A design approach for business model innovation and IT alignment

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Hypotheses
1. Requirement engineering is not independent from design
   but part of the “design loop”: requirement analysis, IT solution design, prototype & evaluation
2. Goal-based requirement engineering is not appropriate for expressing business needs
   but business model-based requirement engineering seems to be adequate
3. Innovation does not come from (goal-based) requirement engineering
   but from business model and design

The dominant paradigm: business/IT alignment …

Design approach > the designer’s core competencies
1. The ability to understand the context or circumstances of a design problem and frame them in an insightful way
2. The ability to work at a level of abstraction appropriate to the situation at hand
3. The ability to model and visualize solutions even with imperfect information
4. An approach to problem solving that involves the simultaneous creation and evaluation of multiple alternatives
5. The ability to add or maintain value as pieces are integrated into a whole
6. The ability to establish purposeful relationships among elements of a solution and between the solution and its context
7. The ability to use form to embody ideas and to communicate their value
Design approach > services, process & business model

Any company is composed of:
- a business logic
- business structures & rules
- business support systems

The Aligned Company

Design approach > a cross-cutting discipline

<table>
<thead>
<tr>
<th>Service</th>
<th>Process</th>
<th>Business Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis</td>
<td>user goal and task</td>
<td>goal and process</td>
</tr>
<tr>
<td>Design</td>
<td>application/service</td>
<td>workflow</td>
</tr>
<tr>
<td>Evaluation/Validation</td>
<td>utility/usability</td>
<td>efficiency</td>
</tr>
</tbody>
</table>

Design approach > BUSINESS TASK AND IT SERVICE

IS Model

Viewpoint: Software Engineering

Design approach > service > design loop

Transaction
Decision (cognition)
Interaction

Requirement Analysis
Validation
Design

Usability
Prototype

Techniques:
- Scenario-based design
- Pattern-based
- Conceptual modeling

Design approach > service > ontology

Ontology

Viewpoint: HCI Engineering

GOAL
WHAT?
HOW?

Task
Action
Information
Interaction

Design approach > service > requirement analysis

- Goal-based requirement engineering
- Task analysis
Design approach > service > IT solution design

- Action design
  - Focus on functionality
- Information design
  - Information provided to the users by the systems
- Interaction design
  - Details of user action and feedback

http://guir.berkeley.edu/projects/denim

Design approach > service > prototype

- Lo-fi prototype
  - Hi-fi prototype

Design approach > service > usability evaluation

- Usability testing with user model-based > service quality

Design approach > service and process alignment

Design approach > BUSINESS PROCESS (AND IT WORKFLOW)

> State of the art in requirement engineering > Strategic IT weakly addressed

Requirement Analysis

Validation

Design

Efficiency

Simulation

Techniques:
- Use case and scenario
- Best practice (pattern-based)
- Conceptual model
Design approach > process > ontology

Viewpoint:
 ENTERPRISE MODELING BPM

ONTOLOGY

WHAT?

ORGANIZATIONAL GOAL

AGENT

TEAM

WHAT?

Activities

Resource

Control

Financial aspects

HOW MIGHT?

Business model > definition

- A model of the business of a company, aggregating...
  - the value a company offers to one or several segments of customers, and
  - the architecture of the firm and its network of partners
  - for creating, marketing and delivering this value and relationship capital,
  - in order to generate profitable and sustainable revenue streams

1. Business model analysis
   - Product and value proposition
   - Customer relationship and distribution channel
   - Operations management and value chain
2. IT architecture design
3. Business/IT alignment evaluation

Business model > design loop

Strategy
Innovation
IS Planning

Requirement
Analysis
Validation
Design

ALIGNMENT/FIT
Cost/benefit

TECHNIQUES:
- Reference model
- Building blocks
- Conceptual model

Business model > ontology > 9 questions

WHAT?

VALUE proposition

Customer segment

Distribution channel

Relationship

HOW?

Value configuration

Partnership

Core capability

Revenue

Cost

HOW MIGHT?

What do we offer to our customers?

What are our customers?

How do we reach them?

How do we get and keep them?

Who are our customers?

How do we reach them?

How do we get and keep them?

Value proposition

WHAT?

VALUE PROPOSITION

Customer segment

Distribution channel

Relationship

HOW?

Value configuration

Partnership

Core capability

Revenue

Cost

HOW MIGHT?

What are our revenues? Our pricing?

What are our costs?

What are our revenues? Our pricing?

What are our costs?
Value proposition

**DEFINITION**

A VALUE PROPOSITION is an overall view of a firm’s bundle of offerings, products and services, that together represent a benefit or a value for its customers...

refers to [Kambil et al., 1996]...

**SCHEMA**

- Description
- Reasoning (use, risk, effort)
- Life cycle (creation, appropriation, use, renewal, transfer)
- Value level (free, economy, market, high-end)
- Category (barter, sale, market, buy)

Value proposition > example

**Value Proposition**

- Event tickets (& access)
- (Integrated) B2B solutions
- POS affiliation (Easy Outlet)

**Customer segment**

**DEFINITION**

Categorizations of the population into social class or psychologically defined groups

**SCHEMA**

- Description
- Reasoning
- CRITERION
- Category

Customer segment > example

**Value Proposition**

- Event tickets (& access)
- Distribution channel reach
- (Integrated) B2B solutions
- POS affiliation (Easy Outlet)

Distribution channel

**DEFINITION**

How do we operate and deliver? How do we collaborate? What are our key competencies? What are our revenues? Our pricing? What are our costs?
**Distribution channel**

**Definition**
A set of links or a network via which a firm “goes to market” and delivers its value proposition.

**Schema**
- **Value proposition**
- **Distribution channel**
  - Delivers
  - Customer segment
  - Actor

How do we reach our customers? Feel and serve them?

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**Value proposition > strategy canvas**

- A way to visualize the strategic profile
- Based on the factors that affect competition among industry players
- Showing the strategic profile of current and potential competitors, identifying which factors they invest in strategically

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**Value proposition > Strategy canvas > B2C customer (offline)**

**Value proposition > Strategy canvas > B2C customer (online)**

**Value proposition > Strategy canvas > B2B customer**

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**Distribution Channels**

**Diagram**

- **Value Proposition**
  - Ticketcorner POS network
  - Affiliate POS network
  - ATMs
  - Call Center
  - Ticketcorner Website
  - B2B solutions
- **Target Customer**
  - Individual event visitors
  - Events & Organizers
  - Venues
  - POS Partners

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**Strategy Canvas Ticketing Solutions**

**Diagram**

- **Value Attributes**
  - Ticketcorner
  - CTS Events
  - Venues, Clubs, etc.
  - Ticket Online
Customer relationship

**Definition:**
customer equity: acquisition, retention, add-on selling, trust and personalization mechanisms, ...

**Schema:**
- **Value proposition**
- **Customer segment**
- **Distribution channel**
- **Customer relationship**

**How do we get and keep our customers?**

Core capabilities (resources)

**Definition:**
Resource (assets): available & useful in responding to market opportunities or threats. Capability (know-how): aptitude to exploit and coordinate resources to create, produce, and/or offer products and services to a market.

**Schema:**
- **Core capability**
- **Resource**
- **Value proposition**
- **Actor**

**What are our key competencies?**

Value configuration

**Definition:**
Set of interdependent activities that add value for the customers to the company products or services.

**Schema:**
- **Value activity**
- **Category**
- **Value configuration**
- **Actor**

**How do we operate and deliver?**
Value configuration with partners > e3value model

Revenue stream

Revenue stream > categories

Revenue Model

Profit and cost account

Profit and cost account

### Revenue stream

- **WHAT**
  - Value proposition

- **WHO**
  - Value chain
  - Partnership
  - Capability

- **HOW**
  - Customer segment
  - Distribution channel
  - Customer relationship

- **HOW MUCH**
  - Revenue cut on tickets sold
  - Fee B2B platform usage
  - Fee general contractor service

### Revenue stream > categories

**REVENUE**

- **PRE-PAID card**
  - Income of the subscription fees to become a member
  - Paid by the buyer and/or the vendor

- **subscription**
  - Income of the subscription fees to become a member

- **advertisement**
  - Income of the ad banners posted on the shopfront

- **use**
  - Income of online sales paid by the buyer

- **transaction**
  - Income, percentage of a transaction made by the settlement

### Revenue Model

**Revenue Model**

- **Value Proposition**
- **Target Customer**
- **Cost of goods sold**
- **Gross margin**
- **Operating income (loss)**
- **Net income (loss)**

**PROFIT = (P – VC)Q – FC**

- **P** the unit price of a product
- **VC** the variable cost of a unit
- **Q** the number of products sold
- **FC** fixed costs
**Cost Structure**

<table>
<thead>
<tr>
<th>Cost positions</th>
<th>Percentage of total</th>
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</thead>
<tbody>
<tr>
<td>Point of sales network development and maintenance</td>
<td></td>
</tr>
<tr>
<td>Expense platform development and maintenance</td>
<td></td>
</tr>
<tr>
<td>Ticketcorner marketing</td>
<td></td>
</tr>
<tr>
<td>Point of sales &amp; event acquisition and maintenance</td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td></td>
</tr>
<tr>
<td>Call center</td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td></td>
</tr>
</tbody>
</table>

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**Business model ontology > model**

- **WHO?**
  - Customer
  - Partner
  - Actor
  - Relationship

- **WHAT?**
  - Capability
  - Configuration
  - Proposition
  - Channel

- **HOW MUCH?**
  - Cost
  - Profit
  - Revenue

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**Ticketcorner Business Model**

- **Value Proposition**
  - Personalized website
  - Personal info e-update
  - Event booklet Ticketnews

- **Distribution Channel**
  - Target Customer

- **Customer Relationship**
  - Partner Network
  - Personal POS network
  - Affiliate POS network
  - Ticketcorner Website
  - ATMs
  - B2B salesforce

- **Value Configuration**
  - Core Capability
  - Ticketcorner POS network
  - Affiliate POS network
  - Ticketcorner Website
  - ATMs
  - B2B salesforce

- **Revenue Model**
  - Revenue cut tickets
  - B2B platform usage
  - General contractor service
  - Advertising online & print

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**Business model > design loop > IT architecture design**

- **Strategy**
- **Innovation**
- **IS Planning**

- **BUSINESS MODEL analysis**

- **ALIGNMENT**
  - Cost/benefit

- **TECHNIQUES**
  - reference model
  - Building blocks
  - Conceptual model

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**Ticketcorner Business Model > bird eyes view**

- **Core Competencies**
  - Increase reach
  - Increase usability
  - Acquire events & venues
  - Distribute tickets
  - Acquire POS partners
  - Acquire/develop POS
  - Improve visibility
  - Maintain & develop platform

- **Value Network**
  - Acquire events & venues
  - Acquire/develop POS
  - Improve visibility
  - Maintain & develop platform

- **Revenue Model**
  - Revenue cut tickets
  - B2B platform usage
  - General contractor services
  - Advertising online & print

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**Business model > design loop > IT architecture > application portfolio**

- **STRATEGIC**
  - Applications that are critical to sustaining future

- **HIGH POTENTIAL**
  - Applications that may be important in achieving the future

- **KEY OPERATIONAL**
  - Applications that are essential for success

- **SUPPORT**
  - Applications that are valuable for success

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Business model > design loop > IT architecture > application portfolio

Impact of existing IS

<table>
<thead>
<tr>
<th>Strategic</th>
<th>Potential</th>
<th>Operational</th>
<th>Support</th>
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<tbody>
<tr>
<td>Impacting function</td>
<td>Business</td>
<td>Reservation System</td>
<td>Accounting</td>
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<tr>
<td>Finance</td>
<td>Ticketing</td>
<td>Ticketing System</td>
<td>Ticketing System</td>
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<tr>
<td>Logistics</td>
<td>(NAGRA System)</td>
<td>(NAGRA System)</td>
<td>(NAGRA System)</td>
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<tr>
<td>Distribution</td>
<td>Promotion</td>
<td>Promotion Database</td>
<td>Promotion Database</td>
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<tr>
<td>Customer relationship</td>
<td>Volunteering</td>
<td>Volunteer Database</td>
<td>Volunteer Database</td>
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<tr>
<td>Capabilities</td>
<td>Merchandising</td>
<td>Merchandising Database</td>
<td>Merchandising Database</td>
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<td>Activities</td>
<td>Selling</td>
<td>Selling Database</td>
<td>Selling Database</td>
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<tr>
<td>Partnerships</td>
<td>Management</td>
<td>Management Database</td>
<td>Management Database</td>
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<tr>
<td>Revenues</td>
<td>Accounting</td>
<td>Accounting Database</td>
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<td>Costs</td>
<td>Office</td>
<td>Office Database</td>
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Business model > design loop > IT architecture > infrastructure

Application infrastructure

Communication

Data management

IT management

Security

Architecture & standards

IT research & development

[Weil and Vitale, 2002]
Business model > design loop > IT architecture > balanced scorecard

How to improve our services and our quality?

In which process do we have to prove excellence?

How do the customers perceive us?

How do shareholder perceive us?

CUSTOMER
Goals & initiatives

INNOVATION
Goals & initiatives

FINANCE
Goals & initiatives

PROCESSES
Goals & initiatives

Business model > design loop > IT architecture > balanced scorecard

Strategy
Innovation
IS Planning

Requirement Analysis
BUSINESS MODEL

Validation
Design

Business model > design loop > business/IT alignment

Business model > design loop > business/IT alignment
Business model innovation

- Innovating in one or several of the business model components and as combining them in new and innovative ways
- Managers and executives had a whole new range of ways to design their businesses, which resulted in innovative and competing business models in the same industries.
- Before it used to be sufficient to say in what industry you where for somebody to understand what your company was doing because all players had the same business model.
- Today it is not sufficient anymore to choose a lucrative industry, but you must design a competitive business model.
- In addition increased competition and rapid copying of successful business models forces all the players to continuously innovate their business model to gain and sustain a competitive edge.

Business model innovation > typology

- Supply-driven innovation
  - New way of doing/supplying or new technology
- Demand-driven
  - New or changing customer needs

- Similar business model
  - Same value proposition
- Extended business model
  - Adding new things
- New business model
  - New rules of the game …

Business model innovation > disruptive technology

- A disruptive technology is a technology or an innovation
- "That results in worse product performance, at least in the near-term..."
- "It brings to the market a very different value proposition than had been available previously..."
- "Products that are based on disruptive technologies are typically cheaper, simpler, smaller, and, frequently, more convenient to use."
- "But, they generally under-perform established products in mainstream markets."

Business model innovation > environmental pressures

- Technological change
- Customer demand
- Competitors
- Suppliers
- Substitutes
- New entrants
- Government controls
- Economic conditions
- Social trends
- Intellectual property rights
- Environmental issues
- Stakeholders
- Government policies
- Economic conditions
- Social trends
- Intellectual property rights
- Environmental issues
- Stakeholders
Questions ...

http://www.hec.unil.ch/yp/OTI/SLIDES/amsterdam06.ppt