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IMPACT OF M-COMMERCE ON NEW BUSINESS ENVIRONMENT

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ABSTRACT:-
    Electronic commerce has attracted significant attention in the last few years. This high profile attention has resulted in significant progress toward strategies, requirements and development of e-commerce applications. The growth forecast for both business to- consumer (B2C) and business-to-business (B2B) aspects of ecommerce over the next few years is phenomenal by any standard. One point that should be made here is that nearly all ecommerce applications envisioned and developed so far assume fixed or stationary users with wired infrastructure, such as a browser on a PC connected to the Internet using phone lines or a Local Area Network(LAN). The aim of this paper is to examine the concept of M-commerce and its functining.

KEYWORDS- *Mobile , Commerce, Banking, money transfer.*

INTRODUCTION:-
    The advent of the World Wide Web(WWW) in the early 1990s provided the interface that made the Internet easily accessible to the mass market,sparking the information revolution --- participants came to have unprecedented access to a deluge of data and information. Riding on the ubiquity and reach of the WWW is commerce in its many forms: Inter- business trade, intra-organizational transaction, purveyors of goods and services touting wares to potential customers and consumers soliciting purchases. The combination of the Internet as a business data clearinghouse and the WWW as the virtual global marketplace, transformed traditional commerce to electronic commerce (e-commerce) .Ecommerce is the primary propellant of Internet development today and will continue to drive innovation well into the new millennium. Extraordinary market statistics are emerging from a related filed: wireless telecommunication. Conceived in the 1980s primary to carry voice transmissions, the medium today has developed into a fair bearer of data-including Internet communications. Wireless and mobile networks have experienced exponential growth in terms of capabilities of mobile devices, middleware development, standards and network implementation, and user acceptance. Currently, more than 800 million cell phones and other mobile devices are in use worldwide, and out of those, more than140 million users are in US alone.
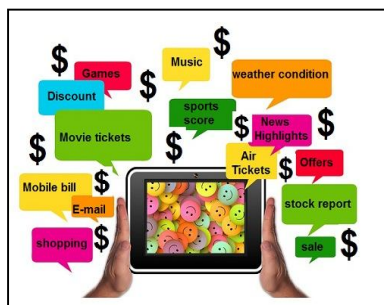
    The worldwide numbers are projected to 1billion soon, thereby exceeding the combined total of all computing devices several fold. In addition, areas around the world where wired penetration is relatively lower, mobile phones have actually become many subscribers' primary means of Internet access. Countries with a lack of regular telecom infrastructure are likely to adopt wireless and mobile communication to serve both urban and rural areas. Untethered by the umbilical cord of fixed line connection, the amazing possibilities of wireless Internet access fuel the unstoppable trend towards ultimate convergence of Internet and mobile communications. In the process, e-commerce

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evolves into mobile-commerce m-commerce. It is envisioned that many new e-commerce applications will be possible and significantly benefit from emerging wireless and mobile networks. These applications have been termed as "wireless e-commerce" or "mobile commerce". M-commerce is more than just an extension of e-commerce in conducting conventional business ----the allure of 'anytime' mobility in carrying out everyday Internet transactions has the potential to spur a myriad of novel and unique services.

MOBILE COMMERCE:

Mobile Commerce is any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and / or completed by using mobile access to computer-mediated networks with the help of an electronic device.The customer wants to access information, goods and services any time and in any place on his mobile deviceHe can use his mobile device to purchase tickets for events or public transport, pay for parking, download content and even order books and CDs.He should be offered appropriate payment methods. They can range from secure mobile micropayment to service subscriptions.The future development of the mobile telecommunication sector is heading more and more towards value-added services. Analysts forecast that soon half of mobile operators' revenue will be earned through mobile commerce. Consequently operators as well as third party provider will focus on value –added services. To enable mobile services, providers with expertise on different sectors with have to cooperate. Innovative service scenarios will be needed that meet the customer's expectations and business models that satisfy all partners involved.

COMPONENTS OF M-COMMERCE:

- M-Commerce is an enabling technology for delivering greater business volume, customer loyalty and support for urgent transactions such as travel changes and stock transactions.
- M-Commerce applications won't work if they simply mirror the e-commerce applications that are available on web sites.
- They must offer the correct format for a specific device, plus secure access and intuitive navigation.
- M-Commerce must be treated as a unique opportunity for delivering personalized, location based services to customers, and not simply as an extension to company's web presence.

Mobility- users carry cell phones or other mobile devices
Broad reach- people can be reached at any time
Ubiquity- easier information access in real-time environment
Convenience- devices that store data and have Internet, intranet, extranet connections
Instant connectivity- easy and quick connection to Internet, intranets, other mobile devices, database
Personalization- preparation of information for individual consumers
Localization of products and services- knowing where the user is located at any give time and match service to them.
Customer: who is mainly mobile. The place where he receives the services, pays and the transaction is committed. These places can be in different countries or on the borders of countries and the consumption of the services he has acquired can take place in a third country.
Content/service provider: who provide specific contents to a customer through a WAP Gateway which can be hosted at the Mobile Network Operator or through a portal that can be hosted at the operator's WAP server or anywhere else. Mobile Portals: that offer personalized and localized services to customers.
Mobile Network Operator: The role of the operator is very vital for the mobile electronic commerce. Depending on where it stands in the whole value chain of m-commerce, its role can vary from a simple mobile network provider to an intermediary, portal or trusted third party. The role of the operator can be quite complex and affect also the billing and payment of m-services.

Mobile network operators have a number of **advantages** over other portal players.They have an existing **customer relationship** and **personal data.**They can identify the **location of the subscriber**.Traditional portal doesn't usually have a **billing relationship with the customer**.

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Provide bundle services: provides offers with a combination of various purchases from different suppliers with discounts. So, e.g., if customer wants to buy product A from supplier X, he may find out about an offer from the Telecom Operator about two products A and B from different suppliers at a lower price.

Act as a **front- end to the bank**: the customer pays to the operator who, in this case, is also responsible for payment refund to the customer if the latter is not satisfied with the products.

Act as **Trusted Third Party**: in cases the customer wants to buy a number of goods from various suppliers who must interoperate.

APPLICATIONS OF MOBILE COMMERCE:

1) Mobile financial applications (MFA)-
2) Mobile banking
3) Brokerage service
4) Mobile money transfer
5) Mobile micropayments.

These services could turn a mobile device into a business tool, replacing bank, ATM, and credit cards by letting user conduct financial transactions with mobile money. Secure transactions are required before any of these applications are widely deployed. One interesting mobile financial application is **micropayment** involving small purchases such as vending and other items. A mobile device can communicate with a vending machine using a local wireless network to purchase desired items. Micro-payments can be implemented in a variety of ways. The user could make a call to a certain number where per minute charges equal to the cost of vending item. This approach has been used by SONERA, a Finnish wireless provider; in their famous Coke (and now Pepsi) machine service. In effect, it collects money from the users and credits it to the vending providers. Using pre-paid numbers purchased from a service provider, bank, or credit-card company. To support financial transactions including micro-payments, a mobile service provider could act as a bank, acquire a bank, or compete with a bank.

Mobile Advertising – Using demographic information collected by wireless service providers and information on the current location of mobile users, much target advertising can be done. The advertising messages can be personalized based on information provided by consulting the user at an earlier stage or by the history of user's purchasing habits. Advertisements sent to the user can also be location sensitive and can inform a user about a various on-going specials (shops, malls, and restaurants) in surrounding areas. This type of advertising can be performed using Short Messaging Service (SMS) or by using short paging messages to mobile users. The messages can be sent to all users located in a certain area (the geographic region can be identified by advertisers or even by users in advance); a user-specific message can be sent independent of the users' current location. As more wireless bandwidth becomes available, content rich advertising involving audio, pictures and video clips can be produced for individual users with specific needs, interests, and inclinations.

Also depending on interests and the personality type of individual mobile users, a network provider may consider using a "push" or "pull" method of mobile advertising based on a per-user basis or a class of users. Other interesting issues include the number advertisements should be limited to avoid overwhelming the user with information and also to avoid the possibility of congestion of the wireless links. Wireless networks may consider such advertising lower priority traffic if network load crosses a certain threshold. Since these services need the current location information of a user, a third party may be needed to provide location services. However, this may require a sharing of revenues between the network service provider and location service provider.

Mobile Inventory Management (MIM) –This class of applications involves location tracking of goods, services, and possibly even people. The tracking of goods may help service providers in determining the time of delivery to customer, thus improving customer service and obtaining a competitive edge over other business. One very interesting application is "rolling inventory" – which may involve multiple trucks carrying a large amount of inventory while on the move. Whenever a store needs certain items / goods, it can locate a

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truck (preferably in nearby area) and just-in-time delivery of goods can be performed. The rolling inventory and delivery application can reduce the amount of inventory space and cost for both vendors and stores and may also reduce the time between when an order is placed and the goods are delivered. Rolling inventory is a B2B m-commerce application while location tracking can be considered a B2C application.

Using inexpensive embedded radio / microwave devices (chips), a wireless network can track goods and services. Since satellite signals may not work well inside a truck, a separate wireless LAN can be provided on-board for intratruck communication and tracking. An interesting research problem is to determine an appropriate match for the amount of inventory carried by trucks in geographical area with dynamically changing delivery demands. Also traffic in a city may affect the just-in-time delivery in nearby areas.

Another example of MIM is **just-in-time delivery** / movement of components in an assembly plant based on the rate of consumption of existing components .A variety of new components can be moved at a certain speed after receiving a wireless signal from the components reaching the assembly line itself. This will allow just -in–time delivery leading to a reduced inventory and assembling cost. If the new components are delayed for some reason, then signals can be sending to the assembly line for possible adjustment of the assembly speed to match the arrival time of new components. Such an application would reduce the inventory cost while increasing productivity by matching the speed of new components arrival to the rate of assembly.

Potential MIM customers may include shipping companies, assembly plants (auto, manufacturing), airline / mass-transit industry, and supermarket chain stores. One positive factor is that many of these industries are already increasing their use of wireless technologies. Possible wireless technologies that can be used with MIM include Global Positioning Satellite Systems (GPS) that are operated by the Department of Defense for location tracking (the accuracy level is based on the type of receiver and the type of user). Many luxury cars already have built-in GPS receivers that compute location information based on received signals from at least 4 (out of 24) GPS satellites . GPS may not work well for indoor environments, as they require line of sight transmission between devices and satellites. Another location tracking application is called E (enhanced) 911. E-911 allows operators to receive location information of cell phones users along with their emergency calls. Since it is difficult for cellular /PCS systems to provide such location information, it is likely that a GPS chip will be installed on cell phones to help 911 operators to determine the location of mobile users. If such a chip is installed in cell/PCS phones, then location tracking of such users under normal circumstances will also be possible. Since "people" can also be considered inventory resources, they could also be better managed.

Mobile Auction, Entertainment And Other Services – With an increasingly mobile society, more and more people are on move. While mobile, people may prefer to be involved in some business or entertainment activities. These include mobile auction/reverse auction, Videocon-demand services, and other entertainment –oriented services. The technologies needed include mobile devices with capabilities to match desired applications, suitable mobile middleware, and wireless networks with high bandwidth (such as emerging LEO satellites or third generation wireless networks). Continued connectivity is a real important issue as it may affect the Perceived quality of service for entertainment/information services. For auction/reverse auction, frequent disconnection may seriously affect the usefulness of this service unless it can be guaranteed that if users get disconnected, the state of auction will be maintained and disconnected users will not suffer any loss during periods of dies connection.

M-Commerce revenues sources:
E-Commerce Portals
Short Messaging Services (SMS)
Subscription-Based Services
Revenue accrued from introducing new customers
Revenue-sharing between Wireless Network Operators

Issues in M-Commerce wireless privacy-Mobile network location-based services offer content and service providers an unprecedented avenue to target customers based on their physical locale. With location technology steadily improving, it is plausible subscribers could soon be placed with near pin point accuracy.

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Customer advocates view this to be a threat to personal privacy, with the associated issues of undue surveillance, spam and profiting. It is conceivable location data could be collected to explicitly track the physical movements of a particular subscriber within the network coverage. This could escalate to become a personal safety issue if the location information fell into the wrong hands through inadvertence or malicious theft.

Preventive Measures

- Stringent industry self-regulation such as using low granularity location information when precision is neither critical nor desirable.
- Obtaining explicit user consent before releasing location details to advertisers.
- Guaranteeing user anonymity even when data is used --- by applying only aggregate information without identifying specific individuals.

CONCLUSION:

Considering that most people would rather lose their wallet than misplace their cell phone, it's fitting that the mobile world is quickly becoming a new hub for business. For many of us, our cell phone never leaves our side. It holds a place at the dinner table, is easily accessible in our bag's front pocket, and often, somehow it even manages to end up sharing our pillow at night. Busy schedules mean people are often on the move and when marketers and companies can't reach consumers at their computers, on TV, before the previews at the movies, with billboards, or magazine and newspaper ads, they must feel assured that they can still reach them on their cell phones.

Mobile commerce, or m-commerce, is simply the ability to conduct business transactions through a mobile device. With smart phone sales rising 49% in the first quarter of 2010, never before has it been so easy to shop, anywhere, anytime from the palm of your hand. There is an enormous amount of ongoing market research, and though there has been a variety of numbers estimated and reported, they all conclude that mobile commerce is a profitable and rapidly growing market.

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