Digital Commons in the East Asian Countries: Comparison of Broadband Policies of Japan, Hong Kong, and Korea

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Background

• Broadband penetration as of June 2006 (OECD)
  1. Denmark 29.3 (per 100 inhabitants)
  2. Netherlands 28.8
  3. Iceland 27.3
  4. Korea 26.4
    (Hong Kong 24.0)
  12. USA 19.2
  13. Japan 19.0
Total broadband subscriptions, percentage of OECD, top 5 countries, June 2006

- United States: 31%
- United Kingdom: 6%
- Germany: 7%
- Japan: 13%
- Korea: 7%
- Rest of OECD: 36%

Source: OECD
Questions

1. Why East Asian countries - Japan, Hong Kong and Korea - have high broadband penetration rate?

2. What is the role of government in broadband development?

3. How have government policies changed as broadband diffusion has increased?
Japan

- **Background**
  - In the 1990s, delayed development of information society due to importance to the manufacturing industry, disinterest in ICT, and government's no policy on IT.
  - NTT's plan was to transit from ISDN (narrowband) to FTTH(100 Mbps) directly, which resulted in low investment on xDSL, and delayed diffusion of broadband
  - Since 2001, Ministry of Internal Affairs and Communications (MIC) involved in establishment information society policies.

- **e-Japan (2001.3)**
  - Policy objectives
    1. Diffusion of internet and establishment of broadband infrastructure
    2. Deregulation - competition among telcos
e-Japan II (2003)
- Usage of broadband infrastructure
- 6 cores areas
  ① International strategy in IT in Asia
  ② Securities
  ③ Contents
  ④ IT regulation reform
  ⑤ IT policy assessment
  ⑥ E-government

U-Japan (2005)
- Realizing ubiquitous network society by 2010
- Interactive broadband network with 30Mbps throughout the country
- QPS: internet + broadcasting + VoIP + HD TV
The national ICT strategies in Japan are evolving from "e" (electronics) toward "u" (ubiquitous).

Policy Objectives: To be a "Top-ranking ICT Nation" by 2005

Seven priority fields:
1. Health care
2. Food (Daily life)
3. Small Business
4. Knowledge
5. Labor and Employment
6. Government Services

Next-generation ICT strategy (u-Japan Strategy?)
Continue to be a "Leading ICT Nation" after 2006 as well

Ubiquitous
Connects everyone and everything
Easy connection to networks "anytime, anywhere, by anything and anyone".
Person to Person plus Person to Goods, and Goods to Goods
In every aspect, communication will play an even more important role

Universal
Friendly communication
• Can be used by anyone without thinking of the equipment or network
• The aged and disabled will be able to actively participate in society with ICT
Contact from heart to heart
• Heart-to-heart communication overcoming barriers between generations and localities to create togetherness

User-oriented
Based on users' viewpoints
Close to the user
• A society that is more aware of user convenience than the ideas of the supply side
• Developing technologies and services that are closely connected to our needs
Users can be suppliers, too
• Utilizing the power of networking to make 100 million "processors"

Unique
Creative and vigorous
Creation of vitality of the individual
• A new society where it is easy to have dreams and take on challenges even for leisure
Walk the society
• Creation of new social systems and business services
• Get out from stereotypes and realize local revitalization with creativity
Broadband market in Japan

- Since 2003, DSL subscribers expanded
- 20.5 million broadband subscription on June, 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>DSL (100,000)</th>
<th>FTTH (100,000)</th>
<th>Cable TV (100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>60</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>2001</td>
<td>100</td>
<td>175</td>
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<td>2005</td>
<td>250</td>
<td>375</td>
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</tr>
<tr>
<td>2006</td>
<td>300</td>
<td>450</td>
<td>450</td>
</tr>
</tbody>
</table>

DSL: 14.08 million
(Yahoo!BB 35.8%, NTT East 20.4%, NTT West 18.1%)

FTTH: 3.41 million

Cable TV: 3.06 million
Internet access model at home

- **DSL leads in the expansion of broadband market at the early stage**
  - Use of telephone line already available nation-wide
  - In 1999, NTT provided first DSL service
  - In 2001, Softbank provided DSL service massively with cheap price and active marketing
    - Softbank's monthly price was half compared with other competitors
  - Broadband internet service moves from cable TV to DSL

*Source: MCI, Communications Usage Trend Survey*
Recently FTTH expanded rapidly
(3 reasons)

• Free provision of early expenses
• marketing and service provision towards apartment house
• service FTTH feature

Important Law and Order

• Since 1985, deregulation policy for convergence of telecommunications and broadcasting
• In 1985, MIC allowed cable TV service provider to enter into telecommunications industry
• In 1998, MIC allowed service provider to provide broadcasting service on NTT network
• In 2001, Law Concerning Broadcast on Telecommunications Service (law concerning broadcast through use of telecommunications service)
• In 2001, Law Concerning Promotion of Development of Technologies for Communications and Broadcasting Convergence
Broadband policy

- Broadband TV (IP-TV) is a major service to expand broadband service
- 2001 Law Concerning Broadcast on Telecommunications Service is a key law to provide broadcasting service on telecommunications network
- Broadcasting service provider by way of telecommunications network does not need to get a license from the MIC.

IP-TV

- BB Cable (Softbank) and KDDI are major IP-TV providers

BB Cable TV (Since July 2003)
- It provides 20 channels
- VOD: Japanese movie, American movie, cartoon, sports, culture etc

KDDI - Hikari Plus TV (Since October 2003)
- TPS service: High Speed Internet, VoIP, IP-TV bundling
- Hikari Plus TV provide VOD, Broadcasting, and Karaoke services
- VOD: 2,000 titles
- TV: 25 basic channels, 5 premium channels
- Karaoke: 3,000 titles
Hong Kong

- Digital 21 strategy

  - Its objectives are to promote Hong Kong as telecommunication hub and to increase competition and innovation in telecommunication areas.

-Digital 21> Strategy Series

  - 1998 Digital 21 Strategy
  - 2001 Digital 21 Strategy
  - 2004 Digital 21 Strategy
  - 2007 Digital 21 Strategy (in preparation)
1998 Digital 21 Strategy
- Telecommunications Infrastructure
- Liberalization of Telecom Sector

2001 Digital 21 Strategy
- e-government
- regional broadcasting hub

2004 Digital 21 Strategy
- Bridging the digital divide
- IT Hong Kong Campaign

2007 Digital 21 Strategy

Regulatory Principles
- Encourage competition to promote consumer interest
- Market driven, regulatory to be scaled back when market effective
- Technology neutrality
- 100% privately owned
- No foreign ownership restrictions
Market Liberalization

- Progressive liberalization of local fixed network market since 1995
- Full liberalization since January 2003
- Liberalization enables investment in infrastructure by incumbent and new entrants

Facilitating Broadband Development

- Pro-competition regulatory policy drives broadband prices down to affordable level
- Technological development and high population density give extra push
- IP-TV
Current Status
- Population: 6.9 million
- Number of households: 2.2 million
- Broadband connections
  - 1.68 million by end-2005
  - penetration rate: 24% by population, 66% by households at end-2005

Broadband Market
- Fixed broadband penetration exceeds 60% of households, using various technologies including DSL, cable modem, FTTB, FTTH and powerline carrier
- Five active fixed carriers, four of them offering triple play services. New bundles with mobile services are envisaged
- Mobile broadband through Wi-Fi, GSM (with GPRS or EDGE enhancement), and WCDMA
Performance

- Broadband penetration among the highest in the world
- Most affordable broadband service charges
- Higher speed enables value-added services including VoIP, video phone and broadcast quality television
- Self-built alternative customer access networks covering 45% of households (on top of near ubiquitous broadband coverage of incumbent)

Digital 21 Strategy stimulates demand for connection to networks
- Pro-competition regulatory policy drives broadband prices down to affordable level
- Technological development and high population density give extra push
Korea

- Cyber Korea 21 (1997)

1. building information infrastructure for a knowledge-based economy,
2. improving nation-wide productivity using knowledge and information foundation
3. increasing employment using information infrastructure.

- Cyber Korea 21 made a truly remarkable progress in communications services including the internet and mobile communications.

- e-Korea (2002)

- Shift of its focus from quantitative perspective to qualitative perspective in its information society plan.
  - Upgrade information infrastructure
  - Facilitate use of information society
- **u-Korea (2005)**
  - Korea tried to build full-scale information and knowledge society and a virtuous value chain in the IT industry.
  - New differentiating action plans such as building broadband convergence network, shifting the focus to contents, and creating a new growth engine for IT have been adopted.
  - In particular, proactive measures for broadcasting and communications convergence have been taken.

- **U-IT 839 Strategy**

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Current Status

- Korea population: 48 million
- Number of households: 17.5 million
- Broadband connections
  - 13.78 million by June 2006
  - penetration rate: 26.4% by population,
  70% by households
Broadband Market

- xDSL leads, but cable TV grows fast by TPS
  - xDSL 43%
  - Cable 37%

<table>
<thead>
<tr>
<th>Cyber Korea</th>
<th>e-Korea</th>
<th>U-Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT paradigm</td>
<td>Expanding internet space</td>
<td>Laying and expanding cyberspace foundation</td>
</tr>
<tr>
<td>Objectives</td>
<td>To build infrastructure for national informatization</td>
<td>To upgrade information infrastructure and foster the IT industry strategically</td>
</tr>
<tr>
<td>Priority projects</td>
<td>Building a computer-literate nation</td>
<td>Realizing a digital economy</td>
</tr>
<tr>
<td>Legal system</td>
<td>e-commerce regulations</td>
<td>Regulations to create a knowledge and information society</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Broadband internet network</td>
<td>Broadband information and communications network</td>
</tr>
</tbody>
</table>
Discussion

1. High penetration of broadband internet
   • High acceptance of new technology

2. Shift from DSL to Fiber
   • ADSL subscriptions in Korea and Japan have continued to decline as more users upgrade to fibre-based connections
3. Shift from Network to U-Society

• 1\textsuperscript{st} step : Network
  Broadband infrastructure
• 2\textsuperscript{nd} step : Usage
  Application and Content
• 3\textsuperscript{rd} step : U-Society
  Education, Health, Environment …

4. Usage of broadband

• Japan, Hong Kong : Broadband TV
• Korea : online game, blog (Cyworld)
5. Convergence of Broadband and Media
   – IP-TV

- Competition strategy against cable TV SO’s entry into telecom market
- Protection of broadband market
- Extension of ARPU in the broadband market
  - TPS: Bundling of IP-TV, broadband internet, telephony
- Creation of new revenue from video services faced with the decline of wireline telephony

6. Government-led information society plan with deregulation policies

- National Information Society Plan Series
  - Japan: 2001 → 2003 → 2005
  - Korea: 1997 → 2002 → 2005
7. Digital Commons?

- More intervention from public sector
- Public community
- Bridging Digital Divide

8. Next Step

- UCC (User Created Contents)
- More user’s participation