Alignment of Business and IT
Introduction

Prof. Dr. Knut Hinkelmann
Business-IT alignment is a dynamic state in which a business organization is able to use information technology (IT) effectively to achieve business objectives.
Motivation: Agility
Increasingly dynamic environment: Challenges confronting an Enterprise

- Achieving Competitive Advantage
- Collaboration/Integration
- Regulatory Compliance
- Corporate Governance
- Outsourcing
- Digitalization
- Disruptive technologies

- Mergers and Acquisition
- New business models
- Service improvement
- Efficiency
- Shifting powers in the value chain
Agility: Demand for Continuous Change

- To improve their chances of survival, enterprises need to be agile.

- Agility is the ability of enterprises to
  - quickly adapt themselves to changes in their environment and
  - seize opportunities as they avail themselves
  - have flexibility to deal with individual customer requirements, to reduce response time to external demands, and to react on events

Agility

FROM NOW ON WE'RE GOING TO CHANGE HOW WE DO THINGS HERE. WE NEED TO BE AGILE.

WHAT DOES IT MEAN?

NOTHING REALLY CHANGES, EXCEPT THAT NOW MANAGERS, DESIGNERS AND ARCHITECTS HAVE AN EXCUSE FOR CHANGING THE REQUIREMENTS ON FRIDAYS AT 4 PM.
Mutual Dependencies between Business and IT

- Almost all processes have become IT reliant, if not fully automated.
- Thus, there is a mutual influence between information systems and the design of the business
  - A (re-)design of a business process often demands changes in the IT
  - Changes in IT applications and information systems can demand a re-design of business processes
  - New IT may lead to new business models or strategies, business process (re-engineering).
Change Projects

- Strategy
- Organisation and processes
- Information systems
- Infrastructure

Revised to:

- Strategy
- Organisation and processes
- Information systems
- Infrastructure

Real world

Target state
The objective of planning IT strategically is to align it with overarching corporate goals and business requirements and make it agile enough to deal with constant change in the company and its environment (Hanschke 2010, p. 7)

- Business-IT alignment
- Agility – Ability to change
«Old» View on Business-IT Alignment
«Traditional» view on Business-IT Alignment

- IT strategy has been seen as a functional-level strategy that must be aligned with the firm’s chosen business strategy.
- The alignment of business and IT has to create an environment in which the IT department and the CIO…
  ...are not merely installing technology to support business processes but
  ...are also using technology to shape the business.
The strategic alignment model of Henderson and Venkatraman (1993) combines the two dimensions:

- Aligning business and IT (functional integration)
- Aligning internal and external drivers (strategic fit)

Two principle approaches for alignment:

- Business-driven: take the business strategy as the starting point and derive the IT infrastructure
- IT driven: focus on IT as an enabler; start from IT strategy deriving organisational infrastructure

(Henderson & Venkatraman 1993)
Strategic Alignment Model – Detailed View

(Henderson & Venkatraman 1993)
# Four Dominant Strategic Alignment Perspectives

<table>
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<tr>
<th>Perspective</th>
<th>Driver</th>
<th>Role of top management</th>
<th>Role of IT management</th>
<th>Performance criteria</th>
<th>Alignment approach</th>
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<tbody>
<tr>
<td>Strategy execution</td>
<td>Business strategy</td>
<td>Strategy formulator</td>
<td>Strategy implementer</td>
<td>Cost/service center</td>
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<td>Technology transformation</td>
<td>Business strategy</td>
<td>Technology visionary</td>
<td>Technology architect</td>
<td>Technology leadership</td>
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<tr>
<td>Competitive potential</td>
<td>IT strategy</td>
<td>Business visionary</td>
<td>Catalyst</td>
<td>Business leadership</td>
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<tr>
<td>Service level</td>
<td>IT strategy</td>
<td>Prioritizer</td>
<td>Executive leadership</td>
<td>Customer satisfaction</td>
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</table>
Four Dominant Alignment Perspectives: I) Business Strategy as the Driver

Strategy Execution Alignment

Technology Transformation Alignment

(Henderson & Venkatraman 1993)
Four Dominant Alignment Perspectives: II) IT Strategy as the Driver

Competitive Potential Alignment

Service Level Alignment

(Henderson & Venkatraman 1993)
Motivation: Changing Role of IT
Technology Trends

- Mobility
- Big Data
- Cloud Computing
- The Internet of Things
- Artificial Intelligence
Digital Economy

Marketing

Apps

Social Media

Smart Home

Industry 4.0

Energy Sector
Drivers for Digital Revolution

Digital Information

Mobile Devices/Connectivity

networks

Automation
Digital Products: Change of Business Models

Vinyl disc → Compact Disc → Download → Streaming

Influencers:

Digitalisation: medium for storage and transport

• Device has storage
• Nework (no media necessary for transport)

Always online
Digitalisation of Products
Digital products shift logistics into the digital world

Internet of Things, robots, drones and self-driving cars can change the game of physical logistics
Physical Products: Sharing Economy

Sharing economy is about renting or borrowing. Everything will become “on demand”.

I NEED... YOU HAVE...

EFFICIENCY

TRUST
Physical Products: Shared Economy

- Broker between user and supplier
  - Uber has no cars and no drivers
  - Airbnb has no apartments
  - Sharoo has no cars
- Platforms
  - network
  - reviews
Industry 4.0

1st Industrial Revolution
Mechanization

2nd Industrial Revolution
Mass production

3rd Industrial Revolution
Automatation

4th Industrial Revolution
Cyber-Physical Systems

Connecting machines and intelligent products
Internet of Things

Virtual representation of identifiable physical objects

By 2020, the number of devices connected to the internet is expected to exceed 40 Billion
Personalisation

Customer Segmentation

Sgemeents of One
Mass Customization

mass production of individually customized goods and services, e.g. car industry, electronics (PC), clothes, furniture
Role of IT Enterprises

**Strategic**
- IT as an enabler of new business models
- IT as a contributor to value proposition

**Operative**
- IT is an asset
- IT is cost factor

Shaping new business models
Achieving effectiveness
Raising efficiency
cost reduction

Source: (Hanschke 2013, S. 27ff)
N. Tschichold, ELCA
The Role of IT

"IT is a cost factor"
Cost cutting

"IT is an asset"
Raising efficiency

"IT is a business partner"
Achieving effectiveness
Actively involved in shaping of new business models

"IT is a enabler"

(Hanschke 2010, p. 12)
The Different Roles of IT - Portfolio and IT Controlling

<table>
<thead>
<tr>
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<th>Cost factor</th>
<th>Asset</th>
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<th>Enabler</th>
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<td>Cost factor</td>
<td>Asset</td>
<td>Business partner</td>
<td>Enabler</td>
<td></td>
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<tr>
<td><strong>Product and service portfolio</strong></td>
<td>Commodity IT, such as provision of peripheral equipment and operating standard software</td>
<td>Securing business operation through reliable, cost-effective basic IT</td>
<td>Business-relevant IT products e.g. focused on business processes or the enterprise’s products</td>
<td>Impetus for business through new technologies and business-relevant IT products</td>
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<td></td>
<td>Fulfilment of security and compliance requirements</td>
<td>Reliable, cost-effective basic IT</td>
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**IT controlling focuses mainly on...**
- Cost reduction
  - Cost/benefit and operational excellence
  - Benchmarks
- Contribution to value-added and cost/benefit
- Contribution to value-added and strategy, and cost/benefit

(Hanschke 2010, p. 14)
Integration of Business and IT

- The higher the role of IT, the more are business planning and IT planning intermeshed

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<td>Reactive planning</td>
<td>Operational IT planning based on business planning</td>
<td>Business planning and IT planning intermeshed</td>
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<td></td>
<td>Decision on outsourcing or in-sourcing</td>
<td>Transparency of IT landscape Technical standardisation</td>
<td>Strategic planning of IT landscape</td>
<td>Anticipatory planning, e.g. future scenarios</td>
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*IT planning focuses mainly on...*

(Hanschke 2010, p. 14)
Strategic Importance of IT

- **@** IT as an enabler of new business models
- **📈** IT as a contributor to value proposition
- **🔧** IT is an asset
- **$** IT is cost factor

Source: (Hanschke 2013, S. 27ff)
N. Tschichold, ELCA
New: Digital Business Strategy
"There are no IT projects, only business projects."
(Paul Coby, CIO of British Airways)
New: Digital Business Strategy

- Digital technologies are fundamentally transforming business strategies, business processes, capabilities, products and services

- Digital Business Strategy: Fusion between IT strategy and business strategy

(Bharadwaj et al. 2013)
Digital Business Strategy

- Digital business strategy is an organizational strategy formulated and executed by leveraging digital resources to create differential value.

- Overcoming the view of IT strategy as a function following business strategy

- Recognizing the pervasiveness of digital resources in other functional areas such as operations, purchasing, supply chain, and marketing

- Explicitly linking digital business strategy to creating differential business value (…) drive competitive advantage and strategic differentiation

(Bharadwaj et al. 2013)
Drivers of the Four Key Themes of Digital Business Strategy

Key External Digital Trends
- Pervasive Connectivity
- Information Abundance
- Global Supply Chains
- Improved Price/Performance of IT
- Growth of Cloud Computing
- Emergence of Big Data

Key Organizational Shifts
- Limitations of Traditional Business Models
- Trans-functional Role for IT
- New Mandate for IT and the CIO
- Increased Familiarity with IT

Scope of Digital Business Strategy
- Scale of Digital Business Strategy
- Speed of Decision Making
- Sources of Value Creation and Capture

Performance

(Bharadwaj et al. 2013)