Handset Bundling

Driver for Increased Distribution of Sophisticated Mobile handsets in Finland?

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Outline

• Theoretical Basis
• Degree of Service Integration
• Handset Subsidy
• Bundling vs. Leading Markets?
• Successful Control of Bundling
• Framework: Implications of Handset Bundling
• Case: Saunalahti Xtra
• Conclusions
Theoretical Basis

• Bundling:
  – Bundling can be justified because of cost savings and added value, however the drawback is that bundling can be used to distort competition.
  – Bundling is most likely to be economically efficient if it involves cost savings relative to the sale of individual products.
  – Players may exaggerate the cost savings, particularly if bundling is being used as an anti-competitive measure.

• Switching cost and lock-in:
  – Perfect competition conditions may not be achieved because of lock-in effects
  – Lock-in occurs:
    1. Because it is costly for providers to set up to serve new customers;
    2. Because customers pay a switching cost to change providers;
    3. Because providers may inflate switching costs artificially.
  – Since lock-in reduces the effects of competition and discourages new firms from entering the market, a regulator may seek to reduce its effects.
## Degree of Service Integration

<table>
<thead>
<tr>
<th>Handset type</th>
<th>Vendor handset</th>
<th>Software customized handset</th>
<th>Co-branded handset</th>
<th>Operator handset</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market</strong></td>
<td>• Vendor driven horizontal market</td>
<td>• Vendor driven horizontal market</td>
<td>• Vendor driven horizontal market / lightly operator driven vertical market</td>
<td>• Operator driven vertical market</td>
</tr>
<tr>
<td><strong>Purchase</strong></td>
<td>• End user buys the handset from retailer</td>
<td>• End user buys the handset from retailer</td>
<td>• Operator buys the handset from handset vendor</td>
<td>• Operator buys the handsets from ODM or handset vendor</td>
</tr>
</tbody>
</table>
| **User interface & settings** | • User interface specified by vendor  
• Main operators' service settings pre-configured | • Vendor may make exclusive user interface only  
• Operator menu icon in the application menu  
• Operator's services pre-configured in the factory | • Vendor may make exclusive models to operator  
• Operator's services integrated in the user interface | • User interface (keypad layout and menus) specified  
• All exclusive models with operator's logo in the device |
| **Brand visibility** | • Only handset vendor's brand visible                                           | • Operator logo on the idle screen ("software branding")  
• Operator's stickers on retail package                                                      | • Operator's and vendor's logo on the device                                                  | • Operator's logo on the device                                                  |
| **Example**         | • Almost all handsets in Finland                                                | • E.g. TeliaSonera Finland (Nokia 6630)                                                       | • E.g. Vodafone UK                                                                 | • E.g. DoCoMo                                                                     |

Source: TeliaSonera, 2004 (modified)
Handset Subsidy

• The role of handset subsidy: (Kim et al., 2004)
  1. Induces new subscriptions from potential users;
  2. Induces churn from other carriers’ subscribers;
  3. Helps a subscriber to replace an old handset with a new one.

• Handset Subsidy models:
  1. No Subsidy
  2. Unrestricted Subsidy
  3. Restricted Subsidy
     – E.g. amount, technology, time period and contract length.

• Compared to subscription add-ons, the handset subsidy keeps the money in the mobile sector.
### Handset Bundling and Subsidy: Reference Markets

<table>
<thead>
<tr>
<th></th>
<th>Finland</th>
<th>Italy</th>
<th>Japan</th>
<th>Korea</th>
<th>Sweden</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Penetration (%)</strong></td>
<td>92</td>
<td>100</td>
<td>65,7</td>
<td>78</td>
<td>100,1</td>
<td>95</td>
</tr>
<tr>
<td><strong>Feature phone shipments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- % of subscribers</td>
<td>11,76</td>
<td>13,10</td>
<td>39,20</td>
<td>32,47</td>
<td>12,30</td>
<td>12,36</td>
</tr>
<tr>
<td><strong>ARPU (€/month)</strong></td>
<td>37,5</td>
<td>29,5</td>
<td>52,4</td>
<td>33,8*</td>
<td>25,1</td>
<td>26,9</td>
</tr>
<tr>
<td><strong>Mobile data ARPU (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>13</td>
<td>20+</td>
<td>20+</td>
<td>10+</td>
<td>13+</td>
</tr>
<tr>
<td><strong>Bundling of handset and subscription</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>CDMA</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Handset subsidy used</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes/No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Amount of subsidy (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>100-</td>
<td>25-40/-</td>
<td>40+</td>
<td>40+</td>
</tr>
<tr>
<td><strong>Handset renting service</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>- Contract period (months)</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Handset types</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Vendor handsets</td>
<td>x</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Software customized handsets</td>
<td>x</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Co-branded handsets</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>- Operator handsets</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Lock-in mechanisms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- SIM-lock</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>CDMA</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>- Contract period (months)</td>
<td>0</td>
<td>12-24</td>
<td>12-24</td>
<td>12-24</td>
<td>12-18</td>
<td>12-18</td>
</tr>
</tbody>
</table>

Source: NetSize, 2005 & Internet
**Successful Control of Bundling**

### Case: South Korea

<table>
<thead>
<tr>
<th>Phase 1:</th>
<th>Handset subsidy with an obligatory subscription period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From 1997 to April 1999, the mobile communication carriers offered a mobile handset subsidy with an obligatory contractual subscription period.</td>
</tr>
<tr>
<td></td>
<td>In the beginning the subsidy was about 35% of the handset price and the subscription period 12 months.</td>
</tr>
<tr>
<td></td>
<td>In early 1998, the subsidy became higher when longer subscription periods were introduced. During this time also free handsets emerged.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 2:</th>
<th>Handset subsidy without an obligatory subscription period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From April 1999 to May 2000, a handset subsidy was provided without any obligatory subscription period.</td>
</tr>
<tr>
<td></td>
<td>This lead to wasteful handset changes and encouraged customers to subscribe to mobile communication services as a mark of conspicuous consumption, even though they did not have the capacity to pay the monthly service charges.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 3:</th>
<th>No handset subsidy period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phase III began in June 2000 when the handset subsidy was eventually banned.</td>
</tr>
<tr>
<td></td>
<td>After the ban, demand for mobile handsets shrank rapidly.</td>
</tr>
<tr>
<td></td>
<td>To boost handset sales, the regulator had to announce a plan that included e.g. lowering of mobile communication service charges.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 4:</th>
<th>WCDMA and PDA phone subsidy period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Starting in spring 2004 the South Korean regulator allowed the handset subsidy for WCDMA with the maximum subsidy of 40%, and for PDA phones with the maximum subsidy of 25%.</td>
</tr>
</tbody>
</table>

Source: Kim et al., 2004 (modified)
Handset bundling allowed*

Framework: Implications of Handset Bundling

Bundling applied

- Smaller set of available handsets
  - Easier for operator to differentiate
  - Easier for content providers to provide content

- Tailored handsets
  - Services and service settings pre-configured
  - Operator brand visible
  - Co-branded and operator handsets

- Better usability

- More services and features
  - Stronger feature competition

- Higher usage of mobile data services

- Subsidies used
  - Cheaper handsets
  - Operator money tied to handsets

- Higher penetration of high-end handsets

- SIM-lock used
  - Long contracts
  - Higher switching cost
  - Less price competition
  - Lower churn

- Higher tariffs
  - Transparency of prices suffer

- Lower usage of mobile data services

* SIM-lock allowed
Case: Saunalahti Xtra

Handset rental service

Handset bundling not allowed

Set of available handsets
- For rental service the set of handsets will go down
- For rental handsets easier to create content
- The same set of handsets still available for buying customers

Tailored handsets
- Services and service settings pre-configured
- Operator brand can be visible
- Also for other carrier’s customers

No subsidies used
- Handsets not sold to customer
- Operator money tied to handsets => operator offering rental service taking the risks
- Also for other carrier’s customers

Penetration of high-end handsets
- Can rise depending on success of service
- Depending of what devices will be made available for rental

No SIM-lock used
- 18 month contracts for handset rental
- Low switching cost
  - Even lower with MNP
- Tough price competition
- High churn

Lower tariffs
- No changes to pricing of mobile services
- Transparency of prices does not suffer

Usability
- Will improve for tailored and rental handsets

Lower usage of mobile data services

Services and features
- Lighter feature competition

Higher usage of mobile data services

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Services and features
- Lighter feature competition

Higher usage of mobile data services
Conclusions

1) The effects of handset bundling and subsidy:
   - Switching cost goes up => prices goes up
   - Feature competition gets stronger
   - Mobile data usage may increase and/or decrease => ambiguous

2) Many benefits of handset bundling can be achieved with other means:
   - Means: e.g. handset rental, payment in parts
   - Benefits: e.g. added value, improved usability

3) Handset bundling conclusions <=> general theory:
   - No significant cost savings from handset bundling
   - Some added value from bundling (also via other means)
   - Lock-in effect of bundling is clear assuming SIM-lock