STOF model and method
Design and research

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2/17/2006
Business model

- **Service Domain**
  - Value proposition
  - Market segment

- **Technology Domain**
  - Functionality required

- **Organization Domain**
  - Structure of value network

- **Financial Domain**
  - Cost structure
  - Profit potential

- **Network Value**
  - e.g. Revenues, access to critical resources

- **Customer Value**
  - e.g. Ease of use, costs, experience

- **Market Developments**

- **Technological Developments**

- **Changes in Legislation**
Service offering
## Critical design issues in service domain

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

- Actors
- Technology Design
  - Data
  - Technical Functionality
- Services
- Costs

- Own and invest in: Technological architecture
- Consists of: Applications, Devices, Service Platforms, Access Networks, Backbone Infrastructure
- Generates: Infrastructure
- Is used in: Applications, Devices, Service Platforms, Customer data platform, Billing platform
- Produce: Data
- Is used in: Technical Functionality
- Put requirements on: Services

26-3-2009
### Critical design issues in technology domain

<table>
<thead>
<tr>
<th>Critical Design issue</th>
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</thead>
<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>
Organisational arrangements

- Strategies & goals
  - To participate in
  - Consists of
  - Consists of
  - May grow into
  - Consists of
  - Consists of
  - May grow into

- Resources & Capabilities
  - Have
  - Have
  - Define
  - Define
  - Define
  - Define

- Actors
  - Perform
  - Define
  - Define
  - Define
  - Define

- Value activities
  - Are used in
  - Perform
  - Define
  - Define
  - Combine to
  - Generate

- Organisational arrangements
  - Put requirements on
  - Influence

- Value network
  - Consists of
  - Consists of

- Relations
  - Interactions
  - Roles
  - Organisational arrangements
  - Part-of

- Financial Arrangements
  - Investment sources
  - Costs
  - Delivered value

- Technological architecture
# Critical design issues in organisational domain

<table>
<thead>
<tr>
<th>Critical Design issue</th>
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<tbody>
<tr>
<td>Partner selection</td>
<td>Who is offering access to critical resources and capability’s in order to offer service?</td>
<td>Limited number of partners versus 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 versus 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 versus 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 versus need of access to critical resources &amp; capability’s</td>
</tr>
</tbody>
</table>

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Financial arrangements

Value activities

Technological architecture Is a

Cost sources Generate

Investment sources Provide

Capital Induce

Costs Monitored using

Performance indicators

Financial arrangements

Revenues Monitored using

Risks Threaten

Revenues Generate

Market segment Co-determine

Service Is a

Revenue sources Generate

Risk sources Generate

Pricing

FINANCE DESIGN

Are divided over actors according to

Determine

Are divided over actors according to
# Critical design issues in financial domain

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<tr>
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</tr>
</thead>
<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>
Conclusions on CDi’s

• Design orientation
  • Complex interdependencies between service definitions, technical architectures, organizational and financial arrangements in the development of services
• Critical Design issues, strongly interrelated
  • Targeting, Creating value, Branding, Trust, Customer retention
  • Partner selection, network openness and complexity, and network governance
  • Security, Quality of Service’ System integration, Accessibility, Management of user profiles
  • Pricing, investment (and risk assessment), division and valuation of costs
• Balancing of critical design issues is key
Designing business models is a balancing act

**NETWORK VALUE**
Strategic interests of partners
Revenues, intangible benefits

For instance:
- # of network partners
- Network openness
- Governance model
- Branding
- Customer ownership

**CUSTOMER VALUE**
Design requirements
usefulness

For instance:
- Pricing
- Ease of use vs. security
- Added value vs. precision of positioning technique
CDi versus CSF

Design
• **Critical Design Issues (CDI)**: “variables with regard to which we can make decisions that may be critical for the viability and feasibility of the business model” (Bouwman et al., 2004)

Analytical, causal models
• **Critical Success Factors (CSF)**: “variables for which a high score indicates that a service creates customer and/or network value, thus making the business model viable in the long run” (Bouwman et al., 2004)
Validating the relation between CDi and CSFs
Sample: experts and service developers

R² = 0.23

Acceptable role division

R² = 0.32

Acceptable risks

R² = 0.47

Acceptable profitability

Organization design issues

Financial design issues

0.48***

0.40***

0.49***

0.21*

0.49***

0.68***

0.40***

0.47**

0.32***
Design method

STEP 1
Basic Information (BI)
- Quick Scan
- Rough sketch Business Model

STEP 2
Critical Design Factors (CDi)
- Comparison with CDi's
- Ok
  - Yes
  - No

STEP 3
Critical Success Factors (CSF)
- Elaborating & Balancing
  - Viable business model
Dynamic model

- Static versus dynamic, Phasing

**Phases**
- Technology R&D
- Implementation/Roll out
- Market (Bouwman)
- Technology
- Environmental issues
- Commercial, Maturity (MacInnes)
- Venture vision
- α version
- β version
- Market offering
- Market
- Adoption
- Diffusion
- Maturity

26-3-2009