

OVERCOMING ORGANIZATIONAL INERTIA IN THE CONTEXT OF INDUSTRY 4.0



In the manufacturing industry, the increasing intelligence of products and systems, their intra-company cross-linking and cross-company integration into value creation networks is discussed under the term *Industry 4.0*. Academics and practitioners largely agree that Industry 4.0 offers enormous opportunities, while at the same time having a presumably disruptive impact on today's value chains and business models.

Contrary to the great attention the subject gets in the media and the high investments in respective initiatives by political institutions, business investments in Industry 4.0 are rather low and only a few companies are actually initiating dedicated Industry 4.0 projects. This seems problematic as companies not only miss out on opportunities of Industry 4.0, but also because they risk to lose customers to non-traditional competitors or being pushed out of the market completely due to disadvantageous standard setting activities.

One reason for the observed restraint may lie in what researchers refer to as *organizational inertia*. Unfortunately, the respective research field appears to be highly fragmented: diverse forms and conceptualizations of organizational inertia have been elaborated and operationalized differently. As a result, means to overcome organizational inertia suggested in the literature are difficult to distinguish and compare. Systematizing and synthesizing the extant (empirical) research may allow to give managerial recommendations on how to overcome organizational inertia in the context of Industry 4.0.

By means of a *systematic literature review*, the specific goal of the master thesis therefore is to gather and analyze contributions on forms, causes, impacts and ways to overcome organizational inertia, synthesize these findings against the backdrop of the expected resistance to necessary changes in the context of Industry 4.0, in order to give managerial recommendations on how to overcome inertia tendencies in this specific context.

Literature:

- Gilbert, C. (2005): Unbundling the structure of inertia: resource versus routine rigidity. In: *Academy of Management Journal* 48 (5), 741–763.
- Kagermann, H. (2015): Change Through Digitization - Value Creation in the Age of Industry 4.0. In: H. Albach, H. Meffert, A. Pinkwart und R. Reichwald (eds.): *Management of Permanent Change*. Wiesbaden: Springer, 23–45.

WHICH TO CHOOSE? INVESTMENT DECISIONS IN INDUSTRY 4.0 PLATFORMS FOR SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs)



Industry 4.0 can be described as the development by which companies try to link machines, systems and things horizontally and vertically along the value chain, and to use the generated data for a more efficient value creation as well as new business models.

For networking and data analysis, platforms prove to be helpful because they allow the reuse of established processes, procedures or algorithms – e.g. to optimize manufacturing or to predict customer behavior. Platforms are currently being developed for vertical and horizontal integration as well as for end-to-end engineering. They can be distinguished in platforms that are only used internally in the company and those that give the customer direct access to company data or even enable third parties to market their own products and services. While some of these platforms seem to be very specific (e.g., oriented towards a particular industry or specific processes), others are more generic and offer great flexibility at the expense of specialization.

Depending on the specific aim and the area of application, different platforms or combinations of these can be useful. Considering a company's business model and specific business processes, it is necessary to select and integrate the right platform. Particularly, small and medium-sized enterprises (SMEs) must rely on external know-how and appropriate platform providers. However, they often lack the time, financial and human resources to deal with the issue of choosing the right platform (provider).

This practice-oriented master thesis should therefore, based on the scientific literature on platforms and, depending on the exact research question, supported by a *case study approach* (e.g., with the help of expert interviews), provide an analysis and systematization of existing platform providers in the context of Industry 4.0. The clear addressees are SMEs, most of whom need help in selecting a platform that fits their specific requirements and Industry 4.0 strategy.

Literature:

- Gawer, A.; Cusumano, M. A. (2014): Industry Platforms and Ecosystem Innovation. In: Journal of Product Innovation Management 31 (3), 417–433.
- Thomas, L. D. W.; Autio, E.; Gann, D. M. (2014): Architectural Leverage: Putting Platforms in Context. In: Academy of Management Perspectives 28 (2), 198–219.
- Working Group Industrie 4.0 (2013): Recommendations for implementing the strategic initiative Industrie 4.0. Final report of the Industrie 4.0 Working Group.

THE IMPACT OF INDUSTRY 4.0 ON LOGISTIC SERVICE PROVIDERS: NEW BUSINESS MODELS ON THE HORIZON?



Digital networking, the convergence of the real and the virtual world by means of information and communication technology, is becoming more and more advanced and offers manifold opportunities for the creation of wealth. Scholars and practitioners around the globe are trying to develop intelligent, comfortable, sustainable, automatized and optimized concepts for energy (e.g., *smart grids*), mobility (e.g., *smart cities*), health (e.g., *smart health*) and housekeeping (e.g., *smart home*). In the manufacturing industry, the increasing intelligence of products and systems, their intra-company cross-linking and cross-company integration into value creation networks is discussed under the term *Industry 4.0*.

Academics and practitioners largely agree that Industry 4.0 offers enormous opportunities, while at the same time having a presumably disruptive impact on today's value chains and business models. Both, managers and scientists, are regularly asked to develop new business models for Industry 4.0. Unfortunately, only a few business models have emerged in practice, and there was no considerable gain in knowledge from the part of science.

The *conceptual and literature based* master thesis should help to partly close this research gap by analyzing the specific case of logistic service providers (LSPs), i.e. organizations which perform all or part of a company's logistics functions. Different types of LSPs may leverage Industry 4.0 in distinct ways. Which innovative supply chain solutions may they be able to offer? How should accompanying business models look like? Based on a comprehensive analysis of the impact of Industry 4.0 on different types of logistic service providers and the industry itself, this master thesis should give recommendations regarding the strategic positioning of LSPs in the context of Industry 4.0.

Literature:

- Delfmann, W.; Albers, S.; Gehring, M. (2002): The impact of electronic commerce on logistics service providers. In: *International Journal of Physical Distribution & Logistics Management* 32 (3), 203–222.
- Hertz, S.; Alfredsson, M. (2003): Strategic development of third party logistics providers. In: *Industrial Marketing Management* 32 (2), 139–149.
- Working Group Industrie 4.0 (2013): Recommendations for implementing the strategic initiative Industrie 4.0. Final report of the Industrie 4.0 Working Group.