	Time critical
Location-based service	No	Yes
Target mobility	Service to a fixed point	Service to a moving target

Backend business connection	Strong connection to backend business information systems	Weak connection to backend business information systems
Service classification	B2C (business to consumer) and B2B (business to business)	P2P (person to person) and P2S (person to system)