Digital Business Innovation: roadmap and challenges

Gianluigi Viscusi

EPFL-CSI - Odyssea - Station 5, CH-1015 Lausanne, Switzerland

gianluigi.viscusil@epfl.ch
1. **Background**
2. Digital business roadmaps
3. Types of digital business attitudes
4. Digital platforms adoption in clusters
Alignment


Alignment focus: Execution

**Driver:** Business Strategy

**Role of the Top Management:**
- Define the Strategy

**Role of the IT Management:**
- Implement the Strategy

**Performance Criteria:** Costs/
- Business Processes Efficiency

Adapted from, Henderson, J.C., Venkatraman, N., Scott, O., Aligning Business and IT Strategies, in Luftman, J.N. (Ed.) Competing in the information Age – Strategic Alignment in Practice, Oxford University Press, 1996
Alignment focus: Technology

Driver: Business Strategy
Role of the Top Management:
Define the IT Vision
Role of the IT Management:
Design the IT Architecture
Performance Criteria:
Technological Leadership

Adapted from, Henderson, J.C., Venkatraman, N., Scott, O., Aligning Business and IT Strategies, in Luftman, J.N. (Ed.) Competing in the information Age – Strategic Alignment in Practice, Oxford University Press, 1996
Alignment focus: Service

Driver: IT Strategy
Role of the Top Management: Define the priorities
Role of the IT Management: Executive Leadership
Performance Criteria: Customer satisfaction

Adapted from, Henderson, J.C., Venkatraman, N., Scott, O., Aligning Business and IT Strategies, in Luftman, J.N. (Ed.) Competing in the information Age – Strategic Alignment in Practice, Oxford University Press, 1996
Twitter Said To Expect $1 Billion In Ad Revenue In 2014

By Jonathan Eriel and Brian Womack - Jun 2, 2012 6:01 AM GMT+0200

Facebook

The Future of Facebook Is in India

By Peter Sviokland on May 31, 2012 | 

By 2015, India will have more Facebook (FB) users than any other country on Earth—tilting the social networking action away from the West and toward one of the fastest-growing emerging markets on the planet.

As of right now, India has close to 46,307,580 Facebook users, according to Socialbakers, a social media analytics firm in London. This makes India the third-biggest Facebook market, behind the U.S., now at 156,830,580 users, and Brazil, with 48,041,640.

According to Eleanor Armitage, a Socialbakers spokeswoman, the number of Indian Facebook users is growing 22 percent every six months, meaning that India will edge out the U.S. toward the end of 2014, when both countries are expected to have 170 million to 175 million members.

Prasant Naidu, who blogs about social networking in India at Lighthouse Insights, attributes Facebook’s explosive growth in the subcontinent to its huge, mostly untapped market. (India has more than 1.2 billion people, and Facebook users constitute less than 4 percent of the population, compared with 61 percent in the U.S.)
Digitizing vs. digitalization

*Digitizing as a technical process “of converting analog signals into a digital form, ultimately into binary digits (bits)”*

*Digitalization as “a sociotechnical process of applying digitizing techniques to a broader social and institutional contexts that render digital technologies infrastructural”*

How to Be a Chief Information Officer

Google's CIO Ben Fried favors a counterintuitive move—giving people their choice of toolsets.
## Modularity vs. generativity

### Modularity
- **Simplicity** in dealing with complex systems
- **Division of labour** in design and production
- **Mixing-and-matching** strategy
- **Process-centric** view of organizations and IT’s role

### Generativity
- Three unique material characteristics of digital technology (Yoo, Henfridsson, and Lyytinen 2010):
  - homogenization of data
  - re-programmability
  - self-referentiality
- Nearly limitless possibilities for recombination (or “mash-ups”) of highly programmable digital artifacts through standardized interfaces enable the generativity of digital technologies (Arthur, 2009; Lassig, 2008).

### Background

A *modular product* begins with a **fixed boundary**. It begins with a **centralized designer** who creates an architecture and coordinates distributed actors to build subsystems.

**Generativity**

*Generative digital modules* are most often designed **without fully knowing the "whole" design** of how each module will be integrated with other modules.

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Three problems

• **Entrepreneurial**
  - Choice of product-market domain

• **Administrative**
  - Rationalization of structure and processes

• **Engineering**
  - Choice of technologies for production and distribution

More broadly, we note that tools supporting BMI could be structured into several levels of decomposition with varying depth and complexity depending on the degree to which they abstract from the reality they aim to describe (see Figure 2). Figure 2: Business Models at Different Levels of Abstraction from ‘Reality’.

At the highest level of abstraction is a view of the business model as a narrative (Perkman & Spicer, 2010). According to Magretta (2002), the BM is a story, a verbal description of how an enterprise works. It should be noted that business model narratives not 11 are a way to simplify and understand the underlying reality of the business. Common across these tools is an (often implicit) understanding of the business model as a model (Baden-Fuller & Morgan, 2010), i.e., a simplified representation of a reality that exists at the level of the firm and its network of exchange partners.

“a system of interdependent activities that transcends the focal firm and spans its boundaries. The activity system enables the firm, in concert with its partners, to create value and also to appropriate a share of that value”

Business Model as a subset of

• Business Model Design

• Business Model Reconfiguration

FutureEnterprise Project (FP7)

http://www.dbi-community.eu/
Execution vs. differentiation

![Execution vs. Differentiation Diagram]

- **Entrepreneur**
  - Low Differentiation Focus
  - Execution Roadmap
  - Structure
  - Governance
  - Content

- **Small and Medium Enterprise**
  - High Differentiation Focus
  - Differentiation Roadmap
  - Supply Chain Integration
  - Rematerialization
  - Competency Center
  - Open Innovation
  - Cooperative Ownership
  - Unbundling
  - Pay for Success
  - Differential Pricing & Customization
  - Sell One, Give One
  - Innovative Product Financing
  - Subscription Model
  - Freemium
  - Multisided platform
  - Behavior Change

- **Enterprise**
  - High Differentiation Focus
  - Differentiation Roadmap
  - Physical to Virtual
  - Produce on Demand
  - Closed Loop Production
  - Micro-Franchise

Differentiation refers to the creation of something (product or service) either unique (or perceived unique) in a given market or "brand new," thus, leading to the creation of a new industry or market. Differentiation may also refer to a price advantage due to the capability of a company offering to increase the customers' willingness to pay (Porter, 1985).
Miles and Snow (1978) four types of organizational adaptation

- **Defenders** – organizations which have narrow product-market domains

- **Analyzers** – organizations which operate in two types of product-market domains, one relatively stable, the other changing.

- **Reactors** – organizations where top managers perceive change and uncertainty in the organizational environment, but are unable to respond effectively.

- **Prospectors** – organizations which almost continually search for market opportunities, and they regularly experiment with potential responses to emerging environmental trends.

What Type of Digital Business Am I?

So now you understand your primary market sector? Check. You have a good understanding of the implications of your business size? Check. The next thing is to get you to understand which of the four types of digital business you correspond to.

The following figure shows the four types of Digital Business as identified in our Research Roadmap. The descriptions afterwards will help you decide which one fits your mould:

- **Digital Defender**: Organizations focused on being competitive in a narrow and well-defined (product-service) market, thus, mainly devoting attention to efficiency, productivity, and improvement of existing operations.
- **Digital Prospector**: Organizations focused on continuous differentiation and innovation of service-product, and constantly looking for new market opportunities, devoting a primary attention to experimentation.
- **Digital Analyzer**: Organizations operating in two markets, one stable and the other evolving or being subject to change. In the first market they operate as the defender does, while in the second they act rather than a prospector, watching competitors and other actors in the business environment, looking for new ideas to promptly adopt the ones suitable to be more effective.
- **Digital Reactor**: Organizations unable to respond effectively to change and uncertainty in the business environment, due to weakly articulated strategy or an organizational structure improperly linked to strategy or the adherence to an outmoded strategy and structure.

Source: Cave, B and Cave, J. (eds.) - Deliverable D1.3.1 - Business Value for Enterprise Innovation, Fu-tiureEnterprise-FP7-ICT-2013-10 Support Action
Roadmap (Focus on Execution) suitable to adopt a defender perspective. Enterprises are the main

Taking the above characteristics into account, the main risk faced by DBDs in the current dynamic business environment is actually the

"long looped" vertical information systems and simple forms of coordination (standardisation and

Which Business Models Will Help Me Grow?

Table 3 shows target Subjects per BMI of the Research Roadmap (Focus on Execution)

<table>
<thead>
<tr>
<th>Business Model Innovation (BMI)</th>
<th>Roadmap Focus</th>
<th>Target Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI#4 - Rematerialisation</td>
<td>Execution</td>
<td>Enterprises</td>
</tr>
<tr>
<td>BMI#7 - Supply Chain Integration</td>
<td>Execution</td>
<td>Enterprises</td>
</tr>
<tr>
<td>BMI#1 - Closed-Loop Production</td>
<td>Execution</td>
<td>SMEs</td>
</tr>
<tr>
<td>BMI#3 - Produce on Demand</td>
<td>Execution</td>
<td>SMEs/Enterprises</td>
</tr>
<tr>
<td>BMI#2 - Physical to Virtual</td>
<td>Execution</td>
<td>SMEs/Enterprises</td>
</tr>
<tr>
<td>BMI#6 - Cooperative Ownership</td>
<td>Execution</td>
<td>SMEs/Enterprises</td>
</tr>
<tr>
<td>BMI#17 - Competency Centre</td>
<td>Execution</td>
<td>SMEs/Enterprises</td>
</tr>
<tr>
<td>BMI#19 – Transparency</td>
<td>Execution</td>
<td>SMEs/Entrepreneurs</td>
</tr>
<tr>
<td>BMI#14 – Microfinance</td>
<td>Execution</td>
<td>SMEs/Entrepreneurs</td>
</tr>
<tr>
<td>BMI#15 - Micro-Franchise</td>
<td>Execution</td>
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Source: Cave, B and Cave, J. (eds.) - Deliverable D1.3.1 - Business Value for Enterprise Innovation, FutureEnterprise-FP7-ICT-2013-10 Support Action
### Business Model Innovation (BMI) - Types of digital business attitudes

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<th>Business Model Innovation (BMI)</th>
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</thead>
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<tr>
<td>BMI#16 - Behaviour Change</td>
<td>Differentiation</td>
<td>Entrepreneur</td>
</tr>
<tr>
<td>BMI#12 - Bait &amp; Hook (Subscription model)</td>
<td>Differentiation</td>
<td>SMEs</td>
</tr>
<tr>
<td>BMI#9 – Freemium</td>
<td>Differentiation</td>
<td>SMEs/Start-Ups</td>
</tr>
<tr>
<td>BMI#21 - Multisided platform</td>
<td>Differentiation</td>
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</table>
### Business Model Innovation (BMI)

<table>
<thead>
<tr>
<th>BMI#13 - Differential Pricing &amp; Customisation</th>
<th>Execution-Differentiation</th>
<th>Enterprises</th>
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<tr>
<td>BMI#11 - Pay for Success</td>
<td>Execution-Differentiation</td>
<td>SMEs</td>
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<tr>
<td>BMI#10 - Innovative Product Financing</td>
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<td>BMI#5 - Sell One, Give One</td>
<td>Execution-Differentiation</td>
<td></td>
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<td>BMI#20 - Unbundling</td>
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<td>SMEs/Start-Ups</td>
</tr>
<tr>
<td>BMI#8 - Crowdfunding</td>
<td>Execution/Differentiation</td>
<td>SMEs/Start-Ups</td>
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<tr>
<td>BMI#18 - Open Innovation</td>
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Digital platforms adoption in clusters: which role for business models?

Cluster of Firms

Cluster Head Business Model
Cluster Affiliate 1 Business Model
Cluster Affiliate 2 Business Model
Cluster Affiliate n Business Model

Strength of network ties
IT alignment
Willingness to collaborate

Cluster Digital Platform

Thanks for your attention

....any questions?