

BUSINESS PROCESS MANAGEMENT

BASIC TERMS AND METHODOLOGIES

BUSINESS PROCESS MANAGEMENT



RECAP

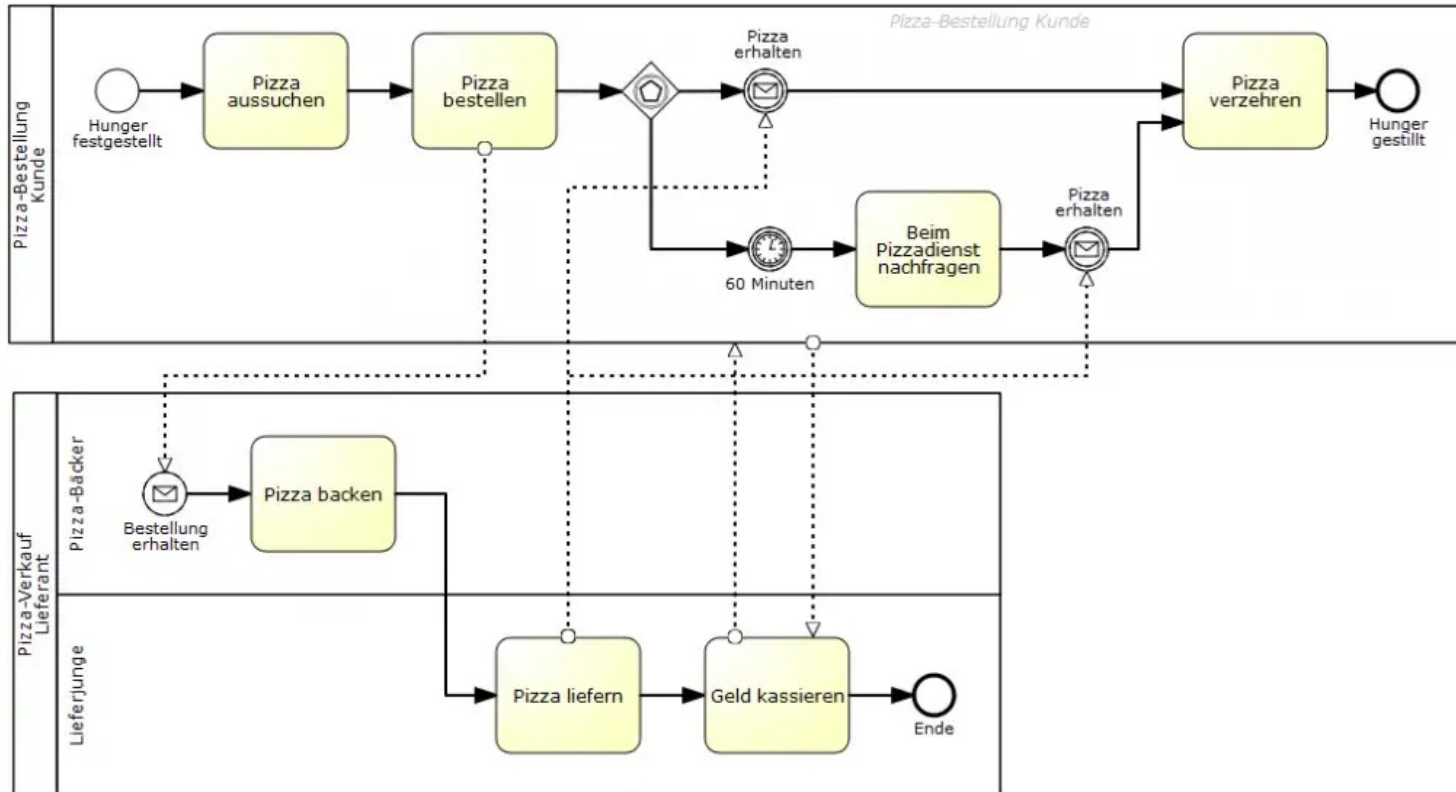
- “A **business process** consists of a set of activities that are performed in coordination in an organizational and technical environment. These activities jointly realize a business goal.”

[Weske 2007, p. 5]

BUSINESS PROCESS MANAGEMENT



RECAP



BUSINESS PROCESS MANAGEMENT



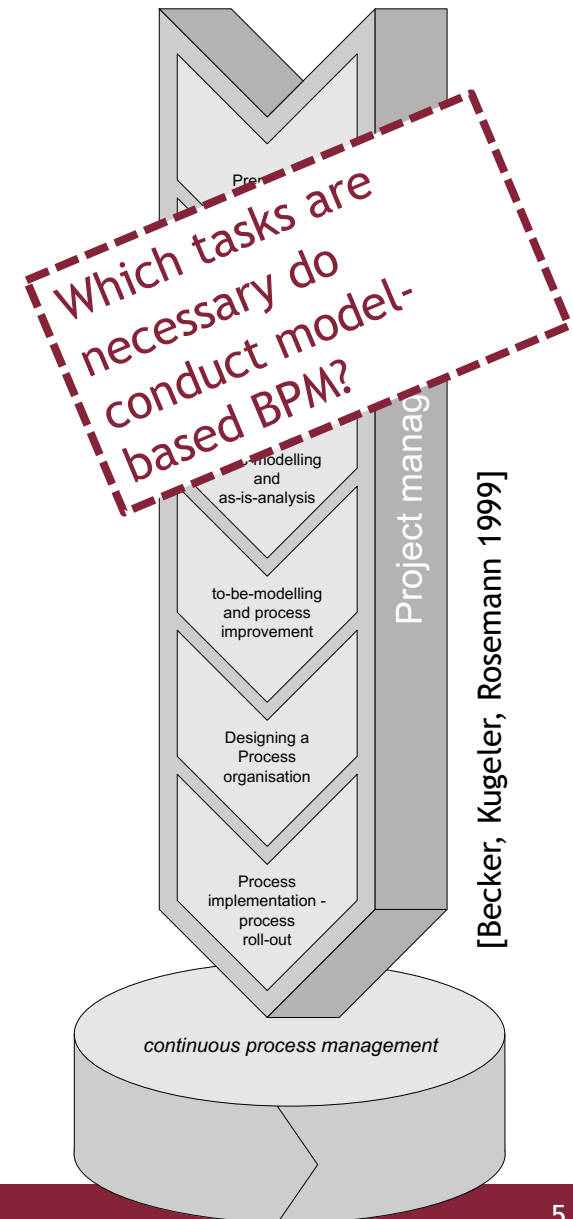
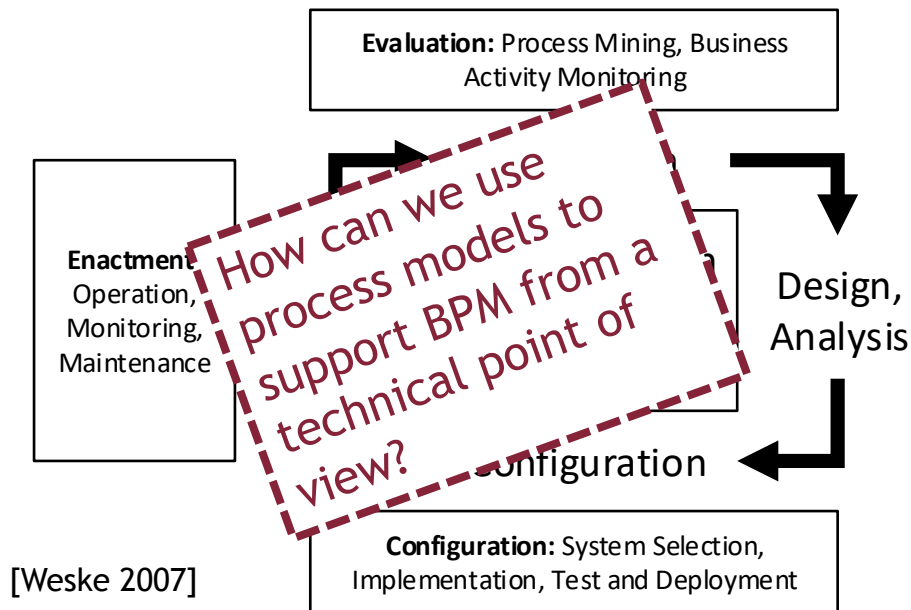
RECAP

- “Business process management includes concepts, methods, and techniques to support the design, administration, configuration, enactment, and analysis of business processes.”

[Weske 2007, p. 5]

TODAY

- Central means to support BPM:
Business Process Models
- Several methodologies



A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

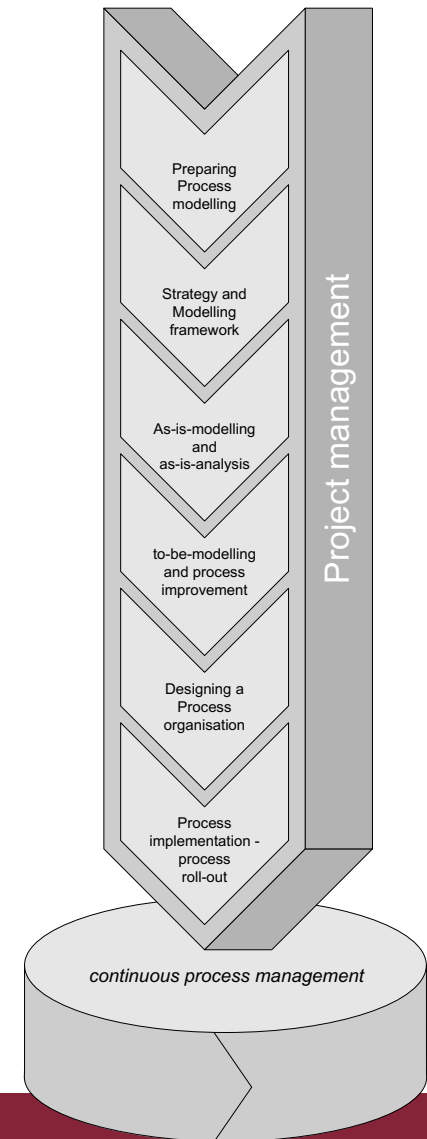
As-is-modeling and as-is-analysis

To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management



A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

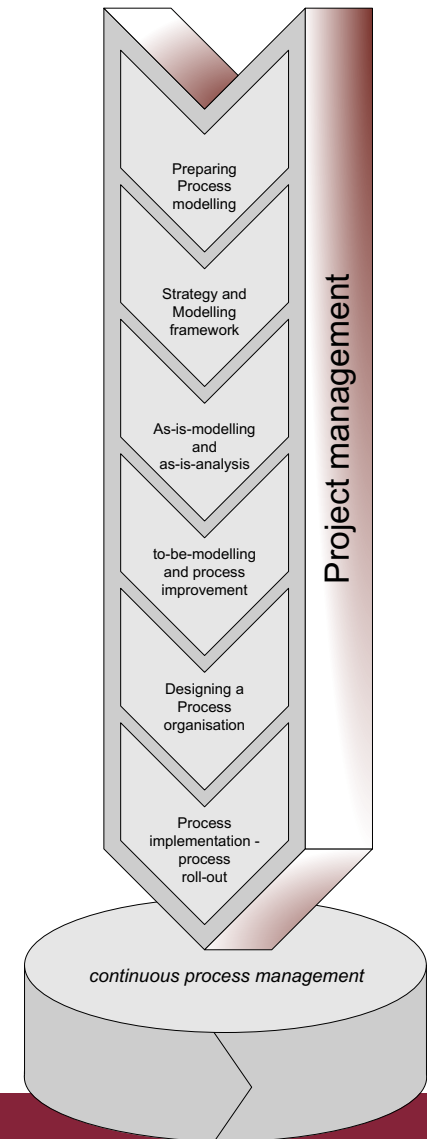
As-is-modeling and as-is-analysis

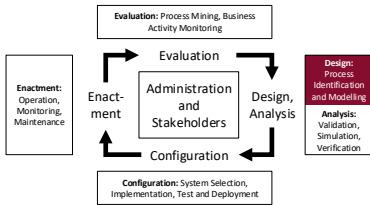
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management





A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

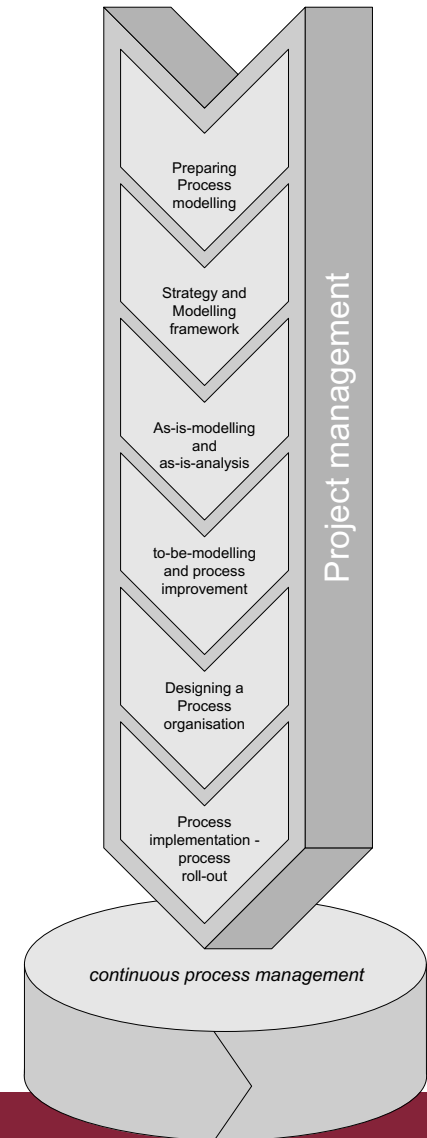
As-is-modeling and as-is-analysis

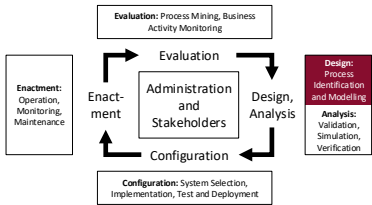
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management

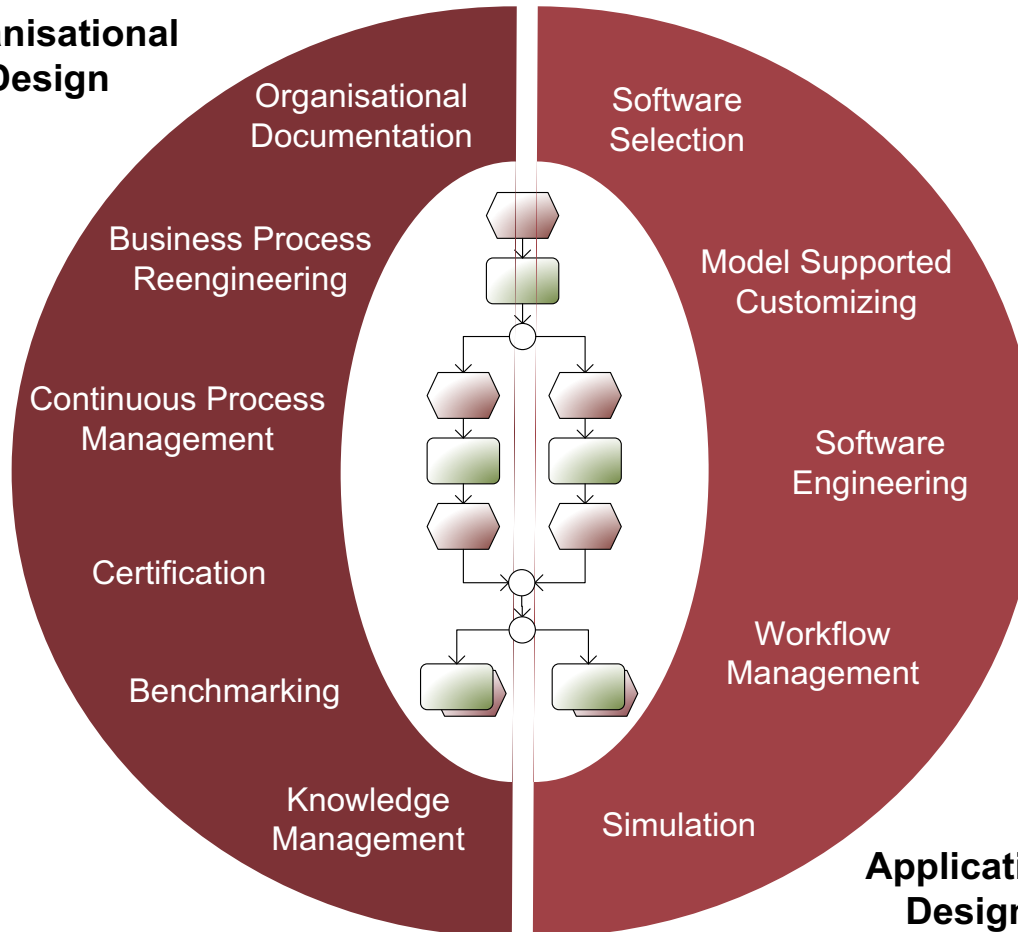


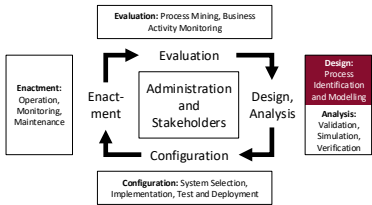


IDENTIFY THE PURPOSE OF THE BPM ENDEAVOR

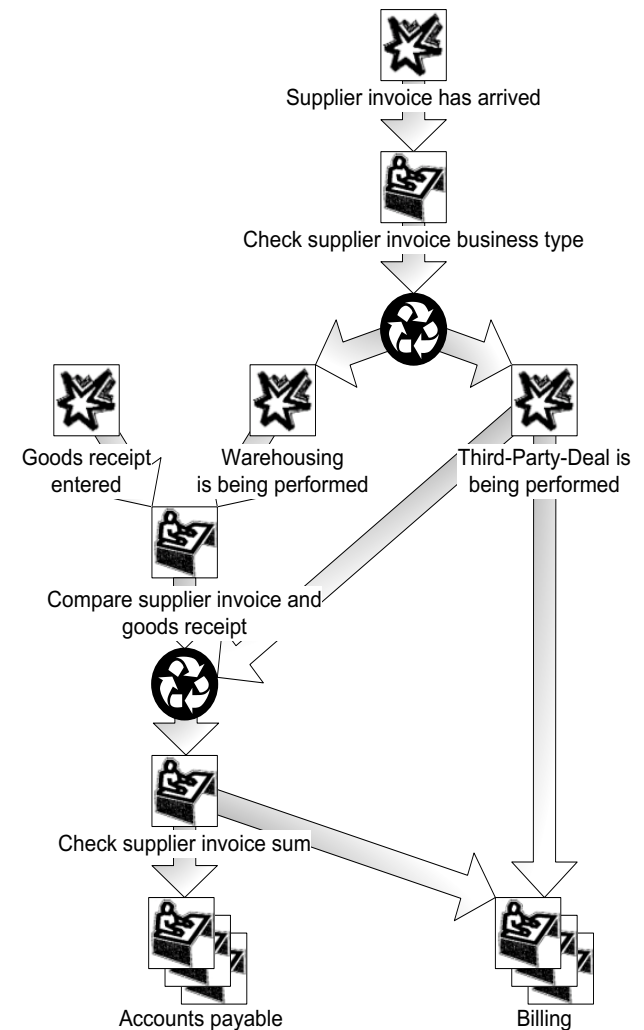
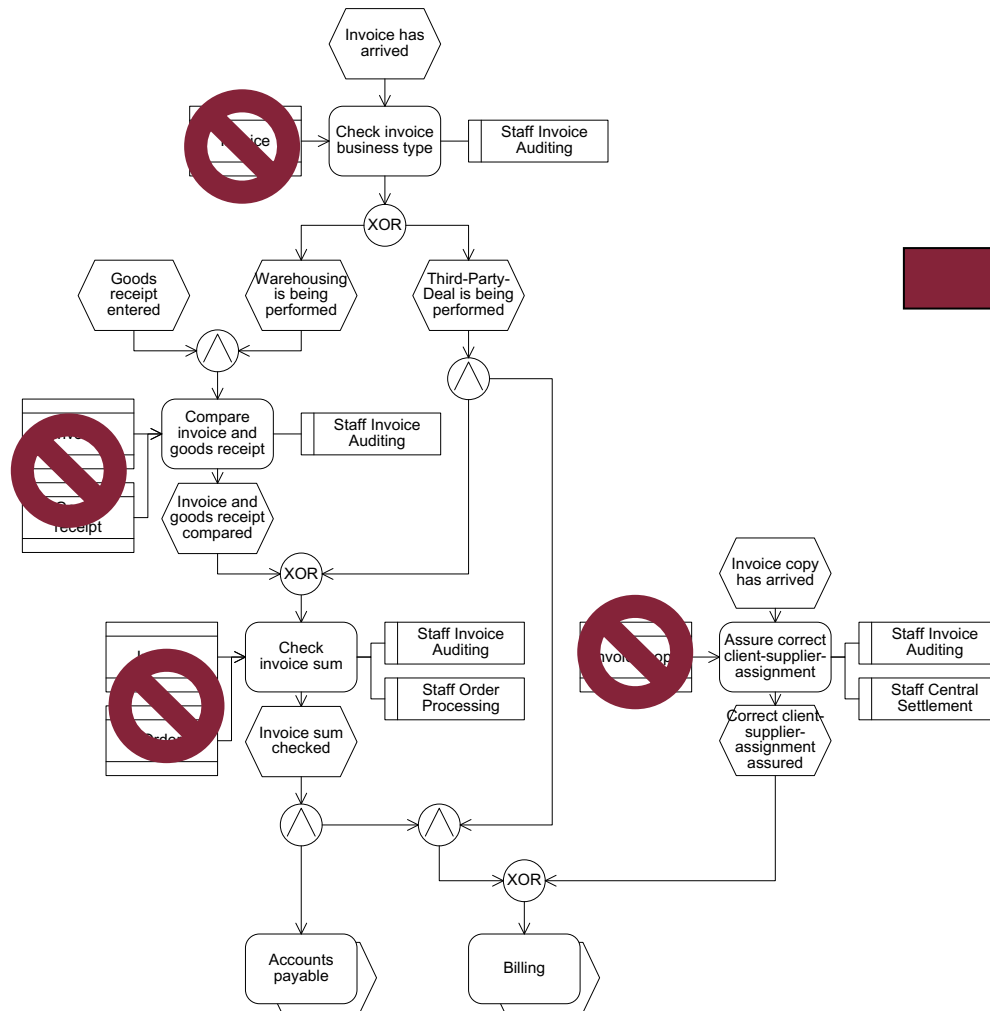


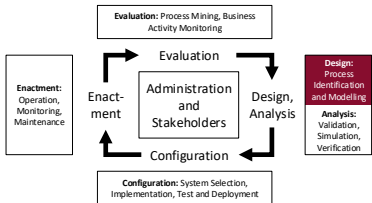
Organisational Design



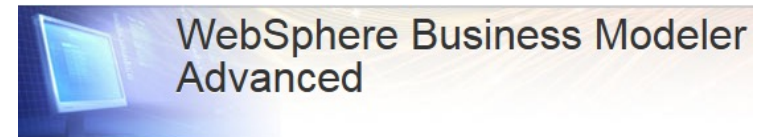


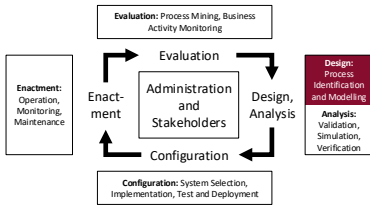
CUSTOMIZE THE PROCESS MODELING LANGUAGE





SELECT APPROPRIATE BPM SOFTWARE





A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

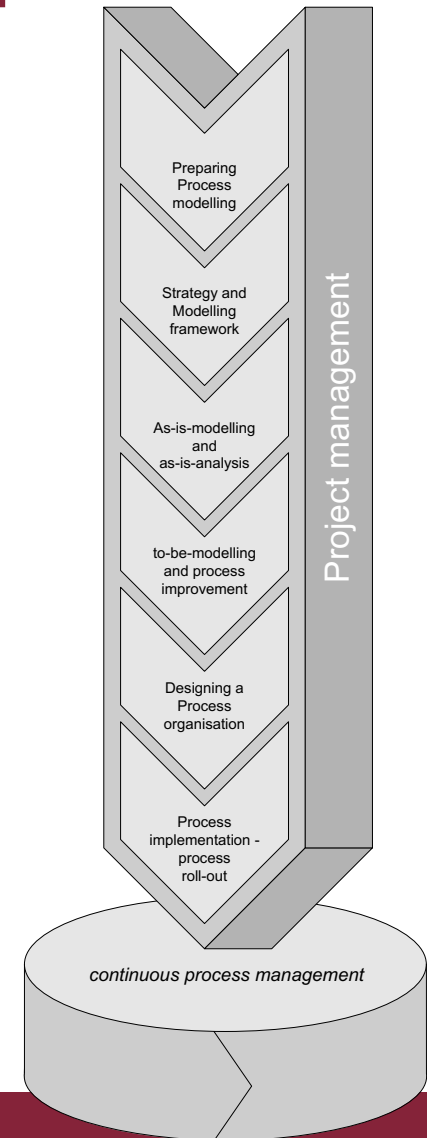
As-is-modeling and as-is-analysis

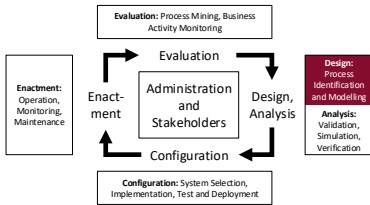
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management



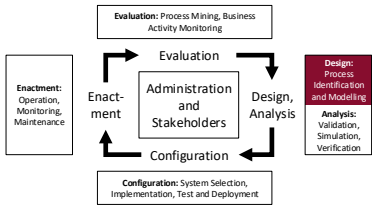


STRATEGY AND MODELING FRAMEWORK



- A top-level model is needed to
 - establish an **overview**
 - enable **navigation** throughout the processes
- Definition:

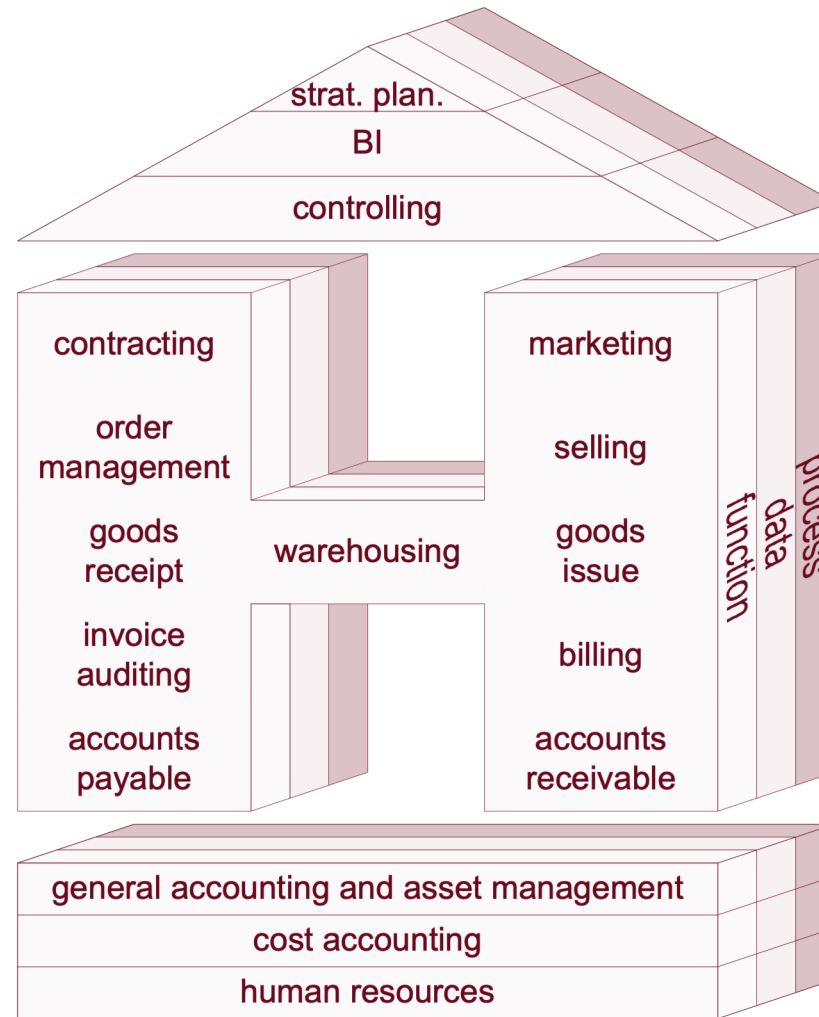
„A modelling framework classifies relevant elements and relationships on a high abstraction level using an arbitrary modelling language. The purpose of a modelling framework ist to provide an overview and to illustrate the references of elements and relationships to other elements and relationships of inferior detail levels.“ [Meise (2001), p. 62]

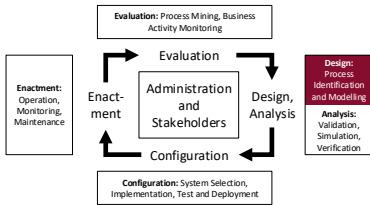


STRATEGY AND MODELING FRAMEWORK



THE RETAIL-H MODEL





A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

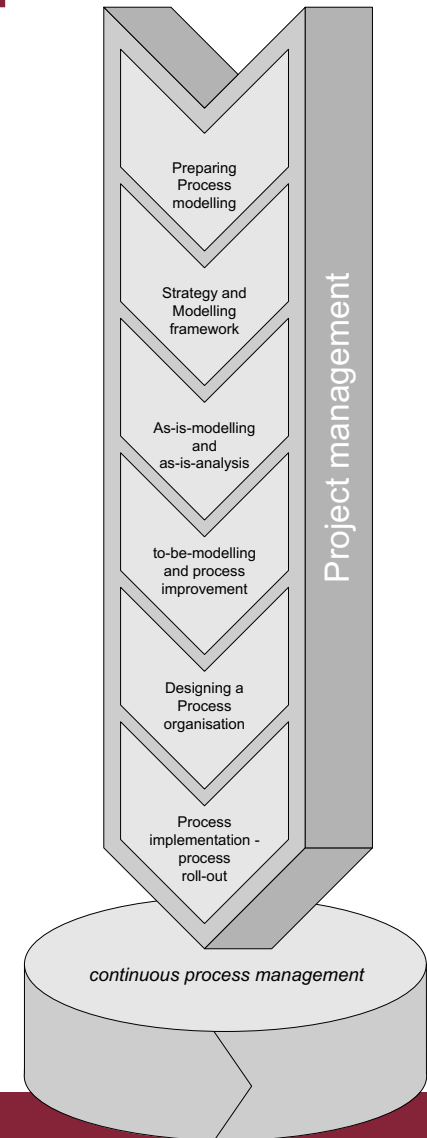
As-is-modeling and as-is-analysis

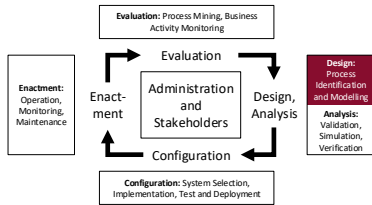
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

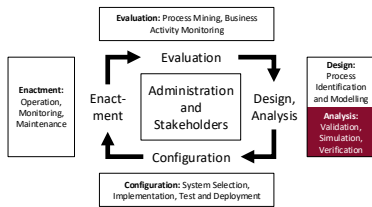
Continuous process management





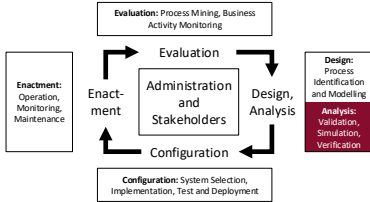
AS-IS MODELING AND AS-IS ANALYSIS

- Create detailed process models
- Interviews
- Process Discovery (more on this later)
- As-is Analysis
 - Identify process weaknesses
 - Identify potential for improvement



AS-IS ANALYSIS

- Eliminate unnecessary tasks
- Parallelize tasks where possible
- Change task order where reasonable
- Avoid frequent rollbacks
- Simplify where possible
- Standardize where possible
- Automate where possible
- Avoid ping-pong responsibilities
- ...



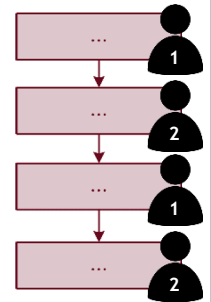
HOW CAN WE IDENTIFY WEAKNESSES IN AS-IS MODELS?

- Take a close look (?)
- Involve Consultants (?)
- Checklists
- Weakness pattern collections

Organization

Inefficient organizational structure

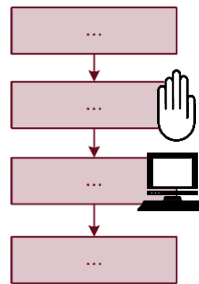
Examples:
Distributed responsibilities
Excessive inform. exchange



Automation

Unnecessary manual execution of activities

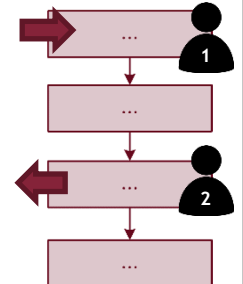
Examples:
Manual calculation
Data transferred manually

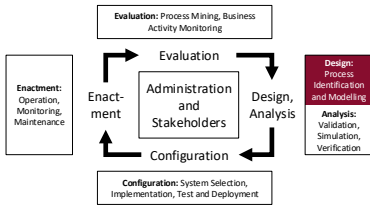


Environment

Inefficient communication with external partners

Examples:
Multiple negotiations
Varying communication ch.





A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

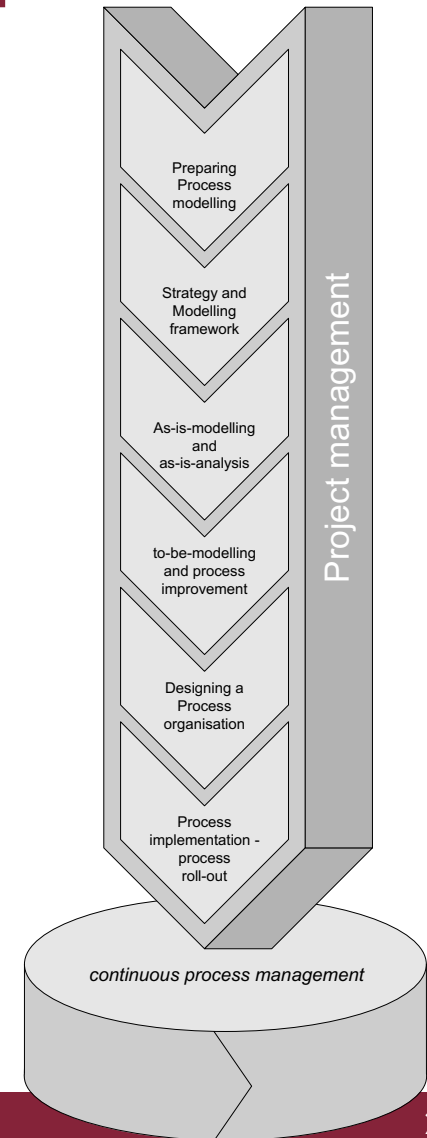
As-is-modeling and as-is-analysis

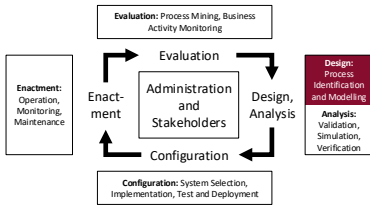
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management

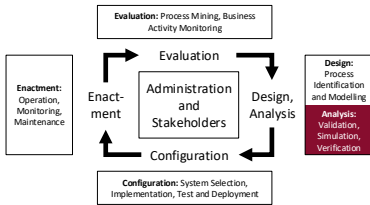




TO-BE MODELING AND PROCESS IMPROVEMENT

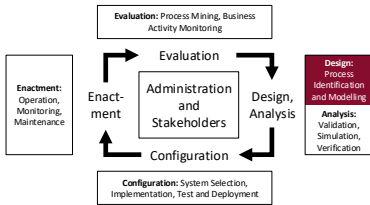


- Develop improved process models compared to the as-is models concerning
 - revenue increase
 - cost reduction
 - throughput time reduction
 - quality improvement
 - raised process transparency for the customer
 - faster reaction to market evolution
- Best practices / best practice patterns / best practice catalogues



HOW CAN WE ENSURE COMPLIANCE IN TO-BE MODELS?

- Allowed behavior often subject to external legal regulations
- Modellers might be unaware of all regulations due to complexity
- Lecture: Business Rules / Business Rule Management



A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

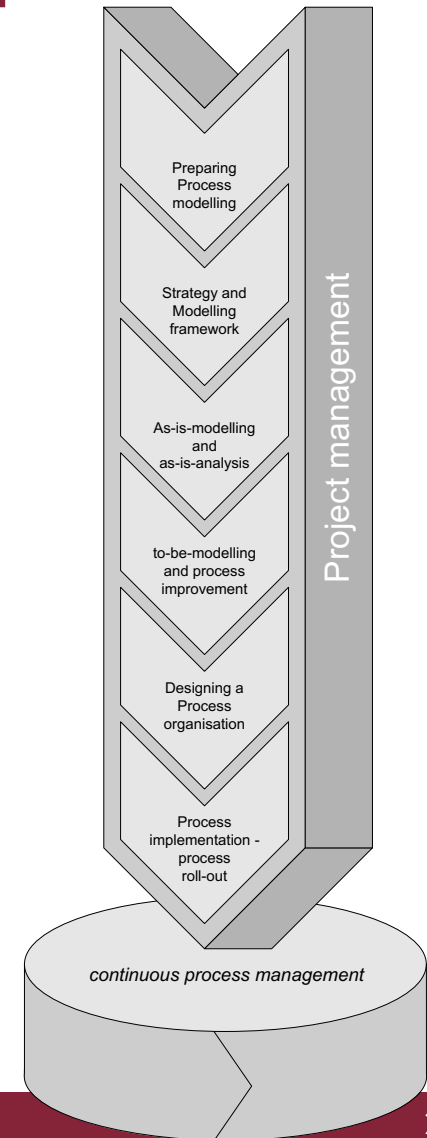
As-is-modeling and as-is-analysis

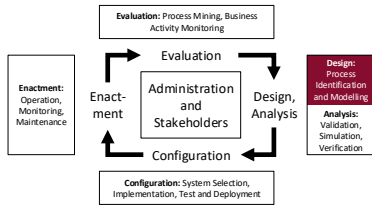
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management

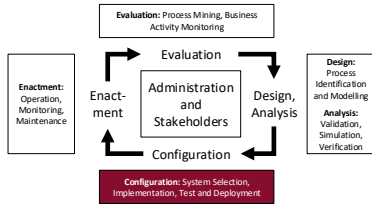




DESIGNING A PROCESS ORGANIZATION



- Efficient execution of processes by process organization
- Organizational structure and process structure have to fit each other
- **Classic organization theory:** organizational structure determines process structure
- **Process organization:** process structure determines organizational structure
- Starting point: to-be processes
- Goal: minimize organizational barriers



A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

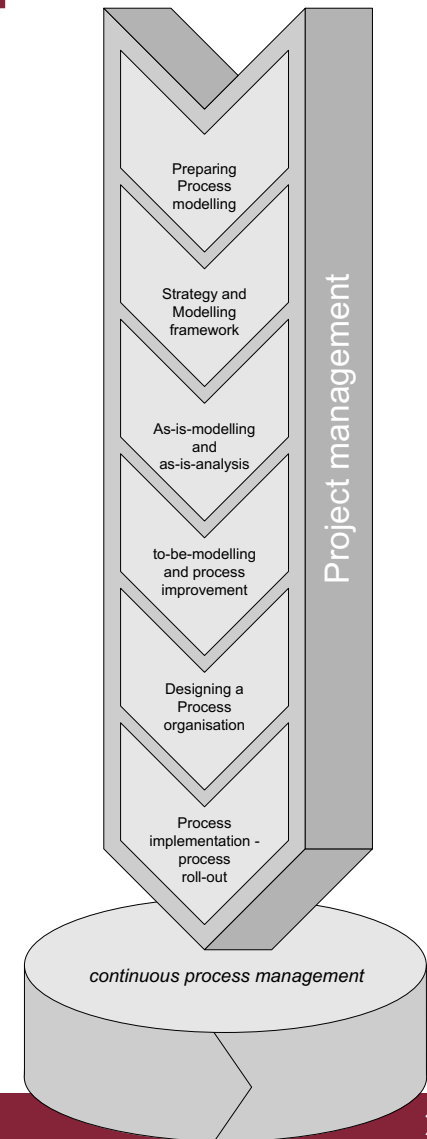
As-is-modeling and as-is-analysis

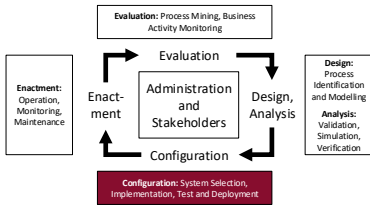
To-be modeling and process improvement

Designing a process organization

Process implementation - Process roll-out

Continuous process management

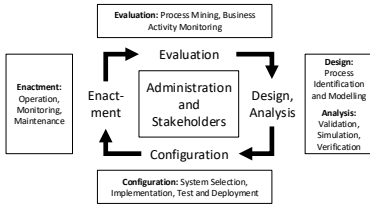




PROCESS IMPLEMENTATION - PROCESS ROLL-OUT



- Introduce new processes and new process organisation
- Different rollout strategies
 - Big bang
 - Step by step
 - Pilot
- Communicate changes!



A MODEL-DRIVEN BUSINESS PROCESS MANAGEMENT METHODOLOGY

Preparing process modeling

Strategy and modeling framework

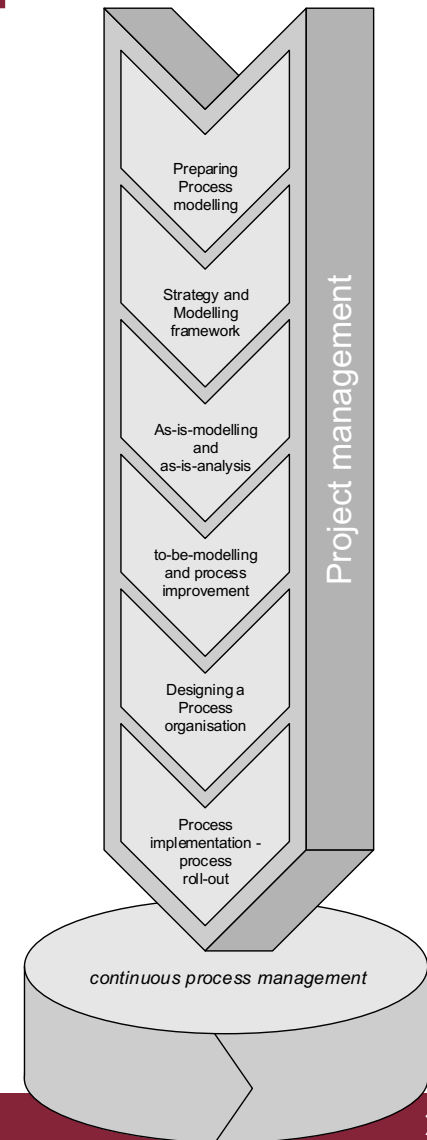
As-is-modeling and as-is-analysis

To-be modeling and process improvement

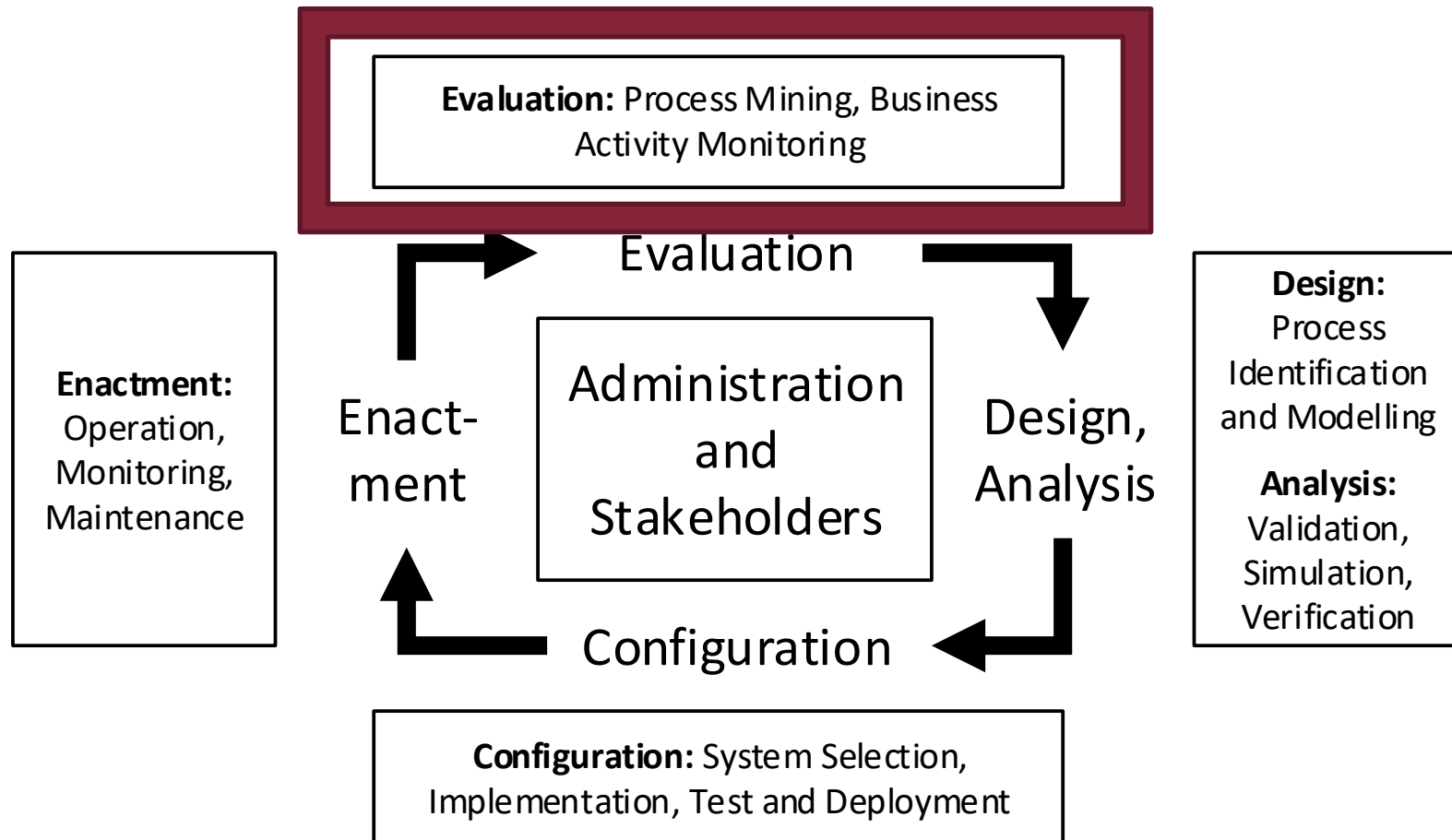
Designing a process organization

Process implementation - Process roll-out

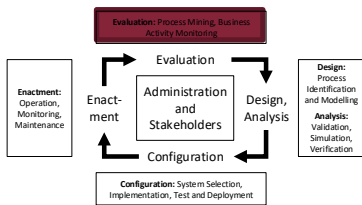
Continuous process management



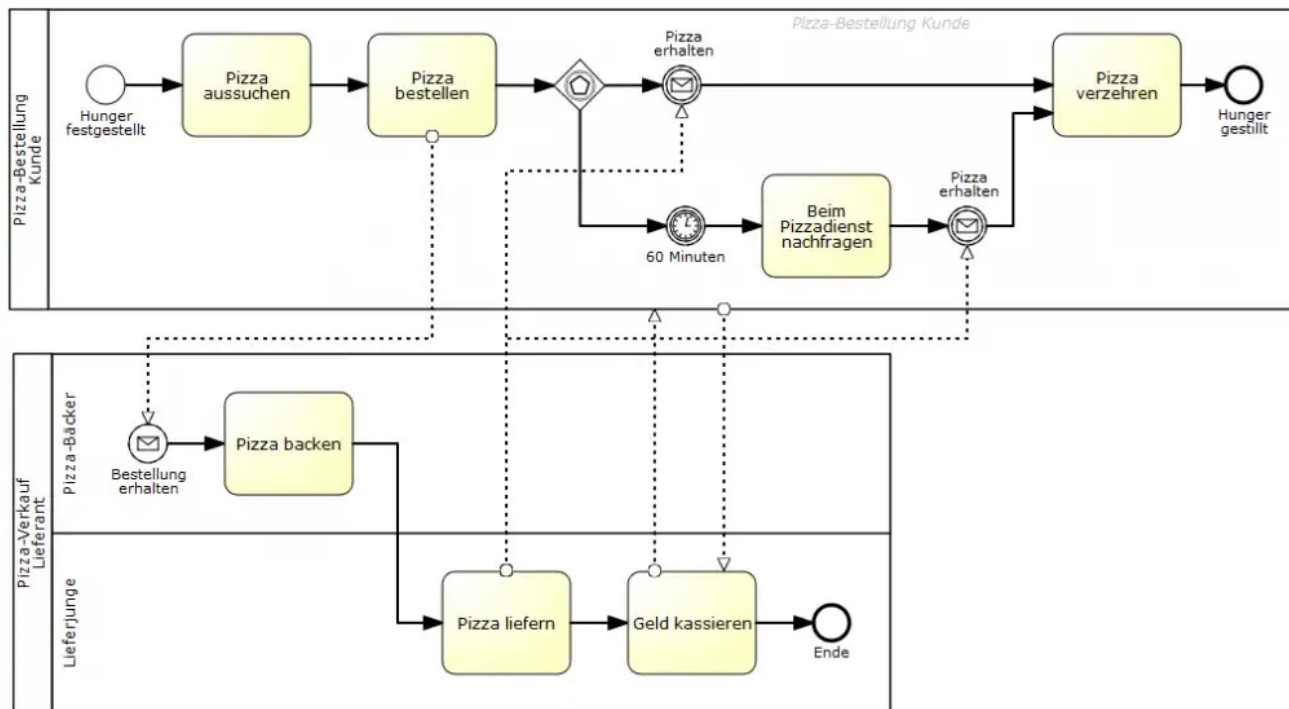
CONTINUOUS PROCESS MANAGEMENT



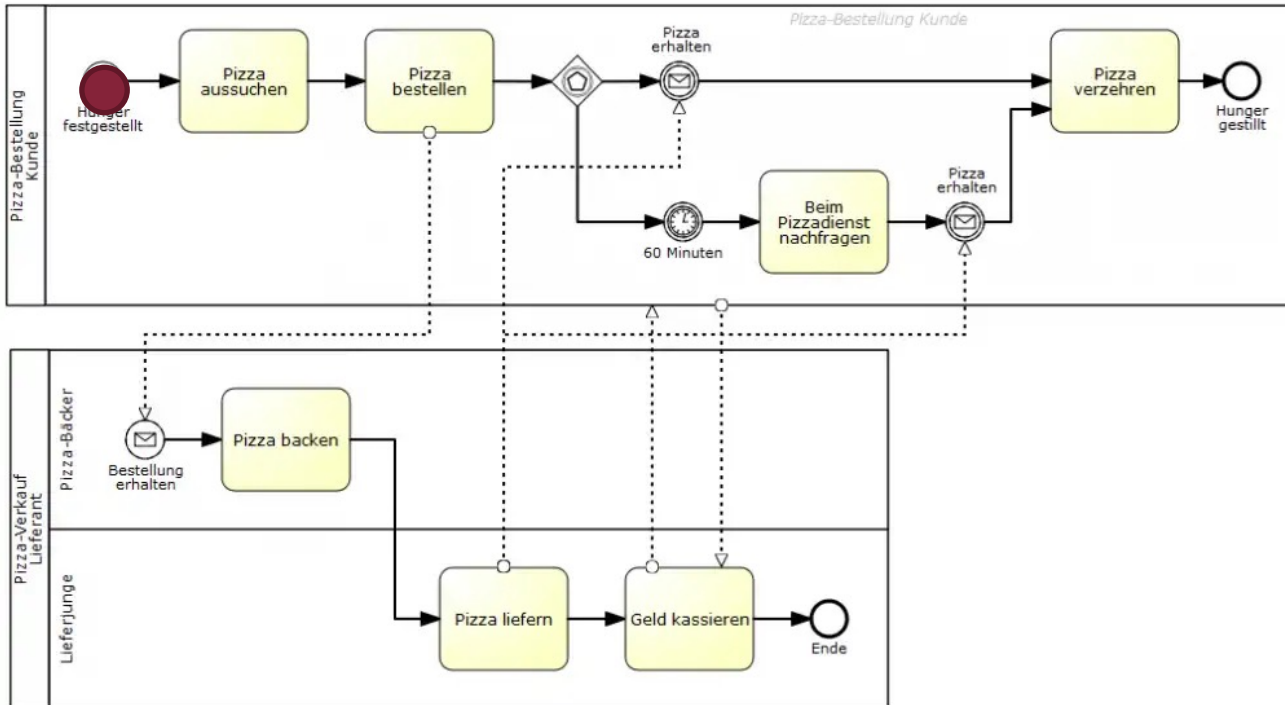
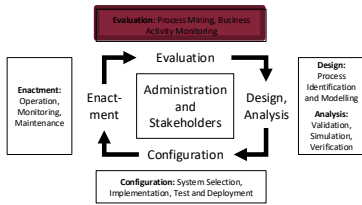
PROCESS DISCOVERY



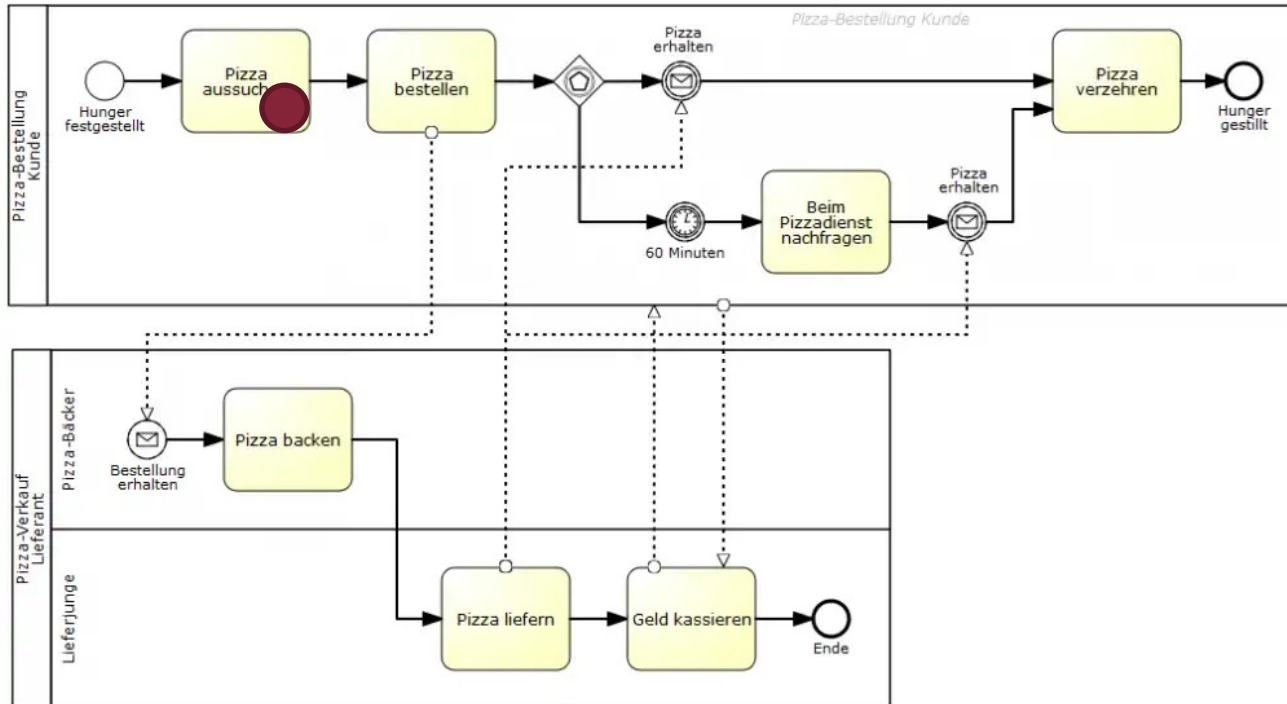
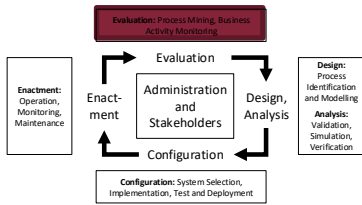
- Identify „real“ as-is processes based on execution data



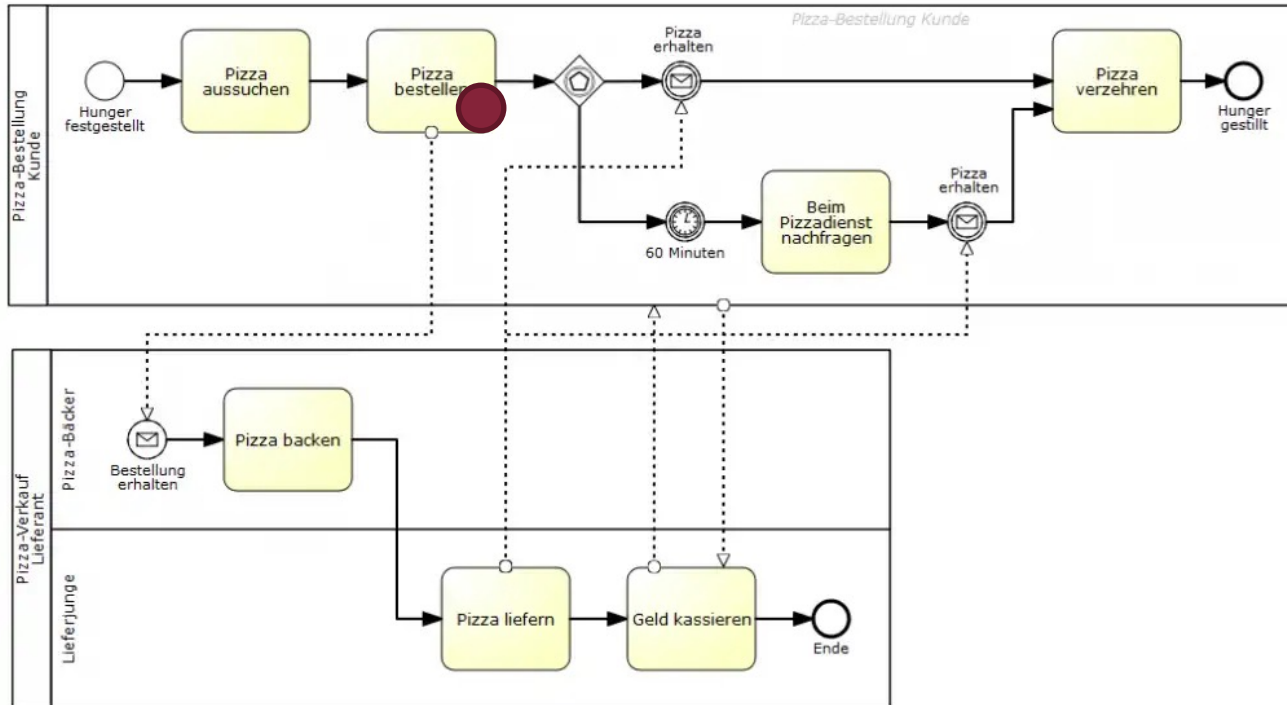
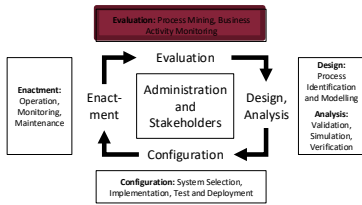
PROCESS DISCOVERY



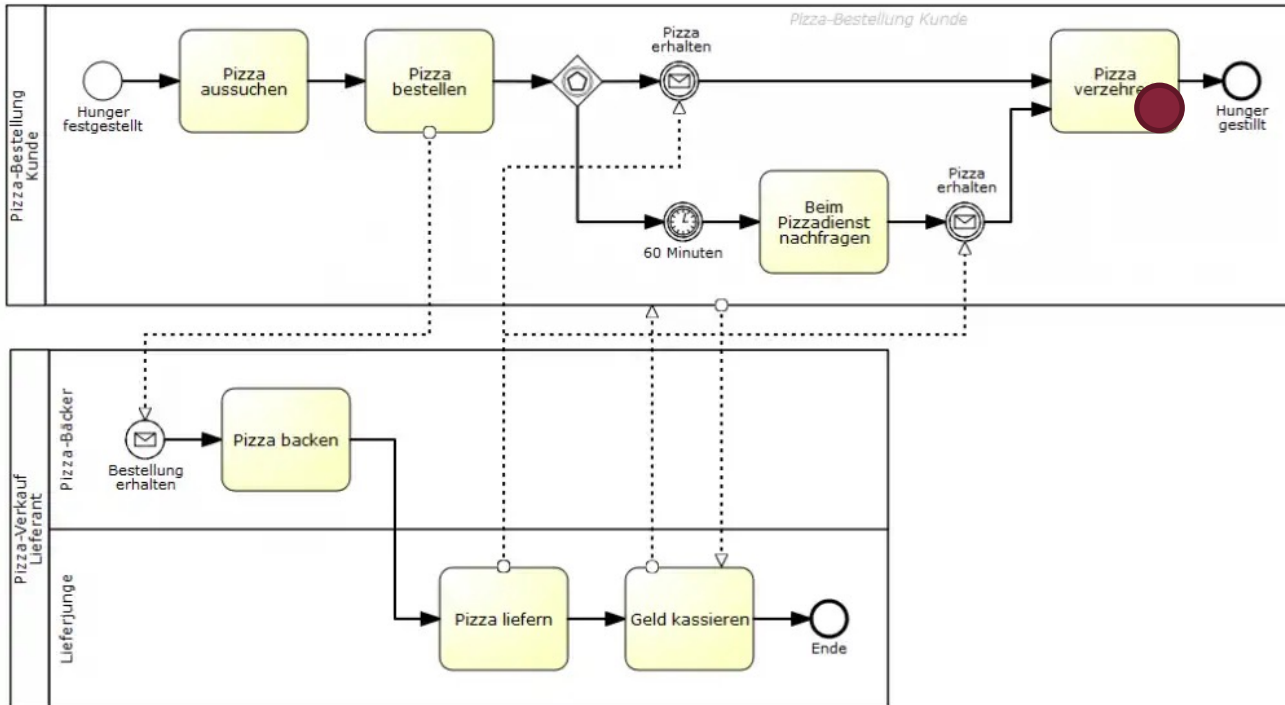
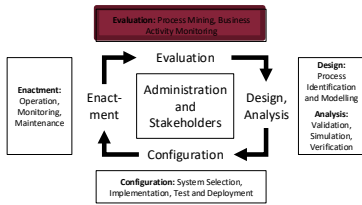
PROCESS DISCOVERY



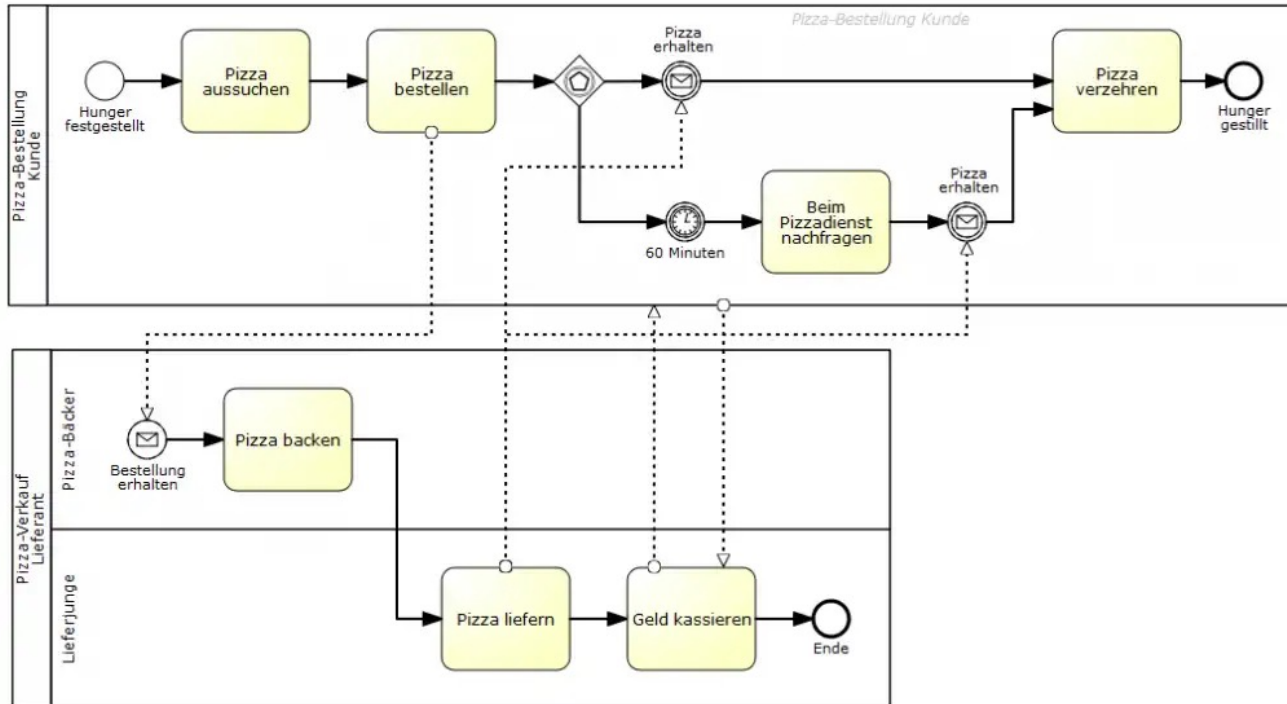
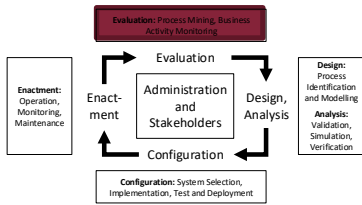
PROCESS DISCOVERY



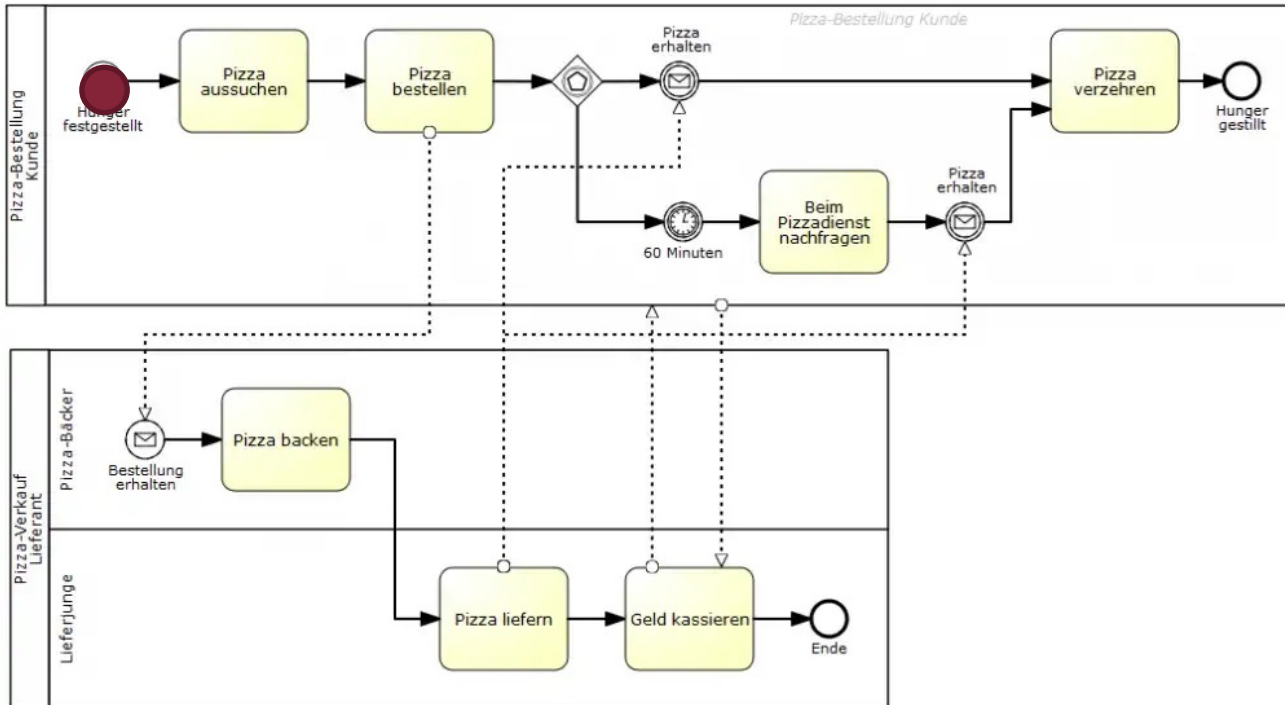
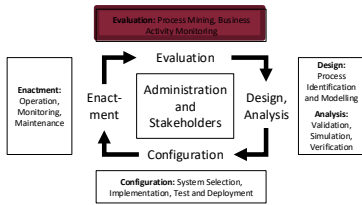
PROCESS DISCOVERY



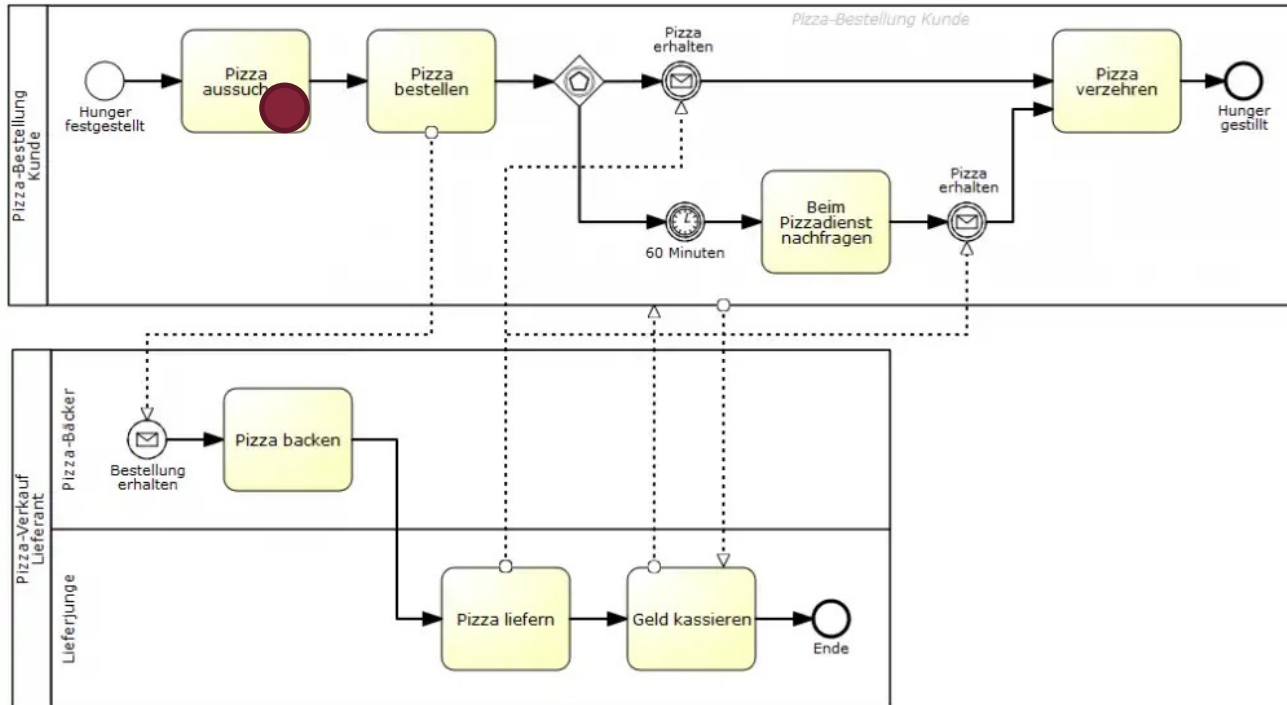
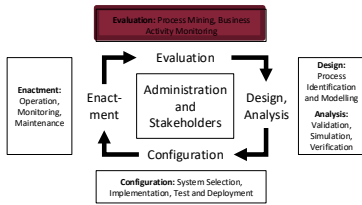
PROCESS DISCOVERY



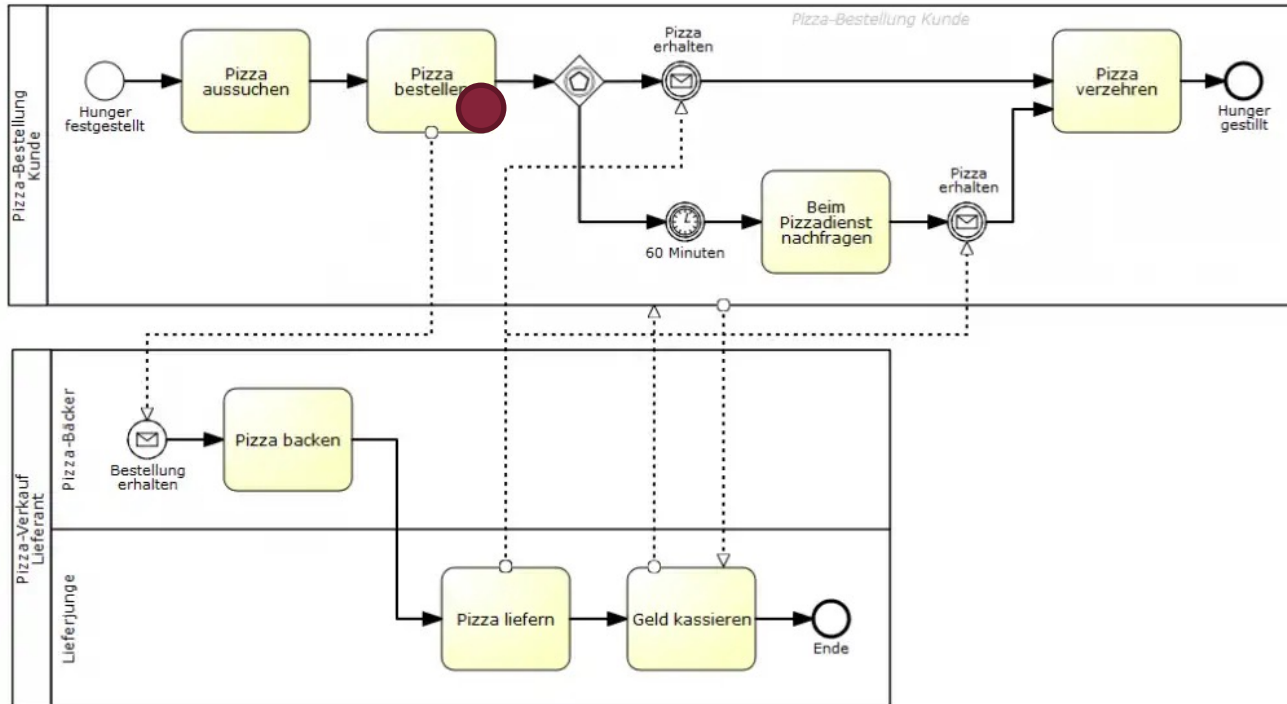
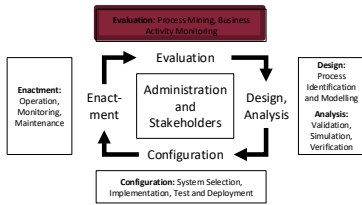
PROCESS DISCOVERY



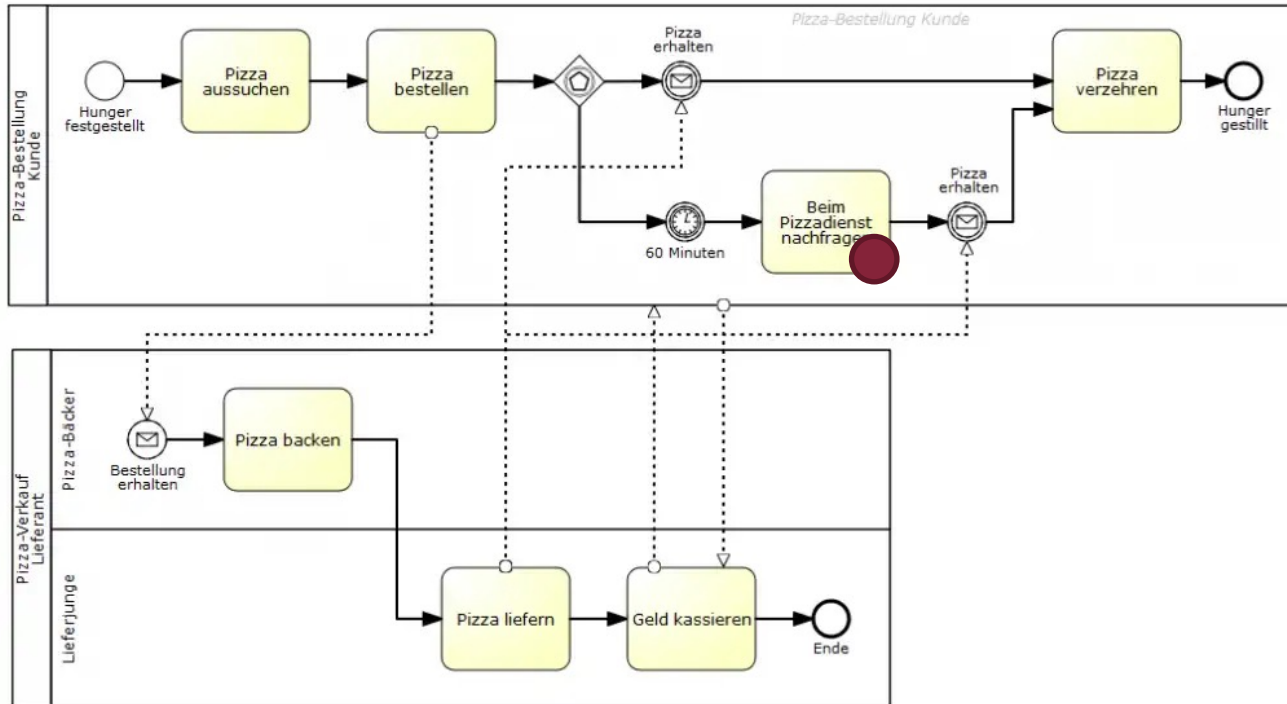
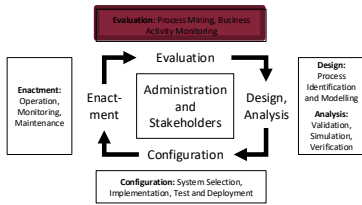
PROCESS DISCOVERY

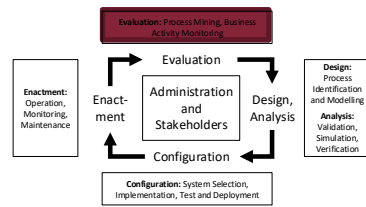


PROCESS DISCOVERY



PROCESS DISCOVERY

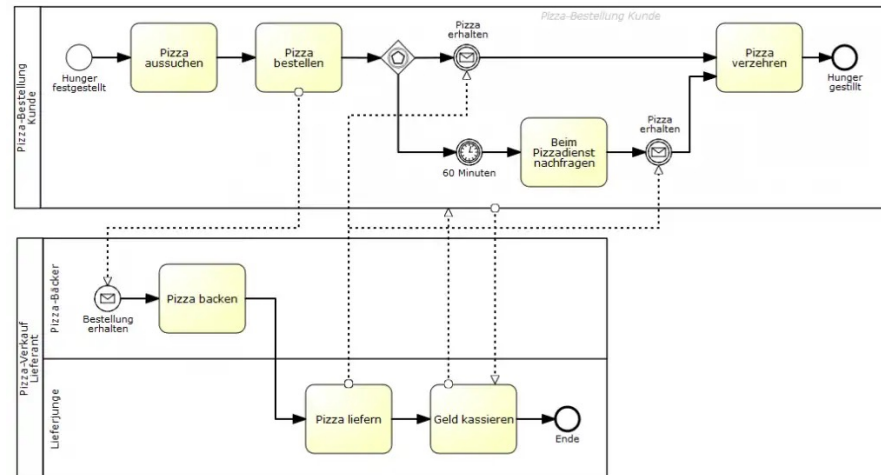




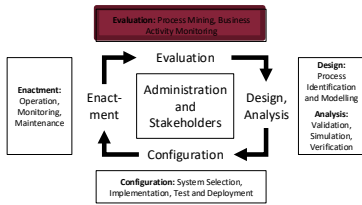
PROCESS DISCOVERY



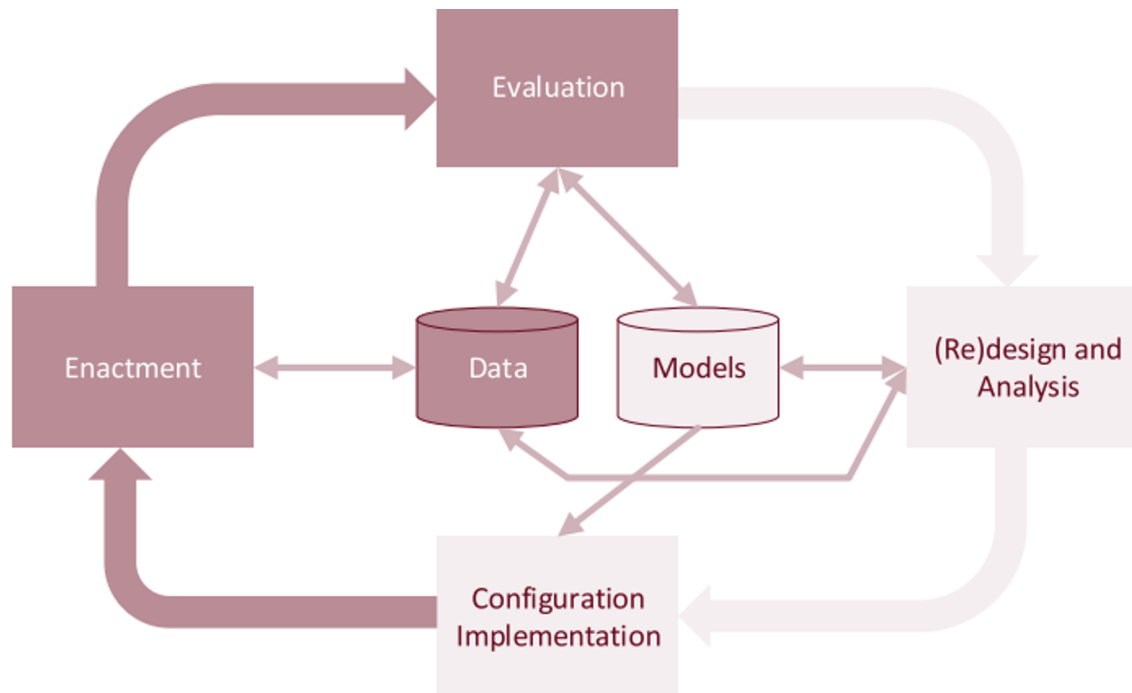
- Process execution (case) stored as sequence of activities
- This log data can be evaluated to understand “what is really happening“
- Variants/unexpected behavior/violations/drifts are common
- Example: Zalando encounters around 10 million cases monthly



PROCESS DISCOVERY

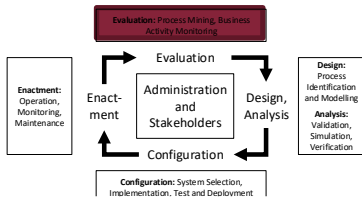


- Data relating to a case is more than just sequential event data!

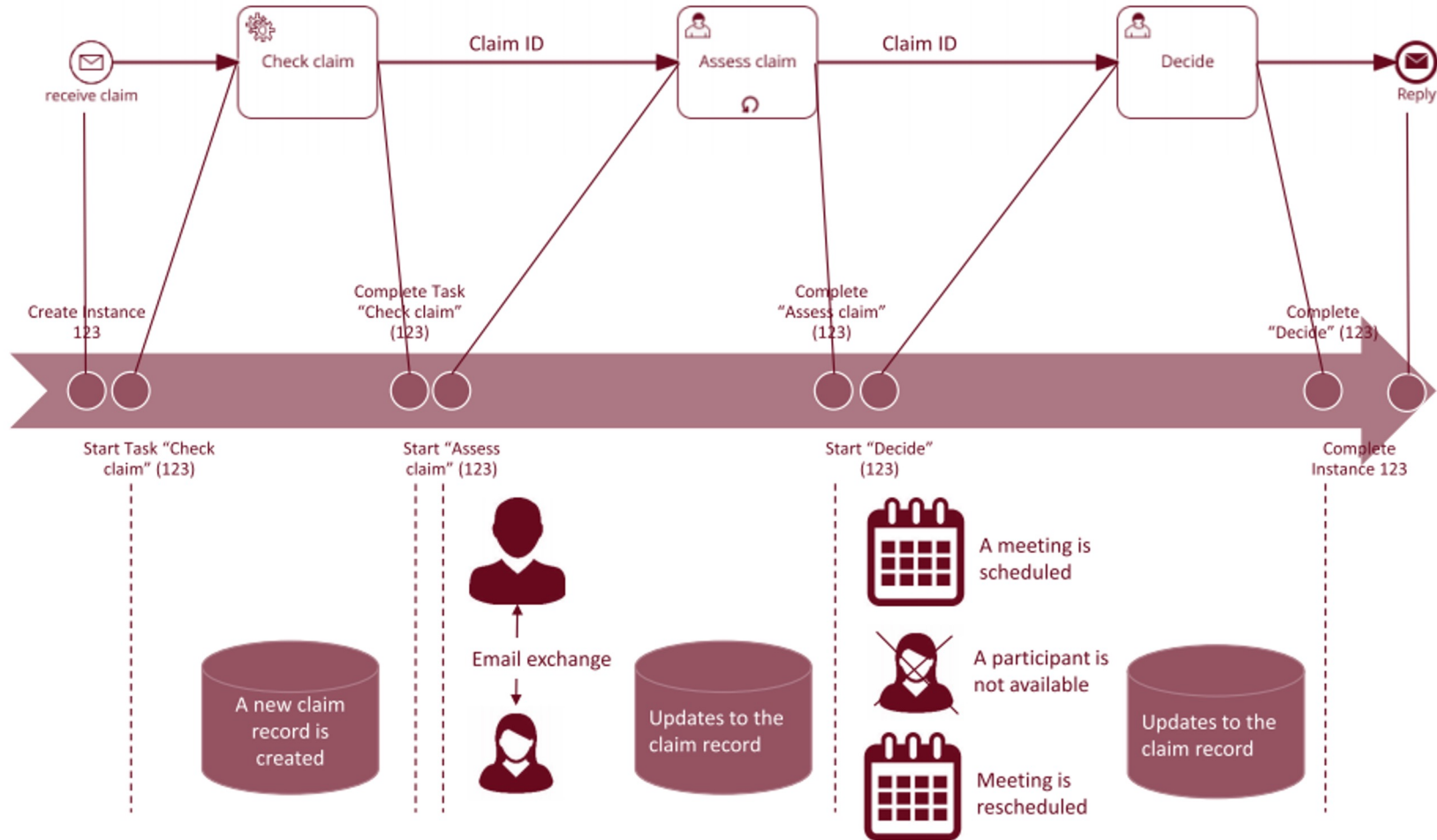


[Sakr et al., 2018]

PROCESS DISCOVERY

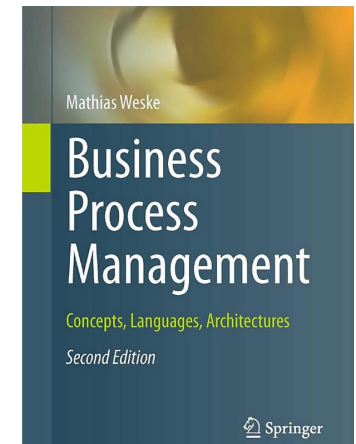
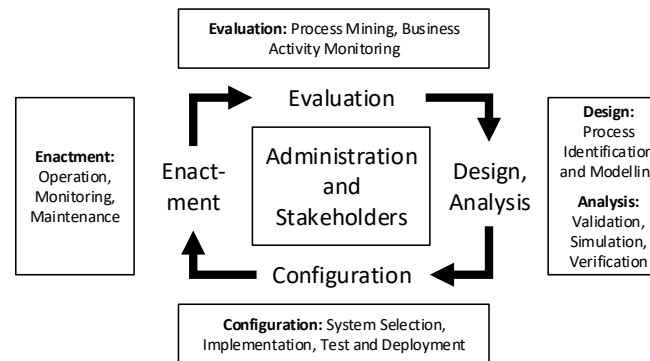
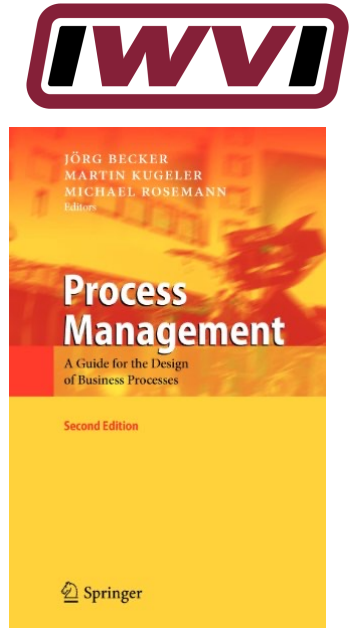
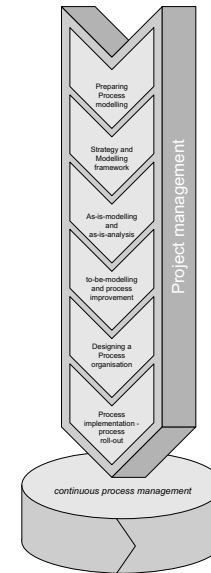


Process Model Level
Process Execution Level
Systems and People Level



FURTHER READING

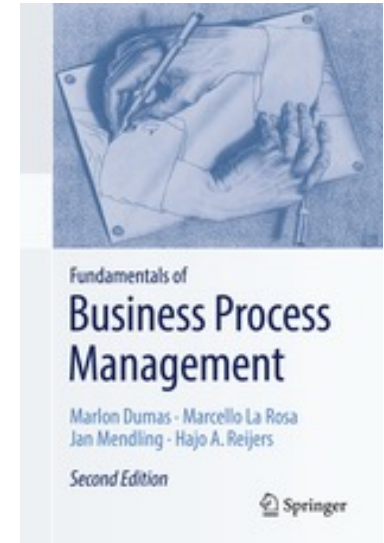
- Becker, J.; Kugeler, M.; Rosemann, M. (eds.): *Process Management. A Guide for the Design of Business Processes*. 2nd Edition, Berlin 2011.
- Weske, M.: *Business Process Management. Concepts, Languages, Architectures*. 2nd Edition, Berlin 2012.



FURTHER READING



- Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2018). *Fundamentals of business process management* Heidelberg: Springer.
- Sakr, S., Maamar, Z., Awad, A., Benatallah, B., & Van Der Aalst, W. M. (2018). Business process analytics and big data systems: A roadmap to bridge the gap.



BUSINESS PROCESS MANAGEMENT

BASIC TERMS AND METHODOLOGIES

INSTITUTE FOR IS RESEARCH

www.uni-koblenz.de