

## *Lecture 5*

Economic Basics:  
E-Business vs. M-Business

**Mobile Business I (WS 2010/11)**

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- Phenomenon “Mobility”
- M-Lifestyle and Social Phenomena
- Specifics of the Mobile Economy
- Infrastructure Environment
- Mobile Business

## What is mobility?



Lat. *mobilitas*:

- (1) Flexibility, velocity, motion;  
and as “*mobilitas animi*”: (mental) fitness
- (2) But also (and quite ambivalent to (1)) changeability,  
inconstancy, unstableness

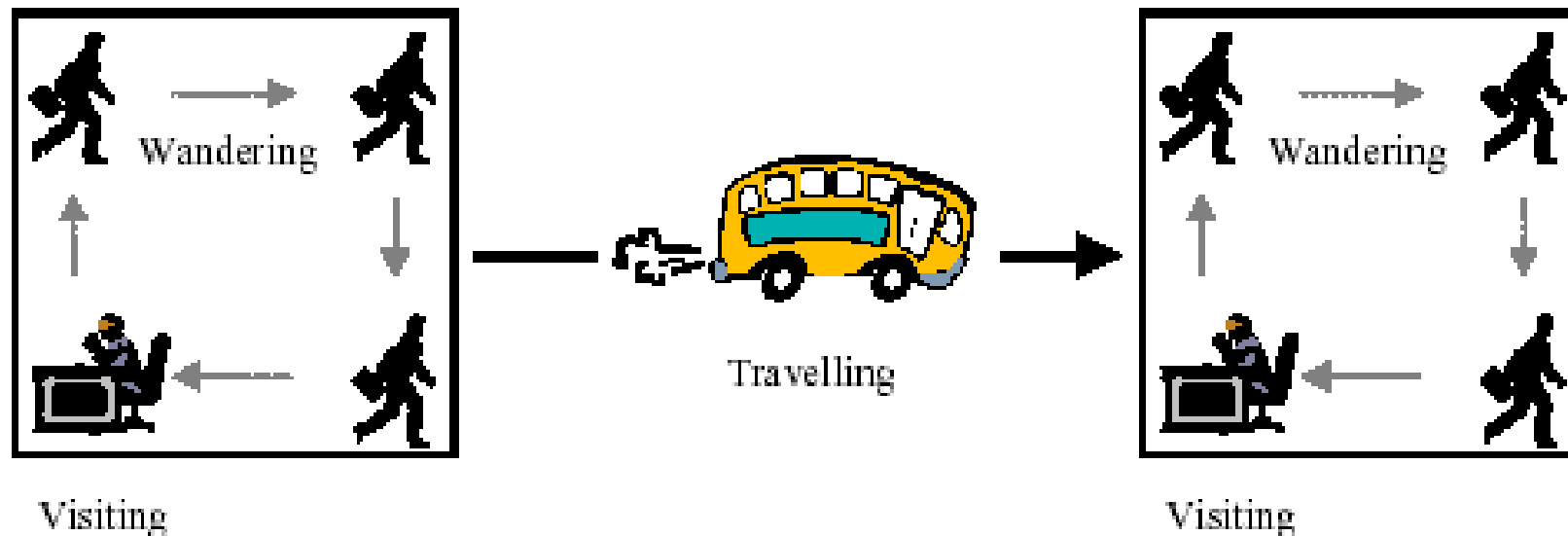
[SkustowPets1998]

- Social implications

Mobility not just “*humans’ independence from geographical constraints*”

- Spatial Mobility
- Temporal Mobility
- Contextual Mobility

- Different degrees of mobility



[KristoLjungb1998]

- Visiting
  - Working at different places for a little longer time



- Example: Accountant visiting a client
- Here often “federations” with “alien” terminals and usage of WLAN

- Travelling
  - Working while travelling
  - Example: top management in a limousine
  - There are different technologies facilitating this in different travelling occasions (e.g. satellite connection for planes, GSM/UMTS for cars)



- Wandering
  - Working while being mobile “at a place or site”
  - Example: Facility-Management in an office building



[www.tisco.com](http://www.tisco.com)

- Micro-Mobility
  - “The way in which an artifact can be mobilized and manipulated for various purposes around a relatively [LuffHeath1998] circumscribed, or “at hand”, domain”



www.hp.com

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- “keitai”
- Mobile devices are becoming a “cult”:



- The way people communicate
- The way mobile phones are integrated into normal life
- The importance of mobile communications



- ... but not only in Japan.



- ... bundling and lifestyle.



Sehr geehrter Eckerle-Kunde,  
sonnenklar...mit unseren neuen Kurzarmhemden werden Sie sich jeden Tag ein wenig wie im Urlaub fühlen. Strahlend schöne Farben, mediterrane Streifen und florale Muster sorgen garantiert für gute Laune. Genauso wie unsere Mode sind die Xelibri-Handys von Siemens. Als Must-have der Saison ist die Fashion Phone-Kollektion nur in ausgesuchten Modehäusern erhältlich. Vertragliche Bindungen gibt es nicht, einfach SIM-Karte einlegen und los geht's. Genießen Sie die Sommerfrische bei Eckerle.

**unbeschwert**

**Eckerle**  
HERRENMODEN

Zeil 79 · 60313 Frankfurt · Telefon 069/1338963 · Fax 069/13389650

- ... bundling and lifestyle.



- Society Approach: Smart Mobs
  - *"Smart mobs consist of people who are able to coordinate even if they don't know each other."*
  - Example: People Power II, Manila versus President Estrada; coordination of the rebellion through SMS





- Example: Stalking  
Transfer of VIP residences via SMS

A screenshot of a mobile application interface showing a group page. At the top, there is a green banner with a "\$500" icon and the text: "Now every time you invite a friend to any of your Groups or Channels, you are entered to win our monthly drawing for \$500!". Below this is a group card for "Anywhere everywhere celebs". The group name is circled in pink. The card includes a "JOIN THIS GROUP NOW" button, a "description" field, and a "message history" link. To the right of the group card are two promotional banners: one for the "JENNIFER LOPEZ UPOC channel" and another that says "Find the Upoc group that is right for you!".

Now every time you invite a friend to any of your Groups or Channels, you are entered to win our monthly drawing for \$500!

**Anywhere everywhere celebs**

[JOIN THIS GROUP NOW](#)

handle: anyeverywher  
#members: 62  
type: public  
allows voice

who can send msgs: All  
who can invite: All  
founder: flyrah  
since: Jan 16, 2001

**description:** Forget about celeb sightings in certain cities! If you know of any place or destination that a celeb is or where they will be, drop in or drop a line.

This is a mobile discussion group for your phone. Once you [join](#), you'll get the messages on your phone, and be able to send.

1550 message one!

message history

Sign up for the official JENNIFER LOPEZ UPOC channel!

Find the Upoc group that is right for you!

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What are the characteristics of the Mobile Economy?

|                           | Electronic Economy | Mobile Economy |
|---------------------------|--------------------|----------------|
| Automation / digitization | ●                  | ●              |
| Time flexibility          | ●                  | ●              |
| Interactivity             | ●                  | ●              |
| Individualization         | ●                  | ●              |
| Location independence     |                    | ●              |
| Personal sphere           |                    | ●              |
| Continuous reachability   |                    | ●              |
| Context sensitivity       |                    | ●              |

- Automation / digitization
  - Value proposition of Internet services is provided electronically (digital)
- Time flexibility
  - Internet services are accessible 24 hours per day
- Interactivity
  - Users are integrated into the provision of Internet services
- Individualization

Based on [ReicMeieFrem2002]

- Personalisation of Internet services according to

- Location independence
  - Provision of mobile services is independent of a user's current location
  - Examples
    - o Mobile E-Mail Services
    - o Mobile Information Services
    - o Mobile Sales Force Services
    - o ...

- Personal sphere
  - Mobile devices as personal accessories
    - Mobile device is part of a user's personal sphere such as keys, data books, clothes, etc.
    - Users carry mobile devices with them most of time

- Continuous reachability
  - Location independent network access
  - Users are instantly addressable.
  - Always-on-Functionality

- Context sensitivity  
(Detection and evaluation user's environment information)
  - **Local context**  
(user's current place / time)
  - **Action context**  
(user's current place / time combined with geo data)
  - **Time context**  
(user's current time combined with time relevant information)
  - **Interests specific context**  
(local, action and time context combined with personal user preferences)

- Additional market-driven specifics
  - High penetration of mobile devices in society:
    - 4,5 Billion mobile phone contracts worldwide in 2009 (5,07 Billion estimated for 2010)
    - 800 million users have access via UMTS in 2010
    - 111 million mobile phone contracts in Germany in 2010
- “Everybody” is reachable via mobile phones

[BITKOM2010]

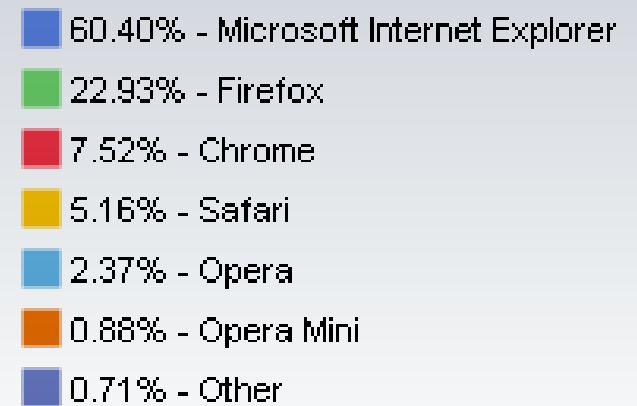
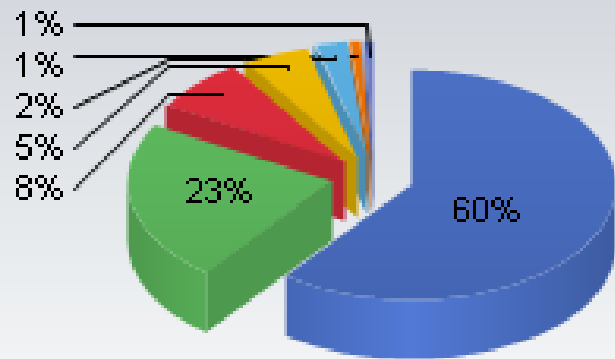
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## Fixed vs. Mobile Access:

| Technology             | Fixed                               | Mobile   |
|------------------------|-------------------------------------|--|
| Device                 | PC                                  | Smartphones, pagers, PDAs  |
| Operating System       | Windows, Unix, Linux                | Symbian, Android, Windows mobile, PalmOS, proprietary platforms                  |
| Presentation Standards | HTML                                | HTML, WML, HDML, i-Mode  |
| Browser                | Microsoft Explorer, Firefox, Chrome | Phone.com UP Browser, Nokia browser, MS Mobile Explorer, and other microbrowsers |
| Bearer Networks        | TCP/IP & fixed wireline Internet    | GSM, GSM/GPRS, TDMA, CDMA, CDPD, paging networks                                 |

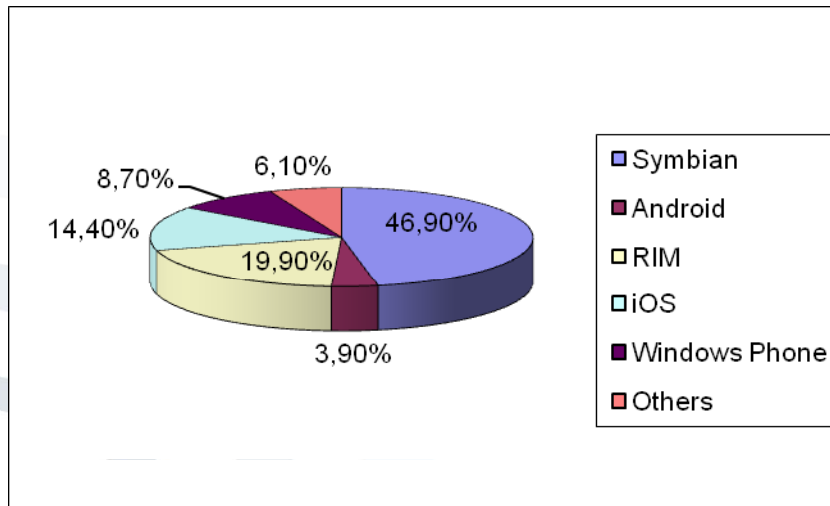
- eWorld: Few types of “access paths” to the homepage

August 2010

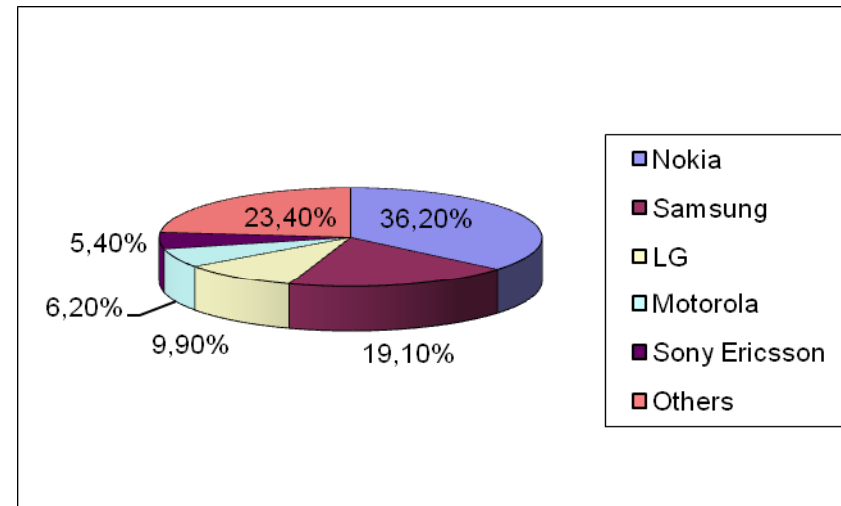


- mWorld: many types of “access paths” (platforms) to the homepage
  - Market distribution of types of access paths difficult to assess due to lack of specific statistics
  - Some information can be derived from interpreting related statistics

Market shares by operating systems worldwide, 2009 [GartnerGroup2010]







Market share of sold telephones worldwide, 1st Quarter 2009 (Gartner on [www.gartner.com](http://www.gartner.com))



- The variety of mobile terminals and wireless transmission technologies requires an intelligent multi-channel management.
- Critical parameters of the multi-channel management:
  - *Display characteristics*
  - *Transfer speed*



Multi-Channel Management of mobile applications becomes increasingly complex.

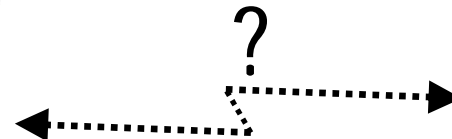
| Multimedia Content | Bearer Service | User Agent    |   |
|--------------------|----------------|---------------|---|
| WBMP Images        | CSD            | WAP Browser   |    |
| Color Images       | GPRS           | iMode Browser |   |
| Color Images       | GPRS           | HTML Browser  |  |
| Multimedia Streams | UMTS           | HTML Browser  |  |

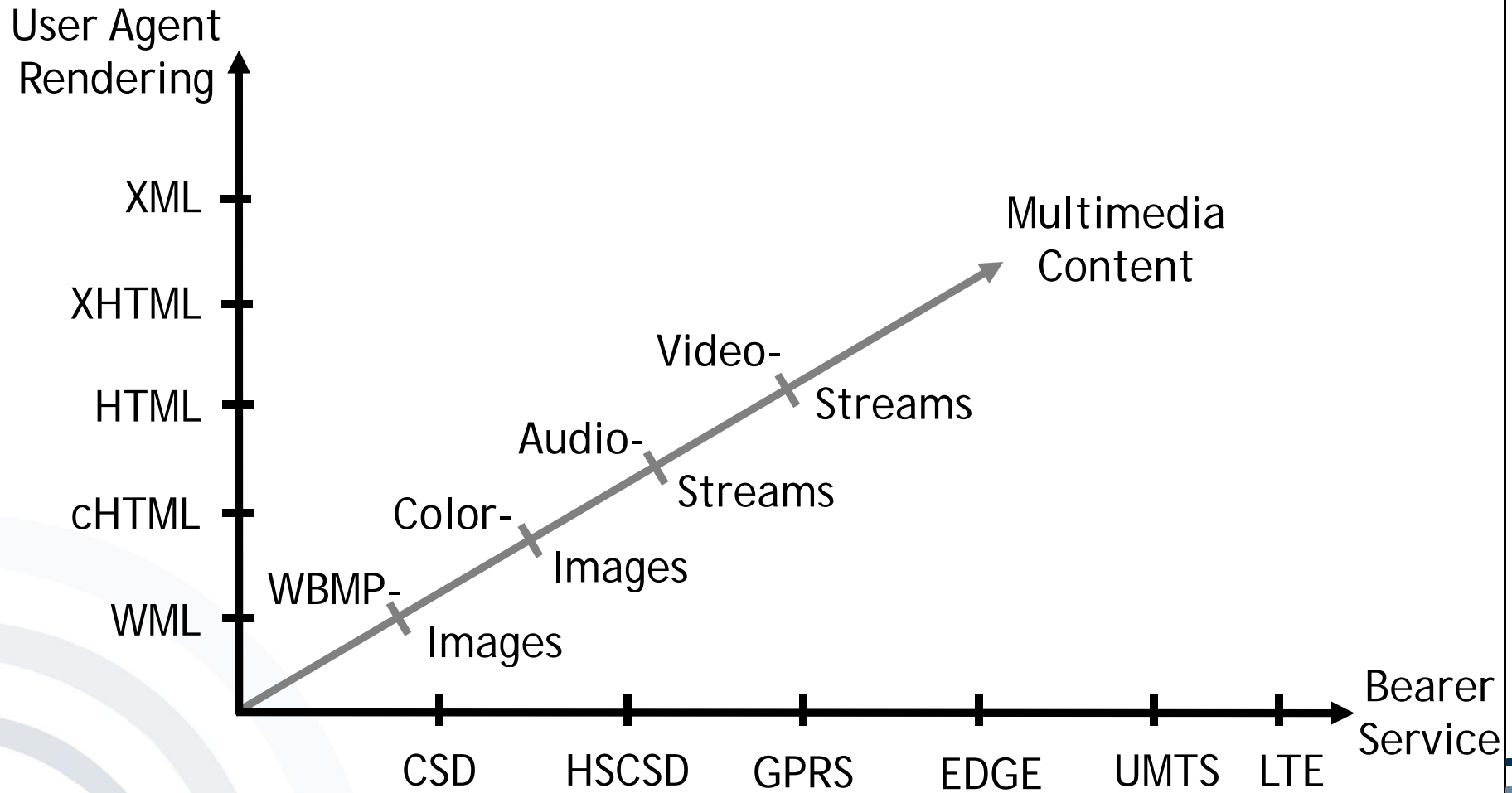
[Example Multi-Channel Management Scenarios]

- User Agent Detection can be implemented by the providers of mobile applications.



- Only network operators can identify the data services used by the user (bearer detection).





Consequence:

- Higher planning uncertainties in the “mWorld”
- Higher costs through multi-optimizing in the “mWorld”

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## Various E-Business definitions

“E-business: Doing business online.” [TechwebNetwo2007]

“E-Business is about business transformation, changing the way companies go to market, impacting what they sell and how they create value.” [Kortzfleisch2005]

“E-business (electronic business) ... the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners.” [Searchcio2007]

“using the internet to connect with customers, partners, and suppliers” [Netessence2007]

...

## Many definitions of M-Business ...

“Mobile-BUSINESS: Doing business using wireless services. The mobile counterpart to e-business.” [TechwebNetwo2007]

“The total sum of business processes based on location-independent interactive communication technologies.” [ReicMeieFrem2002]

“We define m-business as a collection of mobile technologies and applications used to support processes, value chains and entire markets using wireless technology.” [Stanoevska-S2003]

...

## What is M-Business ?

We chose a definition that (hopefully) lets us do interesting things:

*„The usage of  
mobile devices, infrastructure,  
communication, and interaction  
for  
mobile applications  
and transaction“*

|                  |                | <i>Service user</i>   |   |  |
|------------------|----------------|---|---|--|
|                  |                | Consumer  | Business  | Administration   |
| Service provider | Consumer       | <b>Consumer-to-Consumer</b><br>e.g. SMS                         | <b>Consumer-to-Business</b><br>e.g. Tickets in mobile phones at ticket control                      | <b>Consumer-to-Administration</b><br>e.g. identity card implemented in mobile phones |
|                  | Business       | <b>Business-to-Consumer</b><br>e.g. downloading tunes           | <b>Business-to-Business</b><br>e.g. mobile access for management consultants at their clients' site | <b>Business-to-Administration</b><br>e.g. toll - Collection                          |
|                  | Administration | <b>Administration-to-Consumer</b><br>e.g. mobile traffic ticket | <b>Administration-to-Business</b><br>e.g. advices for requests for bids via SMS                     | <b>Administration-to-Administration</b><br>e.g. fire brigade communication           |

- In terms of electronic communication, M-Business is a specific part of E-Business, but ...
  - for M-Business services a more complex, sophisticated infrastructure environment is required.
  - M-Business services have to deal with several technical limitations (e.g. bandwidth, screen size of device, etc.).
  
- Specifics of the Mobile Economy enable the provision of unique M-Business services (distinct from E-Business services).
  - e.g. Location-Based Services or Mobile Brokerage
  - See also lecture „M-Business behavioural issues“

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