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Bachelorarbeit / Masterarbeit

Artificial Intelligence for Business Process Management

The discourse on Artificial Intelligence (AI) has grown rapidly in recent years, with its application in a number of areas in both industry and academia. One of these areas is business process management (BPM). Today, BPM confronts a wide diversity of organizational processes, ranging from automated and mass-customized processes to artistic and creative processes. However, in light of the different contexts of organizational processes, not all types of business processes are suitable for the use of AI. Accordingly, to account for the diversity of business processes and the technological requirements for appropriate AI usage, organizations require a structured analysis of potential application areas of AI while considering the contextual conditions of BPM. This raises the question of whether the technology must adapt to the context of business processes, whether business processes need to adapt to the technological requirements, or whether mutual adaptation is required to institutionalize AI for BPM and achieve compatibility between them. Against this background, future research should explore the following research question: What is the impact of contextual factors on the use of AI for BPM?

To answer the proposed research question, future research may follow the design science research paradigm to build a comprehensive model that visualizes the relation between the specifics of AI and the context of BPM. Therefore, the study may combine a structured literature review and a subsequent interview study with experts and decision-makers to demonstrate the impact of different contextual factors on the use of AI for BPM. Building on the BPM context framework, which provides an overview of contextual dimensions, factors, and characteristics relevant for BPM, the results may demonstrate a comprehensive view of which types of business processes are suitable for AI and which are not. Furthermore, the study may provide insights into the interrelationship between the specifics of AI and the contextual determinants of BPM, such as repetitiveness, knowledge intensity, interdependence, and variability. In this way, the result may determine the extent to which AI and BPM components need to change in order to ensure complementarity between technology and business processes in the future.

The thesis can be written either in German or English (preferred) language.

Empfohlene Einstiegsliteratur:

- Di Francescomarino, Chiara; Maggi, Fabrizio Maria (2020): Preface to the Special Issue on Artificial Intelligence for Business Process Management 2018. In: Journal on Data Semantics 9 (1), S. 1.
- Koehler, Jana (2018): Business Process Innovation with Artificial Intelligence: Levering Benefits and Controlling Operational Risks. In: European Business & Management 4 (2), S. 55–66.
- vom Brocke, Jan; Zelt, Sarah; Schmiedel, Theresa (2016): On the Role of Context in Business Process Management. In: International Journal of Information Management 36 (3), S. 486–495.

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