Introduction to Mobile Commerce

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Introduction to Mobile Commerce

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Mobile phones hold a lot of promise for the conduct of business. However, the starting point to achieving this promise is to understand the concepts behind the application of mobile phones to business.

This session explains the concepts and characteristics of m-commerce and the principles which underpin m-commerce adoption.

The session also explains the trends in mobile commerce.
Mobile Commerce Defined

- M-commerce have been considered as being either one of these concepts – a technology, product or service – or as combination of the three.
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Mobile Commerce Defined

**Technology**
It is the use of mobile handheld devices to communicate, inform, transact and entertain using text and data via connection to public and private networks.

**Product**
M-commerce is a commercial application offered on the electronic medium of business transaction being deployed on a platform.

**Service**
M-commerce is any transaction with a monetary value that is conducted through a mobile communication network.

**Interaction of technology, product, and service**
The buying and selling of goods, services and information without any location restriction by mobile devices which uses a wireless connection to establish communication between all the necessary parties to complete the transaction.

Mobile Commerce Defined

• M-commerce is not just a transaction, but it extends to provide services and information.
• For example m-commerce is seen to possess some mobile applications which are used to provide a number of services. These services include mobile banking, payment, information and marketing services.
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M-commerce vs M-business

• **M-business** is the use of mobiles or wireless devices in the conduct of all business activities of a firm both internally or externally in relation with its customers, suppliers, partners and other stakeholders.

• M-business covers the application of mobiles to finance and accounting, marketing, human resources, procurement, manufacturing, transport & logistics et cetera.
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Features or Characteristics of Mobiles

• Ubiquity/Immediacy
  – Ubiquity represents the idea that users of the device can access needed resources from (in theory) anywhere

• Identifiabilty/Personalisation
  – Identifiabilty represents the idea that mobile devices uniquely identify their user. In order to access the mobile network, both smartphones and tablets utilize the cellular network and use a Subscriber Identification Module (SIM card)

• Context Awareness / Localisation
  – Context Awareness is enabled by the fact that mobile devices can be geolocated. In other words, modern smartphones that incorporate a Global Positioning System (GPS) receiver can communicate their position to any software application running on them
Benefits of Mobiles

- **Operational benefits** are associated with the reduction in coordination and search costs in delivery of products, goods and services in the market place.
- **Improved timeliness and efficiency**
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Benefits of Mobiles

- **Relational benefits** are associated to the benefits of improved communication and relationships between actors – buyers, customers, sellers and suppliers – involved in a transaction which is conducted through mobiles.

- **Distintermediation** – direct communication
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Benefits of Mobiles

- Strategic benefits are associated with benefits which increase the market “reach” (access new markets) and the commitment and performance of actors involved in a transaction which is conducted through mobiles.
- Deepening of relationships, customer loyalty and retention
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## Feature-Benefit Model

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit Attributes</th>
<th>Type of Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediacy, Time, Ubiquity, Accessibility</td>
<td>Cost savings, Communication, Convenience</td>
<td>Operational</td>
</tr>
<tr>
<td>Localisation</td>
<td>Convenience, Cost savings</td>
<td>Operational and Relational</td>
</tr>
<tr>
<td>Personalisation</td>
<td>Convenience, Communication</td>
<td>Relational and Strategic</td>
</tr>
</tbody>
</table>

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Mobile Commerce Services

• Voice Services
• Data Services

Value-added services: information, entertainment, marketing and advertising, banking, ticketing, payments

text messaging, multimedia messaging and internet access.
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Mobile Services

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Shortcode</th>
<th>Mobile Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phobia</td>
<td>1911</td>
<td>MTN</td>
</tr>
<tr>
<td>Fabu</td>
<td>1935</td>
<td>MTN</td>
</tr>
<tr>
<td>Manu, Arsenal, Liverpool, Chelsea, Inter</td>
<td>1491</td>
<td>MTN, Zain, Kasapa</td>
</tr>
</tbody>
</table>

To subscribe to various teams send the following keywords eg send Man u to short code 1491:

Interactive Multimedia and TV

In 5 TV and 23 Radio Stations for Voting, Chatting, Audience Opinion Scrolling, Music, Entertainment etc. services.

Daily Religious & Motivational Information by SMS or IVR
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Factors which influence M-commerce Adoption

Types of adopters
Adoption factors
M-commerce Adoption

• M-commerce adoption refers to the process through which mobile technologies and services are selected for use by a user or a firm.

• Adoption entails the decision to accept and use a particular mobile device or service.
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Diffusion of Innovation

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system:

- **Knowledge** – person becomes aware of an innovation and has some idea of how it functions,
- **Persuasion** – person forms a favorable or unfavorable attitude toward the innovation,
- **Decision** – a choice to adopt or reject the innovation,
- **Implementation** – person puts an innovation into use,
- **Confirmation** – person evaluates the results of an innovation-decision already made.

M-commerce adopters or users play a threefold role: as technology users, as network members, and as consumers. Hence, to fully understand individuals’ adoption of mobile commerce, these three integrated roles have to be explained.

Technology users tend to be drawn to the technological features of the technologies they adopt. M-commerce adopters as technology users tend to be influenced by technology characteristics of m-commerce services or products.
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M-commerce Adopters

As Technology Users

1. **Perceived usefulness/Functional performance** refers to the degree to which an m-commerce adopter believes the m-commerce would provide expected benefits or expected functional performance.

2. **Perceived ease-of-use** is refers to the adopter’s perception of the minimum effort required for the use of the m-commerce service.

3. **Acquisition cost** is the cost of an m-commerce service or product that adopters have to pay in order to possess or own the service or product. For example, cost of mobile phone or cost of a mobile banking application.
4. **Operating cost** is the cost that occurs when a user utilize the m-commerce service. For example, cost of airtime to make use of mobile voice services.

5. **Reliability** relates to how free an m-commerce service or product is from malfunctionality, including the useful lifetime of it.

6. **Compatibility** is the way that the new technology fits with other existing devices or business requirements.
7. **Serviceability** refers to how long it takes and how expensive it is to repair or reinstate an m-commerce product or service if it goes wrong.

8. **Security** refers to the state in which an m-commerce service or product is free from unauthorized use, misuse and disturbance during usage by an m-commerce adopter.
M-commerce adopters are more than just technology users. These users are usually part of a social-business network of people such as friends, family and co-workers and trading partners.

Networks create subjective norms

1. **Social Norms** – perform a behaviour because society expects you to do so

2. **Peer Pressure** – perform a behaviour because members of a peer network expects you to do so

Theory of Planned Behaviour
http://www.istheory.yorku.ca/theoryofplannedbehavior.htm
The consumer role takes place as soon as a user subscribes to a mobile telephony service with a service provider or network provider. This is a prerequisite to using an m-commerce service or product.

Consumer perspective presents two factors:
1. characteristics of the mobile commerce service provider or mobile network operator,
2. The characteristics of the consumer
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M-commerce Adopters

Characteristics of Mobile Service Provider/Network Provider

1. Perceived reputation, image or social capital of the service provider
2. Marketing and pricing strategies of the service provider,
3. Network coverage and infrastructure of the service provider

Constrained by Firm-level characteristics and environmental/external pressure

Choice??
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M-commerce Adopters

As Consumers

The characteristics of the consumer

1. Knowledge of the adopter

2. Income level of the adopter or availability of slack resources for use on mobile services

   a) The **barrier effect**, which prevents people from owning a phone, or from using shared access phones other than in emergencies.

   b) The **inhibitor effect**, which discourages people from making as many calls as they need to even when they own or have access to a phone.
Mobile Commerce Adopters

• In effect, a customer’s evaluation of factors discussed above can result in either positive or negative outcomes on the adoption of m-commerce services and products.
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Technology Acceptance Models

1. **Diffusion of Innovation (DOI)**
   - [http://www.istheory.yorku.ca/diffusionofinnovations.htm](http://www.istheory.yorku.ca/diffusionofinnovations.htm)

2. **Technology Acceptance Model (TAM)**
   - [http://www.istheory.yorku.ca/Technologyacceptancemodel.htm](http://www.istheory.yorku.ca/Technologyacceptancemodel.htm)

3. **Unified Theory of Acceptance and Use of Technology (UTUAT)**
   - [http://www.istheory.yorku.ca/UTAUT.htm](http://www.istheory.yorku.ca/UTAUT.htm)

4. **Theory of Planned Behaviour**
   - [http://www.istheory.yorku.ca/theoryofplannedbehavior.htm](http://www.istheory.yorku.ca/theoryofplannedbehavior.htm)
Trends are defined by the new functionalities of the mobile technology, or the features and characteristics of a new class of mobile commerce applications - from which the trend typically takes its name and its impetus.

TRENDS IN M-COMMERCE
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M-commerce Trends

- In countries like Ghana, it is estimated that, there are 71 mobile phone subscriptions per 100 inhabitants, and further, the ratio of mobile cellular subscriptions to fixed telephone lines is 63 to 1 (ITU, 2010).
- NCA reports approx. 23,370,773 (June 2012)


• Top Mobile Markets in DCs

30 percent of the world’s mobile users live in India and China. As of March 2012, there are now more than a billion subscribers in China, with India not far behind. Both China (1023 m) and India (919 m) have more twice the number of subscribers in third place USA (331 m)

Implications – Scramble for new and emerging markets and more competition
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M-commerce Trends

• Tablet Commerce on the rise

A study by Adobe Research over the 2011 US holiday period found that tablet visitors spent more per purchase than visitors using Smartphone’s or traditional desktops and laptops - tablet users spend 54% longer on sites than mobile users, and purchase over 20% more than desktop visitors.

Implications – Future mobile commerce applications have to be designed to be user-friendly for use on a tablet.
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M-commerce Trends

• New Payment Options

*Mobile Wallet* – The mobile wallet is a service which enables users to store various forms of monetary exchange – as done by the physical wallet, including debit and credit cards, coupons and loyalty cards.

*NFC Opportunities* – NFC (near field communication) enables the exchange of data between mobile devices that are in close proximity to each other. NFC devices are used in mobile payments as contactless cards which communicate to other devices to facilitate payments.

*Implications* – consumers are more likely to spend more time and money in m-commerce if payment options are user-friendly.
• **Carrier Billing** – Carrier billing allows subscribers to pay for services and purchase applications on their mobile phone bill
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M-commerce Trends

• New Business Opportunities in production activities
M-commerce in Ghana – Where are we?

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www.vivaafrica.info

Under Case studies download the paper on *Preliminary Insights into M-commerce Adoption in Ghana and Read for discussion.
The End