Wirtschaft und Recht für Mittelstand und Handwerk 3

Johannes Trenkle

Digital Transformation in Small and Medium-Sized Enterprises

Strategy, Management Control, and Network Involvement

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Abstract

In light of a dynamic spread of hard- and software across all elements of society, established companies of all sizes have to absorb digital technologies to stay competitive and realize economic benefits. They have to enter in digital transformations. This dissertation takes the view of and provides structural support to small and medium-sized enterprises (SMEs).

Essay I describes a digital transformation strategy framework along the four categories "use of technologies", "changes in value creation", "organizational aspects", and "financial aspects". I apply a case based, qualitative research approach to identify common categories and inherent configuration options of a firm-individual digital transformation strategy based on the experiences of SMEs that have successfully incorporated digital technologies in their business and operating model. I find SMEs thereby to accept limitations regarding their degree of strategic freedom and to consider organizational aspects including a strong focus on existing employees more intensely compared to large companies.

Essay II draws on empirical evidence regarding the benefits of management control systems usage in SMEs and develops components to create a digital transformation control system. By applying cultural, planning, administrative, and performance indicator-based controls, SMEs may realize e.g. performance and quality benefits and can faster adapt to the increasingly digital business environment. I develop knowledge from a case-based, qualitative research design, analyzing thoughts as well as intentional and unintentional actions of SME proprietors who successfully mastered digital transformation in their companies. The resulting model is integrated into existing, well-known management control system concepts and opens them for application in the context of digital transformation.

At last, essay III introduces 11 precisely characterized, empirically grounded innovation networks. The involvement in networks is a promising support for SMEs to complement their limited resources regarding innovation and research and development capacity. By developing a holistic, generic typology based on existing scientific knowledge and a data set of 300 purposefully sampled networks, common and distinguishing features between existing network types are clarified. The study mobilizes a sequential mixed methods approach, combining a qualitative content analysis

with consecutive hierarchical agglomerative clustering. The essay summarizes various existing characterizations of networks and uses them as an input to develop the first, comprehensive, empirically based network typology.

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