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Title: Collaboration for Resilience in Supply Chain Strategies: A Dynamic Capabilities View

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Abstract: Recently, organisations' supply chains have been experiencing one form of disruption or another which has led to the partial or entire breakdown of the supply chain of many organisations. As organisations seek to procure materials and distribute products across the globe, the supply chain is more vulnerable to attacks from various forms of disruptions. The need for supply chain resilience cannot be overemphasised in a period where disruption occurs in new forms and ways such as the COVID-19, pandemic, and the Ukraine-Russia war among others. Having a resilient supply chain in place will not only prevent disruptions from impacting the operation of the supply chain but, also ensure organisations operations are unaffected.

This study explores the link between collaborative dynamic capabilities and resilience in supply chain strategies to address the current problem of supply chain disruption and contribute to knowledge by (1) Presenting collaborative dynamic capabilities as a resilience strategy in the traditional and new view (2) Highlights how organisations can transcend from the position of preventing disruption to taking advantage of disruptions using the collaborative dynamic capability at their disposal.

Keywords: collaboration; resilience; disruption; supply chain; strategy

Introduction

Our paper focuses discussions on a link between collaborative dynamic capabilities and resilience in supply chain strategies (Dovbischuk, 2022; Piya, Shamsuzzoha, and Khadem, 2022). To date, the urgency of discussions has been shaped by two trends. First, the world has entered in an era of large-scale disruptions (e. g. COVID-19 pandemic, the Suez Canal blockage, Russia-Ukraine war, and natural disasters such as earthquakes, floods, and tsunami). These have directly or indirectly affected supply chains of many organisations. Although some supply chains have embarked on virtual cycles in the changing context (Dourian, 2020; Um and Han, 2021; Dovbischuk, 2022; Essuman *et al.*, 2022; Guo *et al.*, 2022; Mishra, Singh and Subramanian, 2022; Romero *et al.*, 2022; Spieske *et al.*, 2022), many organisations find the new conditions challenging and search for strategic approaches enabling resilience of their supply chains. Second, the world has reached a new phase of shared economy—the one where organisations engage in co-creation and become more interdependent and where collaborative capabilities may be the key to resilience (Ning *et al.*, 2022; Bygballe, Dubois and Jahre, 2023; Ghanei, Contreras and Cordeau, 2023; Moktadir *et al.*, 2023; Sun *et al.*, 2023).

Prior research boasts of multiple studies offering various suggestions on how strategists could develop a collaborative dynamic capability to enable resilience of supply chains in the disruptive contexts. However, these suggestions are largely fragmented and even contradictory in places suggesting the need for integrating prior research to produce a more consistent advice. Our contribution comes from addressing this problem. We contribute by synthesizing the fragmented research to offer a more consistent advice on how collaborative dynamic capabilities can be used to create resilience. This synthesis revisits the following research question:

How can collaboration be developed as a dynamic capability to achieve resilience in supply chain strategies in the conditions of disruption?

With this review, we aspire to contribute to one of the central themes—an understanding of the shift in dynamic capability paradigm in the face of modern disruptions—of the Annual British Academy of Management Conference and the Strategy SIG. Specifically, our review challenges a traditional view of collaborative dynamic capability and offers a new view of collaborative dynamic capability—the one which enables strategic resilience in large-scale disruptions.

The remainder of the review is structured as follows. First, we discuss a review methodology. Then, we proceed with the development of theoretical domains. In the final part of the review, we propose a new approach to managing collaborations for resilience in supply chain strategies.

Methodology

Ontological boundaries

The ontological boundaries are defined by the link between collaborative dynamic capabilities and resilience in supply chain strategies. For this reason, this review is geared around the following keywords: collaboration; resilience; disruption; supply chain; strategy to search for papers published in supply chain management.

Search criteria and procedures

To review the literature, collaboration and resilience were entered into the Scopus search engine. The initial result shows 3079 documents which are then narrowed down by editing the search result to include supply chain management. At this point, a total of 149 documents were found and to further narrow the result down to show only documents written post the COVID-19 pandemic, the result was refined to include the word COVID-19 pandemic. To ensure that influential and impactful studies in the area of supply chain management are considered, the citation index of each study was also put into consideration before they are included in the study.

Sampling

Only journal articles, reviews, and conference papers were included in the search. A total of 42 documents including 37 journal articles, 3 review papers, and 2 conference papers were considered for this paper. The review papers (Best and Williams, 2021; Araujo *et al.*, 2022; Raja Santhi and Muthuswamy, 2022) summarise the impact of disruption on supply chains and how organisations are beginning to engage in various forms of relationships to be able to tackle the negative impact of disruption. This paper addresses the recommendation of (Best and Williams, 2021; Araujo *et al.*, 2022) by considering how resilience can be attained using collaborative dynamic capability. Also, the majority of the article recognised the need for resilience and further recommend various drivers of resilience. One notable point in the review is that almost all the articles agreed that collaboration is a driver of resilience (Ali and Gölgeci, 2019; Priyadarshini *et al.*, 2022) but not much has been said on collaboration as a dynamic capability for attaining resilience. Furthermore, most of these articles considered resilience

from the traditional viewpoint whilst calling for future research to consider the possible paradigmatic change in the phenomena (Dolgui and Ivanov, 2021; Queiroz *et al.*, 2022). To address the recommendations, this paper explores collaboration as a dynamic capability for attaining resilience and considers resilience from both the traditional and the new view.

Synthesis approach

The papers were read critically and findings were reported using the lines-of-argument synthesis as described by Barnett-Page and Thomas, (2009). This approach enables the authors to show a clearer picture of how collaboration can be used to create resilience as a dynamic capability.

Synthesis Findings

Resilience paradigm

In the pre-pandemic literature, resilience is largely presented as a capability of organisations to bounce backward by returning to the old normal, or a condition preceding a disruption (Scholten and Schilder, 2015; Manurung, Yudoko and Okdinawati, 2023; Zhang, Jia and You, 2023). Achieving resilience involves all actors of a supply chain becoming agile and adaptive by being able to recover from disruption and return to the pre-disruption state or a better state (Michel-Villarreal, 2022; Ali, Golgeci, and Arslan, 2023; Saleheen and Habib, 2023).

By contrast, the post-pandemic literature explores resilience as a capability to not only bounce backward but also to bounce forward, by adapting to or even shaping the new normal. This paradigmatic shift in resilience is documented in (Umar and Wilson, 2021; Hägele, Grosse and Ivanov, 2023; Nejinski and Andreev, 2023).

This paradigmatic shift in resilience contributed to two distinct domains of collaboration as a dynamic capability (the traditional view and the new view). The two domains mentioned earlier will be explained in the next section in greater detail.

Collaboration

Collaboration in the supply chain context is a relationship that involves sharing of information, resources, joint planning, joint decision-making, and sharing of risk and reward (Gereffi, Pananond, and Pedersen, 2022). In this section, we present two views on collaboration as a dynamic capability for resilience in supply chain strategies.

Collaborative Dynamic Capability: A Traditional View

This view explores dynamic capabilities in collaborations enabling resilience by bounding backward. This domain has focused largely on partial disruptions. For example, it examined the dynamic capability to collaborate when disruptions affected some part of the vertical or horizontal supply chain (Kumar and Anbanandam, 2020).

Collaborative Dynamic Capability: A New View

This view explores dynamic capabilities in collaborations enabling resilience by bouncing forward. Inherent to this domain, is the issue of liminality a condition where an old system (e.g. institutions and ways of working in supply chains) is futile but the new one has not formed yet (John and Lawton, 2021). Therefore, this domain informs about collaboration as a dynamic capability in the liminality context; hence collaboration is a liminal capability (Psalti and Pichlhöfer, 2022).

Conclusion

In this paper, we elaborate on the link between collaborative dynamic capabilities and resilience in supply chain strategies. Although authors such as McCarthy and Golobic, (2002); Max Shen *et al.*, (2021); Umar and Wilson, (2021); Gereffi, Pananond, and Pedersen, (2022); Kent *et al.*, (2022) have looked at the relationship between collaboration and resilience, more work is still required. This paper adds to knowledge by considering collaborative dynamic capabilities in the light of the traditional and new view of resilience. It also explains how collaboration as a dynamic capability can create other capabilities for attaining resilience.

Engaging in a collaborative relationship will help organisations to develop proactive (visibility) and reactive (agility) elements of resilience which is crucial to the traditional view (bouncing back) and the new view (a possibility of bouncing not only backward but also forward) (Saleheen and Habib, 2023). Visibility of the supply chain is crucial for organisations to be proactive to tackle disruption at the source. Collaboration through the exchange of information and sharing of resources improves the visibility of the partners in the relationship (Hägele, Grosse, and Ivanov, 2023).

Collaboration is a dynamic capability of an organisation, which helps the organisation's supply chain to attain a resilient state through the benefits it possesses. Most importantly, these benefits help to further create other capabilities such as resource slack, redundancy, flexibility, visibility, velocity, and agility. We contribute to knowledge by challenging the traditional view of collaborative dynamic capability enabling resilience by bounding backward and offering the

new view of collaborative dynamic capability enabling a possibility to bounce forward and shape the market. The new view will help to move organisations from the position of recovering from the negative impact of disruption (Carissimi *et al.*, 2022) to a position of (1) prevention of disruption and (2) taking advantage of disruptions using collaborative dynamic capability (Hosseini and Ivanov, 2019; Bygballe, Dubois, and Jahre, 2023; Hägele, Grosse and Ivanov, 2023) thereby avoiding disruption of some part of the supply chain or the entire system depending on the nature of the disruption.

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