Current Situation of Mobile Solutions in “Galápagos Islands”

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Outline

- Japan is “Galápagos Islands” in Cellular Phone Market
- Cases of Mobile Solutions in Japan
- Homogeneity Analysis for Mobile Solutions in Japan
- Four quadrants in Mobility-M Framework
- Propositions in Each Quadrant on Comparison of Europe & Japan
- Comparison of Mobile Situation in Eastern Asia
- Conclusion
Why Japan is “Galápagos Islands”?

・ In Japan, the number of subscribers reaches at 108,488,700.
・ Among them, 3G is now 94%, but **PDC** (Japanese Original Standard) still occupies 6%.

Variety of functionalities: Internet connection service, camera, radio, GPS, built-in IC card, 1seg (digital TV), solar battery, waterproof, pedometer, burglar alarm, ...

Japan looks like “**Galápagos**” in Cellular Phone Market.

Mobile Phone Vendors, Q1 2008 Results

- **Nokia** 39.6%
- **Sony Ericsson** 19.1%
- **Motorola** 9.4%
- **LG Electronics** 8.4%
- **Samsung** 15.9%
- Others 17.1%

(From *Information and Communications in Japan, 2007 White Paper* and *Variety of functionalities: Internet connection service, camera, radio, GPS, built-in IC card, 1seg (digital TV), solar battery, waterproof, pedometer, burglar alarm, ...* (cf.IDC April, 2008))
B2B EC Market

- B2B EC Market in Japan is 162 KBLN JPY (1,620 BLN US$) (+9.3% year-to-year).
- In USA, it was 104 KBLN JPY (1,040 BLN US$) (+8.76% year-to-year).
The system in Yamato Transport Company Ltd. can exchange information with the headquarter on luggage and delivery destinations etc. almost in real time. In the system, they combine Bluetooth built-in cellular phones with 3 terminals of personal POS, a card settlement terminal, and a mobile printer.
ALSOK – Electronic Security Service

1) Receive Alarm

2) Select an optimal security staff and send location inf.

3) Receive location inf.

4) Bluetooth connection

5) Brew APL sends loc.inf. periodically.

Guard Center

Main Server

Mobile Server

Internet

Alarm

Customer

Car navigation system

Staff

GPS

Cellular Phone

Bluetooth

KDDI通信網
(SMS/BREW link)
Hato Bus – Sightseeing Bus Service

- Alcohol Detector

ALC-Mobile

- Camera
- GPS
- Driver’s ID
- Alcohol density

driver

Administration Center
Homogeneity Analysis

Source of Information

Hato

Location = outside information

Yamato

For employee

ALSOK

For customer

Asai

Targets for service

Security = inside information
Characteristics in Industries

- Real estate
- Logistics
- Manufacture
- Construction
- Wholesale
- Transportation
- Service
- Communication/IT

Source of Information
- Hato
- Yamato
- ALSOK
- Asai

Targets for service
Chronological Change

Source of Information

GPS (2007)

Targets for service

Mobile centrex (2006, 2007)

“Osaifu (wallet)” cellular phone (Felica tip built-in) (2004, 2005)
Mobility-M Framework

- Generic framework for analyzing and comparing mobile enterprise solutions
- Combining different views
  - Analytic with realization view
  - Technology with process view
- Structured model with four quadrants
  1. Technology
  2. Cost analysis
  3. Benefit analysis
  4. Process classification

Gumpp & Pousttchi (2005)
Case Study Research

- Typical European case studies
  - Case 1: Utility Company, Ireland
  - Case 2: Logistics Company, Netherlands
  - Case 3: Service Company, Benelux

- Typical Japanese case studies
  - Case 4: NEC Tohoku
  - Case 5: Kansai Urban Bank
  - Case 6: The Peninsula Tokyo
Quadrant I: Technology

<table>
<thead>
<tr>
<th>Europe</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>client-based (synchronization)</td>
<td>server-based (browser)</td>
</tr>
<tr>
<td>PDA, Tablet PC/ Toughbook</td>
<td>Smartphone</td>
</tr>
<tr>
<td>WAN (GSM networks)</td>
<td>PAN (Bluetooth)</td>
</tr>
<tr>
<td></td>
<td>LAN (802.11/WiFi)</td>
</tr>
</tbody>
</table>

- Proposition 1:
  - Mobile enterprise solutions in Europe
    - Mainly implemented for high-capacity mobile devices
    - For workforce being mobile outside the premises
  - Mobile enterprise solutions in Japan
    - Mainly implemented for smartphones as mobile devices
    - For employees being mobile inside the premises
Quadrant II: Costs

<table>
<thead>
<tr>
<th>Europe</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>high set-up costs (software licences,</td>
<td>low set-up costs</td>
</tr>
<tr>
<td>mobile devices, training)</td>
<td></td>
</tr>
<tr>
<td>high operating costs</td>
<td>low operating costs</td>
</tr>
<tr>
<td>complex application</td>
<td>easy to use</td>
</tr>
</tbody>
</table>

- Proposition 2:
  - Mobile enterprise solutions in Europe
    - Implementation done by IT service providers or by the IT department in the introducing company
  - Mobile enterprise solutions in Japan
    - Mobile network operators play a major role for implementation
Quadrant III: Benefits

<table>
<thead>
<tr>
<th>Europe</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>monetary benefits</td>
<td>non-monetary benefits</td>
</tr>
<tr>
<td>- shorter ways</td>
<td>- customer satisfaction</td>
</tr>
<tr>
<td>- higher productivity</td>
<td>- employee satisfaction</td>
</tr>
<tr>
<td>- better dispatching</td>
<td>- improved convenience</td>
</tr>
<tr>
<td>- reduced capital costs</td>
<td></td>
</tr>
</tbody>
</table>

- Proposition 3:
  - Mobile enterprise solutions in Europe
    - Aim on generating cost savings due to more efficient business processes
  - Mobile enterprise solutions in Japan
    - Focus on increasing effectiveness
      - Entering new markets
      - Improving customer service
Quadrant IV: Business Processes

<table>
<thead>
<tr>
<th>Europe</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>core business processes (operations)</td>
<td>customer relationship management processes</td>
</tr>
<tr>
<td>supply chain management processes</td>
<td>applications used as B2C channel as well</td>
</tr>
<tr>
<td>mostly deductive approach</td>
<td>mostly inductive approach</td>
</tr>
</tbody>
</table>

• Proposition 4:
  • Mobile enterprise solutions in Europe
    • Mainly emerge in a deductive approach from the business process view
  • Mobile enterprise solutions in Japan
    • Mainly emerge in an inductive approach
    • Employees are accustomed to mobile B2C solutions and request similar solutions at their workplaces
MNO Market Balance

as of June, 2009
Mobile Data Market: Country Level

Data ARPU (Average Revenue Per User) and proportion of data revenue in country level

- **Japan**
  - $20 ARPU
  - 40% of total ARPU
- **Korea**
  - $7 ARPU
  - 20% of total ARPU
- **China**
  - $3 ARPU
  - 35% of total ARPU

Source: Chetan Sharma Consulting, 2008
Conclusion

Although Japan seems to be “Galápagos Islands” in Cellular Phone Market, Mobile Business Solutions found in Japan may give some hints for other countries.

Differences in Mobile Business Solutions in Europe and Japan are found from four quadrants: technology, costs, benefit and process.

Comparison of Mobile Situation in Eastern Asia shows there are some differences in mobile B2C usage.
Thank you for your kind attention.

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