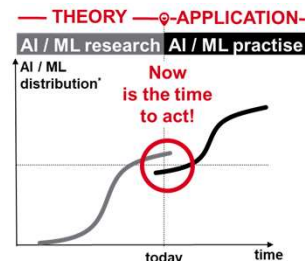


## Künstliche Intelligenz im Einkauf

### Zielbild und Motivation

In alignment with the Strategy 2030, purchasing can be recognized as innovation leader, utilizing the potential of digitization.

→ Use cases of are identified, structured, and simply tried out in this Ph.D. project. What works can be can be scaled, if not that can be found out early without great costs.



Four factors have changed in recent years, allowing use of AI and ML in business applications
<b>Data availability</b> Massive growth of data available
<b>Free software</b> Open source simplifies implementation
<b>Faster hardware</b> Technical development enable new applications
<b>Availability of services</b> Digital providers offer partial AI solutions already



### Methode und Vorgehensweise



► Deriving an research agenda presented at the 2021 IPSERA conference.

Reviewed 210 publications based on the strategic, tactical and operational level of procurement and according to the ACM framework from computer science.

The resulting 11 clusters were accessed by 20 experts of the procurement domain and information technology within and outside the VW Group highlighting cost analysis.

### Weitere Schritte

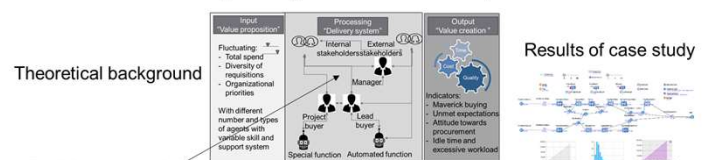
A simulation study is currently set up to model the procurement organization and process flow as digital twin utilizing a bundling generator as module to propose bundling options across the organization.

→ Interesting application for process conformity and optimization.

**Research question:** How to optimize procurement value creation through simulation?

Preposition I: The sizing problem can be solved by optimizing the value function  
Preposition II: Simulation shows flexibility value, e.g., through lean and agile principles

Dynamic system with feedback loops



Real data to model and train the agents

Simulation as research method

Interesting opportunity for a technical and business oriented master thesis ©

► Design a prototype of a simulation-based procurement workflow system.

Betreuung Porsche:

MBA

Thomas Pichler



Jan Martin Spreitzenbarth

Betreuung Universität:

Prof Dr.

Heiner Stuckenschmidt