“INTERNET FOR A MOBILE GENERATION”

Perspectives

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ITU
What’s all the excitement?
Mobile and Internet: Identical twins born two years apart?

Users (millions) and penetration per 100 pop.

- Mobile subscribers
- Internet users
- Mobile penetration
- Internet penetration
Distribution of mobile and Internet users by region, 2001

**Estimated Internet users, 500 million**
- Asia-Pacific: 38%
- Europe: 31%
- Americas: 28%
- Africa: 3%

**Mobile phone users, 948 million**
- Asia-Pacific: 38%
- Europe: 31%
- Americas: 28%
- Africa: 3%

**Prepared by the International Telecommunication Union**
Upwardly mobile in Asia

Asian leaders in mobile teledensity

Cellular penetration rates, developed Asia, 1991-2001

Source: ITU World Telecommunications Indicators Database

Asian leaders in mobile Internet penetration

Mobile Internet penetration, 2001

- France: 5.6
- UK: 6.9
- Italy: 7.0
- Germany: 7.9
- US: 7.9
- Singapore: 9.4
- Canada: 13.8
- Finland: 16.5
- Rep. of Korea: 59.1
- Japan: 72.3

Mobile Internet users as a percentage of total mobile users

Source: MPHPT (Japan)
Internet for a mobile generation?

Mobile for an Internet generation?
But what is the “Mobile Internet”? 

- It is a combination of:
  - mobile (wireless) technologies
  - and information and data communications services
  - …with, eventually, the flexibility of IP networks

- It implies a convergence at many levels:
  - terminals
  - networks
  - services and applications
  - corporate structures
High-speed 2.5G/3G is only part of the overall picture
Enabling technologies and applications for the Mobile Internet

- Network evolution: from 2G to 3G – higher speeds, increased bandwidth efficiency
- “Alternative networks”: e.g wireless LANs – IEEE 802.11 series
- Mobile connectivity protocols: i-mode, WAP…
- Messaging protocols (SMS, EMS, MMS)
- Location-based services (LBS)
- Growing importance of security (WEP, WPKI)
Strategies for market development

- High-demand regions
  - The ‘first-movers’: Hong Kong SAR, Japan and Korea
- Evolution of corporate strategies
- Factors hindering market development
  - Low availability of adequate handsets
  - Plethora of languages/formats/protocols
  - Lack of evolved billing models
- The economics of success
  - Avoiding pure tech-push plays
  - Promote open access platforms
  - Increase partnerships and industry collaboration
  - Encourage sharing: revenues and resources
  - Ensure transparency of tariffs
What of mobile digital content?

- User sessions tend to be short (unlike the “browsing” behaviour of the fixed-line Internet)
- Thus, “killer app” cannot be pure content
Towards a mobile information society:

“Pardon me, ma’am, but is that your tooth ringing?”

• The advent of “pervasive” miniaturized mobile devices will transform our lifestyles
  – Can you swallow a mobile phone?

• Teenagers are driving the market
  – Will they continue to do so when they get older?

• Implications of location-based services (LBS)
  – Can you easily be found in an emergency (e911)?
  – Can wireless implants track your every move?

• Consumer protection, e.g. health, SPAM etc…
  – How to re-assure the end-user while fostering development?
The ITU Mobile/Internet Index:

Hong Kong at the top of the world
Introduction to the Index

**What it is:**
- A measure of current information and communication technologies (ICT) development, with a focus on mobile and Internet.
- A measure of an economy’s ability to take advantage of these technologies in the future.

**What it is not:**
- A measure of the “mobile Internet” in an economy.
- Limited to mobile and Internet development only.
The Parameters of the Index

Infrastructure

The infrastructure cluster measures the development of information and communication technology infrastructure, with a special focus on mobile networks and Internet development.

Usage

The usage cluster attempts to gauge how users are taking advantage of the existing network by examining e.g. network cost, components, revenue etc...

Market Structure

The market structure cluster assigns an overall value for an economy by examining the level of competition in its different markets.
### Are you ‘m-ready’? HK tops index

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<th>Economy</th>
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Hong Kong: a highly networked society

Internet users, top 10 by density, per 100, 2001

- Iceland: 67.9
- Singapore: 60.5
- Norway: 59.6
- Sweden: 51.6
- Korea (Rep.): 51.1
- United States: 50.0
- Hong Kong, China: 45.9
- Japan: 45.5
- Denmark: 44.7
- Canada: 43.5

Source: ITU

85.5% mobile penetration

45.9% Internet penetration

Mobile users, Hong Kong, China (million)

Source: OFTA
Where Hong Kong SAR gained points on the Index

- **Infrastructure** (ranked #8)
  - High mobile and Internet penetration
  - 3G licensed and 2.5G deployed

- **Usage** (ranked #4)
  - Large number of roaming agreements
  - Large number of servers using SSL encryption

- **Market Structure** (ranked #3)**
  - Early privatization of incumbent
  - Early establishment of a separate regulator, OFTA
  - Competitive or fully competitive market segments
Still…

• Other countries are ahead in:
  – Internet usage
  – Service cost

• And catching up fast in:
  – Broadband roll-out
  – Mobile penetration

SO…
...how can HK maintain this lead?

- Continued efforts at allowing access to MVNOs and alternative service providers (e.g. resource sharing)
- Regulatory mechanisms focused on tariff reduction and transparency
  - ...while retaining an environment conducive to investment and innovation, e.g. through revenue-sharing
- Interoperable and complementary development of alternative wireless networks such as WLANs
- Promotion of content development “out of the vacuum”
  - Building first upon successes of person-to-person communications, and not attempting to emulate digital content over fixed networks
ITU Internet Reports 2002: Internet for a Mobile Generation

Number of pages: text 140, statistical tables 80

4th edition, price: 100 Swiss Francs

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Executive Summary (HTML, PDF)
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- List of figures
- List of boxes
- List of statistical tables

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- Third report (December 2000)
  "ITU Internet Reports 2001: IP Telephony"

- Second report (February 1999, updated October 1999)
  "Challenges in the Development of Broadband Internet Services"

For more information: www.itu.int/mobileinternet
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Available in Dec ‘02
(launch: ITU TELECOM ASIA 2002 in Hong Kong)
Thank you for your attention