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2. EXPLORING THE SECTORIAL AND ORGANISATIONAL LEVEL

2.1 INNOVATION AND DATA-DRIVEN BUSINESS MODELS FOR SUSTAINABLE TRANSFORMATION

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Keywords: Data-driven business models and ecosystems, Digital transformation, Emerging technologies, Ecosystems' value propositions for sustainability

This track explores how data-driven and digital transformation of firms, business models and ecosystems create and shape new value propositions and affect sustainability. The adoption and application of data-driven technologies to design and adapt new business models is transforming how firms engage with ecosystem actors. On the one hand, data-driven technologies allow incumbents to diversify their product portfolio through the development and commercialization of product-service-systems, which may increase the participation of multiple stakeholders in co-creating sustainable value (Lacoste, 2016; Ferrigno et al., 2023; Yang & Evans, 2019). On the other hand, data-driven technologies induce fuzziness in the configuration of business ecosystems and firms' boundaries,

where suppliers and intermediaries may become competitors (Bustinza et al., 2019), or where incumbent firms engage in new cross-industry collaborations to attract new complementary digital capabilities (Engwall et al., 2021).

The exponential growth of Internet of Things, Big Data and Artificial Intelligence, such as generative AI, allows firms to redesign their business models to leverage sustainability, where data is the key resource for sustainable business activities. In these data-driven business models, data outlines the scope, the scale, the speed, and the sources of value creation and value capture (Sjödin et al., 2020). One practical illustration is the expected emergence of autonomous, connected, shared electric vehicles (ACES). They have the potential of opening up new opportunities for more sustainable transportation (e.g., increased degree of utilization of vehicles, decreased pollution) as well as a more customized mode of travelling by allowing for seamless changes in transportation modes (car, bus, bicycle, walk). Along with the economically motivated potential in such data-driven solutions and business models, they display potential for social and environmental contributions (Schneider, 2019).

A growing body of literature is dedicated to understanding how data-driven technologies have influenced how companies develop and adapt their business strategies to remain competitive in emerging and highly volatile markets (e.g., Ferrigno et al., 2023; Jocevski, 2020; Schiavone et al., 2021). Despite the growing body of research, we know little about how data and emerging technologies can be integrated into the design of business models and ecosystems, and the implications for the advancement of service offerings towards sustainability (Gebauer et al., 2021), let alone how data-driven technologies can and should be used for developing and implementing new business models. Furthermore, more research is needed into if and how data-driven business models can enable organizations to be resilient in the face of extreme events such as natural disasters, economic crises, pandemic outbreaks, and geopolitical conflicts (Mithani, 2020).

This track intends to empirically analyze and conceptualize the emergence and structure of both firms' and ecosystems' value propositions for sustainability. The track focuses on, but is not limited to, the interplay between products and services vs data-driven business models; digitization, digitalization and digital transformation of business models; the development and use of big data and machine learning, the use of generative AI for innovation, data acquisition strategy and new business models; the role of digital platforms for business model innovation; methods for developing data-driven business models and ecosystems.

Papers can address one or more of the following questions, which is not an exhaustive list:

- How best to leverage data-driven business models to address environmental and societal challenges?

- What are the opportunities and challenges related to data-driven business models for sustainability? More specifically, what are the factors that condition value creation and value capture from the use of data-driven/digital technologies?

- How do digital platforms, their corresponding ecosystems as well as overall ecosystem value propositions for sustainability emerge and evolve?

- How do SMEs approach data-driven business models for sustainability to operate on multisided markets?

- How can SMEs maximize the positive implications of their data-driven business models, while minimizing the negative ones along all dimensions of sustainability?

- Which are the critical complementarities in digital platforms and their corresponding ecosystems in emerging fields?

- How do different designs of digital platforms affect companies' data-driven business models for sustainability?

- How can/should companies govern their engagement in digital platforms, and what are the implications for business models for sustainability?

- What are the barriers and drivers to digital platforms and their corresponding ecosystems success and their sustainability?

- What are the drivers, barriers and enablers present in transitions from traditional business models to data-driven business models in emerging fields?

- What are the challenges and opportunities involved in the development and commercialization of sustainable product-service-systems offers?

- How can/should firms develop, acquire, attract, and evaluate AI/digital capabilities to diversify their product portfolio?

- What are the paradoxes and tensions involved in data-driven business model innovation?

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