European Management Journal 41 (2023) 1086–1105

Contents lists available at ScienceDirect

European Management Journal

journal homepage: www.elsevier.com/locate/emj

Unlocking the recipe for organizational resilience: A review and future research directions

Wenjia Su *, Sebastian Junge

Friedrich-Alexander-Universität Erlangen-Nürnberg, Department of Management, Lange Gasse 20, 90403, Nuremberg, Germany

ARTICLE INFO

Keywords:
Organizational resilience
Adversity
Disaster
Crisis

ABSTRACT

In these challenging times of climate change, pandemic, and war, research on organizational resilience has gained significant momentum. The purpose of our review is to examine how adverse events and antecedents at the individual, group, organizational, and network levels affect organizational-resilience processes and their outcomes. Based on a systematic search in 53 top-ranked journals over a period of 25 years from 1997 to 2022 and an additional backward reference search, we conduct a framework-based literature review of 127 publications. We find that the form of the adverse event (i.e., its emergence, novelty, and severity) determines the resilience process and underlying actions. To address the multilevel facets of organizational resilience, we integrate a comprehensive array of antecedents at the individual, group, organizational, and network levels, and show that their influence on resilience processes and outcomes can be beneficial or detrimental depending on the context. We highlight research opportunities along our framework (antecedents, process, and outcomes) and derive a set of propositions.

1. Introduction

Modern organizations face a wide range of challenges, including climate change, technological upheaval, and sociopolitical movements. These challenges may give rise to various adverse events that threaten the performance and survival of organizations (Williams et al., 2017). Within organizational boundaries, internal shocks, such as accidents, strikes, and emergencies, can disrupt the normal operative functioning of organizational infrastructure, processes, and routines (Kahn et al., 2018). Moreover, external events beyond the organization's control, such as natural disasters, financial crises, and war, can jeopardize its success and survival (Bahri Korbi et al., 2021; Landini et al., 2020). Recently, the Covid-19 pandemic and Russia's aggression against the Ukraine have served as examples of such major adverse events, which can disrupt existing business models and strategies and, ultimately, lead to business failure (Khlystova et al., 2022).

The magnitude of recent adverse events has triggered a paradigm shift from merely seeking profit toward building resilience. The term "resilience" stems from the Latin verb *resilire* and means to "bounce back" (Stoverink et al., 2020). It was originally used in ecology to describe the ability of ecosystems to absorb external forces (see Holling, 1973), before it was adopted and studied in the organizational context under various theoretical lenses (e.g., the resource-based view or the dynamic capabilities view). "Organizational resilience" refers to a firm's ability to cope with and recover from adversity by adjusting and preserving (or improving) its functions (Kahn et al., 2018; Sutcliffe & Vogus, 2003; Williams et al., 2017). As such, resilience has three core characteristics: an adverse event as a trigger, a performance setback, and a recovery.

Research on resilience in management and organizational science started in the early 1980s (e.g., Meyer, 1982; Staw et al., 1981) and has grown exponentially over the past 10 years. Previous reviews have examined the development of resilience research (Hillmann, 2021; Linnenluecke, 2017) and aligned definitions of resilience (Conz & Magnani, 2020; Hillmann & Guenther, 2020). Given recent events, research on resilience has continued to increase and provided new, relevant insights. However, some aspects of resilience remain underrepresented. First, as the majority of the literature neglects the different forms of adversity, little is known about how the specific properties of adverse events influence organizational response and recovery. Second, organizational resilience requires the interaction of individuals (i.e., employees and leaders), subunits (i.e., groups), and external partners in networks (Behrens et al., 2022; Gereffi et al., 2022). Yet, a holistic view on the antecedents at these different levels and their effects on overall

* Corresponding author.
E-mail addresses: wenjia.su@fau.de (W. Su), sebastian.junge@fau.de (S. Junge).

https://doi.org/10.1016/j.emj.2023.03.002
Received 14 March 2022; Received in revised form 22 February 2023; Accepted 10 March 2023
Available online 20 March 2023
0263-2373/© 2023 Elsevier Ltd. All rights reserved.

organizational resilience is missing. Third, many studies theorize and argue for different outcome variables, such as strategic renewal (Heinonen & Strandvik, 2021; Wenzel et al., 2021), innovation (Do et al., 2022), reputation damage (Iftikhar et al., 2021), and performance (Buyl et al., 2019). However, most empirical studies operationalizing organizational resilience rely on different performance measures (e.g., stock-price recovery, return on sales, effectiveness, or survival). Our research question arising from these issues is:

How do different forms of adverse events and antecedents at different levels (i.e., individual, group, organizational, and network) affect the processes and outcomes of organizational resilience?

We address this question by conducting a framework-based literature review on organizational resilience. In a review of 127 publications from 1981[1] to 2022, we find that the form of adversity (i.e., its emergence, novelty, and severity) affects organizational decisions on resilience actions (e.g., absorption and adaption). Furthermore, we identify a set of antecedents to organizational resilience on the individual, group, organizational, and network levels that positively influence resilience (e.g., self- and group-efficacy, bricolage, slack resources, network visibility), or have both beneficial and detrimental impacts depending on the context (e.g., narcissism, organizational structure, and size). Finally, we reveal the ambiguous conceptualizations and operationalizations of resilient outcomes found in the extant literature.

Our review contributes to the literature on organizational resilience by conceptualizing a multilevel framework of antecedents, decisions (resilience process), and outcomes. We identify a comprehensive array of antecedents (adverse events and antecedents at the individual, group, organizational, and network levels) and explain their influence on organizational coping decisions (actions along the resilience process) and outcomes. Paving the way for future studies, we highlight research opportunities based on the identified gaps and derive a set of propositions.

This review is structured as follows. First, we discuss the concept of organizational resilience and related theoretical lenses, and flesh out the value added by our study compared to previous literature reviews. We then describe the methodology used to systematically identify, review, and analyze the literature. Guided by the ADO framework (e.g., Paul & Feliciano-Cestero, 2021; Singh et al., 2021), we discuss our findings on adverse events, multilevel antecedents (A), decisions on the actions along the resilience process (D), and outcomes (O). Thereafter, we outline an agenda for future research to deepen our knowledge of organizational resilience. As we move toward our conclusion, we highlight a set of theoretical and practical implications.

2. Literature review

2.1. The concept of resilience and related theoretical lenses

Resilience is applied to various subjects and phenomena across different research disciplines. In psychology, resilience is examined in relation to individuals' abilities to restore their mental well-being after a traumatic event (Masten, 2021). In material science, researchers analyze resilience as the capacity of a material to absorb pressure and return to the original physical form (Callister, 2001). Safety engineering focuses on resilience engineering in the design of systems that will be reliable in the face of external shocks (du Plessis & Vandeskog, 2020; Wildavsky, 1988).

In organizational and management contexts, resilience is investigated at the individual, group, organizational, and network levels. Individual resilience appears in the workplace as an employee's ability to withstand a variety of stressors (e.g., performance pressure) and still perform well (Brunetto et al., 2022; Mitchell et al., 2019). It is viewed as an element of an employee's psychological capital[2] that leads to positive organizational behavior, such as work commitment and performance (Fischer-Kreer et al., 2021). At the group level, resilience pertains to the collective response of different individuals when faced with adversity. This response strongly relies on the relational aspects within the group (e.g., cohesion and collaboration) (Barton & Kahn, 2019; Bhamra et al., 2011). Organizational resilience focuses on the organization, including its subunits (employees and groups), and represents the ability to cope with adversity by effectively utilizing resources and capabilities, and interacting with external actors to maintain or improve functioning (Kahn et al., 2018; Williams et al., 2017). As major adversities may have wide-reaching effects, organizations interact with each other at a higher level (i.e., network). Network resilience can be observed in supply chains as the ability to restore operating performance after a disruption (Ali et al., 2022), and in communities as the collective response of citizens and various organizations (e.g., private, governmental, nonprofit) to disasters (Dutta, 2017; Rao & Greve, 2018).

Organizational resilience has been studied under various theoretical lenses, including the resource-based view (RBV), the dynamic capability perspective, theory on organizational ambidexterity, social-capital theory, and upper echelons theory. The RVB implies that an organization's unique set of tangible and intangible resources determines its long-term competitive advantages (Barney, 2001). Under adverse conditions, resilient organizations may deploy their resources to facilitate an effective response (Landini et al., 2020; Parker & Ameen, 2018). Closely related to the RBV, the dynamic capability perspective emphasizes that firms need to build dynamic capabilities (i.e., processes and routines) (Eisenhardt & Martin, 2000) in order to use their resources to adapt to changing conditions and, ideally, avoid negative consequences (Ahn et al., 2018; Bustinza et al., 2019). Relatedly, the literature links organizational resilience to organizational ambidexterity, which refers to the ability to simultaneously pursue incremental improvements and discontinuous innovation in the face of environmental change (O'Reilly & Tushman, 2013). Ambidextrous organizations are better able to cope with major adversity (Iborra et al., 2020; Turner et al., 2020). The relational aspects of organizational resilience can be investigated through the lens of social capital—that is, social relationships within and outside the organization (Gittell et al., 2006). As organizational resilience depends on multilevel interactions among individuals, groups, and other organizations within a network, social capital is essential for collaboration during adverse events (Dimitriadis, 2021; Wulandhari et al., 2022). Furthermore, some resilience research builds on upper echelons theory to argue that organizational survival and recovery in adverse situations are highly dependent on top managers' decisions, which are grounded in their traits and behavior (Buyl et al., 2019; Kunz & Sonnenholzner, 2022; Sajko et al., 2020).

However, these theoretical lenses and the extant research do not use or conceptualize organizational resilience consistently. While some focus on resources and capabilities (i.e., the application of resources and capabilities to develop an effective response) (Behrens et al., 2022; Duchek, 2020), or on outcomes (Buyl et al., 2019; Sajko et al., 2020), others theorize organizational resilience as a process (i.e., before, during, and after the adversity) (Conz & Magnani, 2020; Stoverink et al., 2020). In our review, we build on the process-based view as it allows for the integration of resources and capabilities as antecedents, interdependent actions during the phases of the adverse event, and resilient outcomes.

2.2. Previous literature reviews

In recent years, insightful literature reviews on organizational

[1] The systematic search covered research between January 1997 and June 2022. Four impactful studies and books published before 1997 were added in the backward reference search. For more, see section 3.

[2] Psychological capital encompasses efficacy, hope, optimism, and resilience (Luthans & Youssef, 2007).

resilience have mainly followed two paths (with the exception of one industry- and event-specific review by Khlystova et al., 2022). First, bibliometric reviews have investigated the origins and extant streams of resilience research in order to explain the phenomenon of resilience in different disciplines and contexts (e.g., Hillmann, 2021; Linnenluecke, 2017). Second, researchers have sought to resolve the conceptual and definitional ambiguity by offering an overview and alignment of existing conceptualizations (e.g., Conz & Magnani, 2020; Hillmann & Guenther, 2020). For example, Conz and Magnani (2020) provide a process-based conceptualization of organizational resilience that covers all temporal phases (i.e., "before," "during," and "after" an adverse event).

Although organizational resilience is viewed as result of interactions among individuals, groups, and organizations, literature reviews with a multilevel perspective are scarce. Raetze et al. (2021) focus on the manifestation of resilience at the individual, team, and organizational levels, and reveal antecedents and outcomes at each level. They encourage the generation of deeper knowledge of the interactions between the levels. Table 1 provides an overview of the objectives and open issues of the literature reviews published in the recent five years.

Table 1
Overview of recent literature reviews.

Author(s)	Review objectives	Scope	Open issues addressed in this review
Khlystova et al. (2022)	Analysis of responses to the Covid-19 pandemic in the creative industry	Organization, industry	Implications of other forms of events for organizational response
Hillmann (2021)	Identification of six research streams on organizational resilience through bibliographic analysis	Organization	Mechanisms of resilience (e.g., anticipation, adaption)
Iftikhar et al. (2021)	Meta-analysis focusing on supply chain antecedents to firms' resilience in terms of financial and non-financial performance	Organization, network	Factors (e.g., disruption propagation, management skills) affecting resilience
Raetze et al. (2021)	Emphasis on the multilevel manifestation of resilience (individual, team, and organization), including corresponding antecedents and outcomes	Individual, group, organization	Deeper understanding of multilevel interactions and differentiation of types of triggers
Conz and Magnani (2020)	Conceptualization of resilience as a time-dependent process with two possible paths (adsorptive and adaptive) and key capabilities	Organization	More resilience-building factors (i.e., antecedents)
Hillmann and Guenther (2020)	Outline of challenges in the research stream, analysis of definitions and domains of existing conceptualizations and measurement scales	Organization	Multilevel perspective on organizational resilience
Williams et al. (2017)	Conceptualization of a process view fusing the two research streams of organizational resilience and crisis management	Organization	Time of adversity (quick and short versus slow and gradual)
Linnenluecke (2017)	Identification of five research streams as the historical origin of organizational resilience through bibliographic mapping	Organization	Context-specific examination of resilience; organizing for resilience with effective capabilities

In this literature review, we aim to uncover synergies between the existing reviews and address the open issues given new insights found in the recent literature on organizational resilience. First, we combine the process-based conceptualization and the multilevel perspective by linking the antecedents, process, and outcomes of organizational resilience. In so doing, we advance our understanding of how organizational resilience can be achieved through contributions from different levels. Second, many reviews suggest that the context dependency of organization resilience (e.g., on adverse events) merits further investigation. Therefore, we include the form of adversity as an important antecedent of organizational resilience. Third, given the increase in research on organizational resilience (see Fig. 2), the majority of articles in our review have been published more recently than those covered in prior reviews. More precisely, 74 studies in our review were published after the sampling periods used in prior reviews.

3. Method and sample

Systematic reviews can be approached in numerous ways (Paul & Criado, 2020; Paul et al., 2021). They can, for instance, be theme based (e.g., Billore & Anisimova, 2021; Canabal & White, 2008; Hao et al., 2019; Kahiya, 2018; Khatoon & Rehman, 2021; Mishra et al., 2021; Rosado-Serrano et al., 2018), theory based (e.g., Gilal et al., 2019; Paul & Rosado-Serrano, 2019), framework based (e.g., Jebarajakirthy et al., 2021; Paul & Benito, 2018; Södergren, 2021), aimed at theory development (e.g., Pansari & Kumar, 2017; Paul & Mas, 2020), hybrid (e.g., Dabić et al., 2020), bibliometric analyses (e.g., Randhawa et al., 2016; Ruggeri et al., 2019), or meta-analyses (e.g., Barari et al., 2021; Paydas Turan, 2021; Rana & Paul, 2020). We adopt the framework-based approach to synthesize the new knowledge and derive directions for future research. More specifically, we apply the ADO framework used in recent framework-based reviews (Paul & Feliciano-Cestero, 2021; Singh et al., 2021; Södergren, 2021) as it suits our research purpose of illustrating the interplay among antecedents (A) at different levels, how they influence organizations' decisions (D) in implementing various mechanisms along the resilience process, and the subsequent outcomes (O).

3.1. Identification of relevant literature

To ensure high-quality results and process transparency in our literature search, we use Callahan's (2014) 6W search protocol to explain Who, When, Where, hoW, What, and Why in relation to our sample section for our literature review. The literature-selection process from the initial search to the final sample is illustrated in Fig. 1.

Who conducted the search? The literature search was performed individually by the two authors during the same time period. Based on agreed selection criteria, the initial results were independently screened and articles were selected for inclusion. When individual judgments on inclusion differed, both authors discussed and resolved the discrepancy.

When was the sample collected? We looked for research published between January 1997 and June 2022 as the number of publications focused on this topic began to increase in the late 1990s. However, we also included four studies published before 1997 (Meyer, 1982; Staw et al., 1981; Weick, 1993; Wildavsky, 1988) that belong to the top 20 most cited references in subsequent resilience research.

Where were the articles collected (selected journals)? We used the Journal Citation Report (JCR) and the VHB JOURQUAL 3 expert ranking of the German Academic Association for Business Research to identify high-quality journals (Bort & Kieser, 2011; Graf-Vlachy et al., 2020; Paul & Criado, 2020). To ensure a quality threshold, we selected journals with an impact factor of more than 1 in the JCR (see Paul & Rosado-Serrano, 2019), and journals with a ranking of A+, A, or B in the VHB JOURQUAL 3 (see Graf-Vlachy et al., 2020). Fifty-two top-ranked

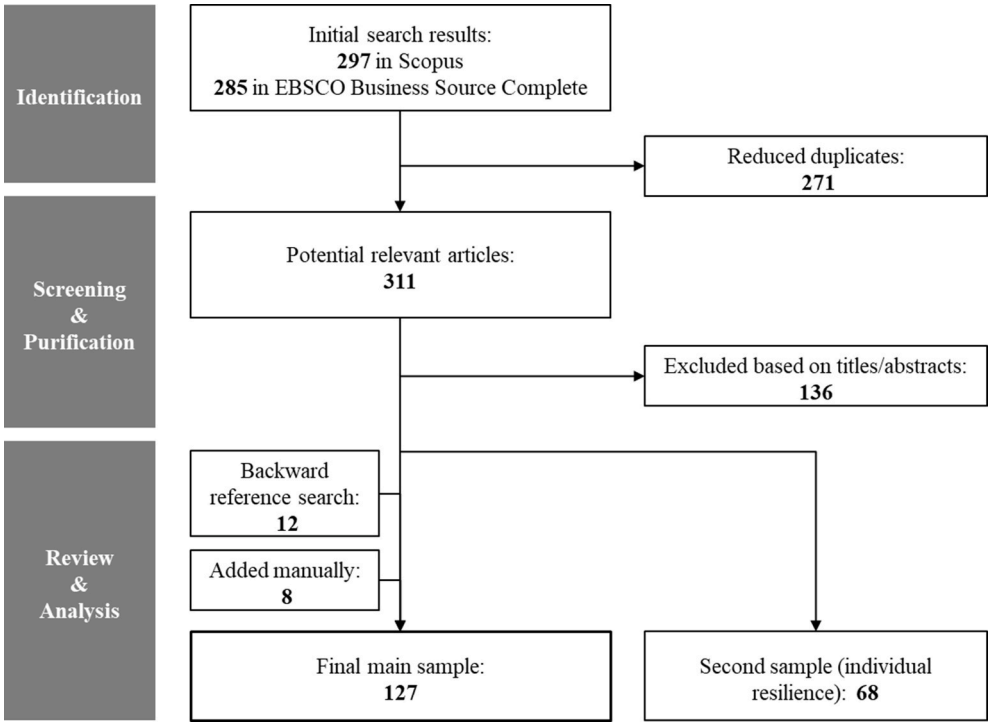

Fig. 1. Flowchart of systematic search.

journals were considered in our systematic search.

How were the articles found (database and search terms)? We conducted the systematic search using the online databases Scopus and EBSCO Business Source Complete. We looked for articles that included the terms "resilien*" and "organi*ation" or "firm" or "corporate" or "enterprise" or "work" in the title or abstract. This search combination helped us avoid articles from irrelevant disciplines, such as ecology, medical science, or mathematics, and thereby specify the context of resilience in organizations and work. The initial search in Scopus led to 297 articles, while the search in EBSCO resulted in 285 articles, 271 of which were identical to those in the Scopus search.

What was included and excluded (first selection criteria)? After screening the titles and abstracts, we excluded 136 articles for one or more of the following reasons: (1) the article was not an academic article (e.g., a call for articles); (2) "resilience" and "resilient" were used as buzzwords or adjectives without further explanation; (3) "resilience" was used in relation to subjects other than human-made entities (e.g., financial assets, political ideologies); and (4) the focus was outside relevant research fields, such as business, management, and organization (e.g., mathematical stochastic models, financial market volatility).

Why did we choose the final sample (final selection criteria)? After the first round of selection, we found a significant number of articles focusing on individual resilience (e.g., job stress, career setbacks, or burnout) in the sample. As our objective was to identify articles contributing to our understanding of organizational resilience, we retained those articles directly associated with organizational resilience, survival, long-term performance, or responses to adversity in the main sample. A total of 68 articles focused on individual-level outcomes, such as career success or well-being, were included in a second sample, which we used to compare the conceptualizations and mechanisms of resilience between individuals and organizations. To ensure that the most impactful works are included in our review, we conducted a backward reference search based on the main sample. While our systematic search only includes studies in top-ranked journals, the backward search also includes books and book chapters that are highly cited. We included 12 additional books and studies that were among the top 20 most cited references. Furthermore, we manually added 8 articles to the main sample that were frequently cited in specific area (i.e., supply chain resilience) or recently published in A+ journals and fit with the central questions of our review. In sum, 127 publications were included in our final main sample.

In the subsequent analysis and synthesis process, we organized the literature and the relevant findings according to the elements of the ADO framework, research methods, research streams, and theoretical lenses. An online appendix lists the studies included in the final main sample and their key findings.

3.2. Sample description

The publication trend for organizational resilience literature is shown in Fig. 2, which illustrates the chronological distribution of the 127 publications and the applied research method. In the past 10 years, publications on organizational resilience have increased significantly (Table 2). In particular, we observe strong growth in empirical investigations of organizational resilience after major adverse events. Table 2 shows the 43 management journals that published the organizational-resilience research included in our main sample. Thus, the topic of organizational resilience is present in a wide range of general management journals as well as journals focused on organization and human resource management.

We analyzed the main sample from an adverse event perspective. More than 49% of the studies (n = 62) consider adverse events in a generic way as crises, adversities, or environmental changes. In contrast, other articles are motivated by a single high-impact event, such as an economic crisis (12%, n = 15); the Covid-19 pandemic (12%, n = 15); or terrorisms, political turmoil, war, natural disasters, or other events (5% or below). Table 3 provides an overview of the adverse events investigated in the selected articles. As organizational resilience depends on the event context (Behrens et al., 2022), dedicated attention to different forms of adverse events is required.

3.3. Development of a conceptual framework of organizational resilience

We develop our conceptual framework of organizational resilience

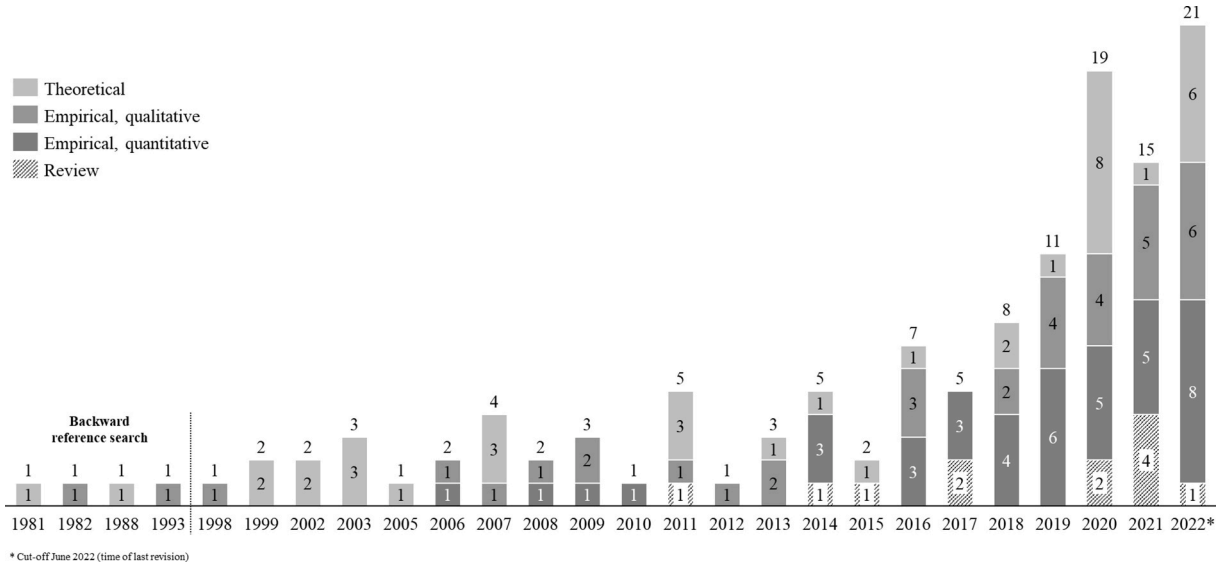

Fig. 2. Publication trend per research type over time.

based on the ADO structure (Paul & Benito, 2018; Paul & Feliciano-Cestero, 2021; Singh et al., 2021; Södergren, 2021) and discuss the findings from extant literature along the ADO dimensions (see Fig. 3). At the core of organizational resilience is the resilience process (i.e., pre-adversity, adversity, and post-adversity) itself (Conz & Magnani, 2020). Consequently, we start with the decisions (D) as the core of our framework, with the aim of explaining the full set of possible organizational actions associated with resilience. These actions are not detached from each other. Instead, they occur in sequence along the resilience process (i.e., before, during, and after the event). We then proceed with the antecedents (A) and focus on how they influence organizations' decisions to implement various actions along the resilience process. We identify four categories of antecedents. In the first category, we address different forms of adverse events and how they affect organizational responses and actions. In the three other categories, we discuss the antecedents of organizational resilience at the individual, group, and network levels. The combination of antecedents and organizational decisions leads to the last dimension of the framework—outcomes (O). We show that many studies treat organizational resilience or post-adversity actions as outcomes, while others, especially empirical studies, focus on performance outcomes.

4. Decisions: the resilience process and actions

To be resilient to adversity, organizations need to decide on a set of actions before, during, and after an adverse event strikes. Drawing on the process-based view (e.g., Conz & Magnani, 2020), the required actions are situated in the three distinct phases (i.e., pre-adversity, adversity, and post-adversity).

4.1. Pre-adversity phase

Researchers agree that resilience begins well before the onset of adverse circumstances (Williams et al., 2017). The resilience process embodies proactive actions for sensing and mitigating potential threats in advance: *anticipation* and *preparation* (Duchek, 2020; Stoverink et al., 2020).

Anticipation is a proactive approach to detecting potential threats and deviations from normal functioning aimed at preventing serious crises or disruptions. Resilient organizations constantly monitor changes in their environment and question the likelihood that existing operations can continue under potential adverse circumstances (Burnard & Bhamra, 2011; Yuan et al., 2022). They are also sensitive to internal vulnerability and encourage the reporting of minor errors (Weick et al., 1999). Valuable sensors for critical changes can be frontline employees due to their interactions with the external environment and hierarchically low-level employees due to their proximity to operations (van den Berg et al., 2021). Anticipatory practices presuppose cognitive capabilities related to situational awareness and the adequate interpretation of weak signals as well as a mindset that suppresses organizational inertia (Lengnick-Hall et al., 2011).

A logical consequence of anticipation is *preparation*—the preventative steps organizations take to address potential threats. Preparation includes various practices, such as simulations, business-continuity planning, and scenario planning (Duchek, 2020; Hillmann et al., 2018). To the extent that threats are familiar, these practices appear akin to traditional risk management based on empirical data and probability calculations (van der Vegt et al., 2015). Responses to unfamiliar and improbable adverse events with which the organization has no previous experience cannot be planned. However, organizations can strengthen their general skills and capabilities to facilitate flexible and malleable responses to the unexpected (Duchek, 2020). For example, a focus on failures and "near failures" (i.e., the analysis of cause and effect) can enhance the cognitive and analytical skills required in adverse situations (Turner et al., 2020). Hence, preparation increases the overall vigilance of an organization and its employees, and enhances anticipation.

4.2. Adversity phase

Even with a focus on anticipation and preparation in the pre-adversity phase, organizations cannot avoid all kinds of adversity. When an adverse event strikes, four actions are essential for achieving a resilient response: *sensemaking*, *absorption*, *adaption,* and *coordination*.

Sensemaking happens before any other responses can be decided upon and implemented. The importance of sensemaking when responding to adversity was recognized in early resilience research (Weick, 1993). During sensemaking, organizational members analyze and interpret the adverse situation in order to develop suitable solutions (Duchek, 2020). Central questions in this step are "what's the story?" and "now what?" (Weick et al., 2005, p. 410). Interestingly, the answer to "what's is the story?" is usually not objective but, rather, shaped by subjective framing through which people place stimuli into frames in order to interpret a given situation (Kim, 2021). A key component of sensemaking is the story about negative setbacks (e.g., denial, acceptance, or challenge), which leads to different coping behaviors (Rao & Greve, 2018; Williams & Shepherd, 2016). Thus, sensemaking

Table 2
Journals publishing the articles in the final main sample (alphabetical order).

Journal	Number of articles	Percentage
Academy of Management Annals	2	2%
Academy of Management Journal	4	3%
Academy of Management Perspectives	1	1%
Academy of Management Review	3	2%
Administrative Science Quarterly	5	4%
British Journal of Management	3	2%
Business Research	2	2%
California Management Review	4	3%
Decision Sciences	1	1%
European Management Journal	5	4%
Gender, Work and Organization	1	1%
Group and Organization Management	3	2%
Harvard Business Review	2	2%
Human Relations	2	2%
Human Resource Management	3	2%
Human Resource Management Review	1	1%
IEEE International Conference on Systems, Man and Cybernetics	1	1%
Industrial and Corporate Change	1	1%
Industry and Innovation	1	1%
International Journal of Human Resource Management	3	2%
International Journal of Management Reviews	3	2%
International Journal of Production Research	2	2%
Journal of Applied Behavioral Science	5	4%
Journal of Business Economics	1	1%
Journal of Business Research	16	13%
Journal of Economic Psychology	1	1%
Journal of International Business Studies	2	2%
Journal of Management	6	5%
Journal of Management Education	2	2%
Journal of Management Inquiry	2	2%
Journal of Management Studies	2	2%
Journal of Occupational and Organizational Psychology	1	1%
Journal of Service Management	2	2%
Journal of Supply Chain Management	1	1%
Long Range Planning	4	3%
Omega	3	2%
Organization Science	1	1%
Organization Studies	5	4%
Review of Managerial Science	3	2%
Scandinavian Journal of Management	3	2%
Schmalenbach Journal of Business Research	2	2%
Strategic Management Journal	6	5%
Supply Chain Management: An International Journal	1	1%
Highly cited books and book sections	5	4%
Total	127	100%

Table 3
Event focus.

Adverse event category	Number of articles	%
General	62	49%
Economic crisis	15	12%
Pandemic	15	12%
Operational disruptions	9	7%
Terrorism, amok	6	5%
Mixed	5	4%
Political turmoil, war	4	3%
Natural disaster	4	3%
Others	4	3%
Work-related stress	3	2%
Sum	**127**	**100%**

(including framing) provides an interpretation of the adverse event and sets the direction of and goals for subsequent responding actions.

Absorption is the ability of organizations to maintain normal functions and to persist without major changes in the system (Mithani, 2020; Stoverink et al., 2020). It is also associated with stability in routines, structure, identity, and strategy (Conz & Magnani, 2020; Iborra et al., 2020). Resilient organizations can absorb shocks and negative consequences by relying on material and processual resources as well as interactions among members or subunits to exchange resources (Kunz & Sonnenholzner, 2022). The focus of absorption is to maintain the system's posture and restore the pre-adversity equilibrium as it is considered optimal. However, preserving the pre-adversity status quo will become ineffective if a crisis continues over a long period of time and exhausts available resources (Wenzel et al., 2021). Thus, absorption may not be a long-term response strategy.

Adaption refers to flexible changes in posture made to ensure a better fit with the adverse circumstances (DesJardine et al., 2019). Resilient firms adapt by deploying existing or novel resources to create innovative solutions to the negative impacts of an adverse event (Conz & Magnani, 2020; Yuan et al., 2022). Consequently, adaption draws on cognitive and behavioral capabilities, such as resourcefulness, creativity, or improvisation (Lengnick-Hall et al., 2011). Adaptive responses can manifest in different business practices, such as downsizing through layoffs and product reductions, changing the business's scope through acquisitions, or retreating from adversity-prone markets (Dai et al., 2017; Wenzel et al., 2021).

While some researchers argue that absorption and adaption are opposing forces (Mamouni Limnios et al., 2014; Stoverink et al., 2020), others suggest that they can be complementary (Conz & Magnani, 2020; Mithani, 2020). We propose that both types of action depend on organizational antecedents—that is, the endowment of resources and capabilities—and, more importantly, on the specific adverse event (see Section 5). The answer to the question of "whether a rubber tire is more resilient than the steel car jack" depends on the situational requirements (Hobfoll et al., 2015, p. 176).

A vital action for an effective response during an adverse event is *coordination*. As resilience is based on collective responses, coordination facilitates the synchronization among organizational subunits (Gucciardi et al., 2018; Kahn et al., 2018). Furthermore, organizations have to coordinate sensemaking, the implementation of the decided actions, and feedback on the effectiveness of those actions (Duchek, 2020). Thus, coordination is a supportive and cohesive mechanism for the interdependent actions of sensemaking, absorption, and adaption when responding to adversity.

4.3. Post-adversity

As the Chinese word for "crisis" symbolizes with its two components danger and opportunity, some organizations manage to capitalize on adverse events and achieve a better position than in the pre-adversity state. Organizations can grow from their experiences with adversity through *learning* and *transformation* in the post-adversity phase.

Learning takes place after an adverse event has been mastered, and it represents a strategic posture toward future environmental changes (Battisti et al., 2019). By unveiling the deficiencies in the system and reflecting on the activities that led to a successful recovery, post-adversity learning often results in the modification of organizational procedures, an extended action repertoire, the cultivation of new relationships, and increased confidence (Mithani, 2020; Stoverink et al., 2020). Thus, the results of post-adversity learning enhance the proactive anticipation of and preparation for future adversity (Behrens et al., 2022).

Learning from adverse experiences can lead to first-order incremental and second-order transformational changes that fundamentally alter the organization's core attributes (Battisti et al., 2019; Newman, 2000). Through *transformation*, resilient organizations capitalize on disruptive events in a more strategic, deep, and lasting way (Lengnick-Hall et al., 2011). Especially when the previous system has been fully destroyed (e.g., after a devastating natural disaster), resilience is more about redevelopment than purely survival and requires transformative activities (Mithani, 2020; Williams & Shepherd, 2016).

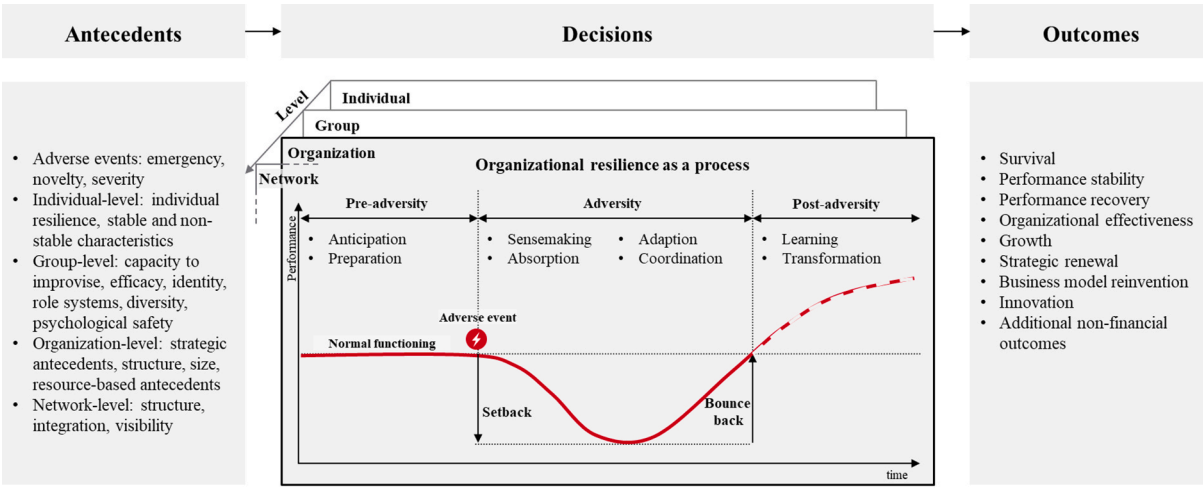

Fig. 3. Conceptual framework of organizational resilience—antecedents, decisions, and outcomes (ADO).

Transformation is associated with the notion of innovation leading to strategic renewal and improved performance (Buliga et al., 2016; Wenzel et al., 2021).

5. Antecedents of organizational resilience

An organization's decisions and actions along the resilience process are determined by a set of antecedents. Indeed, the above-discussed actions in the pre-adversity phase (i.e., anticipation and preparation) can be considered as processual antecedents to organizational responses during adverse events. In the following, we focus on five categories of antecedents. First, we examine how the form of adversity influences the organization's response and resilience. In the remaining four categories, we discuss various antecedents at the individual, group, organizational, and network levels by explaining how they contribute to organizational resilience.

5.1. Adverse events

Every adverse event exhibits a unique manifestation, trajectory, and set of impacts. Although researchers encourage the study of different types of adverse events (Conz & Magnani, 2020), few studies examine the relationship between adverse events and resilient responses (Mithani, 2020; Olekalns et al., 2020). This exacerbates the transferability of knowledge gained from these experiences to various kinds of future adversity. To provide an overview of the different forms of adverse events and the corresponding responses, we use three differentiation criteria: *emergence*, *novelty*, and *severity* (see Table 4).

Emergence. Some crises emerge suddenly and have an unprecedented impact, while others creep in slowly without a clear, noticeable onset (Bonanno et al., 2015; Kahn et al., 2018). Olekalns et al. (2020, p. 8) distinguish between "gradual drift," which they define as the accumulation of small, low-salience stressors beyond a tolerable threshold, and "abrupt shocks," which are sudden, highly salient events. Gradually emerging adversity often remains undiscovered in the early stages and becomes more salient as the impacts successively spread across the organization (Kahn et al., 2018). The stressors can be ordinary but overwhelming in number (Rudolph & Repenning, 2002). Abrupt shocks emanate from more sudden events with low probability but high intensity that instantly trigger a significant setback for entire organizations (Stoverink et al., 2020). In psychology, these are referred to as acute events (e.g., terrorist attacks) that are traumatic (i.e., high impact) and relatively short (Bonanno et al., 2015).

Gradual and acute adversities are addressed differently in the pre-adversity phase. When an adversity arises gradually, it may be prevented from causing a serious setback if organizations are mindful of and sensitive to warnings, and if monitoring systems are in place (Rudolph & Repenning, 2002; Weick et al., 1999). In contrast, abrupt shocks often hit unexpectedly and have an immediate impact, leaving little chance for anticipation and avoidance. In such cases, preparation can focus on building general knowledge and skills useful for any kind of unexpected event (Duchek, 2020). Furthermore, gradual and acute adversities are often not equally perceived by the entire organization,

Table 4
Forms of adverse events.

Differentiation criteria	Forms and properties	Examples	Implication for resilience
Emergence *How quickly and visibly does the adversity unfold?*	Gradual: creeping, accumulated, ordinary	Capacity overload	likely to be anticipated owing to monitoring and warning systems; collective response requires synchronization (Kahn et al., 2018)
	Acute: sudden, unexpected, traumatic, high impact	Terrorist attack, natural disaster	Low chance of being avoided; collective response facilitated by a shared sense of fate (Olekalns et al., 2020)
Novelty *Do knowledge and solutions already exist?*	Non-novel: controllable circumstances, existing solutions	Floods in coastal regions	Absorptive response based on predefined processes and routines (Huang et al., 2018; Rudolph & Repenning, 2002)
	Novel: usual circumstances, no existing solutions	New diseases	Time-consuming sensemaking; tendency for adaptive response (Dutta, 2017; Turner et al., 2020)
Severity *How severe is the adversity (i.e., is it a matter of life and death)?*	Livelihood-threatening: economic loss, impact on business survival, discriminate	Financial crisis	Rational response based on existing or new resources (Mithani, 2020)
	Life-threatening: impact on physical and emotional well-being, indiscriminate	Natural disasters, war	Collective, emotional response; rational response not fully applicable (Mithani, 2020)

which leads to differences in certain aspects of the adversity phase, such as sensemaking and coordination (Kahn et al., 2018). For instance, natural disasters are collectively experienced with the same onset by all people and organizations in the affected region (Dutta, 2017). Victims of the 2010 Haiti earthquake exhibited a high willingness to create a common frame for the disaster, which facilitated the coordination of collective response (Williams & Shepherd, 2016). A gradual adversity, such as the overcrowding of a hospital's emergency department, emerges locally in a small part of the organization and spreads throughout the organization (Kahn et al., 2018). The fact that some adjacent departments do not perceive the situation as a mutual threat leads to the neglect of the immediate need for support in the focal department and decelerates the mitigation. Furthermore, affected parts of the organizational will first try to absorb the gradually emerging strain until it evolves to a large-scale crisis that requires fundamental modifications within the organization (i.e., adaption) (Kahn et al., 2018). In summary, compared to abrupt events, gradually emerging events are more likely to be anticipated and absorbed to a critical threshold, but they pose a greater challenge for collective sensemaking and coordination.

Novelty. Adversity is considered novel when "an organization does not have an appropriate response within its repertoire" (Rudolph & Repenning, 2002, p. 24). Many adverse events, such as natural hazards in regions with extreme weather conditions, are not novel. Over time, organizations can develop effective countermeasures to non-novel events (Huang et al., 2018). However, organizations face many adverse events with conditions and emergent needs that are not well known or understood (Dutta, 2017).

The novelty of an event influences the response in terms of decisions related to absorption and adaption. In non-novel adverse events, organizations draw from their existing action repertoire, such as contingency plans or elements of the physical infrastructure that have proven effective in the past (Dutta, 2017; Muurlink et al., 2012). When situations are well known and can be controlled with recognized solutions, strict adherence to predefined processes and routines facilitates a quick and appropriate response (Rudolph & Repenning, 2002; Turner et al., 2020). Organizations absorb setbacks by maintaining their routines and deploying slack resources, such as excessive cash (Huang et al., 2018) or spare operational capacities (Kahn et al., 2018).

However, when facing novel events, no appropriate responses are known in advance (Rudolph & Repenning, 2002). As novel events are not fully understood, organizations must engage in a lengthy response process of sensemaking, strategizing, improvisation, and coordination until an effective solution is found (Rudolph & Repenning, 2002). Novel events demand unconventional solutions based on informal and flexible coordination (i.e., adaption), rather than adherence to formal routines (i.e., absorption) (Turner et al., 2020). Heinonen and Strandvik (2021) show that organizations in the service industry innovated in the face of the recent Covid-19 pandemic. Thus, novel events are less likely to be absorbed through existing action repertoires and generally require higher levels of adaption (e.g., innovative solutions).

Severity. Adverse events differ in their severity for an organization. While some events (e.g., financial crises) lead to extensive economic losses, others (e.g., natural disasters) result in immediate harm to human life (Sajko et al., 2020; Williams & Shepherd, 2016). Mithani (2020) differentiates between livelihood-threatening and life-threatening events. The former stem from technological or economic threats, and lead to negative economic effects for specific groups of organizations or industries, although physical and emotional harm can be secondary consequences (Coope et al., 2014; Mithani, 2020). The latter usually affect a large proportion of the population (e.g., a community) in an indiscriminate way, and people are primarily focused on their physical and emotional well-being rather than the economic losses (Mithani, 2020).

The distinction between livelihood-threatening and life-threatening events imposes different requirements on the resilient response. Livelihood-threatening events can be addressed through rational responses based on the right set of resources, skills, and capabilities. In life-threatening events, the physical and emotional capacity of organizations and their members decreases as people are injured and physical infrastructure is destroyed (Mithani et al., 2021). Under such circumstances, effective resources and capabilities are either damaged or cannot be fully deployed (Mithani, 2020). Moreover, in the face of personal panic and fear, people may fail to rationally implement solutions (Weick, 1993). Moreover, rational responses after life-threatening events can be counterproductive if they damage the existing social resources (i.e., emotional ties between people and organizations) that are essential for mutual support and the mobilization of collective responses (Gittell et al., 2006). In short, life-threatening events constrain the rational deployment of essential resources for absorption and adaption.

5.2. Individual-level antecedents

Individual resilience. Individual resilience can (but does not necessarily) lead to organizational resilience. On the one hand, resilient individuals can unify and steer organizational members under adverse circumstance (Chhatwani et al., 2022; Santoro et al., 2020). On the other hand, they can prioritize their own self-interests over the collective interests (Hillmann et al., 2018; Stoverink et al., 2020). The sign of the correlation depends on the individual's stress appraisal and coping ability during adverse events (Riolli & Savicki, 2003).

Organizational-resilience research predominately focuses on the individual resilience of leaders. Entrepreneurs and top managers have a clear impact on organizational resilience owing to their ability to transfer beliefs and feeling to other organizational members, and to drive the entire organization toward growth (Kunz & Sonnenholzner, 2022; Santoro et al., 2020). Thus, the contribution of individual resilience to organizational resilience hinges on the relative influence of specific individuals (leaders).

Stable individual characteristics. Stable individual characteristics, especially personality traits, such as narcissism, greed, and empathy, can predict organizational resilience in times of adversity. Buyl et al. (2019) investigate the effect of CEO narcissism on the performance of U.S. banks during the 2008 global financial crisis (GFC). They find that CEO narcissism was associated with risky strategies and investments, resulting in the depletion of internal resource buffers and, consequently, in slower organizational recoveries. In the context of the 2008 GFC, Sajko et al. (2020) reveal that CEO greed had a negative impact on firms' recoveries as well as an indirect effect on organizational resilience through the reduction of corporate social responsibility (CSR). Social and environmental practices are considered a reliable source of organizational resilience as they provide social connections to various private and public stakeholders and, consequently, increase an organization's ability to anticipate, prepare for, and respond to crises (DesJardine et al., 2019; Ortiz-de-Mandojana & Bansal, 2016). Furthermore, König et al. (2020, p. 130) point to CEO empathy as "a blessing and a curse" as they find a U-shaped relationship between CEO empathy and organizational crisis management. Both crisis management and organizational resilience refer to how organizations anticipate and respond to adversity (Williams et al., 2017). Empathic CEOs can quickly sense crises, provide meaning to various stakeholders, and mobilize a collective response. However, highly empathic CEOs are susceptible to cognitive bias and overload and, therefore, predisposed to respond to false alarms, leading to the misallocation of attention and resources (König et al., 2020).

Nonstable individual characteristics. Other individual-level antecedents are found in more adjustable characteristics, such as self-efficacy, bricolage (improvisation), and a transformative mindset. One essential building block of resilience is self-efficacy, which refers to the belief in one's ability to succeed in adverse situations based on the past mastery of experiences (Bandura, 1997; Sutcliffe & Vogus, 2003). Self-efficacy serves as a buffer for immediate stress and determines whether an

individual views adverse situations as manageable challenges or as threats that exceed his or her coping abilities (Baron et al., 2016; Bonanno et al., 2015). This characteristic is developed and enhanced over time as individuals master unfamiliar situations and gain confidence in their ability to handle future challenges (Sutcliffe & Vogus, 2003).

Many researchers underscore the importance of individual bricolage (also referred to as improvisation ability) for organizational resilience (Coutu, 2002; Lengnick-Hall et al., 2011). Bricoleurs remain creative in adverse situations and develop innovative solutions for emerging needs without obvious resources. Consequently, they facilitate the adaptive responses of organizations (Lengnick-Hall et al., 2011; Weick, 1993).

Transformative mindsets. Transformative mindsets of individuals, especially leaders, can serve as an antecedent to organizational resilience (Kovoor-Misra, 2020; Sommer et al., 2016). A transformative mindset functions as the driving force and motivational frame for collective action in response to disasters (Williams & Shepherd, 2016). Similarly, mindsets incorporating openness to new experiences foster organizational resilience by questioning the status quo, and proactively seeking information on the health of the organization (Mithani, 2020; Vogus & Sutcliffe, 2007).

5.3. Group-level antecedents

Groups' capacity to improvise. Similar to individual bricolage, groups' capacity to improvise is based on its members' collective creativity and retrievable knowledge (Stoverink et al., 2020). Collective improvisation nurtures an organization's ability to adapt to adverse circumstances and enriches the group's action repertoire for future adversity (Chen & Zhang, 2021; Lengnick-Hall et al., 2011).

Group efficacy. Similar to individual efficacy, group efficacy refers to members' beliefs in their abilities to master adversity based on their collective experience (Chen & Zhang, 2021). Efficacy at the group level is not simply the aggregation of individual self-efficacy. Instead, it emerges from interactions among its members (Sutcliffe & Vogus, 2003). It equips group members with a sense of confidence and the motivation to tackle any kind of adversity (Sutcliffe & Vogus, 2003). However, overconfidence and a feeling of invincibility may lead to complacency and reduce vigilance in the anticipation of potential threats (Stoverink et al., 2020).

Group identity. One predictor of group resilience is a group identity that creates cohesion and collaboration among individual group members (Kahn et al., 2018; Stoverink et al., 2020). However, a strong group identity can be counterproductive on the organizational level if groups pursue self-preservation and avoid cross-group cooperation that would benefit the overarching organization (Kahn et al., 2018). This defensive behavior limits information and resource sharing, and impedes organizational responses to adversity (Barton & Kahn, 2019).

Role systems. Organizations can benefit from role systems when they encounter adverse events (Stuart & Moore, 2017). A group's role system is the model of its functions and roles held in its members' minds (Gucciardi et al., 2018). If all group members are familiar with each role and their interdependencies, they are likely to be able to serve as back-ups for vacated roles and, consequently, ensure normal functioning (Stoverink et al., 2020). Loosely defined or nontransparent role systems can lead to ambiguous role understandings among members and, hence, slow the recovery of group performance if an important group member is lost (Stuart & Moore, 2017).

Group diversity. Diversity—that is, heterogeneity among group members in terms of knowledge, experience, and competencies—is also an antecedent to organizational resilience (Duchek et al., 2020; Sutcliffe & Vogus, 2003). Group members with broad experiences and capabilities are more likely to anticipate critical changes in the environment and prepare for different types of adversity (Duchek et al., 2020). When responding to an adverse event, diverse group members can achieve more profound interpretations in sensemaking, have access to a broader action repertoire to absorb the setback, and can develop novel solutions based on improvisation (Duchek et al., 2020; Sutcliffe & Vogus, 2003).

Psychological safety. In a psychologically safe group, members can voice their thoughts and concerns without the risk of negative social consequences (Stoverink et al., 2020). Psychological safety empowers organizational members across hierarchical levels to engage in strategic discussions in adverse times (van den Berg et al., 2021). The mutual trust resulting from psychological safety is particularly important for the expression of unpleasant or divergent options and, therefore, supportive of organizational responses that require unconventional ideas (Stoverink et al., 2020).

5.4. Organization-level antecedents

Strategic. Strategic antecedents to organizational resilience encompass strategic choices and initiatives aimed at effectively preventing or responding to adversity (Carmeli & Markman, 2011; Meyer, 1982). In particular, a firm's *diversification* and its *organizational ambidexterity* are important sources of organizational resilience.

A firm's *diversification* can reduce the impact of adverse events by offsetting the financial effects (El Nayal et al., 2020). Organizations with a broad product and service portfolio often pay close attention to external stimuli and are able to address adverse circumstances by distributing risks (Aivazian et al., 2019; Meyer, 1982). Market diversification, as manifested in an organization's global footprint, also supports organizational resilience (El Nayal et al., 2020; Li & Tallman, 2011). Multinational corporations hedge against region-specific risks by shifting regional sales and production activities (El Nayal et al., 2020). Li and Tallman (2011) show that the level of international diversification is negatively related to short-term performance after a shock due to the difficultly of coordinating among globally spread subsidiaries, but it has a positive impact on long-term performance owing to collective learning from local adverse experiences, which enhances global preparedness.

Organizational ambidexterity, which is defined as the dynamic balance between exploitation and exploration, is positively related to organizational resilience (Iborra et al., 2020; Schemeil, 2013). While exploitation refers to the utilization of mature technologies and markets with a focus on efficiency, exploration relates to expansion to new technologies and markets based on flexibility (O'Reilly & Tushman, 2013). Ambidextrous organizations are sensitive to environmental changes and constantly question their status quo (Iborra et al., 2020). In the face of adversity, they are able to free up resources obtained through exploitation and develop new solutions by flexibly recombining resources, experimenting, and pushing boundaries (Schemeil, 2013; Turner et al., 2020).

Structure. Organizational structure and the underlying decision-making pattern represent important antecedents of organizational resilience (Andersson et al., 2019). A decentralized structure can be beneficial in adverse situations as the expertise and knowledge available at lower organizational levels can be accessed for collective problem-solving and the adoption of new solutions (van den Berg et al., 2021). In contrast, a centralized organization can accelerate problem-solving through top-down decisions and speedy resource allocation (e.g., for absorption) (Fietz et al., 2021). Thus, a balance between decentralization and centralization can facilitate flexible reactions in decentralized parts of the organization as well as centralized guidance (Andersson et al., 2019). Similarly, some researchers argue that organizations with formalized structures (i.e., standardized roles and processes) provide stability during disruptions (Rudolph & Repenning, 2002; Weick, 1993), while others find that informal, loosely defined structures favor adaptive responses based on reconfiguration and improvisation (Bahri Korbi et al., 2021). Formal structures and roles might even undermine flexibility and creativity (van der Vegt et al., 2015). Consequently, a combination of formal and informal structures may be beneficial for organizational resilience. Under certain adverse circumstances, different responses (i.e., absorption or adaption) may be supported by higher or lower levels of centralization and formalization.

This context dependency remains understudied.

Size. The size of the organization has been debated in resilience studies. Large firms tend to have more resources for both absorption and adaption (Parker & Ameen, 2018). However, a large size often conveys a dangerous sense of invincibility, which may lead to more risk-taking and ignorance of environmental changes (Hamel & Valikangas, 2003). Smaller organizations with resource constraints have fewer resources to invest in anticipation and preparation and, therefore, apply more flexible and innovative ways to cope with adversity (Iborra et al., 2020). In contrast to small organizations, large firms tend to be more complex in terms of hierarchical levels and international subunits, which may hinder the coordination of responses to adverse events (Li & Tallman, 2011; Sabatino, 2016).

Resources. Resource-based antecedents to organizational resilience encompass the tangible and intangible resources necessary to prevent, respond to, and capitalize on adversity. In fact, many resilience studies draw on the resource-based view (e.g., Do et al., 2022; Parker & Ameen, 2018). In the following, we discuss *slack* and *relational resources* as essential elements of organizational resilience.

A large body of literature points to *slack resources* in the form of financial reserves or physical slack as beneficial for organizational resilience (Leuridan & Demil, 2022; Mithani et al., 2021). Financial slack can be quantified in terms of unabsorbed cash or available credits (Gittell et al., 2006; Mithani et al., 2021), while physical slack resides in buffer inventories or unutilized capacities (Iftikhar et al., 2021). Both types of slack allow organizations and employees to be anticipatory by enabling precautionary practices (Leuridan & Demil, 2022). When responding to adversity, cash and excess capacity can absorb the initial financial and physical losses. They can also provide stability and the time needed to comprehend the adversity (Kahn et al., 2018; Mithani et al., 2021). However, as an adverse event continues, slack resources decrease and become ineffective when used for absorption (Wenzel et al., 2021). Therefore, organizations can choose to deploy slack for adaptive responses (e.g., innovations or to strengthen new organizational alliances) (Buliga et al., 2016; Mithani et al., 2021). Thus, the availability of slack resources generally bolsters organizational resilience, but their utilization depends on the specific actions taken before, during, and after the event.

Relational resources, also referred to as social capital, are social connections that facilitate cooperation and the exchange of resources to achieve organizational resilience (Wulandhari et al., 2022). An organization can cultivate relationships internally with employees (Carvalho & Areal, 2016; Gittell, 2008) and groups (Barton & Kahn, 2019), and externally with other organizations and institutions (Dimitriadis, 2021). Positive relationships between organizations and their employees motivate cooperation and information sharing and, consequently, lead to faster recoveries from adverse events (Gittell et al., 2006). Moreover, through close collaboration with external organizations, environmental changes can be collectively anticipated, and resources can be shared to respond to adversity (Dimitriadis, 2021; Yuan et al., 2022).

Social and environmental practices (SEPs). The power of relational resources becomes evident in studies of social and environmental practices that build relations with various stakeholders, such as investors, communities, and governmental institutions (DesJardine et al., 2019). By establishing reciprocal and trustful relationships with stakeholders, an organization can obtain more information about and warnings of potential threats (Ortiz-de-Mandojana & Bansal, 2016). Such relationships also provide more access to external support (i.e., resources and capabilities) from partners to absorb shocks and develop adaptive responses (DesJardine et al., 2019).

5.5. Network-level antecedents

Resilience has also been studied beyond the organizational borders at the network level, especially in communities (Dutta, 2017) and supply chains (Choudhary et al., 2022; Gatenholm & Halldórsson, 2022). In adverse times, organizations can benefit from a resilient network from which they can access additional resources. However, they can also be "innocently" drawn into crises due to a network's interdependencies. As a network consists of organizations, many organizational-level antecedents (e.g., slack or relational resources) are scaled up to the network level (Brandon-Jones et al., 2014). Focusing on the antecedents unique to the network level, we find *network structure, network integration*, and *visibility*.

Network structure. A network's structure of nodes and ties determines its robustness and vulnerability (van der Vegt et al., 2015). Dense networks in which organizations reside in near proximity facilitate early anticipation of adversity and shock absorption through easy access to alternative partners (e.g., suppliers) (Craighead et al., 2007; van der Vegt et al., 2015). At the same time, high network density tends to increase the severity of disruptions through the propagation of negative effects (Craighead et al., 2007). Furthermore, "scale-free" networks (multiple new ties from each node) are less vulnerable than randomly connected networks (van der Vegt et al., 2015). Therefore, organizations need to consider their position within a network in order to balance beneficial interdependencies with a healthy degree of autonomy.

Network integration. Network integration refers to the extent to which organizations within a network strategically cooperate to enable continuous flows of material, information, and funds (Iftikhar et al., 2021). Integration can occur vertically between suppliers and customers to create a buffer against disruptions, or horizontally between organizations with complementary technologies and strategies (Gilly et al., 2014; Iftikhar et al., 2021). Firms, research centers, and public institutions with similar strategic goals (e.g., products) and complementary skills cooperate to compensate their weaknesses and achieve better innovation, collective learning, and resilience to various types of adversity (Gilly et al., 2014).

Network visibility. Research on supply chain resilience stresses the importance of "supply chain visibility," which refers to the transparency of relevant information, such as orders, inventory, distribution, and environmental changes across supply chain members (Jüttner & Maklan, 2011). Network visibility enhances network resilience by reducing the probability and the impact of disruptions (Brandon-Jones et al., 2014; Jüttner & Maklan, 2011). Firms can deploy advanced technologies to increase the visibility of complex networks and thereby reduce their vulnerabilities and the impact of any adverse events (Sharma et al., 2020).

6. Outcomes of organizational resilience

Many scholars have considered organizational resilience as the desired outcome (e.g., van den Berg et al., 2021; Yuan et al., 2022). However, taking a closer look, we find that investigated outcomes relate to either the phases of the resilience process or resilience "as a whole." First, in terms of the phases of resilience process, the post-adversity phase (see Section 4.3) contains the processual outcomes of responding to adversity (i.e., learning and transformation) (e.g., Mithani, 2020; Stoverink et al., 2020). Second, when treating the resilience process and its temporal phases as a whole, a wide range of outcome variables (e.g., organizational effectiveness, innovation, and performance) is examined in extant research. As we have already discussed the former, we now focus on the latter.

Most empirical studies that operationalize organizational resilience rely on different performance outcomes, such as *survival*, *stability, speedy recovery*, *organizational effectiveness*, and *growth*.

Survival in the face of adversity can be operationalized using measures of mortality (e.g., bankruptcy or business termination) (Josefy et al., 2017). Iborra et al. (2020) measure firms' survival of the 2008 GFC using a binary variable (either survive or fail) in a post-adversity period of five years. In the absence of adversity, survival relates to longevity (i.e., the lifespan of a firm), which needs to be measured over a longer period of time (e.g., 15 years) (Ortiz-de-Mandojana & Bansal,

2016). However, pure survival may not be sufficient to explain resilient outcomes as it tells little about a firm's performance during adverse events.

Stability in a firm's performance despite an adverse setback is considered a resilient outcome. It reflects a firm's vulnerability prior to adversity and its ability to absorb shocks (DesJardine et al., 2019; Sajko et al., 2020). Empirical studies focus on the severity of setbacks (i.e., the decline in performance after the onset of an adverse event). The most common measure is the drop in stock prices, where smaller drops are assumed to indicate greater stability (DesJardine et al., 2019; Sajko et al., 2020). However, stock prices are sensitive to firm-specific perceptions in the capital market and error-prone in the representation of a firm's stability (DesJardine et al., 2019). Other researchers have used profitability-oriented indicators, such as the decline in returns on assets (ROA) or earnings before interest and taxes (EBIT) (Buyl et al., 2019; Dimitriadis, 2021; Lampel et al., 2014). In the absence of major adverse events, stability can be seen in the reduction of financial volatility as a result of an improved capacity for sensing, anticipating, learning, and adapting (Ortiz-de-Mandojana & Bansal, 2016).

A *speedy recovery* is the outcome of "bouncing back" (Stoverink et al., 2020). It is the result of flexibility and the availability of resources to adapt to changes (Buyl et al., 2019; Sutcliffe & Vogus, 2003). Crucial for recovery is the time an organization spends on returning to its previous performance level. The measure draws on performance indicators similar to those used for stability (e.g., stock prices (DesJardine et al., 2019; Sajko et al., 2020), ROA (Buyl et al., 2019), or sales (Iborra et al., 2020)).

Bustinza et al. (2019) examine *organizational effectiveness* as an outcome of organizational resilience. They operationalize organizational effectiveness in a broad sense based on five performance indicators: commitment to continuous improvement, stability of the production process, knowledge about customers' requirements, process improvements in the business model, and operational and financial results.

Furthermore, *growth* is a potential resilient outcome if organizations exceed the pre-adversity performance level. Organizational growth can be measured using financial-performance indicators, such as return on sales (ROS) and EBIT, or in terms of internal resources (e.g., of number of employees) (Lampel et al., 2014).

Many performance-related outcome variables (e.g., stability, recovery, and growth) are operationalized in different ways. Beyond the frequently used measures of stock prices, sales, and profit, we find some uncommon indicators, such as the financial strength of firms as measured using net investments, and credit worthiness as measured using total debt issuance (Aivazian et al., 2019). Notably, the application of different measures has resulted in potential discrepancies in empirical results.

In addition to performance-related outcomes, many studies theorize and argue for other outcomes of organizational resilience, such as strategic renewal in terms of business-model reinvention (Hamel & Valikangas, 2003) or innovation (Do et al., 2022) as well as other nonfinancial outcomes, including reputation gain, on-time deliveries, and increased quality (Iftikhar et al., 2021). However, these outcome variables are rarely operationalized in empirical studies of organizational resilience, which has resulted in a lack of comparability among studies.

7. Future research directions

Guided by the ADO framework, we have discussed the linkages among adverse events, antecedents at different levels, actions along the resilience process, and outcomes, as described in the extant literature. This discussion has allowed us to identify avenues for future research. Table 5 provides a set of detailed research questions for each dimension.

7.1. Antecedents

The set of antecedents discussed in the extant literature does not provide a detailed recipe for organizational resilience. The forms of adversity described based on emergence, novelty, and severity outline the differences in responses that depend on the adverse circumstances. We urge researchers to extend our knowledge about the influence of adverse events in future resilience research. In terms of antecedents at the individual, group, organization, and network levels, we see a need to not only investigate the contradictions, interactions, and potential moderators of the antecedents covered to date, but also examine other potential antecedents.

Adverse events. Our findings show that organizational resilience as a process strongly depends on the form of adversity. However, several links between the form of adversity and required response actions remain unexplored. For example, gradual adversities may constrain sensemaking and coordination as its unfolding is not equally perceived by the entire organization. With regards to novelty, organizations can hardly anticipate and prepare for unknown adversities. Scholars can retrospectively examine how resilient organizations survive a novel event drawing on a generic pre-adversity preparedness. Furthermore, the severity of adverse events can boost transformation in the post-adversity phase. Life-threatening events (e.g., natural disasters) can create strong momentum for change and fuel the founding of new organizations (Dutta, 2017).

Besides the nuanced view of an adversity's emergence, novelty, and severity, other aspects of adverse events constitute an important context for the study of organizational resilience. Future research can address different types of adversity. For example, internal crises, such as fraud or scandals, affect organizational members' commitment and willingness to alleviate performance setbacks and repair relational damages. Similarly, we see opportunities to examine the impact of different attributions of adversity (e.g., human-caused versus natural) on how organizations make sense, frame, and respond to it. Adversity attribution is relevant as the causes and effects of adversity are often ambiguous and interpreted differently by affected individuals and organizations (Williams & Shepherd, 2016). For example, the attribution of blame to internal or external actors can lead to self-protection or mutual support in crises (Rao & Greve, 2018). Furthermore, future studies could also explore mixed forms of adversity and changes in an organization's response actions. For instance, long-lasting adverse events may be acute at the onset but become creeping and chronic over time (Bonanno et al., 2015). The recent Covid-19 pandemic has lasted several years with recurring lockdowns and mobility restrictions. As such, it has shifted gradually from acute to chronic ("a new normal"), although it is still seen as a pandemic.[3] Many organizations chose absorption at the onset and shifted toward adaption or a mixed strategy during the course of the pandemic. As the events (e.g., Covid-19, the Ukraine conflict, the earthquake Turkey and Syria) in recent years demonstrate, multiple adversities may occur closely in time and space, forcing organizations to cope with different requirements on resilient responses simultaneously. Future research should examine resilience in multiple events (e.g., event clusters or chains) in terms of how organizations decide on resilience actions (e.g., sensemaking, adaption, or absorption) and resources allocations.

Individual-level antecedents. Thus far, little is known about the relationship between individual and organizational resilience. Researchers should explore the circumstances under which resilient individuals contribute to organizational resilience or pursue self-preservation with detrimental effects.

Similarly, findings about the role of leaders' personality traits in

[3] Covid-19 continues to create significant strain and uncertainty. As the pandemic eases (i.e., becomes endemic), resilient responses will naturally change or decrease.

Table 5
List of research questions

Antecedents
Adverse events:
How does the emergence of adversity compromise sensemaking and coordination?
How can organizations anticipate (if possible) and prepare for novel events?
Does the severity of adverse events boost post-adversity transformation (e.g., venture founding)?
How do organizations achieve resilience during an internal crisis?
How does the attribution of adversity (e.g., internal versus external; human caused versus natural) influence the collective response?
How do organizations cope with mixed forms of adverse events?
How do resilience actions change during long-lasting adverse events (e.g., pandemic, war)?
How do organizations form their resilient response when multiple events occur closely in time or space?
Individual-level antecedents:
Under which circumstances do resilient individuals contribute to OR?
Does narcissism have positive effects on OR?
How can the detrimental effects of personality traits (e.g., narcissism, greed) be mitigated through corporate governance (e.g., control, incentives, and ownership form)?
Which other personality traits (e.g., Big Five) can be considered as antecedents to OR?
Does extroversion/emotional stability contribute to OR in life-threatening/livelihood-threatening adverse events?
Which leadership styles (e.g., transformational, transactional) are beneficial for OR?
How do individual cognitive capabilities (e.g., self-regulation, cognitive flexibility, problem-solving ability) influence OR?
Group-level antecedents
Does group resilience contribute to OR? If so, under which conditions?
Can the negative effect of strong group identity on OR be mitigated through group diversity, psychological safety, or organization-level antecedents (e.g., corporate identity)?
Does the emergence of adversity (gradual vs. abrupt) moderate the negative effect of strong group identity on OR due to the difference in the adversity perception?
Organization-level antecedents:
Do other concepts addressing environmental uncertainty (e.g., agility or business model innovation) contribute to OR?
What role does corporate culture play in building OR?
Can firms' strong reputation, status, legitimacy, and other nontradable resources foster OR?
How can big organizations avoid overconfidence and master the synchronization challenges in adverse times?
How do small firms achieve OR given their resource constraints?
How do different types of organization (profit vs. nonprofit organizations, start-ups vs. established firms) achieve OR?
Macro-level factors:
Which macro-level factors (i.e., at the institutional, country, or regional level) are antecedents to OR?
Interdependence among antecedents at different levels and adverse events
Is CEO empathy beneficial in times of gradual adversity and detrimental in times of acute adversity?
Are narcissistic leaders more detrimental to OR in non-novel events?
Is a higher level of exploration / exploitation more beneficial for novel / non-novel events?
Decisions: resilience process and actions
Interdependence among actions:
Does intensive anticipation and preparation in the pre-adversity stage result in a tendency for absorption?
Does intense adaption / absorption during adversity lead to higher / lower level of transformation?
Does recent exposure to adversity and learning strengthen preparation for future events?
Decision to engage in absorption or/and adaption:
Why do some organizations start adaption earlier than others?
Speed of resilience process:
What factors determine the speed of the resilience process? How can it be accelerated?
Outcomes
Operationalization and measurement of extant outcomes:
Which measure is most appropriate for assessing performance during adversity? Are there discrepancies in the empirical results?
Over which period should a firm's survival be measured depending on the length of the adversity and the firm's lifecycle?
How can additional resilient outcomes (e.g., innovation, renewal, reputation) be operationalized for empirical studies in OR?
Differentiation among desired outcomes
What are the desired outcomes depending on the context (i.e., original state or new normal)? How can they be operationalized?
Latent resilient outcomes:
What are the latent outcomes of resilience (i.e., outcomes in tranquil times)? How can they be measured?
Negative resilient outcomes:
What are the negative outcomes of OR (e.g., cost inefficiency and lock-in)? How can they be mitigated?
What are the negative outcomes at lower levels that may be reflected in organization-level outcomes?

organizational resilience are contradictory and require more investigation. Buyl et al. (2019) argue that CEO narcissism is negatively associated with organizational resilience due to the risk propensity associated with such narcissism. However, some researchers highlight the bright side of narcissistic or overconfident leaders in times of crisis as such leaders are better able to communicate visions convincingly, thereby reassuring and mobilizing organizational members (Rosenthal & Pittinsky, 2006; Sundermeier et al., 2020). Future research can examine the potential positive effects of personality traits (e.g., narcissism) and how their detrimental effects can be mitigated by specific governance practices, such as limited stock options, expert monitoring (Buyl et al., 2019; Sajko et al., 2020), or certain forms of governance (e.g., employee ownership) (Lampel et al., 2014).

Furthermore, investigations of other personality traits (e.g., the Big

Five[4]) as antecedents to organizational resilience might provide important insights into which characteristics are beneficial for organizational resilience. While extroversion is positively related to inspirational appeal, leaders with high emotional stability prefer rational persuasion (Cable & Judge, 2003). Thus, emotional stability may be beneficial in livelihood-threatening events when rational responses are needed, while extroversion may help leaders reach emotionally affected employees in life-threatening events.

Future scholars could examine which leadership styles foster an organization's resilience before, during, and after a crisis. According to the literature on positive organizational behavior, transformational leadership is likely to produce positive organizational outcomes in stressful situations (Peterson et al., 2009). Leadership styles may also determine how leaders motivate and involve employees in coping with adversity.

Many individual cognitive capabilities are mentioned as sources of resilience, but they have yet to be tested in an organizational context. Prominent examples include cognitive flexibility (Bonanno et al., 2015; Vough & Caza, 2017), self-regulation (Masten & Narayan, 2012), and problem-solving abilities (Lengnick-Hall et al., 2011). Future studies should investigate how these individual capabilities can be stimulated and bundled to foster an organization's resilience.

Group-level antecedents. Organizational resilience is seen as a social process among actors within the organization (Kahn et al., 2018). Analogous to individual resilience, resilient groups do not necessarily build a resilient organization as groups have their own decision-making processes (Stoverink et al., 2020). Kahn et al. (2018) show that groups severely affected by adversity are less willing to help others for the benefit of the entire organization. Future research can therefore explore the conditions under which resilient groups help achieve organizational resilience. For instance, a strong group identity that creates strong in-group cohesion is negatively associated with organizational resilience (Kahn et al., 2018). Group diversity, psychological safety, or organization-level antecedents (e.g., corporate identity) that allow for different opinions might mitigate this negative relationship. The form of event may also attenuate the negative relationship between group identity and organizational resilience. For example, an abrupt event with high impact is likely to trigger a sense of common fate and the priority of a collective response across all organizational groups, despite strong group identities.

Organization-level antecedents. At the organizational level, strategies addressing environmental uncertainty, such as diversification and organizational ambidexterity, are positively related to organizational resilience. This positive relationship may also hold true for other concepts, such as agility (e.g., Brand et al., 2021) or business model innovation (e.g., Miroshnychenko et al., 2021), that help organizations to deal with dynamic and uncertain conditions. Resilience research can therefore benefit from the existing knowledge in managing environmental uncertainty and verify its transferability to an adversity context.

Furthermore, many scholars mention corporate culture as an important factor for building resilience. Meyer (1982) argues that a corporate culture with a strong corporate ideology can provide a common adversity frame and guidance for collective actions. Other studies state that corporate cultures that embrace change, flexibility, or learning can create fertile ground for resilience (Do et al., 2022; Sheffi & Rice, 2005). Future research should empirically investigate the role of corporate culture for organizational resilience and its influence on the relationship between resilience antecedents and outcomes.

Organizational resilience may also depend on a firm's reputation, status, and legitimacy. Gao et al. (2017) find that as a signal of trustful transactions among partners, reputation contributes to organizations' long-term survival. Hence, a strong reputation, status, and legitimacy may increase a firm's relational resources and, consequently, stabilize its performance and increase its access to external resources in times of crisis. Ortiz-de-Mandojana and Bansal (2016) state reputation as a "nontradable" resource. Nontradable resources may become even more important during adverse times as they are built over time and not obtainable on short notice. They merit more attention from future scholars to examine their impact on organizational resilience.

Finally, we urge a distinction between different types of organization when studying organizational resilience. Lampel et al. (2014) show performance differences between employee owned and nonemployee-owned firms during the 2008 GFC. While previous research has mainly focused on profit organizations, future studies should devote attention to nonprofit organizations, which are highly purpose-driven and have objectives other than excellent financial performance. Another interesting path can be to distinguish between young start-ups and established firms as they have different level of available resources and maturity in structure and processes.

Macro-level factors. The recent Covid-19 pandemic has shown that factors such as infrastructure, demographics, economic activity, or institutional governance can help predict the performance of organizations (Mertzanis, 2021). For example, governments can provide financial aid as an additional resource for organizational responses in the face of adversity. After the adverse event (e.g., a financial crisis), they may introduce new control policies and regulations to prevent similar events in the future. These political initiatives can be seen as macro-level antecedents to organizational resilience. Similarly, public movements (e.g., protests against nuclear plants after the Fukushima nuclear disaster) may increase the pressure on organizations to intensify their anticipation and preparation in the pre-adversity phase. Another example of macro-level antecedents is national culture. Fietz et al. (2021) show that individualism, power distance, and uncertainty avoidance can influence how organizations cope with adversity. Thus, macro-level factors, such as institutions, country, or region, are likely to be promising sources of antecedents to be explored in future studies.

Interdependence among antecedents at different level and adverse events. While the impact of some antecedents (e.g., slack resources, social resources, or network visibility) is generally positive for any kind of adverse event, others can lead to different resilient outcomes depending on the event. We therefore urge the investigation of the interdependence between antecedents at different levels and various forms of adversity. At the individual level, the impact of personality traits may vary depending on the adverse event. Leaders' empathy is proposed to have an inverted U-shaped relationship to crisis management (König et al., 2020). Due to their inherent sensitivity to small warnings, empathy may be beneficial (i.e., positive relationship to organizational resilience) in gradually emerging events, but detrimental in acute, high-impact adversities, as empathy is associated with a higher likelihood of being emotionally overwhelmed. Similarly, the impact of narcissistic leaders on organizational resilience depends on the context of the adverse event. Their risk-taking behavior is likely to cause resource depletion with the firm (e.g., slack reserves) and could even become more dangerous in non-novel events when absorption by slack resources is required.

At the organizational level, organizational ambidexterity, that is, the balance of exploration and exploitation, positively contribute to resilience (Iborra et al., 2020; Turner et al., 2020). With respect to event novelty, it is unclear whether this finding is still valid. In novel events, a higher level of exploration may foster the generation of innovative solutions, while in non-novel events, a stronger exploitative orientation may help to efficiently implement the predefined response actions. Resilience research needs to investigate the impact of an organization's orientation toward exploration and exploitation in the light of specific adverse events.

7.2. Decisions: the resilience process and actions

Interdependencies among actions. As discussed above, an

[4] The Big Five personality traits are extroversion, agreeableness, conscientiousness, emotional stability (neuroticism), and openness to experience (Cable & Judge, 2003).

organization's decision on actions before, during, and after an adversity are clearly interlinked. The interdependencies among specific actions merit empirical study. Intensive anticipation and preparation before the onset of adversity may result in a tendency for absorption as organizations proactively derive a set of coping strategies and adjust their posture in advance.

In addition, the more an organization adapts its posture to better fit the adverse circumstance, the more likely it is to transform itself in the aftermath. For example, the Covid-19 pandemic forced firms to adopt a remote working mode, which led to a long-lasting transformation of the workplace. In a similar vein, when a firm prioritizes absorption (i.e., sticking to existing processes and routines), it intends to maintain the original state and is unlikely to trigger a transformation. As one adverse event may be followed by another, recent exposure to adversity and learning (e.g., additional coping strategies) may strengthen the preparation for future events. This feedback loop from post-adversity to pre-adversity merits further investigation.

Decisions on absorption and/or adaption. Many researchers argue that organizations must choose either absorption (i.e., maintain the posture) or adaption (i.e., change the posture) (e.g., Stoverink et al., 2020), while others suggest the coexistence and complementarity of both actions (e.g., Conz & Magnani, 2020). The latter perspective is supported by observations of organizations' responses to the Covid-19 pandemic as many companies needed to absorb in the first instance before starting to adopt. Future studies should examine why some organizations pursue adaption earlier than others. Reasons might include a lack of financial resources, high innovativeness, an exploration orientation, political ideology, or specific leaders' characteristics.

Speed of the resilience process. In some cases, the speed with which the actions are implemented along the resilience process (e.g., adaption) can be essential for survival. However, whether the speed of the resilience process can be increased through intensive anticipation and preparation (e.g., training or other human resource practices), which foster an understanding of organizational resilience among organizational members, is unclear.

7.3. Outcomes

To date, the outcomes of organizational resilience have been theorized and operationalized in many ways. We encourage harmonization of the operationalization and measurement of the outcome variables found in the extant literature. We also highlight additional aspects (i.e., differentiation among desired, latent, and negative resilient outcomes) that should be considered when theorizing and investigating the outcomes of organizational resilience.

Operationalization and measurement of extant outcomes. To ensure the comparability of research results, we suggest harmonizing extant measures of performance outcomes and operationalizing additional outcome variables that are mentioned in the literature. First, performance stability, recovery, and growth are often measured using different indicators, such as stock prices, sales, and profit. Future research should analyze the potential discrepancies in empirical results and align those measures with the form of adversity. Second, the measurement of survival is tied to a defined time horizon. The length of that horizon could be standardized depending on the form of adversity (e.g., acute versus chronic) and the lifecycle of firms (e.g., start-ups versus established). Other resilient outcomes, such as business-model reinvention (Hamel & Valikangas, 2003), innovation (Do et al., 2022), and other nonfinancial outcomes, including reputation damage, late deliveries, poor customer service, and reduced quality (Iftikhar et al., 2021), are also mentioned in the literature. These variables require operationalization and testing in empirical studies of organizational resilience.

Differentiation among desired outcomes. As organizational resilience is context dependent ("resilient to what?"), future studies may differentiate among desired outcomes (e.g., a return to the original state or creation of a "new normal"). If the original state is still considered optimal, the speed and extent of the return to the original baseline can be reasonable outcome variables. However, if a new state is desired, a focus on the level of adaption in the strategy, organization, process, or business model may be more appropriate. Future research can examine the desired outcomes depending on the context (e.g., a pandemic or natural disaster) and how those outcomes can be operationalized.

Latent resilient outcomes. While organizational resilience can be demonstrated during an adverse event, it is a latent construct in tranquil times (Hillmann & Guenther, 2020). Some discussed performance outcomes, such as survival, a performance decline, and the speed of recovery, are not appropriate for describing the latent outcomes of resilience. Without examining a specific adverse event, Ortiz-de-Mandojana and Bansal (2016) operationalize resilient outcomes as the survival rate and financial volatility over a 15-year period. Future studies might investigate the latent resilient outcomes in terms of, for example, the general awareness and preparedness of organizations and their employees.

Negative resilient outcomes. The extant literature has stressed the positive outcomes of resilience but neglected the negative outcomes. First, building resilience by, for example, maintaining slack resources or building relations with partners may have a cost (Boin & McConnell, 2007). There is a tradeoff between the upfront costs and the costs, which can be avoided in case of adversity in combination with the general benefits that might come along with the resilience efforts (e.g., innovation, flexibility, or risk reduction). Second, resilience may lead to lock-in or competency traps as it is a path-dependent, self-reinforcing concept (Sutcliffe & Vogus, 2003). The successful mastery of a crisis may lead to an illusion of invincibility, which can inhibit learning, anticipation, and preparation for future adverse events. Third, negative resilient outcomes may be situated at the individual (e.g., negative emotions (Williams et al., 2017); or group levels (e.g., a low willingness to cooperate; Kahn et al., 2018). Negative outcomes at these lower levels are likely to be reflected in the higher-level outcomes of organizations. We believe that future research can make important contributions regarding the range of negative outcomes and the corresponding mitigation measures.

8. Discussion

8.1. Theoretical implications and propositions

How do different forms of adverse events and antecedents at different levels (i.e., individual, group, organizational, and network) affect the processes and outcomes of organizational resilience? To answer this question, we conceptualized a comprehensive framework that integrates the findings on adverse events, multilevel antecedents, resilience process, and outcomes. Our review generates important theoretical implications and propositions, which advance the understanding of organizational resilience.

First, our findings shed light on how the form of the adverse event (i.e., its emergence, novelty, and severity) influences the choice of actions in the organizational-resilience process (e.g., sensemaking, absorption, adaption, or coordination). In *gradual* events, organizations have more time (up to a critical threshold) to anticipate and avoid a potential setback by being mindful of and sensitive to warnings (Rudolph & Repenning, 2002; Weick et al., 1999), while abrupt shocks (e.g., terrorist attacks) often hit organizations unexpectedly with a high impact (Stoverink et al., 2020). Gradually emerging stressors tend to be absorbed by existing capacities and processes until adaptions become necessary (Kahn et al., 2018). As a consequence, organizations aim to maintain their stability without making fundamentally new modifications, which would lead to organizational learning and facilitate innovations in the aftermath (Do et al., 2022; Mithani, 2020). Thus:

P1a. *When facing gradually emerging events (compared to abrupt events), organizations are likely to choose absorption over adaption, resulting in lower post-adversity learning and innovation.*

When facing *novel* events, a proper understanding of causes, effects, and coping strategies is lacking (Dutta, 2017; Rudolph & Repenning, 2002). Organizations may struggle with the anticipation and sensemaking. Therefore, they need more time to find an effective response while suffering a "defenseless" setback. Due to the lack of previous knowledge, the setback cannot be sufficiently absorbed by formal routines and existing action repertoire, but requires a higher level of adaption, for example, through the creation of unconventional solutions (Heinonen & Strandvik, 2021; Turner et al., 2020). Adaptive responses expand organizations' action repertoire (i.e., learning) and can lead to more innovations to match the changed environmental circumstances (Buliga et al., 2016; Do et al., 2022). To summarize, we propose:

P1b. *When facing novel events (compared to non-novel events), organizations need more time to find new effective responses, and therefore, are likely to undergo a greater setback and longer time to recovery.*
P1c. *When facing novel events (compared to non-novel events), organizations engage in a higher level of adaption, resulting in higher post-adversity learning and innovation.*

Depending on the *severity* of adverse events, the appropriate response using the right set of resources, skills, and capabilities can be limited. Unlike livelihood-threatening events, rational actions are either not available or delayed in life-threatening events due to the physical and emotional damage to people (Mithani, 2020; Williams & Shepherd, 2016). Especially in life-threating events, organizational members experience physical and emotional setbacks that compromise their rational sensemaking and deployment of essential resources for subsequent actions, such as absorption and adaption (Mithani, 2020; Rao & Greve, 2018). Hence:

P1d. *When facing life-threatening events (compared to livelihood-threatening events), organizations fail to (immediately) respond, and therefore, are likely to undergo a greater setback and longer time to recovery.*

Second, we find that some antecedents at the individual level, such as *self-efficacy*, *bricolage*, and a *transformative mindset,* are positively associated with organizational resilience and universal across contexts (Lengnick-Hall et al., 2011; Sutcliffe & Vogus, 2003), while other individual factors (e.g., *individual resilience*, *narcissism*, and *empathy*) have an ambivalent influence on organizational resilience depending on the context. *Resilient individuals* can foster organizational resilience due to their emotional stability and ability to steer organizational members in adverse times (Chhatwani et al., 2022; Santoro et al., 2020), but they can also be detrimental by their self-preserving behavior (Hillmann et al., 2018; Stoverink et al., 2020). The individual's stress appraisal and coping ability play a decisive role for either a positive or negative effect (Riolli & Savicki, 2003). Under life-threatening conditions, individuals will perceive a higher level of stress (matter of survival) and exhibit self-preserving behavior. This leads to the following proposition:

P2a. *The impact of individual resilience on organizational-resilience processes and outcomes is event-context dependent, that is, in life-threatening/livelihood-threatening events, individual resilience has a negative/positive impact.*

Narcissistic leaders exhibit the propensity to demonstrate their strategic boldness by risk-taking decisions and nontraditional initiatives (Buyl et al., 2019). Pre-adversity risk-taking behavior can lead to resource depletion that inhibits a fast recovery in adverse situations (Buyl et al., 2019). However, when responding to an adversity, narcissistic leaders may see the mastery as a showcase to seek personal reward, and therefore, encourage adaptive responses based on unconventional solutions. This can be beneficial in novel events when a higher level of adaption is required. Due to a lack of previous experience, existing action repertoires fail to provide proper solutions to novel adversities (Dutta, 2017; Rudolph & Repenning, 2002). As mentioned earlier, higher levels of adaptation will likely enhance post-adversity learning and innovations (Buliga et al., 2016; Do et al., 2022). Thus, we propose:

P2b. *The impact of leaders' narcissism on organizational-resilience processes and outcomes is event-context dependent, that is, in novel events, narcissistic leaders have a positive impact on adaption, resulting in higher post-adversity learning and innovation.*

Prior research proposed an inverted U-shaped relationship between leaders' *empathy* and organizational crisis management (König et al., 2020). Crisis management and organizational resilience have in common that they both focus on how to cope with and respond to adversity (Williams et al., 2017). Consequently, we adapt the arguments of König et al. (2020). Empathic leaders tend to quickly recognize and anticipate small warnings and potential threats (König et al., 2020). They will focus on rebuilding relationships during the adversity, which will give them better access to adversity-related information. On the contrary, empathic leaders are also more susceptible to false alarms. Their information processing is likely to be more biased and the attention to relationships comes at the cost of neglecting the restoration of critical technical systems (König et al., 2020). Combining both contrary arguments, we propose:

P2c. *The impact of leaders' empathy on organizational-resilience processes and outcomes is inverted U-shaped.*

Third, group-level antecedents, such as *groups' capacity to improvise* (Stoverink et al., 2020), *group efficacy* (Stoverink et al., 2020; Sutcliffe & Vogus, 2003), *group diversity* (Duchek et al., 2020), *group identity* (Kahn et al., 2018), *roles system* (Stoverink et al., 2020; Weick, 1993), and *psychological safety* (van den Berg et al., 2021), are essential for group resilience, and to some extent, also for organizational resilience. The resilience-promoting factors help groups and organizations to utilize collective capacity and experience to sense, absorb, and adapt to adverse events (Chen & Zhang, 2021; Duchek et al., 2020; Stoverink et al., 2020). However, the positive impact of these group-level antecedents may not fully manifest at the organizational level as intergroup connections are weaker than intragroup ties (Stoverink et al., 2020). Thus, organizations with a strong cohesion (e.g., fostered through an organizational vision, identity, or culture) are likely to enable positive resilient outcomes at the organizational level. Thus, we propose:

P3a. *The impact of groups' capacity to improvise, group efficacy, group diversity, role system, and psychological safety on organizational-resilience processes and outcomes is positive when the intergroup cohesion is strong.*

Acknowledging the prerequisite of intergroup cohesion, *group diversity* in terms of knowledge, experience, and competencies positively influences organizational resilience (Duchek et al., 2020; Sutcliffe & Vogus, 2003). Diverse skills are particularly of high value in novel events (Dutta, 2017). Hence, the positive effect of group diversity is likely to be more beneficial in novel events when circumstances and emerging needs are novel. As outlined above, novel events require higher levels of adaption (Heinonen & Strandvik, 2021; Turner et al., 2020), which foster learning and innovation (Buliga et al., 2016; Do et al., 2022). Therefore, we propose:

P3b. *The positive impact of group diversity on organizational-resilience processes and outcomes is stronger in novel events (compared to non-novel events), resulting in higher post-adversity learning and innovation.*

Furthermore, organizations can benefit from *role systems* when responding to adverse events (Stuart & Moore, 2017). When all group members are familiar with functions and roles, they are able to back up each other, and thus, to absorb small emerging stressors and maintain normal functioning (Stoverink et al., 2020). However, we argue that the impact of role systems can vary depending on the adverse event. In non-novel events, when the effective solution is known based on previous experience, the strict adherence to predefined structures and processes can accelerate the implementation of countermeasures (Rudolph & Repenning, 2002). Thus, a well-established role system will lead to faster responses in non-novel events. In contrast, novel events require adaption and the creation of innovative solutions (Heinonen & Strandvik, 2021; Rudolph & Repenning, 2002), which will less likely emerge by following a strict role system. Hence:

P3c. *The impact of role systems on organizational-resilience processes and outcomes is event-context dependent, that is, role systems have a positive impact on absorption in non-novel events and a negative impact on adaption in novel events.*

Third, extant studies yield a range of organization-level antecedents to organizational resilience. Strategic choices addressing environmental uncertainty, that is, *diversification* and *organizational ambidexterity*, positively contribute to organizational-resilience processes and outcomes (Aivazian et al., 2019; Iborra et al., 2020). Furthermore, *slack* and *relational resource* endowments as well as resource-enriching practices (e.g., SEP) contribute to organizational resilience as they can be deployed for all actions in the resilience process (e.g., anticipation, absorption, and adaption) and in any kind of adversity (Buliga et al., 2016; DesJardine et al., 2019; Leuridan & Demil, 2022). The *structure* of organizations can either foster or constrain resilient responses depending on the event context. Centralized and formal structures enable fast decision-making (Fietz et al., 2021), while decentralized and informal structures benefit improvisation and adaptive responses (Bahri Korbi et al., 2021; van den Berg et al., 2021). Novel events require higher levels of adaption including unconventional solutions (Heinonen & Strandvik, 2021; Turner et al., 2020), which is facilitated by higher degrees of decentralization and informality in structure. In the contrary, non-novel events require the speedy execution of predefined responses, which will be supported by centralized and formal structures (Rudolph & Repenning, 2002). Thus:

P4. *The impact of an organization's structure on organizational-resilience processes and outcomes is event-context dependent, that is, decentralized and informal structures have a positive impact on adaption in novel events, while centralized and formal structures have a positive impact on absorption in non-novel events.*

Finally, previous research at the *network level* (predominately in supply chain management) reveals that network resilience can be achieved by an appropriate *network structure* (van der Vegt et al., 2015), *network integration* (Iftikhar et al., 2021), and *visibility* (Brandon-Jones et al., 2014). The latter provides a transparent information and resource flow for organizations (Jüttner & Maklan, 2011). Visibility is vital for anticipating adversity-relevant information prior to the adverse event, sensemaking at the onset, coordination throughout the adversity, and learning in the aftermath (Duchek, 2020; Weick, 1993). Taking a closer look at the *network structure*, dense networks are beneficial for the early anticipation of adverse events and the absorption by the network members and their resources (Craighead et al., 2007, 2007van der Vegt et al., 2015). At the same time, adversities will be more severe for organizations in a dense network as the consequences will rapidly propagate among closely connected partners (Craighead et al., 2007). In a gradually emerging event, the proximity within a dense network facilitates a common recognition of the event and required actions among network members, and therefore, foster adversity anticipation and the coordination of collective response. However, when an abrupt shock hits a dense network, the setback will immediately affect all organizations and compromise their response abilities. Based on the reasoning above, we propose:

P5a. *The impact of network structure on organizational-resilience processes and outcomes is event-context dependent, that is, in gradual/abrupt events, a dense network has a positive/negative impact.*

Within a highly *integrated* network, organizations strategically share material, information, and funds in order to buffer against adverse circumstances (Gilly et al., 2014; Iftikhar et al., 2021). When facing novel adversities and emerging needs, new organizations/partners will become relevant (Dutta, 2017). Well-established collaborations and transactions within a highly integrated network may struggle to rearrange their partnerships to develop an appropriate response, and hence, reach their limits when confronted with novel events. In short:

P5b. *The positive impact of network integration on organizational-resilience processes and outcomes is weaker in novel events (compared to non-novel events).*

8.2. Practical implications

In recent years, which have been characterized by pandemic-related and political turmoil, organizations have acknowledged the importance of being resilient to adversity. Based on our framework of organizational resilience building on response actions, antecedents, and concrete outcomes, we derive a set of practical implications for managers to build organizational resilience.

First, we unveil the abstract construct of organizational resilience as a process over three temporal phases (i.e., pre-adversity, adversity, and post-adversity) encompassing the underlying actions. Before an adversity emerges, organizations should proactively observe unfavorable changes (i.e., anticipation) and define coping strategies for the expectable adversities. Equally important are the right skills and mindsets to cope with the unexpected (i.e., preparation). At the onset of adversity, organizations need to make sense of the adverse circumstances and synchronize all organizational members toward a common goal (i.e., coordination). When alleviating setback, the choice of absorption and/or adaption can be effective under different event contexts (e.g., non-novel and novel events). In the aftermath, organizations should devote time and effort to learn from the mastery and transform toward a better posture that will lead to a higher preparedness for future adversities.

Second, each adverse event can unfold in an unprecedented way, resulting in different requirements for organizational responses. Managers should recognize different forms of events (i.e., emergence, novelty, and severity), the required actions, and potential constraints. When coping with gradually emerging adversities, organizations should increase the sensitivity to small stressors stemming from a particular subunit and convey the necessity for a collective response in all parts of the organization. Depending on the novelty of the adversity, managers need to encourage employees to search for unconventional solutions (i.e., adaption) and deviate from predefined processes and routines (i.e., absorption). When severe life-threatening events hit, organizations should first focus on restoring physical and emotional well-being before deploying the rational solutions. Vigilance of different kinds of adversity and the required responses is vital not only for the management but also for all organizational members. It can help them to make sense of specific adverse conditions in a timely manner and cooperate in finding and executing a suitable response strategy.

Third, our findings show that the ingredients of organizational

resilience reside at individual, group, organization, and network levels. At the individual level, leaders' characteristics play an important role, especially in times of crisis. Organizations should introduce training and learning programs to develop the required skills, such as improvisation skills and a transformative mindset. In contrast, leaders' personality traits (e.g., narcissism) stay stable over time and may have both a bright and dark side in relation to organizational resilience. There is a need to define measures (e.g., in the governance model or incentive system) to mitigate the negative effects. Further, our study outlines various antecedents of organizational resilience at the group level. To forge a collective response by all organizational groups, it is important to ensure cohesion through, for instance, a collaborative culture and a strong shared vision that can drive employees and groups toward a common goal. At the organizational level, firms should craft strategies incorporating environmental turbulence and invest in resources (i.e., slack and relational resources) that are useful for all actions in the resilience process and any kind of adversity. Over time, organizations have developed or inherited certain strategies, structures, or resource endowments. Thus, organizations need to be aware of their existing configuration of resilience "ingredients" and evaluate the arising vulnerability, potential exposure, and available coping strategies to different kind of adversities. Beyond the organizational boundaries at the network level, organizations work with their external partners to address major adversities. It is vital to establish long-term relationships to ensure information and resource sharing as well as close collaboration. At the same time, organizations embedded in a network are interdependent and will undergo collective setback when adversity strikes. Especially in a densely and highly integrated network, organizations need to mitigate the potential exposure due to the interdependency.

Finally, building organizational resilience is a strategic choice that requires an upfront investment without a short-term payback (during tranquil times). We illustrate the range of resilient outcomes entailing processual outcomes (i.e., learning and transformation), performance-related outcomes (i.e., survival, stability, speedy recovery, organizational effectiveness, and growth), and other positive organizational outcomes such as innovation, organizational change, or competitiveness. This detailed view on the resilient outcomes including measurement approaches can help to convince top managements to strategically invest in resilience.

9. Research limitations

The findings of this review must be interpreted in the light of several limitations in its methodology and scope. We only considered top-ranked journals in general management and organizational studies. Specialized journals in supply chain, crisis, and emergency management, which may offer insights into organizational resilience, were not systematically included in our search. However, we considered frequently cited articles that were not uncovered in our initial search in order to limit the risk of missing important articles. Furthermore, our search was limited to the term "resilien*" combined with some contextual terms (e.g., organization, firm, enterprise). Relevant studies regarding organizational responses to crises, shocks, and other adverse events may not have placed their conceptualizations and findings under the umbrella of "resilience."

In terms of the scope of our review, our intention was to shed light on the range and complexity of antecedents to organizational resilience. The three differentiation criteria (i.e., emergence, novelty, and severity) used for adverse events are not intended to be mutually exclusive or collectively exhaustive. Rather, they provide a structured view of adverse events and identify differences in potential responses depending on the situation. For the level-related antecedents, we only considered levels within (i.e., individual, group, organizational) or adjacent (network) to the organizational boundaries. Other macro-level factors (e.g., industry, country, or region) were not part of our review.

10. Conclusion

Given today's challenging and uncertain environment, organizational resilience will continue to garner the attention of researchers and practitioners. Previous studies do not focus on the event-context dependency and multilevel facets of organizational resilience. In addition, outcome variables of organizational resilience are theorized and operationalized in different ways. The objective of our review was to address these issues by generating insights into how different forms of adverse events and antecedents at different levels (i.e., individual, group, organizational, and network) affect the processes and outcomes of organizational resilience.

We found that the form of adversity (i.e., emergence, novelty, and severity) determines the implementation of the resilience process and underlying actions (e.g., absorption and adaption). Across the individual, group, organizational, and network levels, we identified a comprehensive array of antecedents to organizational resilience. While some antecedents (e.g., self- and group-efficacy, bricolage, slack resources, and network visibility) promote the resilience process and outcomes, others (e.g., narcissism, role system, organizational structure, and size) have beneficial or detrimental effects depending on the form of adversity. Furthermore, we revealed the ambiguous conceptualizations and operationalizations of resilient outcomes in the extant literature. Moving forward, we encourage research aimed at deepening our understanding of the influence of adverse events, multilevel antecedents (also at the macro level), and their interdependencies in order to strengthen organizational resilience and enable organizations to be better prepared for the unexpected.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.emj.2023.03.002.

References

Ahn, J. M., Mortara, L., & Minshall, T. (2018). Dynamic capabilities and economic crises: Has openness enhanced a firm's performance in an economic downturn? *Industrial and Corporate Change, 27*(1), 49–63. https://doi.org/10.1093/icc/dtx048

Aivazian, V. A., Rahaman, M. M., & Zhou, S. (2019). Does corporate diversification provide insurance against economic disruptions? *Journal of Business Research, 100*, 218–233. https://doi.org/10.1016/j.jbusres.2019.03.044. April.

Ali, I., Arslan, A., Chowdhury, M., Khan, Z., & Tarba, S. Y. (2022). Reimagining global food value chains through effective resilience to COVID-19 shocks and similar future events: A dynamic capability perspective. *Journal of Business Research, 141*, 1–12. https://doi.org/10.1016/j.jbusres.2021.12.006

Andersson, T., Cäker, M., Tengblad, S., & Wickelgren, M. (2019). Building traits for organizational resilience through balancing organizational structures. *Scandinavian Journal of Management, 35*(1), 36–45. https://doi.org/10.1016/j.scaman.2019.01.001

Bahri Korbi, F., Ben-Slimane, K., & Triki, D. (2021). How do international joint ventures build resilience to navigate institutional crisis? The case of a Tunisian-French IJV during the arab-spring. *Journal of Business Research, 129*, 157–168. https://doi.org/10.1016/j.jbusres.2021.02.059. March.

Bandura, A. (1997). Self-efficacy: The exercise of control. In *Self-efficacy: The exercise of control*. W H Freeman/Times Books/Henry Holt & Co.

Barari, M., Ross, M., Thaichon, S., & Surachartkumtonkun, J. (2021). A meta-analysis of customer engagement behaviour. *International Journal of Consumer Studies, 45*(4), 457–477. https://doi.org/10.1111/ijcs.12609

Barney, J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management, 27*(6), 625–641. https://doi.org/10.1016/S0149-2063(01)00114-3

Baron, R. A., Franklin, R. J., & Hmieleski, K. M. (2016). Why entrepreneurs often experience low, not high, levels of stress: The joint effects of selection and psychological capital. *Journal of Management, 42*(3), 742–768. https://doi.org/10.1177/0149206313495411

Barton, M. A., & Kahn, W. A. (2019). Group resilience: The place and meaning of relational pauses. *Organization Studies, 40*(9), 1409–1429. https://doi.org/10.1177/0170840618782294

Battisti, M., Beynon, M., Pickernell, D., & Deakins, D. (2019). Surviving or thriving: The role of learning for the resilient performance of small firms. *Journal of Business Research, 100*(5), 38–50. https://doi.org/10.1016/j.jbusres.2019.03.006

Behrens, D. A., Rauner, M. S., & Sommersguter-Reichmann, M. (2022). Why resilience in health care systems is more than coping with disasters: Implications for health care policy. *Schmalenbach Journal of Business Research*. https://doi.org/10.1007/s41471-022-00132-0

van den Berg, J., Alblas, A., Blanc, P. Le, & Romme, A. G. L. (2021). How structural empowerment boosts organizational resilience: A case study in the Dutch home care industry. *Organization Studies*, 1–27. https://doi.org/10.1177/01708406211030659
Bhamra, R., Dani, S., & Burnard, K. (2011). Resilience: The concept, a literature review and future directions. *International Journal of Production Research, 49*(18), 5375–5393. https://doi.org/10.1080/00207543.2011.563826
Billore, S., & Anisimova, T. (2021). Panic buying research: A systematic literature review and future research agenda. *International Journal of Consumer Studies, 45*(4), 777–804. https://doi.org/10.1111/ijcs.12669
Boin, A., & McConnell, A. (2007). Preparing for critical infrastructure breakdowns: The limits of crisis management and the need for resilience. *Journal of Contingencies and Crisis Management, 15*(1), 50–59. https://doi.org/10.1111/j.1468-5973.2007.00504.x
Bonanno, G. A., Romero, S. A., & Klein, S. I. (2015). The temporal elements of psychological resilience: An integrative framework for the study of individuals, families, and communities. *Psychological Inquiry, 26*(2), 139–169. https://doi.org/10.1080/1047840X.2015.992677
Bort, S., & Kieser, A. (2011). Fashion in organization theory: An empirical analysis of the diffusion of theoretical concepts. *Organization Studies, 32*(5), 655–681. https://doi.org/10.1177/0170840611405427
Brandon-Jones, E., Squire, B., Autry, C. W., & Petersen, K. J. (2014). A contingent resource-based perspective of supply chain resilience and robustness. *Journal of Supply Chain Management, 50*(3), 55–73. https://doi.org/10.1111/jscm.12050
Brand, M., Tiberius, V., Bican, P. M., & Brem, A. (2021). Agility as an innovation driver: Towards an agile front end of innovation framework. *Review of Managerial Science, 15*(1), 157–187. https://doi.org/10.1007/s11846-019-00373-0
Brunetto, Y., Farr-Wharton, B., Wankhade, P., Saccon, C., & Xerri, M. (2022). Managing emotional labour: The importance of organisational support for managing police officers in England and Italy. *International Journal of Human Resource Management*. https://doi.org/10.1080/09585192.2022.2047755
Buliga, O., Scheiner, C. W., & Voigt, K. I. (2016). Business model innovation and organizational resilience: Towards an integrated conceptual framework. *Journal of Business Economics, 86*(6), 647–670. https://doi.org/10.1007/s11573-015-0796-y
Burnard, K., & Bhamra, R. (2011). Organisational resilience: Development of a conceptual framework for organisational responses. *International Journal of Production Research, 49*(18), 5581–5599. https://doi.org/10.1080/00207543.2011.563827
Bustinza, O. F., Vendrell-Herrero, F., Perez-Arostegui, M., & Parry, G. (2019). Technological capabilities, resilience capabilities and organizational effectiveness. *International Journal of Human Resource Management, 30*(8), 1370–1392. https://doi.org/10.1080/09585192.2016.1216878
Buyl, T., Boone, C., & Wade, J. B. (2019). CEO narcissism, risk-taking, and resilience: An empirical analysis in U.S. commercial banks. *Journal of Management, 45*(4), 1372–1400. https://doi.org/10.1177/0149206317699521
Cable, D. M., & Judge, T. A. (2003). Managers' upward influence tactic strategies: The role of manager personality and supervisor leadership style. *Journal of Organizational Behavior, 24*(2), 197–214. https://doi.org/10.1002/job.183
Callahan, J. L. (2014). Writing literature reviews. *Human Resource Development Review, 13*(3), 271–275. https://doi.org/10.1177/1534484314536705
Callister, W. D. (2001). *Fundamentals of materials science and engineering*. John Wiley & Sons, Inc, 5.
Canabal, A., & White, G. O. (2008). Entry mode research: Past and future. *International Business Review, 17*(3), 267–284. https://doi.org/10.1016/j.ibusrev.2008.01.003
Carmeli, A., & Markman, G. D. (2011). Capture, governance, and resilience: Strategy implications from the history of rome. *Strategic Management Journal, 32*(3), 322–341. https://doi.org/10.1002/smj.880
Carvalho, A., & Areal, N. (2016). Great places to work®: Resilience in times of crisis. *Human Resource Management, 55*(3), 479–498. https://doi.org/10.1002/hrm.21676
Chen, Y., & Zhang, Y. (2021). Fostering resilience in new venture teams: The role of behavioral and affective integration. *Group & Organization Management, 46*(4), 773–816. https://doi.org/10.1177/10596011211033164
Chhatwani, M., Mishra, S. K., Varma, A., & Rai, H. (2022). Psychological resilience and business survival chances: A study of small firms in the USA during COVID-19. *Journal of Business Research, 142*, 277–286. https://doi.org/10.1016/j.jbusres.2021.12.048
Choudhary, N. A., Ramkumar, M., Schoenherr, T., Rana, N. P., & Dwivedi, Y. K. (2022). Does reshoring affect the resilience and sustainability of supply chain networks? The cases of apple and jaguar land rover. *British Journal of Management*. https://doi.org/10.1111/1467-8551.12614
Conz, E., & Magnani, G. (2020). A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research. *European Management Journal, 38*(3), 400–412. https://doi.org/10.1016/j.emj.2019.12.004
Coope, C., Gunnell, D., Hollingworth, W., Hawton, K., Kapur, N., Fearn, V., Wells, C., & Metcalfe, C. (2014). Suicide and the 2008 economic recession: Who is most at risk? Trends in suicide rates in england and wales 2001–2011. *Social Science & Medicine, 117*, 76–85. https://doi.org/10.1016/j.socscimed.2014.07.024
Coutu, D. L. (2002). How resilience works. *Harvard Business Review, 80*(5), 46–50.
Craighead, C. W., Blackhurst, J., Rungtusanatham, M. J., & Handfield, R. B. (2007). The severity of supply chain disruptions: Design characteristics and mitigation capabilities. *Decision Sciences, 38*(1), 131–156. https://doi.org/10.1111/j.1540-5915.2007.00151.x
Dabić, M., Vlačić, B., Paul, J., Dana, L.-P., Sahasranamam, S., & Glinka, B. (2020). Immigrant entrepreneurship: A review and research agenda. *Journal of Business Research, 113*, 25–38. https://doi.org/10.1016/j.jbusres.2020.03.013
Dai, L., Eden, L., & Beamish, P. W. (2017). Caught in the crossfire: Dimensions of vulnerability and foreign multinationals' exit from war-afflicted countries. *Strategic Management Journal, 38*(7), 1478–1498. https://doi.org/10.1002/smj.2599
DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management, 45*(4), 1434–1460. https://doi.org/10.1177/0149206317708854
Dimitriadis, S. (2021). Social capital and entrepreneur resilience: Entrepreneur performance during violent protests in Togo. *Strategic Management Journal, 42*(11), 1993–2019. https://doi.org/10.1002/smj.3292
Do, H., Budhwar, P., Shipton, H., Nguyen, H. D., & Nguyen, B. (2022). Building organizational resilience, innovation through resource-based management initiatives, organizational learning and environmental dynamism. *Journal of Business Research, 141*(November 2021), 808–821. https://doi.org/10.1016/j.jbusres.2021.11.090
Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research, 13*(1), 215–246. https://doi.org/10.1007/s40685-019-0085-7
Duchek, S., Raetze, S., & Scheuch, I. (2020). The role of diversity in organizational resilience: A theoretical framework. *Business Research, 13*(2), 387–423. https://doi.org/10.1007/s40685-019-0084-8
Dutta, S. (2017). Creating in the crucibles of nature's fury: Associational diversity and local social entrepreneurship after natural disasters in California, 1991–2010. *Administrative Science Quarterly, 62*(3), 443–483. https://doi.org/10.1177/0001839216668172
Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal, 21*(10–11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E
El Nayal, O., Slangen, A., van Oosterhout, J., & van Essen, M. (2020). Towards a democratic new normal? Investor reactions to interim-regime dominance during violent events. *Journal of Management Studies, 57*(3), 505–536. https://doi.org/10.1111/joms.12553
Fietz, B., Hillmann, J., & Guenther, E. (2021). Cultural effects on organizational resilience: Evidence from the NAFTA region. *Schmalenbach Journal of Business Research, 73*(1), 5–46. https://doi.org/10.1007/s41471-021-00106-8
Fischer-Kreer, D., Greven, A., Eichwald, I. C., Bendig, D., & Brettel, M. (2021). Organizational psychological capital in family firms: The role of family firm heterogeneity. *Schmalenbach Journal of Business Research, 73*(3–4), 413–441. https://doi.org/10.1007/s41471-021-00124-6
Gao, C., Zuzul, T., Jones, G., & Khanna, T. (2017). Overcoming institutional voids: A reputation-based view of long-run survival. *Strategic Management Journal, 38*(11), 2147–2167. https://doi.org/10.1002/smj.2649
Gatenholm, G., & Halldórsson, Á. (2022). Responding to discontinuities in product-based service supply chains in the COVID-19 pandemic: Towards transilience. *European Management Journal*. https://doi.org/10.1016/j.emj.2022.02.007
Gereffi, G., Pananond, P., & Pedersen, T. (2022). Resilience decoded: The role of firms, global value chains, and the state in COVID-19 medical supplies. *California Management Review, 64*(2), 46–70. https://doi.org/10.1177/00081256211069420
Gilal, F. G., Zhang, J., Paul, J., & Gilal, N. G. (2019). The role of self-determination theory in marketing science: An integrative review and agenda for research. *European Management Journal, 37*(1), 29–44. https://doi.org/10.1016/j.emj.2018.10.004
Gilly, J. P., Kechidi, M., & Talbot, D. (2014). Resilience of organisations and territories: The role of pivot firms. *European Management Journal, 32*(4), 596–602. https://doi.org/10.1016/j.emj.2013.09.004
Gittell, J. H. (2008). Relationships and resilience: Care provider responses to pressures from managed care. *The Journal of Applied Behavioral Science, 44*(1), 25–47. https://doi.org/10.1177/0021886307311469
Gittell, J. H., Cameron, K., Lim, S., & Rivas, V. (2006). Relationships, layoffs, and organizational resilience: Airline industry responses to september 11. *The Journal of Applied Behavioral Science, 42*(3), 300–329. https://doi.org/10.1177/0021886306286466
Graf-Vlachy, L., Oliver, A. G., Banfield, R., König, A., & Bundy, J. (2020). Media coverage of firms: Background, integration, and directions for future research. *Journal of Management, 46*(1), 36–69. https://doi.org/10.1177/0149206319864155
Gucciardi, D. F., Crane, M., Ntoumanis, N., Parker, S. K., Thøgersen-Ntoumani, C., Ducker, K. J., Peeling, P., Chapman, M. T., Quested, E., & Temby, P. (2018). The emergence of team resilience: A multilevel conceptual model of facilitating factors. *Journal of Occupational and Organizational Psychology, 91*(4), 729–768. https://doi.org/10.1111/joop.12237
Hamel, G., & Valikangas, L. (2003). The quest for resilience. *Harvard Business Review, 81*(9), 52–63.
Hao, A. W., Paul, J., Trott, S., Guo, C., & Wu, H.-H. (2019). Two decades of research on nation branding: A review and future research agenda. *International Marketing Review, 38*(1), 46–69. https://doi.org/10.1108/IMR-01-2019-0028
Heinonen, K., & Strandvik, T. (2021). Reframing service innovation: COVID-19 as a catalyst for imposed service innovation. *Journal of Service Management, 32*(1), 101–112. https://doi.org/10.1108/JOSM-05-2020-0161
Hillmann, J. (2021). Disciplines of organizational resilience: Contributions, critiques, and future research avenues. In *Review of managerial science* (pp. 879–936). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/s11846-020-00384-2. Vol. 15, Issue 4.
Hillmann, J., Duchek, S., Meyr, J., & Guenther, E. (2018). Educating future managers for developing resilient organizations: The role of scenario planning. *Journal of Management Education, 42*(4), 461–495. https://doi.org/10.1177/1052562918766350

Hillmann, J., & Guenther, E. (2020). Organizational resilience: A valuable construct for management research? *International Journal of Management Reviews, 23*(1), 7–44. https://doi.org/10.1111/ijmr.12239

Hobfoll, S. E., Stevens, N. R., & Zalta, A. K. (2015). Expanding the science of resilience: Conserving resources in the aid of adaptation. *Psychological Inquiry, 26*(2), 174–180. https://doi.org/10.1080/1047840X.2015.1002377

Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics, 4*(1), 1–23.

Huang, H. H., Kerstein, J., & Wang, C. (2018). The impact of climate risk on firm performance and financing choices: An international comparison. *Journal of International Business Studies, 49*(5), 633–656. https://doi.org/10.1057/s41267-017-0125-5

Iborra, M., Safón, V., & Dolz, C. (2020). What explains the resilience of SMEs? Ambidexterity capability and strategic consistency. *Long Range Planning, 53*(6), Article 101947. https://doi.org/10.1016/j.lrp.2019.101947

Iftikhar, A., Purvis, L., & Giannoccaro, I. (2021). A meta-analytical review of antecedents and outcomes of firm resilience. *Journal of Business Research, 135*(December 2020), 408–425. https://doi.org/10.1016/j.jbusres.2021.06.048

Jebarajakirthy, C., Maseeh, H. I., Morshed, Z., Shankar, A., Arli, D., & Pentecost, R. (2021). Mobile advertising: A systematic literature review and future research agenda. *International Journal of Consumer Studies, 45*(6), 1258–1291. https://doi.org/10.1111/ijcs.12728

Josefy, M. A., Harrison, J. S., Sirmon, D. G., & Carnes, C. (2017). Living and dying: Synthesizing the literature on firm survival and failure across stages of development. *The Academy of Management Annals, 11*(2), 770–799. https://doi.org/10.5465/annals.2015.0148

Jüttner, U., & Maklan, S. (2011). Supply chain resilience in the global financial crisis: An empirical study. *Supply Chain Management: International Journal, 16*(4), 246–259. https://doi.org/10.1108/13598541111139062

Kahiya, E. T. (2018). Five decades of research on export barriers: Review and future directions. *International Business Review, 27*(6), 1172–1188. https://doi.org/10.1016/j.ibusrev.2018.04.008

Kahn, W. A., Barton, M. A., Fisher, C. M., Heaphy, E. D., Reid, E. M., & Rouse, E. D. (2018). The geography of strain: Organizational resilience as a function of intergroup relations. *Academy of Management Review, 43*(3), 509–529. https://doi.org/10.5465/amr.2016.0004

Khatoon, S., & Rehman, V. (2021). Negative emotions in consumer brand relationship: A review and future research agenda. *International Journal of Consumer Studies, 45*(4), 719–749. https://doi.org/10.1111/ijcs.12665

Khlystova, O., Kalyuzhnova, Y., & Belitski, M. (2022). The impact of the COVID-19 pandemic on the creative industries: A literature review and future research agenda. *Journal of Business Research, 139*, 1192–1210. https://doi.org/10.1016/j.jbusres.2021.09.062. February 2021.

Kim, S. (2021). Frame restructuration: The making of an alternative business incubator amid Detroit's crisis. *Administrative Science Quarterly*. , Article 000183922098646. https://doi.org/10.1177/0001839220986464

König, A., Graf-Vlachy, L., Bundy, J., & Little, L. M. (2020). A blessing and a curse: How CEOs' trait empathy affects their management of organizational crises. *Academy of Management Review, 45*(1), 130–153. https://doi.org/10.5465/amr.2017.0387

Kovoor-Misra, S. (2020). The transformative professor: Adapting and fostering positive change. *Journal of Management Inquiry, 29*(2), 154–158. https://doi.org/10.1177/1056492619870865

Kunz, J., & Sonnenholzner, L. (2022). Managerial overconfidence: Promoter of or obstacle to organizational resilience?. In *Review of managerial science*. Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/s11846-022-00530-y.

Lampel, J., Bhalla, A., & Jha, P. P. (2014). Does governance confer organisational resilience? Evidence from UK employee owned businesses. *European Management Journal, 32*(1), 66–72. https://doi.org/10.1016/j.emj.2013.06.009

Landini, F., Arrighetti, A., & Lasagni, A. (2020). Economic crisis and firm exit: Do intangibles matter? *Industry & Innovation, 27*(5), 445–479. https://doi.org/10.1080/13662716.2018.1544065

Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review, 21*(3), 243–255. https://doi.org/10.1016/j.hrmr.2010.07.001

Leuridan, G., & Demil, B. (2022). Exploring the dynamics of slack in extreme contexts: A practice-based view. *Human Relations, 75*(6), 1167–1193. https://doi.org/10.1177/00187267211007786

Linnenluecke, M. K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews, 19*(1), 4–30. https://doi.org/10.1111/ijmr.12076

Li, S., & Tallman, S. (2011). MNC strategies, exogenous shocks, and performance outcomes. *Strategic Management Journal, 32*(10), 1119–1127. https://doi.org/10.1002/smj.918

Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of Management, 33*(3), 321–349. https://doi.org/10.1177/0149206307300814

Mamouni Limnios, E. A., Mazzarol, T., Ghadouani, A., & Schilizzi, S. G. M. (2014). The resilience architecture framework: Four organizational archetypes. *European Management Journal, 32*(1), 104–116. https://doi.org/10.1016/j.emj.2012.11.007

Masten, A. S. (2021). Resilience of children in disasters: A multisystem perspective. *International Journal of Psychology, 56*(1), 1–11. https://doi.org/10.1002/ijop.12737

Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology, 63*, 227–257. https://doi.org/10.1146/annurev-psych-120710-100356

Mertzanis, C. (2021). Epidemiological susceptibility risk, adaptive management and firm performance. *British Journal of Management, 32*(4), 1242–1264. https://doi.org/10.1111/1467-8551.12529

Meyer, A. D. (1982). Adapting to environmental jolts. *Administrative Science Quarterly, 27*(4), 515–537. https://doi.org/10.2307/2392528

Miroshnychenko, I., Strobl, A., Matzler, K., & De Massis, A. (2021). Absorptive capacity, strategic flexibility, and business model innovation: Empirical evidence from Italian SMEs. *Journal of Business Research, 130*, 670–682. https://doi.org/10.1016/j.jbusres.2020.02.015

Mishra, R., Singh, R. K., & Koles, B. (2021). Consumer decision-making in omnichannel retailing: Literature review and future research agenda. *International Journal of Consumer Studies, 45*(2), 147–174. https://doi.org/10.1111/ijcs.12617

Mitchell, M. S., Greenbaum, R. L., Vogel, R. M., Mawritz, M. B., & Keating, D. J. (2019). Can you handle the pressure? The effect of performance pressure on stress appraisals, self-regulation, and behavior. *Academy of Management Journal, 62*(2), 531–552. https://doi.org/10.5465/amj.2016.0646

Mithani, M. A. (2020). Adaptation in the face of the new normal. *Academy of Management Perspectives, 34*(4), 508–530. https://doi.org/10.5465/AMP.2019.0054

Mithani, M. A., Gopalakrishnan, S., & Santoro, M. D. (2021). Does exposure to a traumatic event make organizations resilient? *Long Range Planning, 54*(3). https://doi.org/10.1016/j.lrp.2020.102031

Muurlink, O., Wilkinson, A., Peetz, D., & Townsend, K. (2012). Managerial autism: Threat-rigidity and rigidity's threat. *British Journal of Management, 23*(SUPPL. 1). https://doi.org/10.1111/j.1467-8551.2011.00790.x

Newman, K. L. (2000). Organizational transformation during institutional upheaval. *Academy of Management Review, 25*(3), 602. https://doi.org/10.2307/259313

Olekalns, M., Caza, B. B., & Vogus, T. J. (2020). Gradual drifts, abrupt shocks: From relationship fractures to relational resilience. *The Academy of Management Annals, 14*(1), 1–28. https://doi.org/10.5465/annals.2017.0111

O'Reilly, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives, 27*(4), 324–338. https://doi.org/10.5465/amp.2013.0025

Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal, 37*(8), 1615–1631. https://doi.org/10.1002/smj.2410

Pansari, A., & Kumar, V. (2017). Customer engagement: The construct, antecedents, and consequences. *Journal of the Academy of Marketing Science, 45*(3), 294–311. https://doi.org/10.1007/s11747-016-0485-6

Parker, H., & Ameen, K. (2018). The role of resilience capabilities in shaping how firms respond to disruptions. *Journal of Business Research, 88*, 535–541. https://doi.org/10.1016/j.jbusres.2017.12.022

Paul, J., & Benito, G. R. G. (2018). A review of research on outward foreign direct investment from emerging countries, including China: What do we know, how do we know and where should we be heading? *Asia Pacific Business Review, 24*(1), 90–115. https://doi.org/10.1080/13602381.2017.1357316

Paul, J., & Criado, A. R. (2020). The art of writing literature review: What do we know and what do we need to know? *International Business Review, 29*(4), Article 101717. https://doi.org/10.1016/j.ibusrev.2020.101717

Paul, J., & Feliciano-Cestero, M. M. (2021). Five decades of research on foreign direct investment by MNEs: An overview and research agenda. *Journal of Business Research, 124*(April 2020), 800–812. https://doi.org/10.1016/j.jbusres.2020.04.017

Paul, J., Lim, W. M., O'Cass, A., Hao, A. W., & Bresciani, S. (2021). Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR). *International Journal of Consumer Studies, 45*, 1–16. https://doi.org/10.1111/ijcs.12695

Paul, J., & Mas, E. (2020). Toward a 7-P framework for international marketing. *Journal of Strategic Marketing, 28*(8), 681–701. https://doi.org/10.1080/0965254X.2019.1569111

Paul, J., & Rosado-Serrano, A. (2019). Gradual internationalization vs born-global/international new venture models: A review and research agenda. *International Marketing Review, 36*(6), 830–858. https://doi.org/10.1108/IMR-10-2018-0280

Paydas Turan, C. (2021). Success drivers of co-branding: A meta-analysis. *International Journal of Consumer Studies, 45*(4), 911–936. https://doi.org/10.1111/ijcs.12682

Peterson, S. J., Walumbwa, F. O., Byron, K., & Myrowitz, J. (2009). CEO positive psychological traits, transformational leadership, and firm performance in high-technology start-up and established firms. *Journal of Management, 35*(2), 348–368. https://doi.org/10.1177/0149206307312512

du Plessis, E. M., & Vandeskog, B. (2020). Other stories of resilient safety management in the Norwegian offshore sector: Resilience engineering, bullshit and the de-politicization of danger. *Scandinavian Journal of Management, 36*(1), Article 101096. https://doi.org/10.1016/j.scaman.2020.101096

Raetze, S., Duchek, S., Maynard, M. T., & Kirkman, B. L. (2021). Resilience in organizations: An integrative multilevel review and editorial introduction. *Group & Organization Management, 46*(4), 607–656. https://doi.org/10.1177/10596011211032129

Rana, J., & Paul, J. (2020). Health motive and the purchase of organic food: A meta-analytic review. *International Journal of Consumer Studies, 44*(2), 162–171. https://doi.org/10.1111/ijcs.12556

Randhawa, K., Wilden, R., & Hohberger, J. (2016). A bibliometric review of open innovation: Setting a research agenda. *Journal of Product Innovation Management, 33*(6), 750–772. https://doi.org/10.1111/jpim.12312

Rao, H., & Greve, H. R. (2018). Disasters and community resilience: Spanish flu and the formation of retail cooperatives in Norway. *Academy of Management Journal, 61*(1), 5–25. https://doi.org/10.5465/amj.2016.0054

Riolli, L., & Savicki, V. (2003). Information system organizational resilience. *Omega, 31*(3), 227–233. https://doi.org/10.1016/S0305-0483(03)00023-9

Rosado-Serrano, A., Paul, J., & Dikova, D. (2018). International franchising: A literature review and research agenda. *Journal of Business Research, 85*, 238–257. https://doi.org/10.1016/j.jbusres.2017.12.049

Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. *The Leadership Quarterly, 17*(6), 617–633. https://doi.org/10.1016/j.leaqua.2006.10.005

Rudolph, J. W., & Repenning, N. P. (2002). Disaster dynamics: Understanding the role of quantity in organizational collapse. *Administrative Science Quarterly, 47*(1), 1–30. https://doi.org/10.2307/3094889

Ruggeri, G., Orsi, L., & Corsi, S. (2019). A bibliometric analysis of the scientific literature on Fairtrade labelling. *International Journal of Consumer Studies, 43*(2), 134–152. https://doi.org/10.1111/ijcs.12492

Sabatino, M. (2016). Economic crisis and resilience: Resilient capacity and competitiveness of the enterprises. *Journal of Business Research, 69*(5), 1924–1927. https://doi.org/10.1016/j.jbusres.2015.10.081

Sajko, M., Boone, C., & Buyl, T. (2020). CEO greed, corporate social responsibility, and organizational resilience to systemic shocks. *Journal of Management, 47*(4), 957–992. https://doi.org/10.1177/0149206320902528

Santoro, G., Bertoldi, B., Giachino, C., & Candelo, E. (2020). Exploring the relationship between entrepreneurial resilience and success: The moderating role of stakeholders' engagement. *Journal of Business Research, 119*, 142–150. https://doi.org/10.1016/j.jbusres.2018.11.052

Schemeil, Y. (2013). Bringing international organization In: Global institutions as adaptive hybrids. *Organization Studies, 34*(2), 219–252. https://doi.org/10.1177/0170840612473551

Sharma, A., Adhikary, A., & Borah, S. B. (2020). Covid-19′s impact on supply chain decisions: Strategic insights from NASDAQ 100 firms using Twitter data. *Journal of Business Research, 117*(June), 443–449. https://doi.org/10.1016/j.jbusres.2020.05.035

Sheffi, Y., & Rice, J. B. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review, 47*(1), 40–48.

Singh, S., Paul, J., & Dhir, S. (2021). Innovation implementation in asia-pacific countries: A review and research agenda. *Asia Pacific Business Review, 27*(2), 180–208. https://doi.org/10.1080/13602381.2021.1859748

Södergren, J. (2021). Brand authenticity: 25 years of research. *International Journal of Consumer Studies*, 1–19. https://doi.org/10.1111/ijcs.12651. August 2020.

Sommer, S. A., Howell, J. M., & Hadley, C. N. (2016). Keeping positive and building strength: The role of affect and team leadership in developing resilience during an organizational crisis. *Group & Organization Management, 41*(2), 172–202. https://doi.org/10.1177/1059601115578027

Staw, B. M., Lance, E., & Dutton, E. (1981). Threat rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly, 26*(4), 501–524.

Stoverink, A. C., Kirkman, B. L., Mistry, S., & Rosen, B. (2020). Bouncing back together: Toward a theoretical model of work team resilience. *Academy of Management Review, 45*(2), 395–422. https://doi.org/10.5465/amr.2017.0005

Stuart, H. C., & Moore, C. (2017). Shady characters: The implications of illicit organizational roles for resilient team performance. *Academy of Management Journal, 60*(5), 1963–1985. https://doi.org/10.5465/amj.2014.0512

Sundermeier, J., Gersch, M., & Freiling, J. (2020). Hubristic start-up founders – the neglected bright and inevitable dark manifestations of hubristic leadership in new venture creation processes. *Journal of Management Studies, 57*(5), 1037–1067. https://doi.org/10.1111/joms.12604

Sutcliffe, K. M., & Vogus, T. J. (2003). Organizing for resilience. In *Positive organizational scholarship : Foundations of a new discipline* (Issue March).

Turner, N., Kutsch, E., Maylor, H., & Swart, J. (2020). Hits and (near) misses. Exploring managers ' actions and their effects on localised resilience. *Long Range Planning, 53*(3), Article 101944. https://doi.org/10.1016/j.lrp.2019.101944

van der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resilience. *Academy of Management Journal, 58*(4), 971–980. https://doi.org/10.5465/amj.2015.4004

Vogus, T. J., & Sutcliffe, K. M. (2007). Organizational resilience: Towards a theory and research agenda. In *2007 IEEE international conference on systems, man and cybernetics* (pp. 3418–3422). https://doi.org/10.1109/ICSMC.2007.4414160

Vough, H. C., & Caza, B. B. (2017). Where do I go from here? Sensemaking and the construction of growth-based stories in the wake of denied promotions. *Academy of Management Review, 42*(1), 103–128. https://doi.org/10.5465/amr.2013.0177

Weick, K. E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly, 38*(4), 628. https://doi.org/10.2307/2393339

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (1999). Organizing for high reliability: Processes of collective mindfulness. In R. S. Sutton, & B. M. Staw (Eds.), *Research in organizational behavior, 1* pp. 81–123). Jai Press.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science, 16*(4), 409–421. https://doi.org/10.1287/orsc.1050.0133

Wenzel, M., Stanske, S., & Lieberman, M. B. (2021). Strategic responses to crisis. *Strategic Management Journal, 42*(2), O16–O27. https://doi.org/10.1002/smj.3161

Wildavsky, A. B. (1988). In *Searching for safety*. Transaction Publ. https://books.google.nl/books?id=099g1rhws%5C_kC.

Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *The Academy of Management Annals, 11*(2), 733–769. https://doi.org/10.5465/annals.2015.0134

Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal, 59*(6), 2069–2102. https://doi.org/10.5465/amj.2015.0682

Wulandhari, N. B. I., Gölgeci, I., Mishra, N., Sivarajah, U., & Gupta, S. (2022). Exploring the role of social capital mechanisms in cooperative resilience. *Journal of Business Research, 143*, 375–386. https://doi.org/10.1016/j.jbusres.2022.01.026

Yuan, R., Luo, J., Liu, M. J., & Yu, J. (2022). Understanding organizational resilience in a platform-based sharing business: The role of absorptive capacity. *Journal of Business Research, 141*(15), 85–99. https://doi.org/10.1016/j.jbusres.2021.11.012