Business Models

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On today’s lecture

• Introduction
  – Services
  – Innovations
  – Business models

• STOF business model framework
  – S, T, O, and F domains
  – CDIs
  – CSFs
  – STOF Method
Introduction
Characteristics of services

• Intangibility or non-material

• Inseparability

• Heterogeneity

• Perishability
Characteristics of innovation

- New or improved product, service, or process from a market point of view, which contains new technological solutions and has been commercially successfully introduced to the market.

- Radical, disruptive, sustained, incremental, architectural, service and process innovations.

- The innovator gets **competitive advantage** through timing advance and IPR protection by patents – short monopoly.

- Monopoly will loosen through trade of patents and licenses or knowledge spillovers when competitors copy the technology and proprietary technology gets common to all players in the industry.
Innovation diffusion

Number of Users vs. Time

- **Network effects**
- **Critical mass**
- **Early adopters**
- **Two-sided networks**
- **Business model renewal**

Factors:

- **Economies of scale**
- **Managing a value network**
- **Openness vs. control**
- **Switching costs**
- **Multihoming**

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School of Science

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Why business model?

Market pull

Unexpected success stories

GSM voice & SMS, fax, i-mode, email, Facebook, Google, Amazon, Apple AppStore, YouTube, Twitter, PayPal, Skype

Business model

...and many failures

Technology push

videophone, X.400, IN, WAP, PoC, mobile TV, VoD, ERMES, UMTS...
Business model

• Describes how to **extract value** from a mobile service innovation

• It converts new technology to economic value (**utility** for customers)

• Plan by which a business intends to generate revenue and profits taken into account the dynamics of related **value chain**
Business model research

• Use of the business model concept exploded with the advent of the Internet from 1995 →

• Scholars do not agree on what a business model is
  – Obstructs cumulative research progress

• Business model literature developed in silos
  – Business models for e-business
  – Strategic issues
  – Innovation and technology management

Source: Zott et al., 2010
Business model research

• Emerging common ground among business models
  – BM emerging as a new unit of analysis
  – BM emphasize a system-level, holistic approach in explaining how firms do business
  – Organizational activities important in BMs
  – BMs try to explain how value is created and captured

• STOF viewed through this analysis
  – Definition based on components (dimensions S, T, O, F)
  – Links between different components
  – Technology in a more prominent role

Source: Zott et al., 2010
Business model components

• Rappa (2001)
  – Sustainability
  – Revenue stream
  – Cost structure
  – Value chain positioning

• Chesbrough & Rosenbloom (2002)
  – Value proposition
  – Market segment
  – Value chain
  – Cost structure
  – Value network
  – Competitive strategy
STOF business model framework

- Practical tool derived from academic research - checklist of relevant factors to consider including their interrelationships in a complex innovation process

- Presents a holistic view of the business model design of an emerging service idea

- Can help in identifying the key weaknesses which could cause a service to fail as well as the strengths of a service

- Identifying these issues in an early phase makes it easier and cheaper to react to any problems and to approach the right market segments by right timing, differentiation and pricing

- Usage requires wide techno-economic skills - typically done by a group of experts working in different fields
STOF business model framework

Source: Bouwman et al., 2008
Service design

Source: Bouwman et al., 2008
Technology design

Source: Bouwman et al., 2008
Organization design

Source: Bouwman et al., 2008
Finance design

Source: Bouwman et al., 2008
Balancing of different goals

NETWORK VALUE
Strategic interests of partners

CUSTOMER VALUE
Design requirements
usefulness

Source: Bouwman et al., 2008
## Critical Design issues (CDIs): Service domain

<table>
<thead>
<tr>
<th>Critical Design issue</th>
<th>Description</th>
<th>Balancing requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Targeting</strong></td>
<td>How to define the target group of a mobile service?</td>
<td>Generic vs. Niche service B2C vs. B2B service</td>
</tr>
<tr>
<td><strong>Creating value</strong></td>
<td>How to create value for end users?</td>
<td>Technological possibilities vs. user needs and wishes</td>
</tr>
<tr>
<td><strong>Branding</strong></td>
<td>How to promote/brand the service?</td>
<td>Operator vs. content brand</td>
</tr>
<tr>
<td><strong>Trust</strong></td>
<td>How to enhance end users’ trust in the service?</td>
<td>Security vs. ease of use Privacy vs. added value</td>
</tr>
<tr>
<td><strong>Customer retention</strong></td>
<td>How to stimulate recurrent usage of the service</td>
<td>Customer lock-in vs. customer annoyance</td>
</tr>
</tbody>
</table>

*Source: Bouwman et al., 2008*
## CDIs: Technology domain

<table>
<thead>
<tr>
<th>Critical Design issue</th>
<th>Description</th>
<th>Balancing requirements</th>
</tr>
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<tbody>
<tr>
<td>Security</td>
<td>How to arrange secure access and communication?</td>
<td>Ease of use vs. abuse and privacy.</td>
</tr>
<tr>
<td>Quality of Service</td>
<td>How to provide for the desired level of quality?</td>
<td>Quality vs. costs</td>
</tr>
<tr>
<td>System integration</td>
<td>How to integrate new services with existing systems?</td>
<td>Flexibility vs. costs</td>
</tr>
<tr>
<td>Accessibility</td>
<td>How to realize technical accessibility to the service for the target group?</td>
<td>Open vs. closed system</td>
</tr>
<tr>
<td>Management of user profiles</td>
<td>How to manage and maintain user profiles?</td>
<td>User involvement vs. automatic generation</td>
</tr>
</tbody>
</table>
CDIs and CSFs relating to customer value

Critical Design Issues
- Accessibility for Customers
- Targeting
- Security
- Quality of Service
- System Integration
- User Profile Management

Critical Success Factors
- Clearly Defined Target Group
- Compelling Value Proposition
- Customer Value
- Viability of business model
- Acceptable Quality of Service
- Unobtrusive Customer Retention

Source: Bouwman et al., 2008
### CDIs: Organization domain

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<tr>
<th>Critical Design issue</th>
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<th>Balancing requirements</th>
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<tbody>
<tr>
<td>Partner selection</td>
<td>Who is offering access to critical resources and capabilities in order to offer service?</td>
<td>Limited number of partners <em>versus</em> quality of service and strategic interest</td>
</tr>
<tr>
<td>Network openness</td>
<td>Degree to which new partners can join the network, and are allowed to offer services</td>
<td>Openness and customer reach <em>versus</em> control and exclusiveness</td>
</tr>
<tr>
<td>Network governance</td>
<td>Dominant partners set and monitor rules over partnership, support partners. Customer ownership and control is key asset</td>
<td>Entry, compliance and exit conditions: individual <em>versus</em> network interest</td>
</tr>
<tr>
<td>Network complexity</td>
<td>Degree of complexity of network, both organizational and technical</td>
<td>Need to reduce complexity <em>versus</em> need of access to critical resources &amp; capabilities</td>
</tr>
</tbody>
</table>

Source: Bouwman et al., 2008
### CDIs: Finance domain

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</tr>
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<tbody>
<tr>
<td>Pricing</td>
<td>Price level</td>
<td>Pricing seems to be aligned with maximizing profits <em>versus</em> creating market share</td>
</tr>
<tr>
<td>Investments</td>
<td>Capital investment and risk assessment</td>
<td>Operational financial interest (ROI) <em>versus</em> intangible benefits (Options)</td>
</tr>
<tr>
<td>Division and valuation of costs and revenues between network actors</td>
<td>Assessment of valuation is based on access to resources, direct revenue and strategic benefits.</td>
<td>Costs-benefits valuation on level of network versus cost benefits for individual partners</td>
</tr>
</tbody>
</table>
CDIs and CSFs relating to network value

Source: Bouwman et al., 2008
STOF process phasing

Source: Bouwman et al., 2008
STOF process over time

Phases | R&D | Roll out | Market
---|---|---|---
Market | Regulation | Market | Regulation
Technology

Source: Bouwman et al., 2008
Research methods for STOF analysis

- Desk research
- Focus groups
- Interviews
- Workshops
- Market research
- User trials
- Investment assessment
- Design session
- Action research

Source: Bouwman et al., 2008
Business model literature

• Required reading in the exam
  – Course book (Mobile Service Innovation and Business Models)
    • Part I in full
    • Part II not required

• Voluntary reading:
  – Paper by Zott, Amit & Massa: The Business Model: Recent Developments and Future Research
    • Available at [http://jom.sagepub.com/content/37/4/1019](http://jom.sagepub.com/content/37/4/1019)