



MOBILE COMMERCE: MARKETING TRENDS AND SECURITIES COMPONENTS

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Abstract: Mobile Commerce conjointly referred to as M-Commerce, is outlined because the method of performing arts business dealing exploitation hand-held devices are connected through wireless network. Mobile commerce is the latest technology of commerce. Mobile Commerce services are following biggest growth space within the communications markets. Mobile Commerce has terribly very important role in fashionable business. The mobile devices embrace cellular phones, hand-held computers like palmtops or laptops, smart phones and (PDA) Personal Digital Assistants. Mobile Commerce has several applications like mobile looking, mobile promoting, mobile banking, mobile ticketing, mobile amusement and alternative. This paper focuses on this promoting trends and security parts within the mobile commerce.

Keywords: Wireless, PDA, Applications, Devices

I. INTRODUCTION

The term mobile commerce was initial phrased Kevin Duffey on tenth November 1997, at the launch of world Mobile commerce forum, wherever he was elective as government Chairman, by that he meant ‘the delivery of electronic commerce capabilities directly into the consumer’s hand, anywhere, via wireless technology.’ The M Commerce server was developed in late 1997 by Kevin Duffey and St. Andrew economist at Logic that won the 1998 money Times award for “most innovative mobile product,” during a resolution enforced with Diamond State La Rue, Motorola and Logica. Mobile Commerce is general is understood as shopping for and mercantilism of product or services victimization wireless mobile device sort of a portable, smart phone, tablet, personal digital assistant(PDA), sensible wearable’s etc. In different words, It is a whole on- line searching expertise; however with all the convenience of being on a cellular phone or pill called next-generation e-commerce, m-commerce permits users to access the net with no need to seek out an area to insert. Simi Cart is that the best Magento mobile app builder therefore we are able to facilitate store homeowners and customers feel snug once searching by mobile app M-commerce era. The technology behind M Commerce is predicated on Wireless Application Protocol (WAP), and is anticipated to surpass E-commerce because the selection for on-line dealings terribly before long. The value of M Commerce business as on 2016 is calculable to be roughly around 230 billion USD and is anticipated to grow to 700 billion USD by the tip of 2017 worldwide. As of 2017 the utilization of m-commerce accounted for thirty four.5% of e-commerce sales. India has virtually forty six large integer folks connected to web (December 2016) and is anticipated to grow to seventy five crore by the tip of 2020 and therefore the potential Asian nation holds has very drawn attention of major Smartphone firms like Samsung, Motorola, Micromax and lots of others to form smart phones keeping Indians as major purpose of their business. the amount of users of mobile devices is ceaselessly increasing. A projected number of hand-held (mobile) devices can exceed the amount of stationary terminals within the world in the next few years. M-Commerce services and applications is adopted through totally different wireless and mobile networks, with the help of many mobile

devices. A crucial consideration coming up with m-Commerce services and applications is that they would like for identification of the mobile users' necessities, and therefore the classification of the services with their distinctive properties. Security remains a giant issue regarding web searching. In line with eBrain marketing research client physical science Association (CEA) conducted an investigation on the customers' connotation of web searching therefore on understanding the favorites of consumers and located that the lower cost of the merchandise remains one among the key issues and therefore the convenience, privacy and security are future. Therefore, the safety of web searching could be a matter of importance.

Methodology: This paper is qualitative and supported secondary information collected from numerous sources like book, newspaper, management journal and net.

Values: This paper includes sensible m-commerce services in Republic of India and future trends of m-commerce services. This can promote attention-grabbing contribution in M-commerce analysis.

Objectives: the target of this analysis is to review the varied modes of mobile commerce trends and ascertain this market state of affairs of m-commerce trends, conjointly ascertain the longer term trends of M-commerce trends.

This paper is organized as follows: Section one introduction of M-commerce, methodology, values and objectives, Section two reviews the varied statistics of M-commerce, Section three some trends and growth of M-commerce, Section four M-Commerce services benefits. Then Section five M-commerce security problems and lots of sorts of parts Section half dozen regarding the M-commerce services. Section seven m-commerce system suggests a brand new style and development M-commerce services and at last, in gift our conclusions.

II. USES OF M-COMMERCE (STATISTICS)

Mobile commerce has witnessed the unimaginable development for the previous few years. Mobile devices usage has conjointly accumulated steady through traffic and conversion rates. By the tip of 2017, over 2 billion itinerant and pill users can create mobile commerce transaction. Presently, mobile devices account for thirty four.5% you look after all U.S. retail e-commerce sales and is calculable to succeed in five 3.9% by the tip of 2021.

Mobile operating system market shares

As of Gregorian calendar month 2017, there's not a lot of amendment in rankings of mobile software system market share worldwide chart. notably, mechanical man still unbroken the primary place in with seventy three.11% whereas iOS came second capturing twenty.34 market share and vi.55% of different systems like Nokia, Window, series forty (Stat counter, 2017)

M-Commerce retail

In 2017, world mobile e-commerce revenues amounted to 549 billion U.S. greenbacks and are projected to succeed in 669 billion U.S. greenbacks in 2018.

App users patterns

According to App Annie's report on might 2017, shoppers downloaded over ninety billion apps on the iOS Store and Google Play alongside 900 billion hours in apps. They currently access over thirty apps per month and launch a minimum of nine app per day as their daily habits (Eric Thompson, "Discover the Countries Leading in App Usage". 2017)

Mobile search

- 25% of overall search queries are now on mobile devices.
- 58.7% of smartphone users and 73.9% of tablet users access search
- 42% of call to business are driven by mobile search
- 80% of local searches on mobile devices turn into purchases

The world is developing and new technologies come into life, and this in turn, increases the competition between market players. Those who fail to catch up the trend will eventually go out of business. With mobile usage overtaking desktop usage, m-commerce is booming. Delivering a fast, consistent user experience across device-particularly mobile has never been more crucial than it is now. It's undeniable that catching this trend never becomes too late.

III. M-COMMERCE GROWTH

As we tend to approach the March 2019, some fascinating trends are being expected and already seen, within the retail and on-line market section. Considering that December-usually a very important sales month was a tricky one for militia retailers, keeping on trend and giving shoppers what they need is vital for growth. Numbers of sensible phone user is worldwide from one.57 billion in a pair of 2014 to virtually 2.87 billion in 2020. In order to harness the web retail growth potential, we are able to expect to envision some changes within the market throughout the year ahead. Per Karl Hammerschmidt, bourgeois and CEO of Runway Sale (an on-line fashion merchant providing over five hundred high-end brands at a reduced value to their exclusive society) online retailers got to absolutely embrace m-commerce, change their providing, whereas continued to align themselves with dynamical client behavior. Mobile and AI are the 2 biggest trends in 2019 however there are alternative delicate, however vital trends and changes that may impact on-line retailers,

IV. BENEFITS OF M COMMERCE

Merchants are using high-speed mobile phones for their convenience as compared to earlier ones. This exact goal improves conversion rate. According to a survey, more than 75% of customers aged 18 to 34 have enabled push notifications on their mobile. Mobile app has many features like live chat, one-click calling, offers, catalogs, games and help desks. All information related to the location is local in nature. They contribute to making more changes in businesses and generate high revenue. Location tracking brings more foot traffic to the physical store. Pay users can make payments through Apple Pay (iOS) and Google Wallet (Android). Mobile is now a digital wallet with a pre-paid account that can be debited for purchase. Better user experience, more customer and high conversion rate is the end result. There is no need of need efficient consumer. In this year (2019) promises to be a trendsetter for mobile commerce. It will have to adopt latest technology, concepts and features. Although many, mobile commerce merchants include mobile image identification, video content, mobile app growth and NFC-enabled payments to see high advancement. The ability to know the physical location of the user at a particular time also increases the value of mobile commerce. The other advantage of mobile commerce is reachability. Through mobile devices, business entities may approach customers anywhere and anytime.

V. SECURITY ISSUES AND COMPONENTS OF M-COMMERCE SYSTEM

Growth of mobile commerce in Asian country is concerning two however we are {able to} able to increase this growth level if we tend to take some acceptable steps for creating some relevant policies and create factors a lot of favorable for mobile commerce growth. within the digital world security has invariably been a challenge. per recent statistics hackers have had a control on nearly ninety you look after tiny and medium scale on-line business as they principally fail to handle these problems properly mostly attributable to lack of enough funding to afford developers or third party firewalls or now and then they don't understand the necessity to afford such services till they're severely hit. There are the some problems that directly or indirectly affects the expansion of M-commerce adversely. several of the problems baby-faced by M commerce are as follows Wireless network coverage

1. Security issues
2. Lack of standard
3. Slow access speed
4. High cost of phones

In India, Information Technology Act, 2000, contains rules against cybercrime. They are however few ways in which we can protect ourselves from hackers.

Security Mechanisms:

Security services within the present time make the most of advances in computation technology (both hardware and software). to realize these security goals, digital knowledge are encrypted and decrypted supported crypto graphical algorithms. There are 2 classes of crypto graphical algorithms: bilaterally symmetric key systems and uneven key systems.

- Symmetric key systems, during this class, the sender and receiver of a security session each own identical digital key. The sender encrypts messages mistreatment this decrypts the received messages using identical key. This digital key, however, is rarely transmitted over the network in clear text, therefore preventing a 3rd party from getting it and thus compromising the secure communication. To agree upon this interchangeable key needs each side to use outside channels, like a conversation, or a specially designed key distribution center (KDC). The information coding commonplace (DES), triple-DES (3DES), and advanced coding commonplace (AES) are interchangeable key systems.
- Asymmetric key system. These also are known as public key systems. in contrast to in parallel key systems, a participation entity in as uneven key system uses 2 keys- a public key that's accessible to everybody within the world and a personal key proverbial solely to itself. Applying one or each of those 2 keys in numerous orders to knowledge messages provided security services like authentication and digital signature. The renowned RSA formula is AN example of an uneven key system.

Network Infrastructure and Security

Network infrastructure provides essential voice and electronic communication capability for shoppers and vendors in Net. Evolving from electronic commerce (EC) to mobile commerce (MC), it's necessary for a wired network infrastructure, like the web, to be increased by wireless networks that supports quality for finish users. Though the wired network isn't essential in an exceedingly mobile commerce system, most mobile commerce servers reside on wired networks and user requests are off times routed to those servers exploitation transport and/or security mechanisms provided by wired networks. Wireless communication capability supports quality for finish users in mobile commerce systems. Wireless LAN and WAN are major elements accustomed offer radio communication channels so mobile service is feasible.

Wireless Local Area Network and Security Data packets are relayed by the AP to the opposite finish of a network affiliation. If no APs are out there, mobile devices will type a wireless circumstantial network among themselves and exchange knowledge packets or perform business transactions as necessary. In general, Bluetooth technology supports terribly restricted coverage varies and output. Thus, it's solely appropriate for application in personal space networks. In several elements of the globe, the IEEE (Wi-Fi) system is currently the foremost common wireless network and is employed in offices, homes and public areas like airports, searching malls and restaurants.

- **Wi-Fi Security** – The security of the IEEE 802.11 WLAN standard is provided by a data link level protocol called Wired Equivalent Privacy (WEP). When it is enabled, each mobile host has a secret key that is shared with the base station.
- **Bluetooth Security** – This technology developed by Ericsson in 1998, is employed connect completely different HWDs and provides a way for authenticating devices. Device authentication is provided employing a shared secret between the 2 devices. Bluetooth provides security by victimization frequency hopping within the physical layer, sharing secret keys between the slave and therefore the master, encrypting communication channels, and dominant integrity.
- **Wireless Wide Area Network and Security:** The vital technology within the class is that the cellular wireless network cellular system users will conduct mobile commerce operations through their mobile phone, underneath this situation, a mobile phone connects on to the highestbase station, wherever communication is relayed to the service website through a radio access network (RAN) and different fastened networks. In a wireless cellular system, a wired network referred to as a radio access network (RAN) is utilized to attach radio transceivers with networks. At the best level, the UMTS network structure consists of the core network (CN) and UTRAN. The network scheme (NSS) of GSM/GPRS is reused the maximum amount as potential in UMTS CN.

VI. TYPES OF MOBILE COMMERCE TRENDS AND SECURITY FEATURES

In this section we examine the leading mobile commerce trends and security features for consumers:

1. Travel
2. Mobile Banking
3. Stock trading
4. Shopping
5. Amusement Parks

Travel: one amongst the foremost thriving application classes in mounted e-commerce has been travel. Sites geared toward personal and business air travelers, for instance, create glorious use of the web's strengths. Sites like Travelocity enable users to specify departure and destination airports, most well-liked times of travel, and worth brackets victimization net forms. Travel has obvious synergies with mobile commerce. In reality the idea of travel is therefore closely sure up with mobile commerce that thinking of travel as a distinct class of activity unmarried from alternative activities, within the form of mounted e commerce is unhelpful. First, the established ability to book travel tickets electronically transfers elegantly to mobile devices. Travel data is of course prepackaged into comparatively tiny chunks, that the data is straight forward to translate to low-bandwidth channels. The electronic price tag may function a entrance to sales opportunities throughout the flight itself. The second seeding role of electronic tickets is their role in handing off the client to partners once the travel expertise is completed. A tickets might act as a reduction to connected travel, accommodation or recreation offers. Booking journeys, paying for them, and victimization electronic tickets via the mobile channel adds up to an intuitive set of services.

Security: Gartner has outlined three categories of applications and services that help enterprises secure m-commerce through user authentication: mobile app security ; mobile environment security ; and mobile friendly user authentication. Unfortunately, traditional login and password-based authentication is too outdated to cope with modern day security threats, and is a hindrance to users in terms of the experience on mobile. Such static passwords leave the door wide open for hackers as their fraudulent ambitions rely greatly on human nature; we all have to many passwords to keep track of, and either make simple ones or reuse the same password for multiple accounts. Phone number verifications, on the other hand, is a stronger form of authentication and provides a better user experience on mobile devices making it ideal for mobile commerce. Phone number based authentication differs from static passwords as it involves sending a one-time password (OTP) to a user via a separate means of communication (usually a text message or a voice call) which only the user has access to. And this one-time password expires within a short period of time.

Mobile Banking:

Using a mobile website or application to perform all your banking functions. It is one step ahead of online banking and has become commonplace these days. We conjointly checked out the robust match between bank customers needs to envision balance often and also the personal convenience to proliferate, banking already appears a given of the mobile commerce landscape. This service is commonly mentioned as Mobile Banking or M-Banking. a lot of negative problems like ID felony, phishing and harming are lurking once it involves mobile banking, notably done on the mobile net. Internet security technology free from mobile net primarily based banking are AN elective answer to mobile banking within the close to future. This application of the mobile commerce is extremely well-liked in countries wherever most of their population is unbanked. The central role of cash in shopper's lives offers bank the chance to get personalized offers relevant to the business of acting transactions; we are able to see the mobile commerce permitting.

Security : Security of financial transaction, being executed from some remote location and transmission of financial information over the air, are the most complicated challenges that need to be addressed jointly by mobile application developers, wireless network service provider and the banks' IT departments. The following aspects need to be addressed to offer a secure infrastructure for financial transaction over wireless network:

- Security of any thick-client application running on the device. In case the device is stolen, the hacker should require at least an ID/Password to access the application.
- Authentication of the device with service provider before initiating a transaction. This would ensure that unauthorized devices are not connected to perform financial transactions.
- User ID / Password authentication of bank's customer.
- Encryption of the data being transmitted over the air.
- Encryption of the data that will be stored in device for later/ off-line analysis by the customer.

Stock Trading:

Mobile stock commercialism is perceived by most observers because the hottest house in mobile commerce. A high – visibility application in an exceedingly broad, technology-friendly marker, stock commercialism is very engaged to mobile, time-based decision-making.

Stock commercialism has become a really mass market development throughout the letter a part of the Nineteen Nineties. a lot of of the expansion in interest in owning and commercialism equities derives from the growth of the net technology and e commerce sectors.

Mobile stock commercialism has 2 main elements. The primary is that the ability for investors to visualize the worth of their portfolios and therefore the second is the ability to execute trades. The ability to execute trades is tougher. This is often not as a result of it's a fancy perform, the info concerned by the broker instead of the user. The challenges lie within the security dimension, specifically the realm of authentication.

Mobile stock commercialism is associate inevitable move for established broker age corporations and a possible lifeline for retail banks wanting to cement time period relationships with customers. Competition amongst stock commercialism corporations are fierce. They'll additionally have to be compelled to fight the flow of data and misinformation created by the mobile population corporations will stop their brands being debased and their service being commoditized into straightforward, dedifferentiated transaction.

Stock Trading Security : Stock trading securities are broadly categorized into – (1) Debt securities (banknotes, bonds and debentures) (2) Equity security (common stocks) (3) Derivatives (forwards, futures, options and swaps). Securities can be broadly categorized into two distinct types : equities and debts. An equity security represents ownership interest held by shareholders in an entity (an company, partnership or trust) realized in the form of shares of capital stock, which includes shares of both common and preferred stock. Holders of equity securities are typically not entitled to regular payments-although equity securities often do pay out dividends-but they are able to profit from capital gains when they sell the securities (assuming they've increased in value, naturally). A debt security represents money that is borrowed and must be repaid, with terms that stipulates the size of the loan, interest rate, and maturity or renewal date. Debt securities, which include government and corporate bonds, certificates of deposit (CDs) and collateralized securities (such as CDOs and CMOs), generally entitle their holder to the regular payment of interest and repayment of principal (regardless of the issuer's performance), along with any other stipulated contractual rights (which do not include voting rights).

Shopping

While thinking about M-Commerce, it comes to our mind, but we have chosen to cover it ultimately in this survey of mobile commerce services for the purpose of consumers. Brands set up proxies for human personalities, encode human values about companies, products and services and convey them economically. Some brands may be extended to give the recommended power over a wide range of goods and services. Most of the early mobile commerce shopping services focus on value, but the next generation of services will focus on satisfactory impulsive behavior through creative fulfillment.

Shopping Security: It's understandable that a shopping site needs some of your personal information such as your name, contact number, emails address, and billing information. Many of these sites will make you feel that it's the part of their normal registration process. But it's not. Make sure you don't end up giving out details that aren't necessary. You need to look for sites that have an added "S" in the URL to ensure security. Secured Sockets Layer (SSL) comes into play. SSL is basically what protects your personal and sensitive information as it travels from one network to another across the world. It keeps the information encrypted so that only the person it sent to can read it. This is more of a cliché thing to say, but it's important that you maintain different passwords for various accounts. Otherwise, when one of your accounts gets hacked by a criminal, it will become a walkover for the rest of your accounts to be compromised. So make sure you have at least 2 or 3 different passwords.

Amusement Parks and Security: Amusement parks operators are constantly working to find better, easier, and more efficient ways to manage their premises. The ultimate goal is to bring more visitors and generate higher revenue streams. With so many people visiting parks each day, operators are faced with the need to make day-to-day operators more manageable, efficient and cost effective. Issues facing operators, such as ticket fraud, crowd control and customer experience improvement can now be addressed through ever advanced technologies such as video surveillance, access control, video analytics, biometrics and RFID. Access control technologies, such as RFID and biometric authentication, can also help crack down on ticket fraud. RFID, which entails the communication between a reader and a tag, can limit critical areas, such as ticket booths, to employees only.

Crowd control is a top safety concern for theme park operators and is often stipulated by law. Security technologies can "ensure that no more than the maximum number of visitors, as is prescribed by the safety codes of both the police and fire department are on the park's grounds at any point in time."

Security aside, management has become a top priority for amusement park operators. Luckily with ever more sophisticated security technologies, operators can run their business with optimal efficiency and give more satisfaction to visitors as they take rides, shop in stores and grab a bite at concession stands.

Security technologies can offer valuable data such as customer behavior and their spending habits. With increased business intelligence, operators can strive to enhance the customer experience, in the process attracting more visitors and raking in higher revenue.

VII. CONCLUSION

M-commerce security could be a terribly crucial issue that desires any analysis to introduce economical and effective solutions. During this article, varied security consideration was expounded. There are potential benefits, particularly one employed in devices with restricted process capability and memory. It's calculable that international market on m business can bit two hundred billion USD by 2009 with a hundred thirty million users conducting fourteen billion m commerce operations. Day by day M-commerce taking part in excellent role in on-line retail selling and peoples victimization this technology day by day everywhere the planet. There are already many existing M-commerce application and services these days that are terribly useful to North American nation. Some are mobile banking, location maps, and kind of news, mobile looking, ticketing and mobile file sharing. Mobile devices are proving to be the foremost compact technological aid of the long run, set to overtake PCs and laptops. Use of mobile handsets as a payments device is already well established in Europe and therefore the leading Asia Pacific markets e.g. virtually 1,000,000 Koreans currently do their banking via 4G cell phones (CNN report). The geographical area region could be a focus for on-line and M-commerce businesses as well as major app store and content supplier. It's home to a number of the quickest growing smartphone markets worldwide, with smartphone user expected to achieve 2.87 billion by 2020. There ought to be taken necessary steps to incorporate these protein like wireless network technology, building of infrastructure to web property, provide correct awareness of web, aware additional and more peoples concerning the uses and security of M commerce applications by the govt. of India. The subsequent area's wherever government ought to take necessary action for improvement - Smartphone, Payment ways, Network affiliation, Security elements, Government policies etc.

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