Enterprise Architecture – Introduction
Business-IT Alignment and Agility

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Chapter 1: Business-IT Alignment and Agility

- Motivation: Strategic IT Management
- Business-IT Alignment
- Agility
- Approach: Enterprise Architecture
A Common Situation

Heterogeneous and complex IT landscapes: patchwork of systems, processes, technologies etc.

(Hanschke 2010, p. 1f)
IT Management

Strategic management of IT

Strategic IT planning
- IT strategy
- technical standardisation
- strategic objectives
- IT landscape management
- target landscape

Enterprise Architecture

Strategic IT control
- strategic objectives
- to-be & structures
- Strategic toolkit for IT control
- as-is values indicators

Operative management of IT

IT organisation

(Hanschke 2010, p. 3)
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)
Work-Centered Analysis

- Value creation: processes realise products and services for a customer

- Processes...
  - ... are executed by people (participants)
  - ... use, create and communicate information
  - ... apply information technology

- The two-headed arrows imply that the elements should be in balance
  - Change in one element usually requires change in other elements

- Mutual dependencies
  - products and services are appropriate for customers and customers demand services
  - business processes are appropriate for producing the products and services
  - participants, information and technology are appropriate for the business processes – and vice versa

(Alter 2002, p. 46f)
Alignment of Business and Information Technology (IT)

- Almost all processes have become IT reliant, if not fully automated

- The alignment of business and IT has to deal with problems like the following:
  - What happens to IT if the company has to react on market requirements?
  - What IT innovations are needed to remain competitive?
  - How do changes in the IT affect the business?
Strategic Alignment of IT

(Hanschke 2010, p. 11)
Alignment of Business and IT

- **Top-down: Business as driver**
  - Business defines requirements for IT
  - Use IT effectively to achieve business objectives

- **Bottom-up: IT as driver**
  - IT as an enabler for new ways of making business
Mutual Dependencies between Business and IT

- Change in the enterprise is usually a compromise, e.g.
  - Business requirements cannot be fully satisfied, because
    - there are *already systems available* that cannot be replaced (reasons can be costs or other dependencies)
    - standards set by IT strategy avoid unmanageable varieties and ensure reliability
    - centralisation reduces costs at the expense of specialisation
  - Chances of IT innovations cannot be implemented, because of
    - missing skills of employees
    - business processes or organisation are not appropriate
    - incompatibility with business strategy
Drivers for Business-IT Alignment

■ Internal Drivers
  ♦ Business Process Management / Optimisation
  ♦ Reorganisation
  ♦ Migration of Information Systems
  ♦ Changes in IT infrastructure

■ External Drivers
  ♦ Pressures from
    ● customers (new integrated services, individual products, …)
    ● suppliers and other business partners
    ● regulatory bodies (e.g. SOX, Basel II, and laws in general)
  ♦ Market Opportunities, new business models
  ♦ Innovations
Deriving IT Goals

(Hanschke 2010, p. 23)
Strategic Alignment Model

- Two dimensions
  - Functional Integration: Aligning business and IT
  - Strategic Fit: Aligning internal and external drivers

- Two principle approaches for alignment:
  - top-down: take the business strategy as the starting point and derive the IT infrastructure
  - bottom-up: focus on IT as an enabler: start from IT strategy deriving organisational infrastructure

- Four dominant perspectives to tackle alignment (see figure)

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

(Henderson & Venkatraman 1993)
Four Dominant Alignment Perspectives:  
I) Business Strategy as the Driver

Strategy Execution Alignment  
Technology Transformation Alignment

(Henderson & Venkatraman 1993)
Four Dominant Alignment Perspectives:

1) IT Strategy as the Driver

Competitive Potential Alignment

Service Level Alignment

(Henderson & Venkatraman 1993)
### Key Issues and management challenges

(Henderson & Venkatraman 1993)

<table>
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<th>Characteristics</th>
<th>Traditional Linkage</th>
<th>Strategic Alignment</th>
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<td>Predominant focus of information systems and technology</td>
<td>Internal I/S function and organization</td>
<td>Internal I/S function and organization and external I/T marketplace</td>
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<td>Management objectives</td>
<td>Ensuring that I/S activities are linked to business requirements</td>
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<td>I/S executive roles</td>
<td>Line leadership and I/S functional support</td>
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<td>Dominant criteria for performance assessment</td>
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Demand for 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.
Increasingly dynamic environment: Challenges confronting an Enterprise

- Achieving Competitive Advantage
- New laws and regulations
- Mergers and Acquisition
- Compliance
- New business models
- Corporate Governance
- Service improvement
- Collaboration/Integration
- Efficiency
- Outsourcing
- Shifting powers in the value chain
- Novel technologies
- Business Process

Business-IT alignment has to be adapted to constant changes: → Agility
Challenge: Agility

- Agility is the ability of enterprises to
  - quickly adapt themselves to changes in their environment and
  - seize opportunities as they avail themselves

- Agility has become a business requirement in many lines of business, e.g.
  - car industry (new model within few months instead of 6 years)
  - banking industry (time to market for new product in few weeks instead of 9-12 months)
Problems for Agility in Today’s Enterprises

In practice, enterprises see themselves hampered in their ability to change in several ways:

- being uninformed about their own products, services, capabilities, internal structures
- traditionally, organisations were designed with efficiency and effectiveness in mind rather than agility
- no common understanding and governance of key data resources
- a plethora of legacy applications and infrastructures
- duplicated functionality in terms of people and/or technology
- interwoven and unclear responsibilities
- organisational silos, self-contained business units who operate on their own, with no sharing of data
- silo applications, i.e. self-contained and isolated applications, which only provide functionality to a specific business process

Enterprise Architecture: Knowledge about the Enterprise

- Any organisation benefits from having a clear understanding of its
  - structure, products, operations, technology etc.
  - the relations tying these together and
  - relations connecting the organisation to its surroundings
    (Lankhorst et al. 2005, p. 6)

- Transparency is a key input for strategic IT control
  - Clarity on the interdependencies that exist in the landscape
  - A clear statement of progress made toward goals
  - The extent to which planning and business requirements have been enacted
    (Hanschke 2010, p. 3)
**Enterprise Architecture**

- **An Enterprise Architecture** is a coherent whole of principles, methods, and models that are used in the design and realisation of an enterprise's organisational structure, business processes, information systems, and infrastructure.

- An Enterprise Architecture contains all *relevant*
  - Business structures
  - IT structures
  - and their relationships

- Enterprise Architecture gives an overall view on the enterprise
  - merge distributed information from various organisational entities and projects into a whole
  - show the interconnectedness and dependencies between these information

- Show which information systems contribute to which business processes.
Objective of Enterprise Architecture

- Ensuring alignment of business strategy and IT investments
- Describing the interaction between business and information technology
- Making dependencies and implications of changes in business and IT visible
- Supporting communication between different stakeholders by appropriate models