DIGITAL TRANSFORMATION IN THE CONTEXT OF SUPPLY CHAINS

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PURPOSE

This present report intends to highlight the possible contributions of researching digital transformation in supply chains in order to investigate potentials and opportunities to improve resilience.

RELEVANCE

Today's challenges related to supply chains disruptions and its respective consequences in local and global economies defies current perspectives and indicates the need to further developments in investigating how digital transformation could contribute to reduce risks and integrate supply chain operations.

The notion of supply chain within the digital transformation concept is explored in this study as the formation of crucial elements (organisations, individuals, processes, technology and the flow of services, products and information) (Pessot et al., 2022; Bowersox et al., 2005) in the interactional dimension of value creation and network configuration (Eriksson et al., 2021; Frankenberger et al., 2013). Supply chains are, therefore, networking activities characterized by movement of relating and interconnecting people, process and the necessary technology for digital transformation. Supply chain interactions take place in the course of distributed encounters between participants and through the use of digital transformation to perform the respective activities (e.g. Czachorowski and Haskins, 2022; Reinartz et al., 2019). In sum, the supply chain is a multi-layered format of team work, information, services, products and finance (Pfohl and Gomm, 2009), which represents a perspective of shaping multiple inter-organisational processes (Umar et al., 2021; Knoppen et al., 2010). The present study relates to this configuration of the supply chain with digital transformation possibilities.

Current supply chain approaches sustain traditional views based on a sequence of flows which are time-bounded and present pre-defined goals (e.g. Manavalan and Jayakrishna, 2019; Ribeiro and Barbosa-Povoa, 2018). However, it is important to note that there might be an interchangeable sequence of digital transformation initiatives that not necessarily is prompted by a focal player traditionally pointed as the central organisation (Chen and Paulraj, 2004). Dynamic interactions in complex and changing environments (as in digital transformation contexts) may require procedures of constant change of partners within rapid negotiations and improvisation.

The effects of diverging interests and of the diversity of perspectives on digital transformation has been underestimated in current supply chain literature. The approach of digital transformation within the configuration of supply chain networks needs to stress the formation, dissolution and reformation of mutual processes amongst participants with diverse interests. This is in contrast with the perspective of prompting changes through the supply chain following a continuous process improvement by means of cooperation within established schedules and centralised coordination (e.g. Jimenez-Jimenez et al., 2019; Min et al., 2019). It is here argued that, digital transformation through supply chain networking could represent a departure from managing stakeholders in a centralised fashion. Multiple systems of activity must interconnect in order to produce digital services. In effect, the complexity of interactions and diversity of interests in a supply chain (i.e. Eckhardt and Poletti, 2018) demand collaboration and networking for digital transformation.

Current examination of the role of suppliers indicates the need for a novel perspective that could capture the phenomenon of mutual integration of digital capabilities (process and technology) (i.e. Birasnav and Bienstock, 2019). The supply chain must enable mutual relations of knowledge exchange and reciprocal learning (Handoko et al., 2018). Learning digital transformation in supply chains can be viewed in two ways. Firstly, one could envision the structure of interacting services and the construction of social spaces through boundary crossing and networking (Borgatti and Cross, 2003). Secondly, one could view learning at the level of action, where participants negotiate and interact through networking and through bridging personnel-organisational or technical-organisational transformations (Seufert et al., 1999). This means that the integration of digital capabilities refers to tying operations, personnel and resources while interacting through navigating in multiple sites.

The emphasis on the individual and collective competence, skill, and knowledge that encourages participants' engagement in efforts of change is an important aspect that emerges from viewing learning in supply chains. In order to face challenging transformations individuals and organisations can experience the search for relevant expertise by means of crossing boundaries and finding networking partners (Carlile, 2004). In sum, the main idea of understanding supply chain in digital transformation is that the chain of suppliers and customers configure value in interaction and jointly. These interactions could then be seen as continuing networked transformations of the supplier, the customer and other parties and their mutual process relations according to the product/service and the value proposition.

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