

Resilience and Sustainability through Circular Supply Chains and Technology

Objective:

Traditionally, the Circular Economy has been associated with the concept of sustainability (Stahel, 2016), but recent events have provided a stimulus to evaluate the ability of the Circular Economy to bring benefits to companies and society also in terms of better resilience (Gaustad et al., 2018). All of this can be reinforced through a supply chain management perspective, thanks to the ability of a circular approach to regenerate resources instead of procuring new ones (Do et al., 2021), coming from primary markets that are not always accessible in presence of various types of disruption. Ability that currently appears to be of utmost importance for dealing with recent adversities and that can represent an innovative alternative to traditional and consolidated approaches to "restart" the linear economy thanks to the crossing with sustainability targets (Carissimi et al., 2021). Due to its features, a Circular Supply Chain can be the silver bullet for overcoming the abovementioned challenges: its structure is based on closed, short, and cascading loops, its focus is on collaborative value capture and its scope is local based (De Angelis et al., 2017). In addition, recent evidence reports that digital technologies (e.g. Blockchain) are essential facilitators of Circular Economy mechanisms towards better sustainability and resilience (Wang et al., 2020).

While Circular Economy, Resilience, Sustainability and Digital Technologies have received considerable attention in the domain of supply chain management, little knowledge and evidence currently exist on the combination of these elements for achieving sustainability and resilience targets, and even less is known about companies' awareness or level of adoption of related practices.

Consequently, this PhD project will focus on exploring these crossing areas and to provide the scientific and industrial communities with theoretical advancements, insights and empirical evidence on such cutting-edge topics by investigating different sectors and industries (e.g., grocery, food and beverage, pharma, logistics service providers).

Methodology:

Mixed methodologies are well suited to the achievement of the objectives of this work. Consequently, applications presenting a combined use of bibliometric approaches to the literature, qualitative methods and quantitative tools are welcome, for theory building and theory testing purposes. Applications can include a pondered selection of methods such as Systematic Literature Network Analyses, text mining, machine learning, case studies, simulation and surveys.

Expected Outcomes:

If the PhD Project is developed as a *paper-based dissertation*, you will be asked to produce:

- A Literature Review or a Conceptual paper on the literature and theory underpinning the crossing themes of Circular Economy, Sustainability, Resilience and Technology in supply chain management.
- At least two empirical papers, reporting the outcomes of field-based research focused on the investigation of the concerned areas. A range of different methodologies are required.

If the PhD Project is developed as *monograph*, you will be asked to produce:

- A full-length dissertation inclusive of the overall theoretical and empirical research conducted during the PhD Project and strictly related to the topic under investigation.

Supervision:

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References

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De Angelis, R., Howard, M., Miemczyk, J., 2017. Supply Chain Management and the Circular Economy: towards the Circular Supply Chain. Production Planning and Control 29, 425–437.

Gaustad, G., Krystofik, M., Bustamante, M. and Badami, K., 2018. Circular economy strategies for mitigating critical material supply issues. Resources, Conservation and Recycling, 135, pp.24-33.

Stahel, W. R. (2016). The circular economy. Nature, 531(7595), 435-438.

Wang, B., Luo, W., Zhang, A., Tian, Z., Li, Z., 2020. Blockchain-enabled circular supply chain management: A system architecture for fast fashion. Computers in Industry 123.