The Nature of Smartphone Mobile network competition

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McKinsey and Company

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Who is Who: Jacques Bughin

Senior Partner Director | Brussels office

Dr Jacques Bughin is a Director with McKinsey & Company’s Brussels office. Jacques is a core leader of the Telecom/media/high tech practice as well as Strategy practices. He co-leads the Digital Economy Initiative, a major internal and external knowledge program launched by McKinsey regarding digital transformation and online new business model strategies as part of the McKinsey Global Institute.

Since joining the firm in 1992, he has worked on more than 600 clients’ projects and has been based in the Amsterdam, London, Montreal, New York, and Toronto offices. His recent project highlights regarding digital:

Media clients:
- Development of online strategy for the major pan-European broadcaster, including ad network and over the top strategies
- Digital transformation of a major print newspaper to become a global leader in classified and e-commerce
- Web 2.0 enablement of a lead destination site of e-commerce

- Telco/ High-Tech:
  - Help design the bid for spectrum for LTE 4G license in Europe
  - Design of partnership regarding cable and OTT online players in the area of video and communications
  - Development of a global roll out in digital products for a major consumer electronics company

- Online:
  - Development of new value proposition for a major world leader in on-line auctions
  - Salesforce optimisation for a major global portal
  - Ecosystem computation of social and search based technologies

Jacques received a master’s summa cum laude in Economics and holds doctoral degree in Economic. He has lectured at many and is currently a fellow of the ECORE, a think-tank on economic policy in Belgium, of the Applied Economics of the KUL University, as well as of the Aspen Institute.

He has published widely in academics with more than 50 articles in international journals like Management Science or the Journal of Industrial Economics. His business research has been published and discussed in the McKinsey Quarterly, the financial Times, the Aspen Institute, the Marketing science Institute, the Wall Street Journal Europe, Business Week among others. He is the co-author of the book, “Managing media companies- harnessing creativity”, (with A. Aris), Wiley eds, in english, translated in Chinese, Russian, etc. and used as reference media books in international schools and universities such as INSEAD.
There was a time...
1991 = first GSM connection made in Finland
And there is now: 2011 = Billions of worldwide users

Percent

SOURCE: World Cellular Information Service, McKinsey
And there is now: mobile a strong part of household TMT spent

Spending per month per household with all products, EUR

BELGIUM EXAMPLE

<table>
<thead>
<tr>
<th>Years ago (nominal)</th>
<th>15 Years ago</th>
<th>15 years ago (at 2011 GDP)</th>
<th>Today, 4P HHS (at 2011 GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-demand TV</td>
<td>84</td>
<td>40</td>
<td>166</td>
</tr>
<tr>
<td>Pay-TV</td>
<td>25</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td>basic TV</td>
<td>10</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>mobile voice</td>
<td>4</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>mobile SMS</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>mobile broadband</td>
<td>45</td>
<td>75</td>
<td>44</td>
</tr>
<tr>
<td>fixed voice</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>fixed broadband</td>
<td>0</td>
<td>0</td>
<td>35</td>
</tr>
</tbody>
</table>

SOURCE: BPIT (Q4 2009); OECD (October 2009); Global insights; Belgacom annual reports; McKinsey/IAB conjoint study
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✦ Looking ahead: Mno’s strategic choices
The future is now: mobile data already 30% of global telecom revenue, and has become the dominant revenue source in Japan

SOURCE: Chetan Sharma Consulting, McKinsey analysis
Mobile data is driven by smartphones
Percentage of MoU, US

Worldwide penetration of paying mobile broadband access
Percent

100% = 40 min/day

Mobile broadband
Text messaging

Voice

All phones
Feature phones with mobile broadband access plan
Smartphones with mobile broadband access plan

<table>
<thead>
<tr>
<th></th>
<th>40 min/day</th>
<th>50 min/day</th>
<th>60 min/day</th>
</tr>
</thead>
</table>
| Mobile broadband
Text messaging | 10%        | 38%        | 69%        |
| Voice          | 85%        | 54%        | 26%        |

SOURCE: McKinsey i-consumer, Morgan Stanley research; McKinsey analysis
A mobile data service industry is in the making: examples

**E-commerce**
Percentage of having purchased on smartphones

**Mobile applications**
Average application used in last 20 days on smartphones

## But … who benefits? (1/2)

| **Backbone infrastructure + OEM equipment** | Large demand for mobile backhaul capacity  
|                                             | Deployment of next generation network equipment, e.g., LTE  
| **Last mile infrastructure providers**      | Development of new services in the form of mobile data access  
| **Service platforms**                       | Mobile advertising set to grow by 30% a year  
|                                             | Applications stores a dominant model of servicing, just above direct mobile web access  
| **Aggregators**                             | New aggregators launch, e.g., news aggregators, etc.  
| **Applications**                            | More than 300,000 applications downloads more than 11 billion time worldwide  

- **50 LTE networks launched in 29 countries in 2011**
- **17% active mobile data access services worldwide in 2011**
- **From 15 to 45 application per device by 2015**
- **Pulse, flipboard, etc.**
- **Facebook apps has been downloaded already 100 million times**
But … who benefits: network monetization challenge? (2/2)

SOURCE: Chetam Sharma, McKinsey
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A vision of the future for MNO’s

**User monetization**
- Mobile data + voice revenue < voice mobile revenue
- Like in Fixed: MobileBB + voice revenue > voice, but barely in real term
- Fixed scenario + monetisable app service

**Competition**
- Large investment in network upgrade, with regulation to net neutrality
- Technology efficiency makes capex/revenue constant
- Combination wifi, femto cells, and infrastructure based competition only

**Technology**
- Poor performance of technology leading to poor user experience and churn
- Technology improvement allows new products services every 6-18 month cycle
- Rapid technology breakthrough making scalable M2M and verticals, and wireless success
Own MNOs perspective: more downside than upside
Percent votes McKinsey online survey, 2011, 81 players worldwide

User monetization
- Bad: 25%
- Great: 62%

Competition
- Bad: 45%
- Great: 36%

Technology
- Bad: 31%
- Great: 41%

Density distribution
- Bad: 31%
- Great: 28%
Be part of the upside growth
Percentage of telecom companies, sample of 126 companies worldwide

- **Winner’s definition:**
  - growth faster than worldwide revenue growth 2012
  - sustained, even increased, for 2015 and 2020

- **Loosers definition**
  - negative revenue growth
  - worsening for 2015/2020

<table>
<thead>
<tr>
<th></th>
<th>Share of winning companies</th>
<th>Share of loosing companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed telecom</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>Mobile telecom</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>Integrated fixed and mobile telco</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Cable</td>
<td>21</td>
<td>17</td>
</tr>
</tbody>
</table>

Winner's definition:
- growth faster than worldwide revenue growth 2012
- sustained, even increased, for 2015 and 2020

Loosers definition:
- negative revenue growth
- worsening for 2015/2020
Value creation distribution among all companies, 2012-2020

Percent

100% = EUR billion

<table>
<thead>
<tr>
<th>Component</th>
<th>Current performance</th>
<th>Market value added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winners companies</td>
<td>30</td>
<td>63</td>
</tr>
<tr>
<td>Companies – all others</td>
<td>70</td>
<td>37</td>
</tr>
</tbody>
</table>

Market cap added, 2012-2020

1 Methodology is cash-flow margin developments over next 10 years, vs. today and based on company reported growth
### Odd ratios winning versus loosing MNO companies

<table>
<thead>
<tr>
<th>Category</th>
<th>Odd Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data-centricity</strong></td>
<td></td>
</tr>
<tr>
<td>Share of mobile data revenue in 2012</td>
<td>1.62</td>
</tr>
<tr>
<td>Share of mobile data revenue in 2015</td>
<td>1.21</td>
</tr>
<tr>
<td>% agree mobile data will by pass mobile voice</td>
<td>1.22&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Appl/service centricity</strong></td>
<td></td>
</tr>
<tr>
<td>% service aggregation play</td>
<td>2.21&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>% Own applications launched</td>
<td>2.21&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>% new internet players</td>
<td>1.71</td>
</tr>
<tr>
<td>Mobile Voip instead of traditional voice</td>
<td>1.26&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>% SMS replaced by twitter</td>
<td>2.47&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Higher brand competition expectations</strong></td>
<td></td>
</tr>
<tr>
<td>% M/A merger and capacity</td>
<td>1.83</td>
</tr>
<tr>
<td>% exit and absorption</td>
<td>2.15&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Scope consolidation</strong></td>
<td></td>
</tr>
<tr>
<td>% retail</td>
<td>3.75&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>% banking</td>
<td>2.35&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Scope adjacencies</strong></td>
<td></td>
</tr>
<tr>
<td>% agree deeper analytics needed</td>
<td>1.68&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>% internationalization</td>
<td>1.51</td>
</tr>
<tr>
<td>% new business innovations</td>
<td>1.63&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Capabilities and new business models</strong></td>
<td></td>
</tr>
<tr>
<td>% Outsourcing</td>
<td>1.30&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>% asset partnership</td>
<td>2.20&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Partnership</strong></td>
<td></td>
</tr>
<tr>
<td>% sales online</td>
<td>1.40&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>% personalization</td>
<td>1.60</td>
</tr>
<tr>
<td>Enterprise 2.0 rollout</td>
<td>1.64</td>
</tr>
</tbody>
</table>

1 Significant at 5%
2 Significant at 10%
Thank you

For more information, J. Bughin, “Fast forward: An inside view of the TMT sector’s future”, 2012