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Session 2 : Résilience Organisationnelle et Gestion des Connaissances

Systematic Review on Digital Resilience in Organization-Related Context: A temporal perspective

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Introduction

This paper aims to take part in further exploring the notion of Digital Resilience (DR) (Boh et al., 2020). The interest in this topic can notably be measured through the number of influential conferences (e.g., ICIS 2021; ECIS 2021; HICCS 2021; AIM 2022) and the last *MIS Quarterly* special issue interested in DR (March 2023, volume 47, issue 1). Boh et al. (2023: 344) define DR as the “*capabilities developed with the use of digital technologies to absorb major shocks, adapt to disruptions, and transform to a new stable state*”. In this short paper, we adopt a focus on DR within organizations. The disseminated and sometimes ambiguous nature of the literature on this topic highlights the need for a clearer positioning of DR. Recent work on organizational resilience (e.g., Hillman and Guenther, 2021; Raetze et al., 2022) propose can offer keys to understanding this notion of organization-related DR. We thus achieved a Systematic Literature Review (SLR) drawing on existing works to address the following research question: What is the current state of in organization-related DR research?

Methodology

The objective is to gather papers on organizational resilience (OR) and digital on the one hand, and on what appears directly under the term DR in the literature on the other hand. We built a SLR of relevant publications within the IS and management literature in February 2023. We carried out a computerized search of the literature enquiring Business Source Complete (Ebsco), Web of Science (WoS), AisLibrary and HICSS library services. We used a combination of multiple databases to ensure a satisfying representation of the literature (Bramer et al. 2017). The bibliography software Zotero allowed managing references. It led to the identification of 65 references.

Following Raetze et al. (2022) guidelines, this work aims at treating DR in organization as a subconstruct of organization-related resilience. Therefore, to bring rigor to a sporadic field, we used the following codes (table 1).

<i>Property</i>	the nature of the phenomenon under consideration (i.e., “is resilience understood as an <i>attribute</i> , a <i>process</i> , or an <i>outcome</i> ?”),
<i>Proximal function</i>	the process and capabilities needed to achieve positive outcomes in the face of adversity (i.e., “detection and preparation, appraisal and coping, long-term adaptation and learning”)
<i>Stability</i>	if resilience is seen as a stable trait or as a dynamic process (i.e., “dynamic or stable”)

Table 2. Description of codes used (adapted from Raetze et al., 2022)

Raetze et al. (2022) distinguish three overarching themes of organization-related resilience research: (a) developmental resilience, (b) proactive resilience, and (c) reactive resilience. These approaches occur differently in the lifespan of the organization (i.e., “temporal” perspectives). *Developmental* resilience aims to ensure the favorable and enduring growth of organizational entities in the face of persistent risk factors. *Proactive* resilience pertains to the creation and cultivation of resources and skills necessary for effectively managing future adverse situations. Conversely, *Reactive* resilience involves responding to immediate threats and crises in a concrete and short-term manner. Through these themes, we want to reflect on how DR is apprehended in the present literature and could be apprehended in future research.

Results

One of the first result of this systematic review is that DR is a wide and complex concept, and that the literature offers numerous perspectives on DR. In this part, we focus on these overarching themes and reflect on how they link to the other codes and to the content of the articles. Some of the papers could not be classified because the way they operationalize DR did not match any of the perspectives (e.g., Zeng et al., 2022; Park et al., 2015) or because they were systematic reviews that proposed an integrative view of DR (e.g., Weber et al., 2021; Kohn, 2023).

Perspectives	Number
<i>Proactive</i>	16/65
<i>Reactive</i>	14/65
<i>Developmental</i>	28/65
<i>Could not classify</i>	7/65

Table 2. DR in organizational-related contexts' perspectives

Proactive DR features work focusing mainly on technological possibilities. These papers tend to explain how organizations could implement protective IT factors and resources to enhance their DR (e.g., Marcucci et al., 2022). The potentials of IT are notably explored from a detection and preparation point of view, which would help the organizations resist and adapt quickly to potential threats or crises (e.g., Schemmer et al. 2021; He et al. 2021). We also notice that contributions interested in how cyber-resilience supports organizational resilience tend to adopt such a proactive view of DR (e.g., Annarelli et al., 2020; Trim & Lee, 2022). The authors with a proactive DR view highlight notably the importance of physical preparedness and internal reliability which questions the proximity between proactive DR and the notion of robustness. Finally, it is important to highlight that the nature of adversity discussed in the papers are mostly cyberthreats. This result opens the discussion about how the “digital” in DR is understood (cf. Kohn, 2023).

Reactive DR generally focuses on organizational capabilities that would enable reactive DR such as agility (Mangalaraj et al., 2021), rapidity (e.g., Heeks & Ospina, 2019), flexibility (e.g., Al-Matari et al. 2022), reliability and adaptability (Jayasinghe et al., 2021). A dynamic capabilities lens is mainly used to study reactive DR. We also argue that reactive DR-related works seem to present sometimes a rather limiting view of DR in organizations. While works on proactive DR often acknowledge multiple temporal perspective of DR, reactive DR is in some cases only apprehended and defined according to its reactive dimension. For example, Boh et al.'s (2023) definition only highlights the recovering and adjusting phenomena of resilience (cf. “*appraisal and coping*”). It could be argued that, in the absence of certain recent seminal articles of conceptualization, some may have omitted other dimensions of DR. Another element that reinforces this argument is that the ability to bounce back (*appraisal and coping*) is more salient (cf. *resilience realization*, Duchek 2020).

Lastly, *Developmental DR* features the biggest number of articles, and in average, the most recent ones. Interestingly, the developmental DR offers a wider representation of proximal functions. The papers were often matching different codes such as *long-term adaptation and learning*, as well as *detection and preparation*, and *appraisal and coping* (e.g., Xie et al., 2022; Mehedintu & Soava, 2022). A relevant illustration of a definition that gathers all these three proposed proximal functions

is: “(DR is the) *capacity of organizations to make effective use of digital technology to prevent, anticipate, absorb, and adapt to major challenges and to continuously evolve and transform in a productive and sustainable manner*” (Magutshwa & Radianti, 2022). Focus is given to organizational learning (e.g., Xie et al., 2022), culture (e.g., “positive, compassionate environment”, Chatterjee et al. 2021), and Business Model Innovation (e.g., Shaffer et al., 2021). On Business Model Innovation, we found a consequent number of studies highlighting the greater resilience of organizations operating on digital platforms in China (e.g., Yuan et al., 2022; Guo et al., 2022). The proximal function of long-term adaptation and learning is particularly addressed in the developmental approach. This constitutes an important result as authors in the field of OR and DR shed light on the lack of clarity about the temporality of resilience (Raetze et al. 2022; Kohn, 2023). Finally, in terms of type of positive functioning, the continuous evolution of the organization through digital technologies and the dimension in which this developmental approach seems to support the emergence of new opportunities (e.g., Shaffer et al., 2021; Neumanova et al., 2021) opens discussion about the nature of the positive outcome achieved with DR.

Discussion

In this short paper, we aimed to provide an integrative overview on the current state of organization-related DR research. This paper offers to explore the literature on organizational-related DR through a relevant lens (cf. *proactive, reactive and developmental* DR, Raetze et al. 2022). We encourage future research to consider and acknowledge the multiple temporal perspective of DR in organizations even when adopting particular focus.

Second, we want to spotlight that the perspective used depends less on the authors' ideas about DR rather than on the object studied. Indeed, as underlined in the results, an article mobilizing a resource-based view will tend to adopt a proactive approach, an article on dynamic capabilities a reactive approach, etc. Lastly, there are no multiple conceptualizations, rather only one that features a developmental, proactive, and reactive perspective. Looking at the variety in terms of positive outcomes, proximal functions, and shocks related to resilience, we suggest that DR is a concept that evolves on a wide spectrum and shares some common characteristics (but not all) with the concept of robustness (i.e., *mitigating risks and their consequences*) and that one of antifragility (i.e., *flourishing in time of crisis*). Future research could explore further the differences and similarities between these concepts.

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[Complete corpus \(65 articles\).](#)

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