



ERCIS

European
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Management Cybernetics and Business Process Management

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Enterprise Architecture

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Enterprise Architecture (EA) and Business Process Management (BPM) ■

- **Models for the design, development and management of enterprise architecture**
 - Zachman Framework
 - xEAFs (X stands for Treasury, Federal, Department of Defense)
 - Semantic Object Model (SOM)
 - **Common elements**
 - Strategic perspective is the starting point of the EA development
 - Business process perspective implements strategy
- **Strong analogy to BPM**

Agenda - Different points of view on BPM ■

- **Citations of the “who is who“**
- **Structuring BPM**
 - System-oriented management approach
 - Static view on BPM
 - Dynamic view on BPM
- **Approaches for Business Process Change**
 - The holistic approach of Maturity Models
 - Process oriented Organization
 - Business Process oriented IS design

Diverse points of view on BPM

Citations of the Who is Who

„[BPM] can be considered as an extension of classical **Workflow Management (WFM)**.“

van der Aalst, ter Hofstede, Weske (2003)

„[We use BPM] to refer to how business **managers organize and control processes**. When we want to refer [...] to automated systems we will use the term [...] BPMS.“

Paul Harmon (2007)

„Don't Automate – Oliberate

We should „reengineer“ our business: use the power of modern IT to **radically redesign** our business processes [...].“

Michael Hammer (1990)

“Extended” Scope of BPM ■

„The basic idea of Business Reengineering is to shift the **enterprise’s functional department structure** to one oriented on processes.“

Osterloh, Frost (2006)

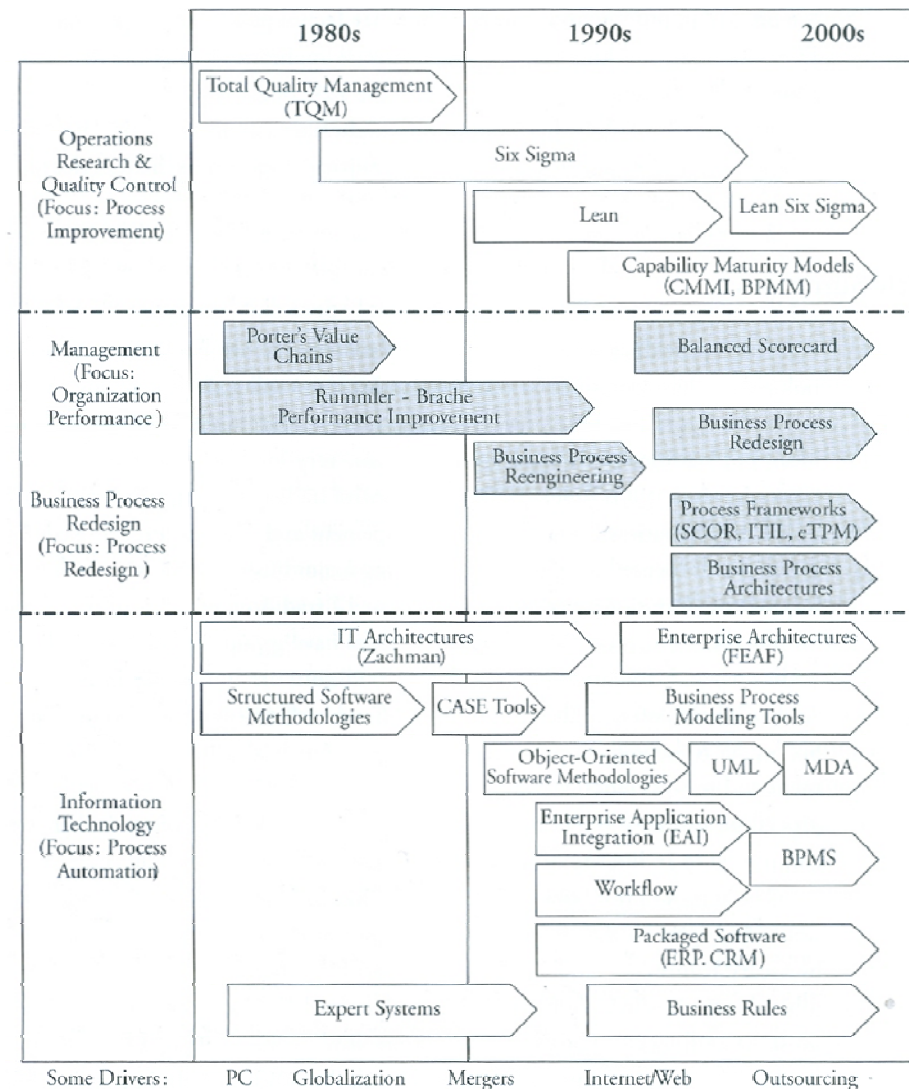
„[...] Process innovation encompasses the implementation of change in all its complex **technological, human, and organizational dimensions.**“

Davenport (1993)

„The paramount task of Continuous Process Improvement is the **continuous, incremental improvement** of business processes.“

Becker, Kugeler, Rosemann (2008)

The history of BPM ■



Diverse points of view on BPM

Structuring BPM

System-oriented Management Approach

„Management is the Design, Control and Development of Social Institutions“

Ulrich (2001)

Design

- Creation of an institution that is goal oriented and viable
- Design model of a yet non-existent, to be created reality
- Creation of control systems

Development

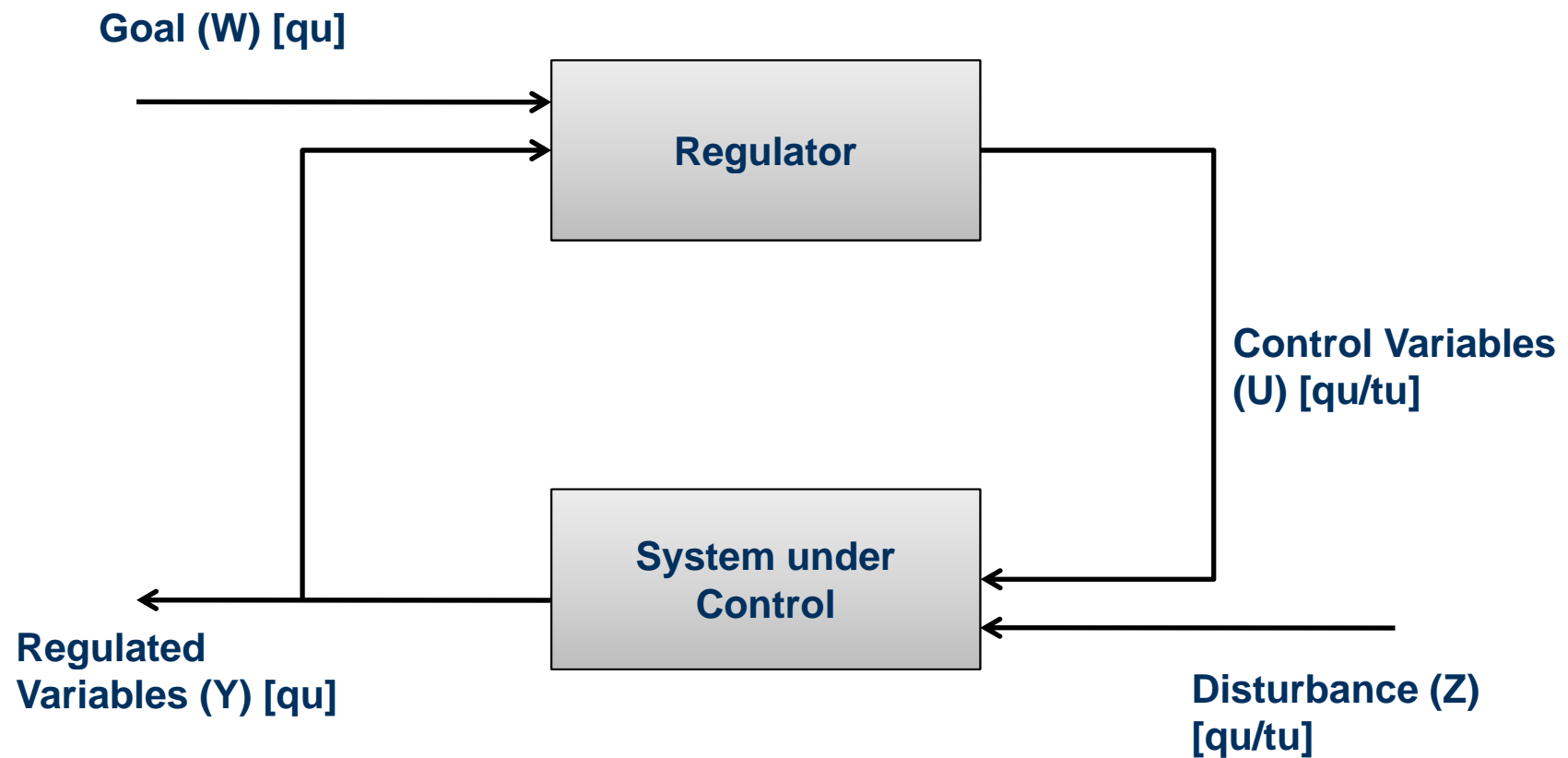
- Assurance of steadiness of all design and control processes
- Goal of an evolutionary adjustment of a company to its environment

Control

- Definition of goals and specification, triggering and monitoring of goal oriented activities within the system
- Viewpoint of a control cycle from Management Cybernetics

Law of Requisite Variety by Ashby

„The control problem can only be resolved, if there is a balance in variety of the controlling and controlled system.“



- From the deviance of W and Y the regulator generates U
- The external disturbance Z is to be compensated by U

„The central problem of cybernetics is the question how systems are able to cope with its environmental complexity [..]. The answer lies in the structure or organization of the observed systems. “

Malik 1992

- **Stafford Beer**

- **Viable System Model (VSM)**



- **Jay Forrester**

- **System Dynamics (SD)**

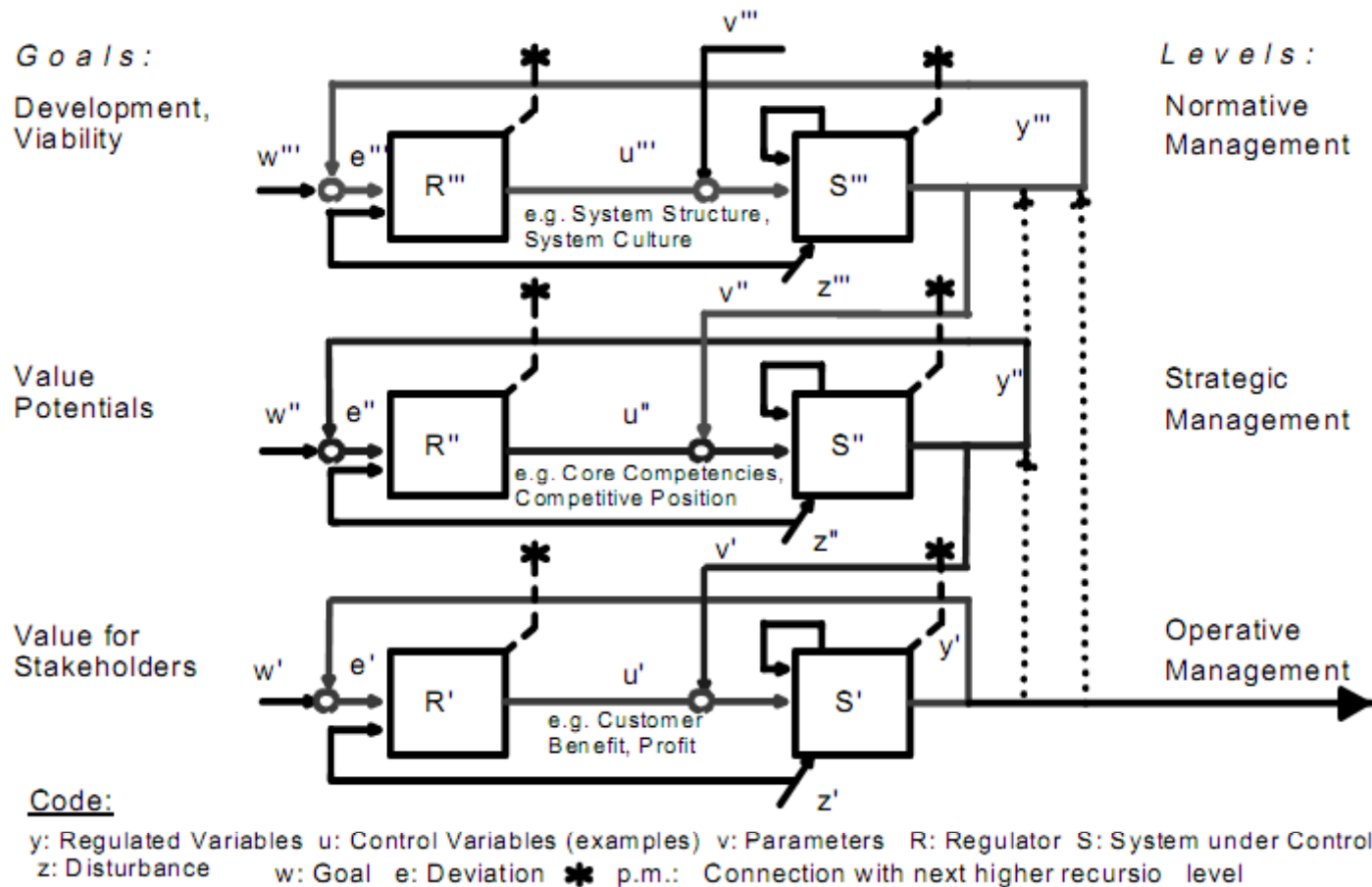


- **Markus Schwaninger**

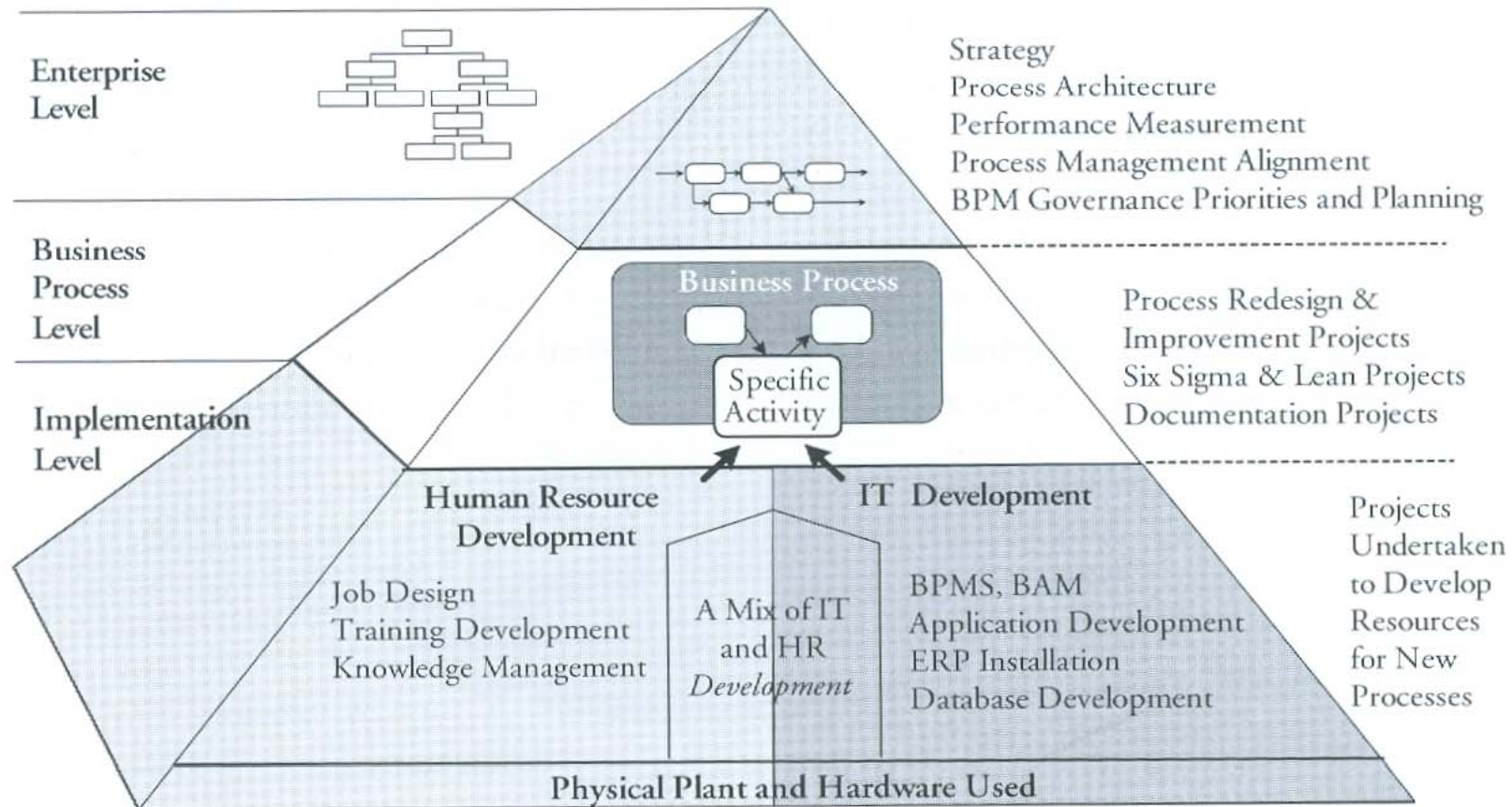
- **Model of Systemic Control (MSC)**



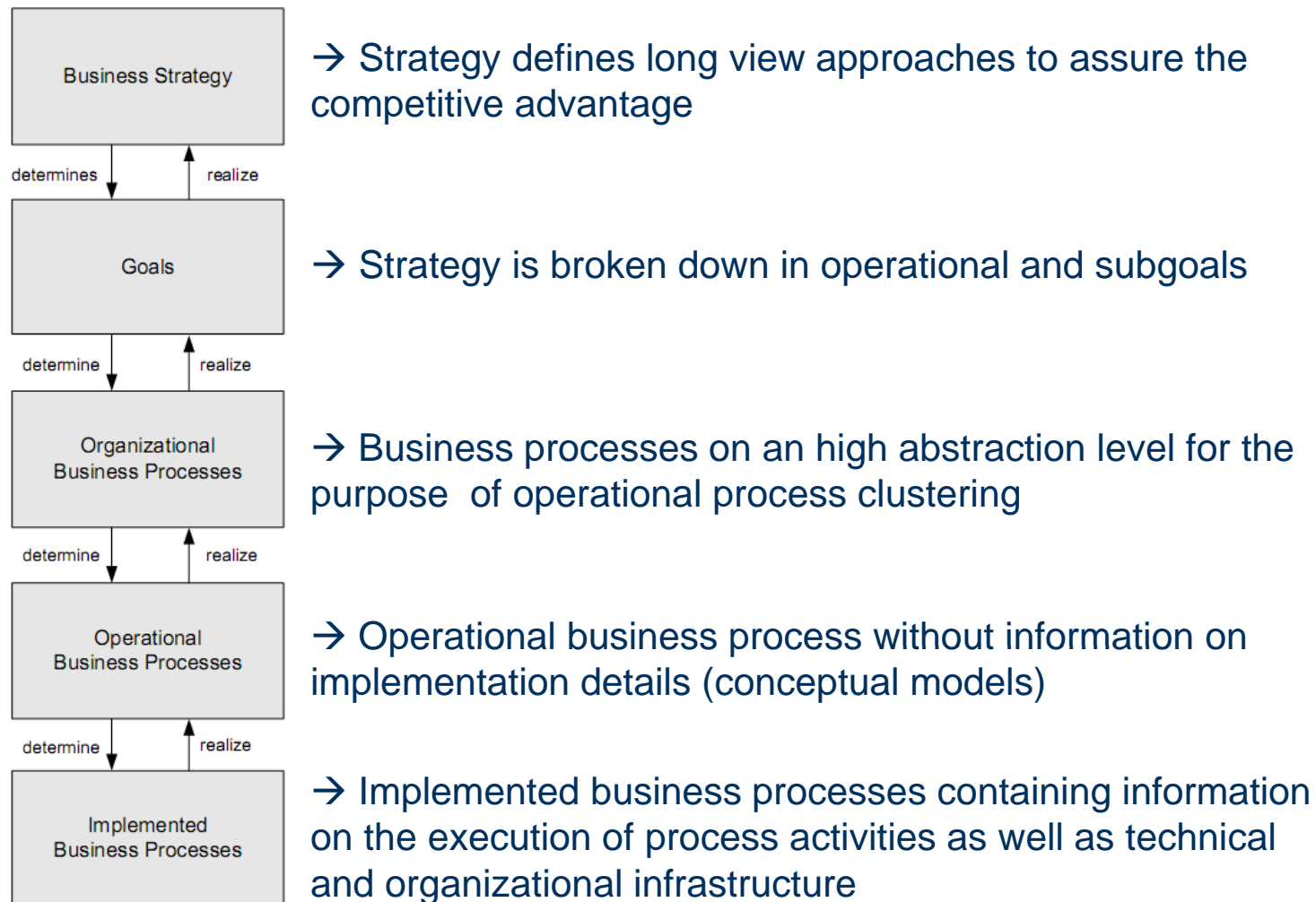
Integral Management as a Multi-Level Control Cycle ■



Static view on BPM - „Level of concerns“



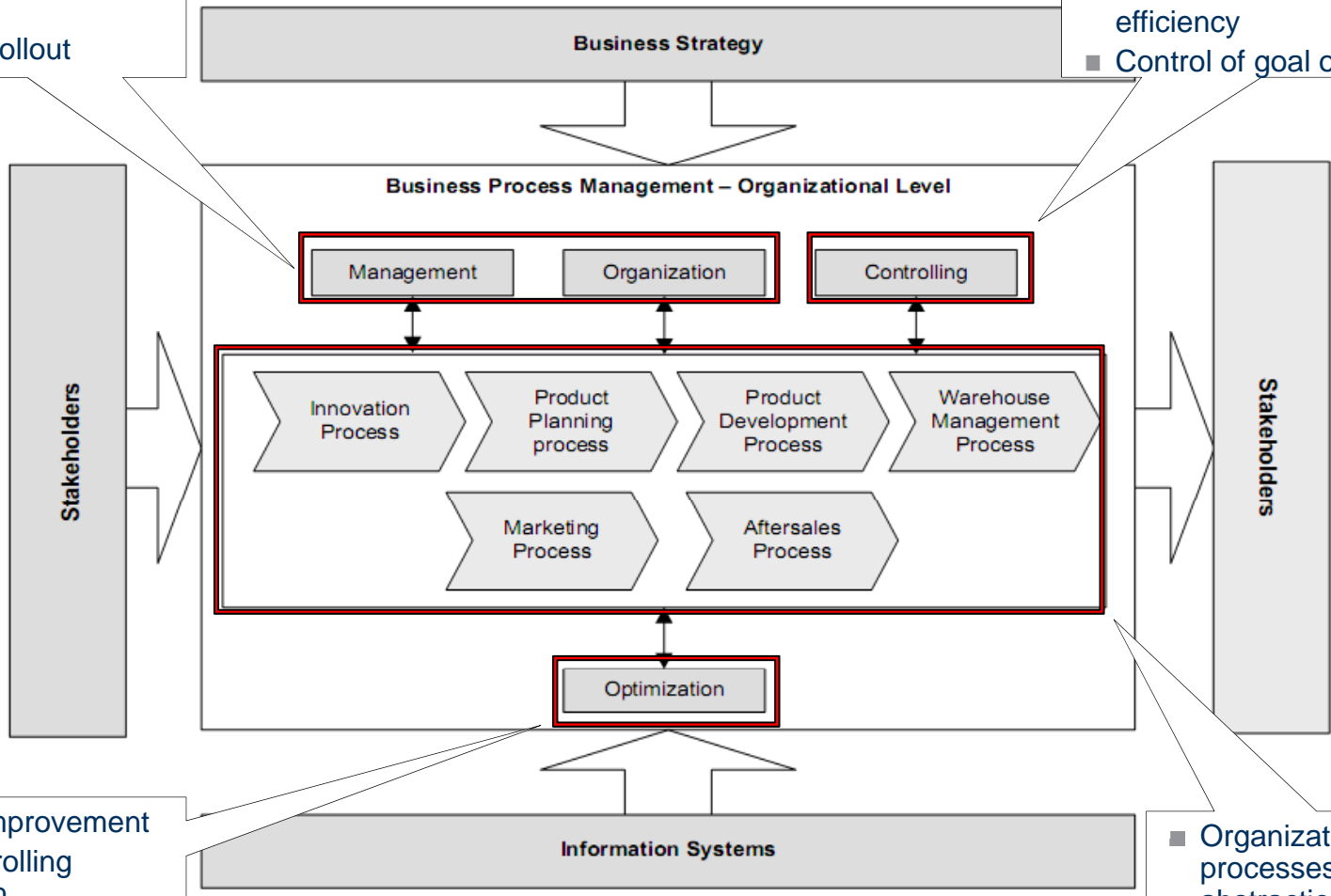
Process level extension ■



Process Architecture

- Identification of business processes
- Role and responsibility definition
- Process-Rollout

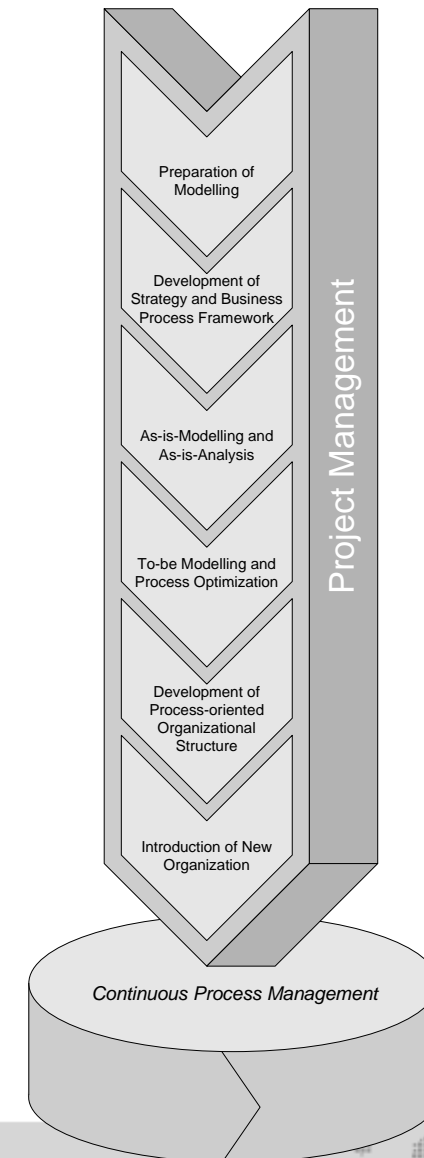
- Measurement of processes' efficiency
- Control of goal orientation



- Process improvement
- Uses controlling information

- Organizational processes on a high abstraction level
- Representation as text or value chain diagrams

Procedure of a Process-oriented Reorganization Project ■



Business Process Reengineering

„Oliberate, don't automate“ – „Reengineering the Corporation“

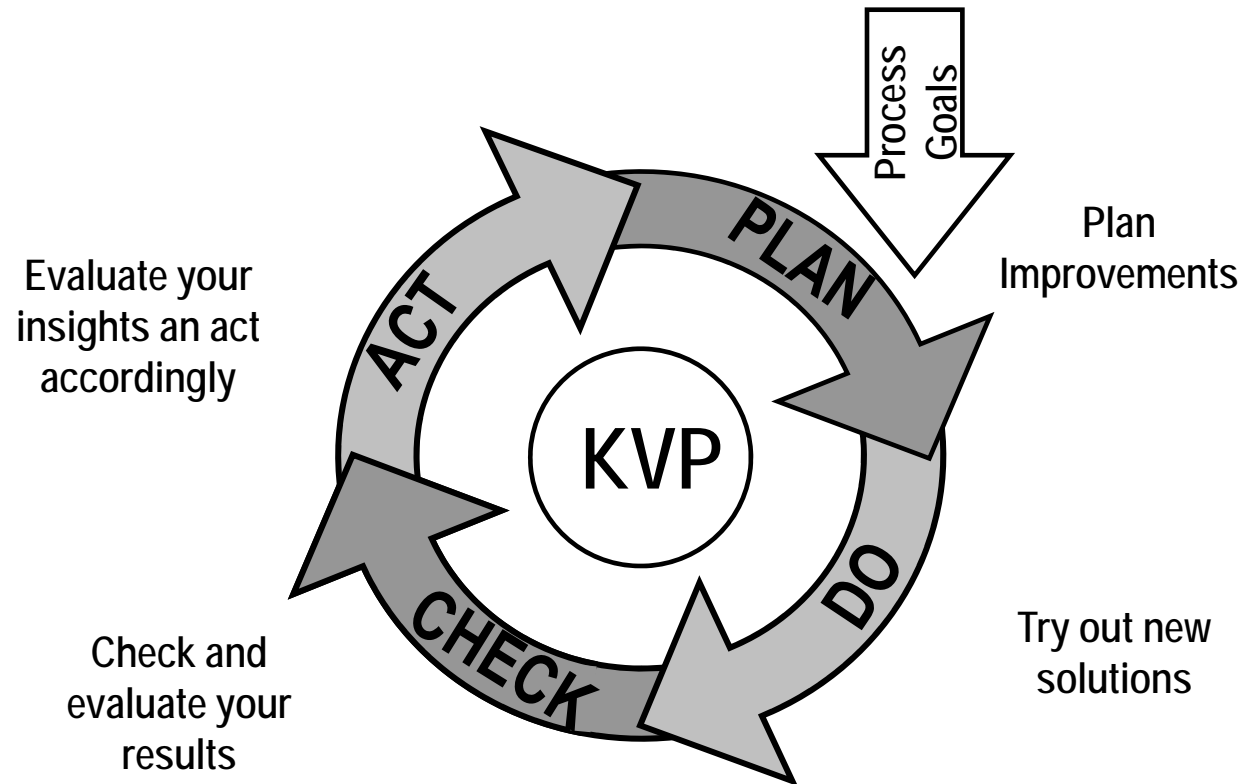
- Fundamental Rethinking
- Radical Redesign
- Processes replace functional structures
- Dramatic Improvements

Business Process Redesign/Improvement

- Gradual changes
- Existent Processes as starting point
- Consideration of feasibility and acceptance

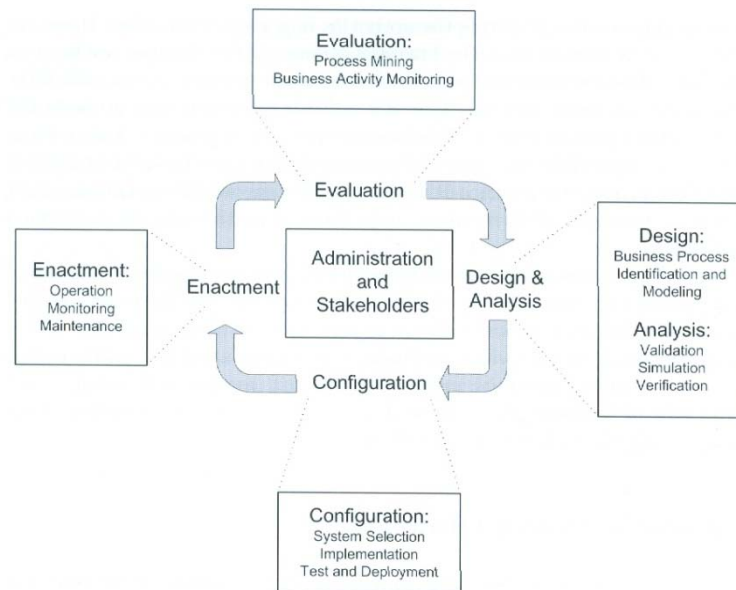
→ IT as enabler in both scenarios

Continuous Process Improvement ■

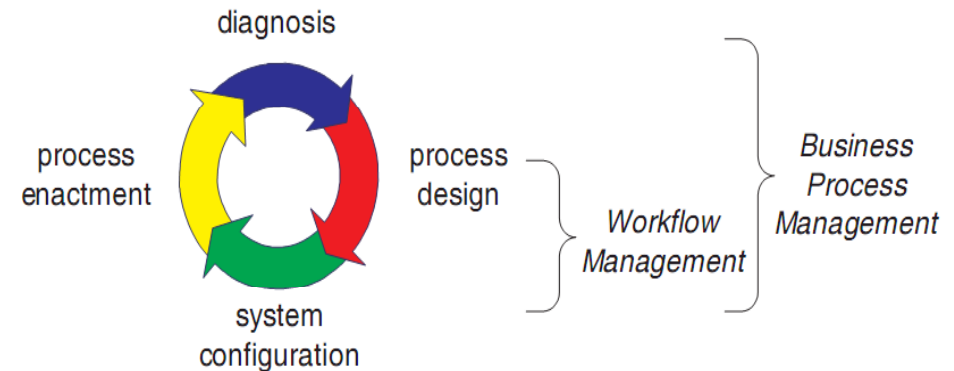


„Continuous Process Management is about [...] the permanent, incremental improvement of business processes.“

Neumann et al. (2006)



Weske (2007)



Van der Aalst et al. (2003)

- Orientation on Workflow Management
- New, technology base approaches
 - Process Mining
 - Business Activity Monitoring (Caution! Buzz Alarm)

Diverse viewpoints on BPM

Approaches for Business Process Change

The Holistic Approach – Maturity Models ■

„Remember the key point of such reference models is to help you understand **where you are today** and to assist in developing a **road map** to help you get **where you want to go**.

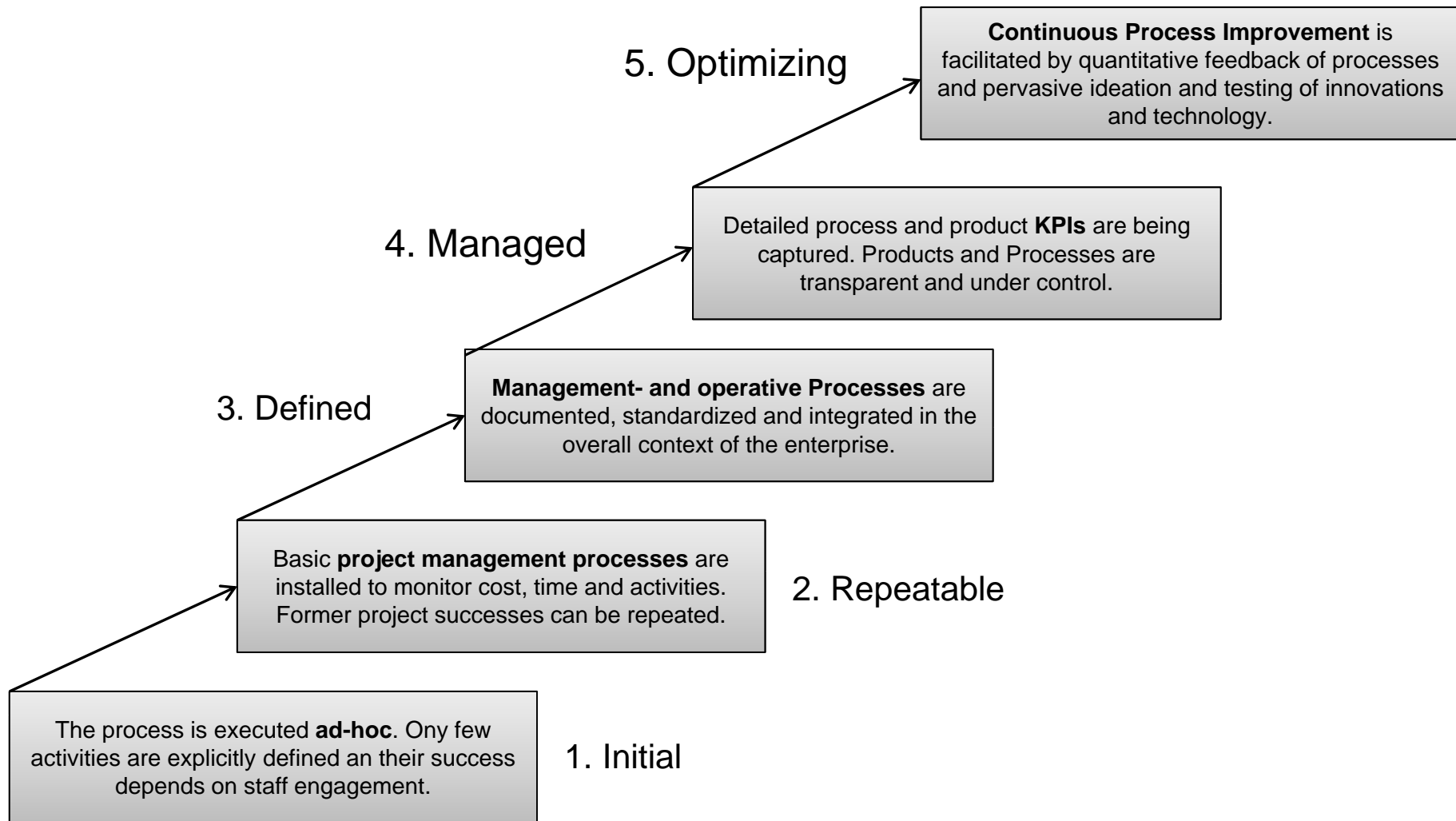
No one is suggesting that all companies should attempt to follow the model in **the same exact way**.“

Paul Harmon (2007)

„In general, the **mature organization** follows a disciplined process consistently because all of the **participants understand** the value of doing so, and the necessary infrastructure exists to support the process“

Software Engineering Institute (SEI) (1995)

Maturity Levels of the Capability Maturity Model (CMM) ■



■ Goal of Organizational Design

Best possible fit between system and environment, i.e. develop an organizational structure that is in accordance with the internal situation and market exigency

■ Internal influences

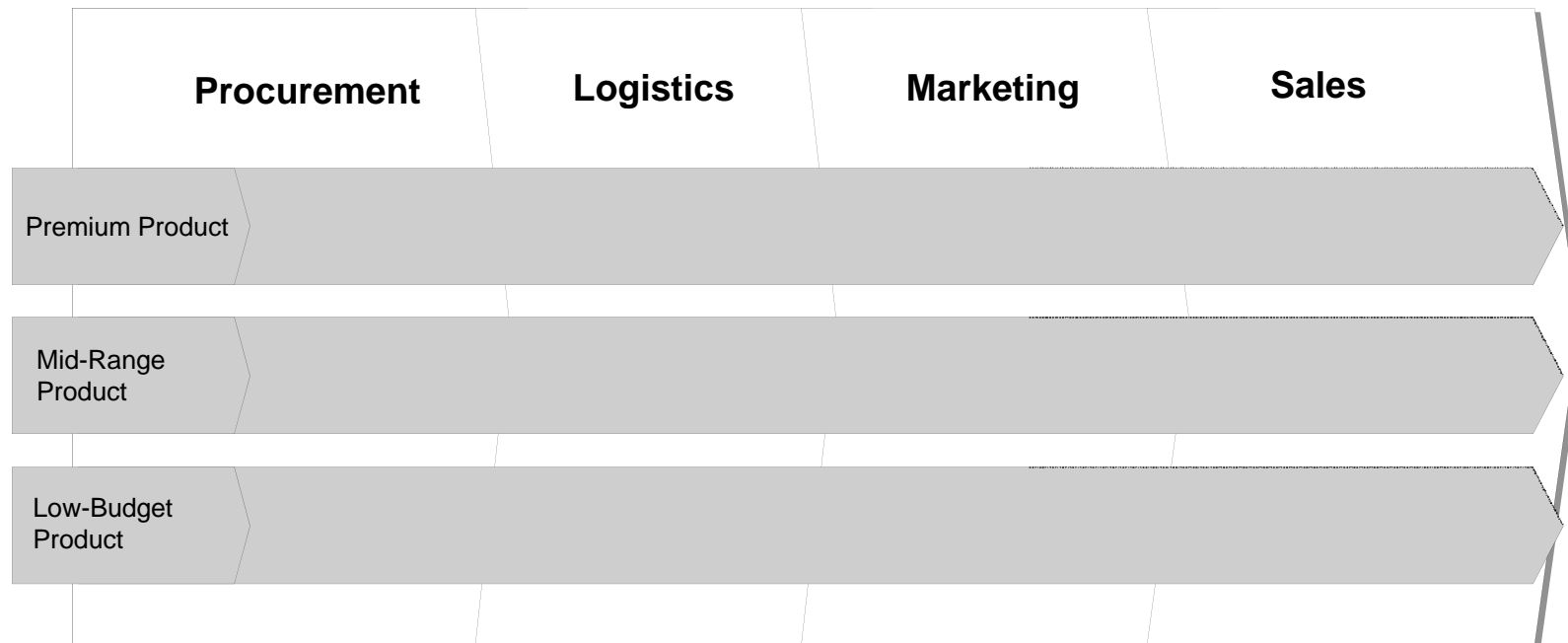
- Enterprise strategy
- Information and production technology
- Enterprise culture

■ External influences

- Market
- Society
- Form of government

Process-oriented Organization ■

- **Object oriented design of organizational units**
- **Allocation of organizational functions to objects**
- **Appointment of a process owner**



Process-oriented Reorganization – Goals & Challenges ■

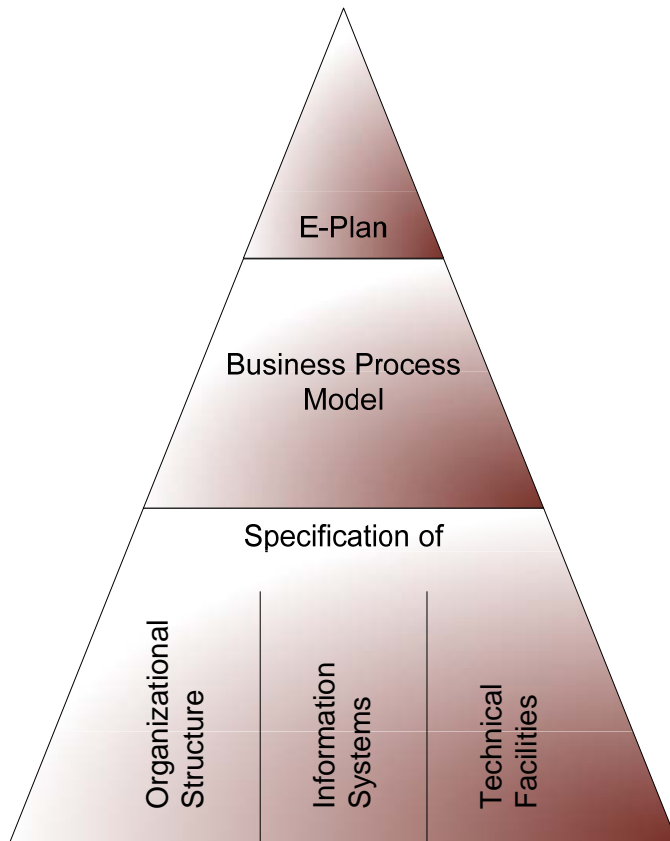
■ Goal:

- Creation of a more efficient organization
- Goal attainment has to be measurable

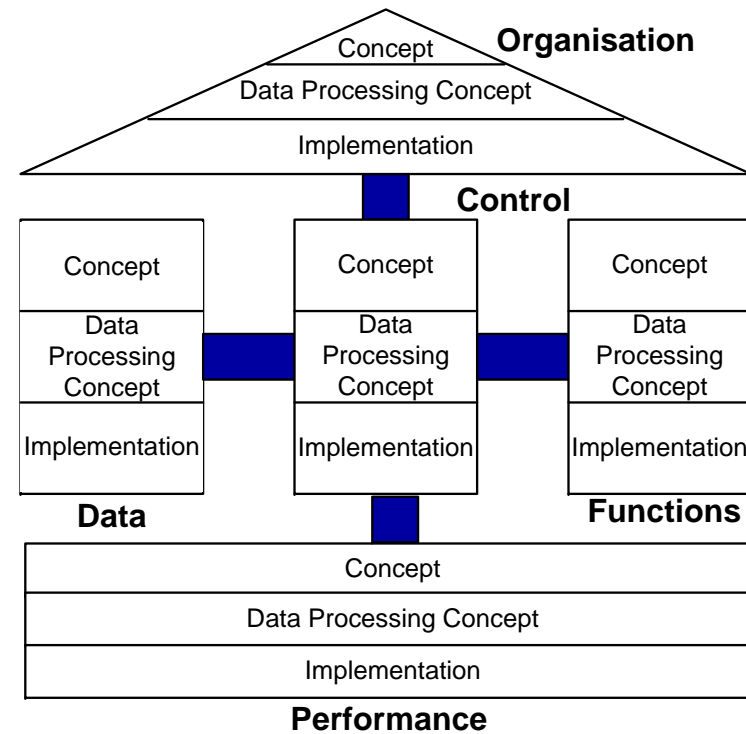
■ Challenges:

- Potential of efficiency enhancement has to be higher than expenses for the reorganization project
- Efficiency enhancement potential has to be exhausted
- **Organizational change has to be conducted under the premise of existent (functional) structures**

Business Process oriented IS design ■



Ferstl, Sinz (2001)



Scheer (2002) ARIS



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Grundlagen des Business Process Management

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Enterprise Architecture

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Model of Systemic Control ■

