Modeling Business Architecture

Knut Hinkelmann
Business Architecture

Business Architecture
Data Architecture
Application Architecture
Technology Architecture
Modeling Business Architecture

■ The Business Architecture comprises all the structures and relationships which are essential for the business.

■ It should help answer questions like:
  ♦ What are the *business goals*? How are they to be accomplished? *(Business Motivation)*
  ♦ Which *business processes* or *products* are critical for the company or for a particular environment in which it operates?
  ♦ Which *business process* is responsible for which *business objects*?
  ♦ Which *organisational structures* are relevant for the business? Which *business processes* are assigned to which *business units*?
  ♦ Which *business objects* are used in which manner (reading, creating, modifying) by which *business processes* or *business functions*?
  ♦ How is the business changing in which business segment? Which *products, business processes or functionality* will be needed in future? *(Hanschke 2010, p. 70f)*
Building Blocks of the Business Architecture

The Business Architecture contains building blocks like

- **Business processes (HOW)**: sequence of logically connected activities or sub-processes.

- **Business functions (HOW)**: distinct, cohesive set of business functionality expressing the enterprise's capabilities (e.g. “customer relationship management”).

- **Products (WHAT)**: outcome or deliverable of an enterprise’s service or process; can be either material or immaterial (services) and can consist of subproducts.

- **Business units (WHO)**: logical or structural unit of the enterprise

- **Business objects (WHAT)**: real-world entity which encapsulates some part of the business activity of an enterprise (e.g. customers, for example, products or orders).

(Hanschke 2010, p. 71f)
Business Process Models and ArchiMate

- An ArchiMate Model is an overall representation of an Enterprise Architecture
- To model details of elements (e.g. conditional flows and events of a process) one can use specific models
- Example: Modeling the flow of a process in BPMN
Referencing Detail Models from the Business Perspective of the Zachman Framework

- Data models
- Process maps
- Business motivation models
- Organisation models
- Process maps/business process models
Relationships

■ Dependencies can exist between elements of the business architecture
  ♦ Example: a business unit is responsible for the business object "customer" and maintain customer data in the business process "customer management"

■ Dependencies can be represented in different ways and on different levels of granularity
  ♦ Landscape diagrams representing dependencies between three building blocks
  ♦ Mapping tables present functional dependencies between two building blocks
  ♦ Business Conceptual Model: References between models and model elements

(Hanschke 2010, p. 71f)
Example: Business Landscape Diagramm

In this business landscape diagramm
- business functions (cells of the matrix) are assigned to
- Business Processes (x-axis)
- Organisational Units (y-axis)
This mapping table assigns business objects to business processes. The mnemonic “CRUD” summarises the ways in which business objects are used in business processes.

<table>
<thead>
<tr>
<th>Business objects</th>
<th>BO1</th>
<th>BO2</th>
<th>BO3</th>
<th>BO4</th>
<th>BO5</th>
<th>BO6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales order</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production order</td>
<td></td>
<td>CUD</td>
<td>CUD</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factory order</td>
<td></td>
<td></td>
<td>CUD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock location</td>
<td></td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Goods receipt doc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Storekeeper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R</td>
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<tr>
<td>...</td>
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<td></td>
</tr>
</tbody>
</table>

**Business processes**: Disposition, Production management, Factory planning, Resource planning, ...

**CRUD**: Create, Update, Delete

**R**: Read
Horizontal Relations between Processes and other Aspects on the Business Perspective

- Process maps
- Data models
- Process maps/business process models
- Business motivation models
- Organisation models

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Models of the Business Architecture

- We will learn how to model
  - Business Motivation (OMG Business Motivation Model)
  - Business Processes (Process maps, BPMN)
  - Organisation
  - Data/Document (UML Class Diagrams)
  - Products (UML Class Diagrams)
  - Business Rules
  - Applications
  and the relations between them
Modeling Business Architecture

- Detailed models can
  - be related to the cells of the Zachman Framework
  - represent details of elements in an ArchiMate model

Overview: ArchiMate

- Detailed Models
  - Process Map
  - BPMN
  - Organisation Model
  - Business Rules
  - Data/Documents

Overview: Zachman

Business Motivation

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Example Enterprises

- The modeling of Business Motivation Model, Business Rules and Business Process are explained with examples from two enterprises.

- **Mykonos Dining Corp. and Cora Group**
  - *Mykonos Dining Corp.* is a company which acquired *Cora Group*, a company which owns several restaurants in Washington DC.
  - Cora’s flagship restaurants is *Portia* which has the mission of cooking meals fresh.
  - *Nola* is another restaurant of Cora Group that just opened.
  - A third restaurant in the Cora Group is *Adalina*, a fairly new restaurant with only eight tables.

- **EU-Rent**
  - *EU-Rent* is a world-wide operating car rental company. Customers are individuals or companies. Different models of car are offered, organized into groups.