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Business & Information
Systems Engineering

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Syllabus to

Value-based Business Process Management (BPM)

Winter semester 2021/22

OUTLINE

In a digital economy characterized by volatility, uncertainty, complexity, and ambiguity, customer-centric, economic end-to-end processes supported by digital technologies are a key success factor. Business process management (BPM) is, therefore, one of the core tasks of organizational design. It includes tasks such as the identification, definition, and modeling of business processes, their implementation and execution, monitoring and control, as well as continuous improvement and innovation. Successful BPM requires the interaction of governance, methods, information technology, culture, people, as well as strategic alignment with business goals.

The lecture introduces the fundamentals of BPM and provides insights into all BPM life cycle tasks. In addition, the course provides in-depth knowledge in value orientation in BPM and process industrialization and digitization. Value orientation refers to a decision-oriented approach to BPM that takes a business case perspective and focuses on the organizational impact of BPM decisions. Process industrialization covers the systematic realization of business process automation, standardization, flexibility, and sourcing potential. Process digitization considers how digital technologies (e.g., smart devices) can be effectively used with business processes and what innovative design options emerge for business processes with digital technologies.

EDUCATIONAL CONCEPT

The lecture addresses students who previously had no or only slight contact with topics related to BPM. The course is designed to introduce students to BPM and to provide in-depth knowledge in the areas of value orientation as well as process industrialization and digitization.

The contents of the course are taught through lectures, tutorials, and guest lectures. Lecture units are designed to explore and introduce content conceptually with the lecturer. Tutorials deepen and practice selected topics. Guest lectures provide practical insights into selected topics from top-class executives of our partner companies. Selected software tools are also taught. In addition, current scientific publications are discussed together with the lecturer. The individual preparation of the papers based on the guiding questions is a mandatory requirement for an active discussion. In addition, optional workshops are offered to deepen selected topics of the course.

The course concludes with a Q&A session to solve ambiguities and ensure comprehensive exam preparation. Lectures and exercises deliberately address different application domains to emphasize the transferability of the introduced topics. Finally, we demonstrate how students can further

explore BPM in the remainder of their studies and how they can deepen their knowledge in value-based BPM. The contents of the course will be assessed during a 60-minute exam.

To successfully pass the exam, it is not sufficient to only attend the lecture. Instead, it is essential to prepare and review the tutorials and to contribute to discussions actively. This also concerns the discussed scientific papers.

Note: In addition to the tutorials, previous exams will be provided for your own preparation.

CONTENT

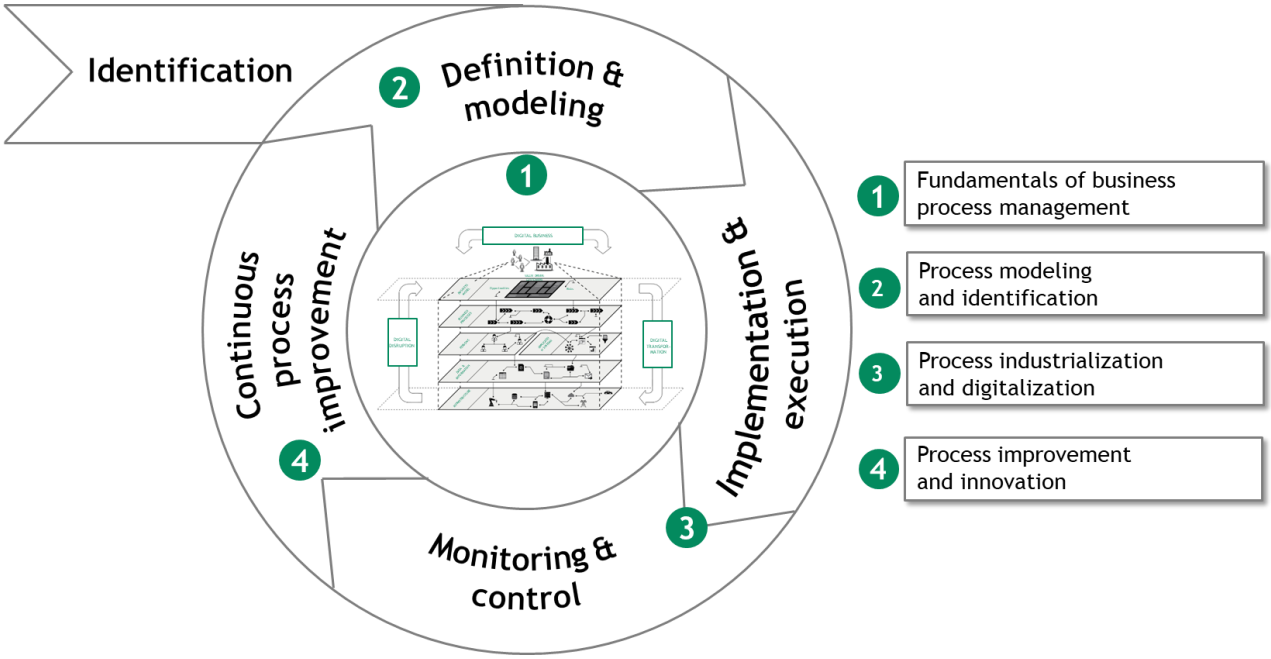

Figure 1 Structure of the lecture value-based business process management

The lecture is structured along the tasks of the BPM life cycle (Figure 1). These tasks include the identification, definition, and modeling of business processes, the implementation and execution of business processes, their monitoring and control, and continuous process improvement and innovation. In an introductory workshop, initial answers to central questions (What is a (business) process? What is business process management? When is a process better?) will be elaborated, which define the scope of the lecture and will be deepened in the remainder of the course.

In the **fundamentals of business process management** module, BPM is first introduced as part of the five-layer model of information and communication systems. The terms (business) process, process architecture, and BPM are subsequently introduced and explained based on real-life examples from the industry. In addition, you will get to know central frameworks: These include the six factors of BPM and the BPM context framework. Moreover, how BPM decisions can be made in line with the paradigm of value-based management and how processes can be evaluated will be addressed. In particular, challenges of process assessment involving risk are presented.

In the **process modeling and identification** module, the course addresses the identification, definition, and modeling of business processes. Process modeling focuses on transparently documenting as-is and to-be processes to visualize bottlenecks and alternative execution paths. In addition,

process models allow for effective communication between all stakeholders involved in the process. You will learn the BPMN 2.0 modeling language. You will also be introduced to the practical aspects of process modeling. In the tutorial, the modeling tool Signavio will be presented. Afterwards, the emerging discipline of process mining will be introduced, which is used, among others, for the automated identification of processes. The basic idea of process mining is to identify, monitor, and improve actual processes by extracting knowledge from event logs. On the one hand, you will become familiar with the principles of process mining. On the other hand, you will learn more about the application of process mining using the tool Celonis.

The **process industrialization and digitization** module addresses both the implementation and execution as well as the monitoring and control of business processes. After introducing the central dimensions of process industrialization (automation, standardization, flexibility, and sourcing) and the current trends of digitalization (Internet of Things and Industry 4.0), workflow management systems will be presented to automate the task control of processes. You will discover what service-oriented architectures and microservices mean and why this paradigm for designing application system landscapes aligns with process orientation.

The last module, **process improvement and innovation,** addresses continuous process improvement and innovation. In the beginning, you will get an overview of the different characteristics of process innovation and improvement based on the concept of organizational ambidexterity. Subsequently, you will deal with process improvement patterns used for the structured identification of process improvement ideas. Further, you will explore the business process design space, which is a means to identify process innovation opportunities in a structured approach. Furthermore, Six Sigma will be presented in detail and illustrated employing a practical workshop.

Finally, you will discuss two out of a selection of four scientific papers based on guiding questions to get an understanding of the current state of research. The first paper outlines opportunities and challenges of process mining in organizations identified by means of a Delphi study. The second scientific paper discusses heuristics for the design of customer-centric business processes. The third paper addresses the question of how organizations can effectively implement the concept of organizational ambidexterity using a maturity model. Finally, the fourth paper proposed the so-called Five Diamond Method, which guides explorative BPM activities by supporting organizations in identifying opportunities from business and technology trends.

FUNDAMENTAL LITERATURE

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