



Sustainable Development: territories and innovations
14th RIODD Conference – 26-27 September 2019

Call for papers – Special session

Managing Industry 4.0 technologies and their impact on the sustainable performance of territories

There is a proliferation of technological advances, which are often described under the umbrella term of Industry 4.0 (Wagner and Walton, 2016). Undoubtedly, these technologies aim to improve the productivity and performance of the firms that adopt them, yet the effects of high rates of adoption and diffusion in regions and territories is largely remaining unexplored (Rübmann et al., 2015). For example, artificial intelligence, smart systems, smart cities, predictive analytics, blockchain, autonomous vehicles, Big Data, Internet of Things are technologies and applications that increasingly change the way business operate and have a particular effect on newly established companies, entrepreneurship, small but also larger companies as well as their supply chain (Schwab, 2016).

The ways new technologies affect the context in which they are being adopted has largely been omitted in the academic literature. Although servicescape is well established in the marketing literature (Nilsson and Ballantyne, 2014), the regional and territorial effects of technological networks are yet under-researched. Past studies have documented the technology productivity paradox (Brynjolfsson, 1993) to describe that productivity and performance in industries and territories did not follow the investments in and expectations from new technologies (Hajli, Sims, and Ibragimov, 2015). Also, following research in sustainability management, the social dimension remains understudied in the field of Industry 4.0 compared to the economic and environmental dimensions (Bag et al., 2018) and such gap needs to be addressed in theory and practice. Some studies tend to identify opportunities related to Industry 4.0 technologies like Big Data and show there could be advantages for sustainable supply chain management that directly or indirectly impact the sustainable performance of territories such as product and market strategies, customization of deliveries, cost reductions, new business models, collaboration with entire supply chain ecosystems (Kache and Seuring, 2017). These improvements however do not go without challenges for companies like ethics, change management, IT infrastructures, investments, talent management, cyber security and governance systems (Kache and Seuring, 2017). Opportunities and challenges of sustainability and Industry 4.0 technologies for territories remain unexplored and further research is needed to identify them.

The purpose of this special session is to present the most recent theoretical and practical developments in *Industry 4.0 technologies and their impact on the sustainable performance of territories*. Areas of interest include (but are not limited to):

- Sustainable innovations and their effects on companies and their supply chains
- Development of new and sustainable business models to increase territories sustainability performance
- Measurement and assessment of the impact of technological innovations on sustainable performance of territories
- Stakeholder analysis of engagement and interactions related to sustainable innovations (including not-for-profit organisations)
- Bottom-up initiatives related to the sustainable performance and innovations of territories
- Entrepreneurship and new business models impact on the sustainable performance of territories

The lists of themes are meant to define the broader context of the special session. We welcome a diversity of research on the topic. However, it is expected that the articles exhibit their impact on the special session topic.

References

- Bag, S., Telukdarie, A., Pretorius, J.H.C., Gupta, Shivam, 2018. Industry 4.0 and supply chain sustainability: framework and future research directions. *Benchmarking: An International Journal*, <https://doi.org/10.1108/BIJ-03-2018-0056>
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- Kache, F., Seuring, S., 2017. Challenges and opportunities of digital information at the intersection of Big Data Analytics and supply chain management. *International Journal of Operations & Production Management*, 37(1), pp.10-36
- Nilsson, E. and Ballantyne, D., 2014. Reexamining the place of servicescape in marketing: a service-dominant logic perspective. *Journal of Services Marketing*, 28(5), pp.374-379.
- Rüßmann, Michael, Markus Lorenz, Philipp Gerbert, Manuela Waldner, Jan Justus, Pascal Engel, and Michael Harnisch. Industry 4.0: The future of productivity and growth in manufacturing industries. *Boston Consulting Group* 9, no. 1 (2015): 54-89.
- Schwab, K. 2016. *The fourth industrial revolution*, Geneva, Switzerland : World Economic Forum, 2016.
- Wagner, S. M. & walton, R. O. 2016. Additive manufacturing's impact and future in the aviation industry. *Production Planning and Control*, 27, 1124-1130.

SUBMISSION PROCESS:

Conference papers must be submitted via e-mail to Professor Ilias Vlachos, Dr. Morgane Fritz and Dr. Salomé Ruel (vlachosil@excelia-group.com; fritzm@excelia-group.com; salomee.ruel@gmail.com) according to the RIODD templates available at : <https://www.excelia-group.com/en/faculty-research/research/riodd-conference-2019> and according to the RIODD calendar, i.e. :

- **Abstract by 10 May 2019**
- **Final paper by 6 September 2019.**

This special session will lead to a **special issue (SI)** on the topic in the *International Journal of Productivity and Performance Management*.

Both English and French contributions are welcome (however, French publications will need to be translated in English if accepted for publication in this SI).

The participation to this special session of the RIODD is however not a requirement to submit a paper to the journal. The call for papers will be open until **31st March 2020** and papers can be submitted directly through the journal submission system (see call at : http://www.emeraldgrouppublishing.com/products/journals/call_for_papers.htm?id=8594).

Guest editors are:

- **Professor Ilias Vlachos** (La Rochelle Business School – Excelia Group);
- **Dr. Morgane Fritz** (La Rochelle Business School – Excelia Group);
- **Dr. Salomé Ruel** (La Rochelle Business School – Excelia Group); **and**
- **Professor Vikas Kumar** (Bristol Business School, University of the West of England).

If you have any questions on this special issue, please contact **Professor Ilias Vlachos**, vlachosil@excelia-group.com.