

# DIGITAL DISRUPTION AS CATALYST OF VALUE CO-CREATION: A BUSINESS MODEL PERSPECTIVE

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**Purpose** – 21<sup>st</sup> century economic development is considerably driven by a growing importance of digital solutions (Parviainen et al., 2017; Porter & Heppelmann, 2014). Interestingly, market effects of the introduction of digital technologies cannot be explained based on findings from classical literature dealing with technological change (e.g. Barnett, 1990; Chandler, 1977; Karasek, 1979; Schumpeter, 1942). Apart from affecting nearly all segments of economic activity (Nambisan et al., 2017; Tracey, Cavotta & Phillips, 2018) digital disruption seems to change basic principles of economic activity. As digital solutions are very often highly complex and multifaceted; implementing and running them requires a highly specialized set of competences. Taking into account that firm competences are naturally limited, network competences (Ritter & Gemünden, 2003) and resulting from this train of thoughts innovation ecosystems (Adner & Kapoor, 2010) gain importance. Making use of digital solutions leads to a need for firms to design new business models that allow for intensive value co-creation with both, business partners and customers and therefore bridge traditional firm boundaries. Literature approaching this novel phenomenon is still very sparse. Against this background, the purpose of our paper is to provide a deeper understanding of value co-creation infused business models that emerge as result of digital disruption.

**Methodology/approach** – We base our paper on literature dealing with digital disruption (e.g. Bowersox et al., 2005; Mazzone, 2014; Westerman et al., 2011); (digital) business model literature (e.g. Teece, 2010; Visnjic, Wiengarten & Neely, 2016) as well as value co-creation and innovation ecosystem literature (e.g. Adner & Kapoor, 2010; Galvagno & Dalli, 2014; Ordanini & Pasini, 2008; Storbacka et al., 2016). Against the background of a thorough literature review, we develop an interview guideline and conduct a set of six case studies. Each case study focuses on one specific digital solution-focused innovation ecosystem. Between 15 and 27 interviews conducted with the network partners between September 2018 and January 2019 build the groundwork for our study; we analyze the data by making use of the well-known so-called “Gioia-methodology” (Gioia et al. 2013). We combine data from all ecosystem partners and aim in a first step at uncovering peculiarities of the value architecture of business models firms embedded in the digital innovation ecosystem employ to handle effects of digital disruption. Furthermore, we focus on the ecosystem itself and aim at characterizing determinants of a possibly existing higher-order digital innovation ecosystem business model. We characterize business models following the notion of Teece (2010) and depart from the assumption that value creation, value delivery, and value capture are relevant aspects of the business model value architecture and also acknowledge the critical relevance of the value proposition transported by the business model.

**Findings** – Our findings suggest that digital disruption has a relevant effect on firm business models and in addition constitutes the evolution of higher order digital ecosystem-based business models. With regard to the firm business models, change necessities are mainly bound to the value creation aspect; co-creation replaces traditional firm-focused value creation; parallel firm acting becomes much more important compared to traditional sequential firm interaction. Interestingly, the business models of our case firms cannot be considered open business models as the protective element stays strong in case of a lack of severe external pressure to open up firm processes. What we observe can be classified as limited, opportunity-based co-creation – an insight that enhances our knowledge about value co-creation in general, especially as it challenges the role of trust in value co-creation processes highlighted in extant literature (Randall, Gravier & Prybutok, 2011). Value delivery is in some cases operationally changed in the context of digital disruption. However, the value delivery logic remains very traditional. In contrast, value capture is subject to change in this realm as basically non-monetary value types (such as social belonging, data access, or market visibility) gain importance. The latter is especially reflected in the digital innovation network business model we identify that can be characterized as a non-monetary social agreement aiming at enhancing interconnectedness. This ecosystem business model works as a catalyst of individual firm business models; its monetary effect is indirect in nature.

**Research implications** – Our paper advances value co-creation as well as business model research in three ways: first, we identify three distinct archetypes of value co-creation business models in the context of digital disruption. These archetypes may serve as groundwork for future research and allow for better structuring this emerging field of research. Second, we uncover existence as well as the basic nature of a higher order digital ecosystem business model that fuels individual firm business models and show in detail how the two levels of business models are interconnected. Third, we show that in the case of value co-creation driven digital business models a differentiation between products and services is not purposeful – an insight that supports a central service-dominant logic assumption.

**Practical implications** – Our findings enable practitioners to better deal with digital disruption challenges as we propose types of value architectures for business models that are proven helpful to handle these challenges. Furthermore, our findings show that the “all-or-nothing” solution in terms of opening up business models practitioners very often fear is not inevitable as it is possible and useful to employ value architecture designs characterized by “bounded openness”. We also point to the necessity for practitioners to keep the higher ecosystem level in mind as this level may have a severe influence on the success of the employed firm business model.

**Originality/value** – We approach a new and as far as we know up to know to explored topic and provide unique insights into the linkage of value co-creation and business model value architecture in a digital disruption context. In addition, we show that business model are likely to exist on different, interconnected levels – an insight that has up to know not been addressed by literature.

**Key words** – Digital Disruption, Value Co-creation; Business Models; Business Model Innovation; Multi-layer Business Model Interconnectedness; Digital Innovation Ecosystems.

**Paper type** – Research paper (empirical).

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