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Call for papers – Special Issue

Twin Transition: Co-evolution between green and digital transition processes

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This Special Issue contributes to the study of the interrelationship between green (see e.g. Hatch et al. 2017; Debref et al. 2022) and digital transition processes (see e.g. Ortega-Gras et al. 2021, Khan et al. 2021, Krueger et al. 2022). More precisely, we strive to attract contributions which enhance our understanding of the co-evolutionary nature of so-called ‘twin transition’ processes, while always keeping regional and contextual factors in mind. With this highly contemporary thematic orientation, we address the extent to which digitalization strategies at the firm level simultaneously contribute to achieving sustainability goals. We adopt a neo-Schumpeterian perspective (Nelson et al. 2018), while taking into account theoretical insights from related scientific fields as well. The turn toward sustainability in innovation literature - and the accompanying normative shift - is reflected in a readjustment of the strategic action corridors for the actors involved within these systems (see e.g. Rosa et al. 2020).

In fact, evolutionary and coevolutionary innovation processes at the regional level have already been the subject of research in the past (Fritsch et al. 2019). However, the coevolutionary processes between green and digital transition are still far from being thoroughly investigated and understood (Rosa et al. 2020). In what is called the ‘twin-transition’ or, ‘twin digital’,

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‘green transition’, ‘Circular I4.0’ and “Digital CE” (Ortega-Gras et al. 2021; Rosa et al. 2020) there are *synergies and complementarities*, e.g. how *digital-green technologies* may be purposefully developed to reduce energy consumption and CO2 emission, enhance resource allocation and recycling, etc. In addition, there are *compensation and substitution effects*, e.g. phasing out gray low-/mid-tech sectors may need to be compensated by phasing in sectors needing workers with digital skills. Moreover, there are *conflicting and competing interests*, e.g. progressive digitalization causes a rise in the energy consumption, CO2 emission, and demand for resources.

The ultimate aim is to elucidate the involved relationship (which may extend beyond the 3 C's of complementing, compensating, and competing presented above), and derive innovation policy and governance measures to reap opportunities and overcome challenges of these transitions. Given the variation in the impact and interactions of these transitions based on regional characteristics, and given how regional inequalities are well-likely exacerbated, we seek to understand how regional policy measures are to be differentiated for inclusive growth and increasing equality.

We seek to attract novel approaches, concepts, case studies, simulations, lab experiments, empirical investigations from various disciplines and schools that address, in an open, pluralistic but rigorous manner, one or several themes on ‘twin-transitions’. Contributions may include but are not limited to studies of topics such as:

- How can we gain an in-depth understanding of sequencing and directionality of ‘twin-transition’ processes?
- How do green and digital transition processes – in their interaction – affect the activities and structure of industrial clusters, innovation and production networks, entrepreneurial ecosystems, and what are the challenges and opportunities different types of clusters, networks, and ecosystems face?
- To what extent do digital technologies enhance environmentally sustainable business models and strategies (e.g. introduce circularity)? What are the implications and challenges for strategic management when changing from linear to circular business models?
- How can digital-green technologies be implemented and what are the obstacles and challenges at the firm or personal level that may occur?

- What is the role of universities in the ‘twin’ transition process? How do they interact or collaborate with firm in this context and can they support firms in the entrepreneurial ecosystem in developing digital, green, or digital-green technologies?
- How do the economic, geographic and cultural characteristics of a region influence the identification, realization and successful adoption of digital-green technologies?
- What are the implications for firms, particularly those in the existing industrial clusters that apply these technologies with regard to energy efficiency, CO2 reductions?
- What can policy makers learn regarding governance and policy measures? How should policy measures be designed for (different types of) the existing industrial clusters, innovation & production networks, and entrepreneurial ecosystem in exploiting opportunities and overcoming challenges of these transitions?

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Timetable for submission and acceptance of papers:

- **June 30, 2023:** Deadline for complete manuscripts through online paper submission:
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- **December 31, 2023:** Final notification for acceptance:

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