Assessing the resilience of organizations in the context of uncertainty

Ilona Bartuseviciene, Ona Grazhina Rakauskiene and Asta Valackiene

Abstract

Purpose – The purpose of this paper is to define the main dimensions/aspects of resilient organizations and propose a benchmarking model to assess an organization's resilience in the context of uncertainty.

Design/methodology/approach – The systematic literature review method was applied to collect and synthesize relevant scientific literature from 2001 to 2022 to construct and validate a methodological approach.

Findings – This paper proposes a conceptualization of organizational resilience as the capacity of an organization to first remain stable; then prepare, absorb and recover after a crisis; adapt to the new environment; and, finally, use the developed experience to enhance the capacity for transformation, playing an essential role for coping with uncertainty.

Research limitations/implications – Resilience is recognized as organizations' ability to adapt to the new conditions, influenced by the crises. Moreover, it supports the recognition of the learning phase that allows for growth by constantly learning from emerging situations and gaining unique experiences. These observations allow us to suggest the twofold approach. The first distinguishes the resilience as organizations' ability to adapt to the changing environment, that is, bounce back, while the second highlights the importance of learning capacity, that is, bounce forward.

Practical implications – The authors suggest to adopt the conceptual framework of the bounce forward phenomenon using the Resilient Organizations' Resilience Benchmark Tool to assess organizational resilience. This would determine the overall resilience by identifying the links between bouncing back (preparing, absorbing, recovering and adapting) and bouncing forward (enhancing learning capacity).

Originality/value – Having reviewed the methodologies in the extant literature to evaluate organizational resilience and explored the similarities and differences between them, the authors concluded that the Resilient Organizations Resilience Benchmark Tool (2017) is the most appropriate three-dimensional tool because of its universality and comprehensive scope. These three dimensions consist of: leadership and culture; networks; and change readiness. This methodology assesses organizations' perspectives regarding resilience based on their ability to respond to and manage crises and their ability to bounce forward successfully.

Keywords Resilient organizations, Assess the resilience, Uncertainty, Bounce forward

Paper type Conceptual paper

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1. Introduction

The need to survive and respond to continuous challenges and changes is vital at present. The concept of resilience is increasingly becoming an essential subject for examination in organizational systems because of the exceptionally rapidly changing economic, sociocultural and technological environments. The organizations' resilience provides the capacity to survive crisis periods and, most importantly, to adapt to the new environment and use the experience to gain a competitive advantage. Analyzing the notion of organizational resilience, Edwards *et al.* (2020) provide an interpretation as permanent adaptive changes in organizations involving employees. Moreover, they discussed the model of cascading change based on three key drivers: change process with formal handovers engaging more and more employees (Waal, 2021). Lewinian change processes

of unfreezing, moving and refreezing and, finally, orchestrated employee participation. The cascading change process builds participation, transparency, trust and commitment to change among employees and managers. This process is characterized by the intrinsic ability to maintain and regain a dynamically stable state, which enables organizations to continue their activities after induced shocks successfully or to function effectively in an environment of continuing threats (Wiig and Fahlbruch, 2019).

Despite the growing focus on resilience research and attempts to establish relationships and build theoretical models, resilience, as a body of knowledge for managing organizations, is still considered an emerging phenomenon (Parwita et al., 2021). Some researchers (Cantu et al., 2021; Bento et al., 2021; Mithani et al., 2021; Al-Atwi et al., 2021; Sharma et al., 2020; Melián-Alzola et al., 2020; Iborra et al., 2020; Andersson et al., 2019) argue, that organizational resilience enhances the ability of an organization to adapt to the changed conditions, while the others argue, that a resilient system not only is about the ability to withstand complex situations and return to the organization's precrisis state but also can furthermore use the experiences gained from shocks as a driving force to bounce forward (Pashapour et al., 2019; Pettersen and Schulman, 2019; Ruiz-Martin et al., 2018; Duchek et al., 2020; Zumente and Lāce, 2020; Chen et al., 2021).

There remains a lack of a comprehensive conceptual framework and empirical research to understand organizational resilience (Pashapour et al., 2019). An attempt to contribute to an integrated structure/framework that encompasses a wide range of concepts, interpretations and strategies and supplies theoretical models based on empirical research is a step toward the emergence of resilience as the theory. For this reason, this study investigates the following research question, that is:

> *RQ1.* What are the theoretical interpretations and methodological tools that could be used to assess organizational resilience?

To address this question, this study focuses on the primary dimensions/aspects of resilient organizations and on a flexible and adaptable tool to support the assessment of the resilience of organizations.

The paper is structured as follows: the first section introduces the methodology of systematic literature review (SLR) adopted in this study; the second part summarizes the pertinent literature on the conceptual framework of organizational resilience and is followed by the assessment of the tools of resilient organizations; the third section introduces the findings of the research; and finally, we suggest the conceptual framework of resilient organizations and a model for the assessment of organizational resilience.

2. Background and gaps in the research

We first conducted a SLR regarding organizational resilience within the business and management field. This method differs from the usual literature review by its strict, methodologically defined process, which minimizes any bias by providing the most objective answers to the questions raised. For this reason, SLR requires the identification of specific question/s and the criteria for selecting articles before the start of the literature search. The SLR method allows transparency, transferability and replicability of the data it produces. Mengist et al. (2020) and Booth et al. (2012) suggested the PSALSAR framework that follows protocol, search, appraisal, synthesis, analysis and report steps to conduct SLR, supporting the transferability and reproducibility of the data produced.

2.1 Protocol – systematic literature review Step 1: define the study scope and the main research questions

Starting to explore the scientific literature, the scope of the study and the identified research questions to be answered must be clearly defined. For the scope of this study, only the

scientific outputs that deepen the knowledge of organizational resilience have been focused on with the aim to provide the answer to the addressed research question, that is, *RQ1*: What are the theoretical interpretations and methodological tools that could be used to assess organizational resilience?

2.2 Search – systematic literature review Step 2: define the research strategy

The definition of the research strategy included the selection of the keywords we would use to navigate scientific literature sources, the choice of the databases we would search, the period from which we would select sources and the criteria for selecting scientific sources. The search was performed in the articles of business and management fields in the ScienceDirect database. In our effort to identify publications marked as "reviews" and "publications" in the ScienceDirect bibliographic database, we applied a filter with the terms "resilient organization," "organizational resilience" and "organization resilience" for publications from 2001 to 2021.Next, we applied the same search as synonyms to reduce the chance of a review paper escaping our attention. This choice of keywords was determined because the selected keywords were occasionally used as synonyms. It was essential to include all relevant articles in the SLR for research purposes. As this study also raises questions about the methodologies of evaluating organizations, the attention has been focused on combining keywords such as "organizational resilience methodologies/ methods/assessment" into the bibliographic search box. For this reason, more general keywords were introduced in the search box to select publications carefully. The year 2001 was chosen as the starting point of the sampling period, as this is the year in which resilience became a more commonly studied topic. In all, 1,170 scientific articles, containing the indicated keywords, were found in the selected period. Evaluating the initial selection of scientific articles, it was noted that the topic of resilience occurred more frequently since 2019 (Figure 1).

To ensure the reliability of the data selection, two investigators conducted searches using keywords simultaneously during the selected period. After the results were validated, we moved to the second stage of selecting scientific articles.

2.3 Appraisal – systematic literature review Step 3: selecting articles for further synthesis

At this stage, we exported all the relevant scientific papers by the Zotero bibliography program, which provided convenient access when running a preliminary screening of the suitability of the articles based on their titles and keywords. After this screening, 958 articles were excluded, leaving 212 articles for further selection. These were then subjected to further sorting based on the following criteria:

■ Only research articles were included; discussion papers and editorials were excluded.

| **Figure 1** | The frequency of publications containing selected keywords from 2001 to 2021 |
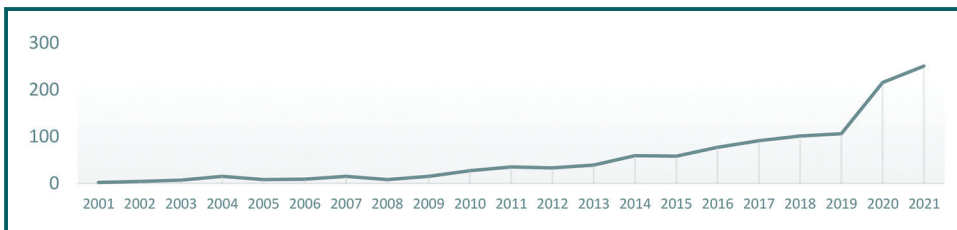
- The object of this research was organizational resilience, so articles analyzing resilience at other levels – individuals, cities, regions, etc. – were rejected.

- Only English language articles were selected for further review.

- Both conceptual and empirical articles were considered relevant because of the study's scope of exploring the conceptual evolution of resilience and the approaches providing insight into the methodology of assessing organizational resilience.

Following the application of the selection criteria, 51 scientific articles were selected, and 161 were excluded. Most of the articles were rejected because they did not satisfy the second criterion – that is, they explored resilience at a non-organizational level. The authors then manually added 10 papers relevant to the research, leaving 53 articles. Figure 2 presents the appraisal flow diagram used in this process.

2.4 Synthesis – systematic literature review Step 4: inductive content analysis

After carefully selecting scientific articles, we continued with 61 articles using inductive content analysis. The induction approach was performed by applying quantitative and qualitative content analysis to categorize papers related to resilient organizations or resilient organization evaluation methodologies. Those were further classified thematically and analytically. This method allows to identify the main themes/keywords in a field of interest, encode them and reduce their material into a set of topics or categories (Mengist *et al.*, 2020).

At this stage, our selected articles were thoroughly explored to group data, identify categories and contribute to new knowledge about the organization's resilience as an object under investigation and the options for its assessment. We selected the criteria for extraction by authors; year of publication; concept of resilience; resilience stages; dimensional components/factors of the structure; indicators; and evaluation methods.

2.5 Analysis – systematic literature review Step 5: retrieve the answer to the research question

2.5.1 Conceptualizing organizational resilience. The concept of resilience has developed in different fields of science and has been driven by different factors over different periods.

Figure 2 Systematic literature review appraisal flow diagram
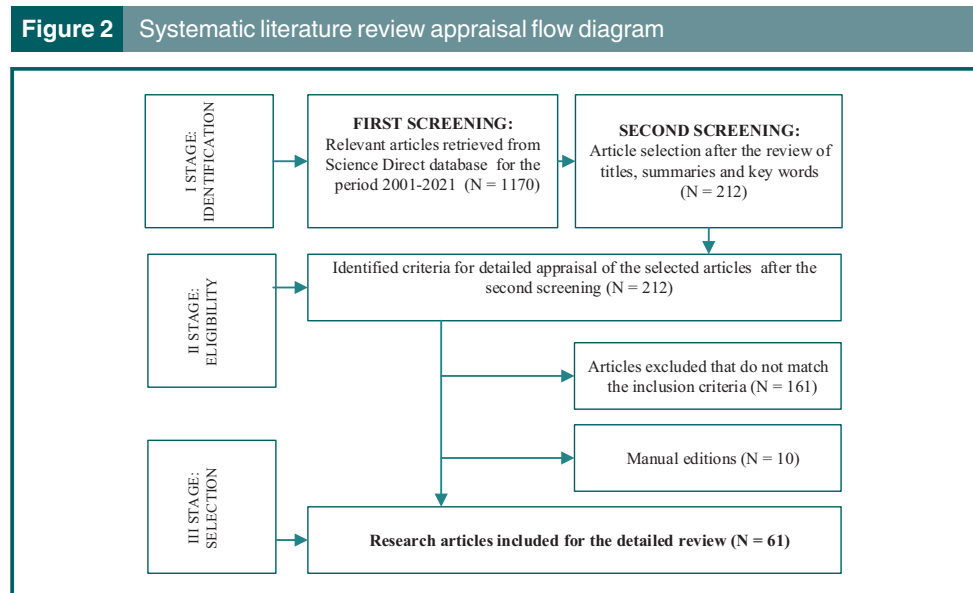
Previous scientific attempts to substantiate resilience as a theory have distinguished that resilient organizations are characterized by intelligent wariness when the moment of success is seen not as a coincidence but because of careful preventive preparation. Accordingly, daily organizational activities are based on the belief that they are not perfect, and only by learning from existing or potential threats, they can approach perfection (Wiig and Fahlbruch, 2019).

Many researchers (Neise et al., 2021; Santoro et al., 2018; Sharma et al., 2021; Saad and Elshaer, 2020; Andersson et al., 2019; Morgan et al., 2019; Gonçalves et al., 2019; Klimek et al., 2019; Hudec et al., 2018; Parker and Ameen, 2018; Brown et al., 2017) distinguish organizational resilience as the ability to appropriately adapt and recover from unusual situations that emerge in the daily field of knowledge and experience. Accordingly, organizations are also characterized by their intrinsic ability to maintain and regain a dynamically stable state, enabling them to continue their activities successfully after various shocks or to function effectively in an environment of continuing threats (Wiig and Fahlbruch, 2019). A resilient system can withstand complex situations and return to its precrisis state. It can also use the experience gained from shocks as a driving force, thus strengthening the organization further (Pashapour et al., 2019).

Resilient organizations are not considered capable of avoiding unusual situations; instead, resilient organizations make mistakes and learn from them, making them even more prepared to carry out the intended activities. De Florio (2015) notes that resilience can be defined as a system's ability to absorb and tolerate changes without praising specificity and intended behaviors. Accordingly, resilience can be seen as evolvability, that is, the ability of systems to change their structure or functions to adapt to changes, which enables organizations to express their own identity (De Florio, 2015). This concerns the ability to change systems or structures to maintain identity, regardless of the influence of exogenous or endogenous changes.

Main interpretations of organizational resilience point out that resilient organizations need to assure their stability and sustain shock during turbulent times. In this view, robustness is considered a prerequisite to resilience, although the connection between those two properties is rather complicated (Ramezani and Camarinha-Matos, 2020). Robustness concerns stability (Azadeh et al., 2014), whereas resilience deals with dynamic stability (Hudec et al., 2018; Pham et al., 2021; Iftikhar et al., 2021), that is, constant transformation, also called transformative resilience, which can be achieved by cementing the organization's preparation, absorption, recovery and adaptation phases. It was also evident that adaptation is the core phase of resilience (Bento et al., 2021; Sharma et al., 2020; Saad and Elshaer, 2020a; Fang et al., 2020; Filimonau et al., 2020; Brown et al., 2017; Gonçalves et al., 2019a; Hudec et al., 2018; Dahlberg, 2015; Markman and Venzin, 2014; Cantu et al., 2021; Neise et al., 2021; Melián-Alzola et al., 2020a; Iborra et al., 2020; Morgan et al., 2019; Klimek et al., 2019; Pizzo, 2015; Teixeira and Werther, 2013). These perspectives represent the belief that the desired characteristic of organizational resilience is the ability to recover and adapt to a changing environment.

However, it is essential to point out that although the ability to return to the routine, adapt to a changing environment and overcome dynamic events is well acknowledged by some researchers, another stream of scientific views is becoming inevitable. It supports the recognition that it is becoming necessary for organizations to enhance the learning phase, which allows for growth by constantly learning from emerging situations and gaining unique experiences (Conz and Magnani, 2020; Fasey et al., 2021; Liu et al., 2021; Tortorella et al., 2021; Hynes et al., 2020; Linkov, 2016; Lichtman, 2017; Russo and Ciancarini, 2017; Al-Ghattas and Marjanovic, 2021; Sobaih et al., 2021; Wong et al., 2020; De Florio, 2015; Denyer, 2017).

These observations allow us to suggest the twofold approach while exploring the assessment potential of organizational resilience. The first distinguishes the resilience as

organizations' ability to adapt to the changing environment, that is, bounce back, while the second highlights the importance of learning capacity, that is, bounce forward (Figure 3).

The need of integrating the two perspectives of resilience, that is, bounce back and bounce forward, is supported by the Four-level Maturity Model developed by Ruiz-Martin *et al.* (2018) to define the level of maturity of an organizational resilience. The model proposes four levels of resilience proceeding from lowest to highest as follows: fragility, robustness, resilience and antifragility. Table 1 outlines the four maturity levels.

Antifragility is considered the highest level of resilience maturity, and antifragile systems not only survive a shock-induced state but also use the experience to become stronger (Ramezani and Camarinha-Matos, 2020; Lichtman, 2017). Bouaziz and Smaoui Hachicha (2018) argue that resilience is more than just adapting to a new environment and cannot be limited to absorbing the shock, recovering and adapting. Resilience is about bouncing back to the original state and quickly transforming into the desired state. However, the main idea is to go beyond the bounce-back phase and enhance the organizational bounce-forward, i.e. engage the organization in continuous learning.

These conceptual insights provide the grounds to conceptualize organizational resilience as an organizational capacity to dynamically find a new stable state by preparing, absorbing and recovering after crises and adapting to the new emergent environment by enhancing the capacity to learn so that successful transformation is embraced and deployed to cope with uncertainty.

2.5.2 The conceptual structure of organizational resilience. The relative overall resilience (ROR) Resilience Assessment Methodology of McManus *et al.* (2007) is considered the basis for most methods of assessing organizational resilience. This methodology is based on a three-factor structure, that is, situation awareness, management of keystone vulnerabilities and adaptive capacity, followed by 15 indicators. Lee *et al.* (2013), using McManus's ROR as a basis, added additional indicators to survey 68 organizations,

Figure 3 | Conceptual frameworks of resilient organizations
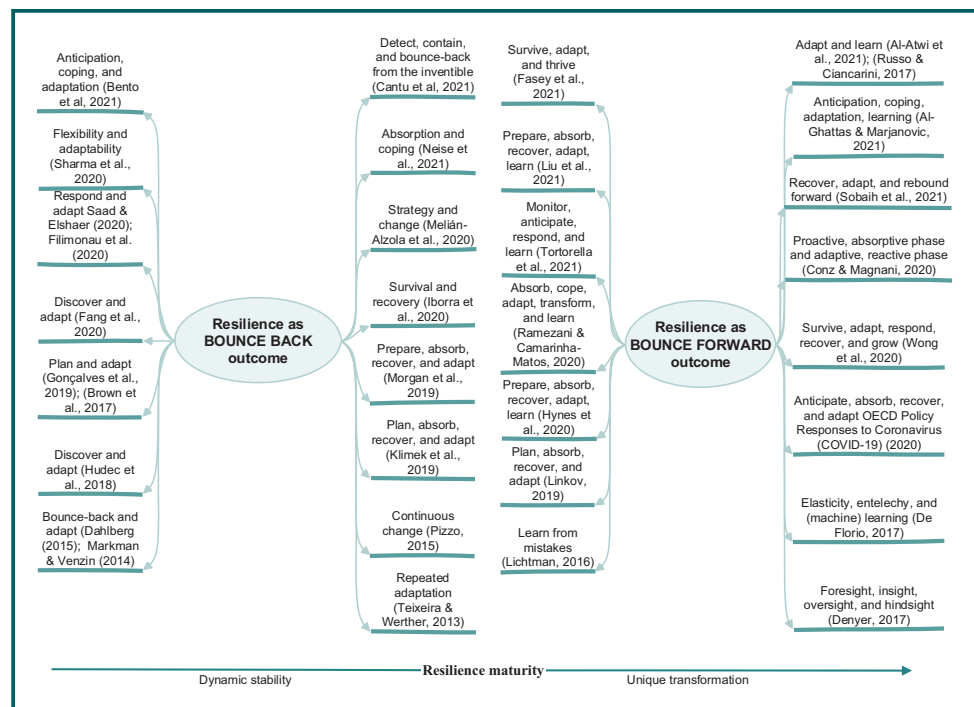
Table 1 Four levels of organizational resilience maturity		
Response to disruption	*Characteristics of the response to disruption*	*Sources and year*
Fragility	Such systems are highly vulnerable, highly technologically dependent, usually large, over-optimized and lack a built-in system of response to disruption Such systems are generally not restored after experiencing a shock	Ramezani and Camarinha-Matos (2020)
Robustness	This system can adopt shocks and remain stable Disruption does not influence a robust system, which faces no change after a disruption Robust systems require high cost and energy use to achieve robustness	Ramezani and Camarinha-Matos (2020)
Resilience	Resilient systems are marked by transformative capabilities, which lead to transformative resilience Resilient systems can absorb shock and accept temporary changes, gradually adapting to them Affected systems return to an acceptable state but not necessarily to the pre-shock state Transformative resilience does not emphasize the ability of the system to return to the pre-shock state but its ability to reorganize, reconfigure, restructure and even reinvent Russo and Ciancarini (2017) refer to this as "springing back"	Dahlberg (2015) and Russo and Ciancarini (2017)
Antifragility	The system's ability to absorb shocks and become more successful Antifragility is a stage beyond robustness, resilience or anything that acts against fragility Antifragile systems survive shock-induced states and use experience to become stronger The fundamental idea is to go above traditional resilience phases, that is, prepare, absorb, recover and adapt, by gaining the learning capacity to bounce forward	Lichtman (2017) and Ramezani and Camarinha-Matos (2020)

including 249 respondents from 13 industry sectors. Using factor analysis, these results confirmed that only 53 items featured a two-factor structure, that is, adaptive capacity and planning. Based on the work of Lee *et al.* (2013), considering organizational resilience to be a two-factor structure, that is, planning and adaptive capacity, the Benchmark Resilience Tool (BRT-53) has been proposed by Whitman *et al.* (2013) and Lee *et al.* (2013). It is a unique approach for its versatility. Indeed, this methodology can be applied in various sectors, regardless of the number of employees, organization profile, age, etc. The BRT-53 methodology is favorable for benchmarking at the sector level and in different periods, that is, during a survey over time. However, it is not attractive to the respondent because of its size, as 13 different indicators and 53 items in the volume are too long to maintain respondents' attention. Therefore, Whitman *et al.* (2013) constructed a shorter version of the BRT-53 – that is, the BRT-13a and BRT-13b methodologies. The BRT-13b is "based on the statistical correlation of each item to the overall construct score. The data used for this determination were the same data used in developing the original BRT-53. All items were correlated to their respective indicator's average score, and the highest correlating item to the indicator's average score was selected. The results revealed that the results of short-form methodologies showed close associations with the results of BRT-53 and can be used instead of BRT-53. In addition, BRT-13b shows slightly higher values for Cronbach's Alpha than BRT-13a and is, therefore, the most appropriate short-form version of the BRT-53" (Whitman *et al.*, 2013, p. 14).

The short version of the questionnaire has proved its worth, especially in cases where the aim is to interview organizations of different sizes from one sector to another. The BRT-53 questionnaire covers the division of responsibilities between different departments, but

small- and medium-sized enterprises do generally not have separate departments and are, therefore, not relevant to them. Gonçalves *et al.* (2019) also developed a validation of a shorter version of the Benchmark Resilience Tool using confirmatory factorial analysis and exploratory structural equation modeling (SEM). Their findings support the hypothesis that the shorter version of the BRT-13 survey is valid and reliable compared to the full version, that is, the BRT-53.

The organizational resilience benchmark tool, first introduced in 2013 and updated in 2017 by "Resilient Organizations LTD," is structured as a three-factor system, that is, leadership and culture, networks and change readiness, and includes 13 indicators, represented by 53 items. In addition, minor corrections to this methodology were made by Brown *et al.* (2017), that is, the five-point Likert scale was changed to an eight-point Likert scale, in which responses range from fully agree to disagree completely. Also, one area was specified, that is, the use of effective partnerships instead of external resources, and minor corrections were made to the text, which was supplemented by additional statements in some areas. In relation to a similar structure of the organizational resilience, Santoro *et al.* (2021) used an identical framework (the resilience benchmark tool) to explore the relationship of resilience with entrepreneurship. Their results revealed the high dependence of organizational resilience on entrepreneurs maintaining high personal resilience. Employee resilience was also investigated by Saad and Elshaer (2020) to reveal the relationship between resilience and business resilience indicators, the trust of an organization, distributive justice and the perception of job insecurity. Personal resilience is demonstrated as a three-factor structure, including hardiness, resourcefulness and optimism. A paper recently released by Chen Xie *et al.* (2021) assesses organizational resilience using five factors: capital, strategic, relationship, cultural and learning resilience. The authors use exploratory factor analysis to measure organizational resilience by introducing a 20-item scale. This research was conducted by selecting sample data from small- and medium-sized enterprises in China (Santoro *et al.*, 2021).

To conclude, the structures were relevant for assessing the resilience of organizations, that is, components and indicators. The two- or three-factor structures are the most used, although it is also emerging the use of four- as well as five- (Chen, Xie, *et al.*, 2021) and six-factor (Kantur, 2015) organizational resilience structures.

2.5.3 Methods of assessing resilient organizations. Most of the proposed research methodologies (McManus *et al.*, 2007; Lee *et al.*, 2013) are universal and suitable for use in different countries, sectors and organizations of various sizes. However, studies show that specificity still exists, and the empirical validation of the existing methodology makes it possible to adapt existing, generally accepted methods (Gonçalves *et al.*, 2019). The findings revealed that both qualitative and quantitative methodologies for assessing resilience are found in the scientific literature, but the latter receives more attention, as a mathematical approach is generally considered a more reliable and objective method.

To identify the components of the resilience of organizations and to identify the system of indicators, the most common quantitative method that the scholars use is factor analysis (Al-Atwi *et al.*, 2021; Chen, Liu, *et al.*, 2021; Santoro *et al.*, 2021; Lee *et al.*, 2013; McManus *et al.*, 2007; Whitman *et al.*, 2013; Alayed, 2019), followed by the SEM (Sobaih *et al.*, 2021; Tortorella *et al.*, 2021; Melián-Alzola *et al.*, 2020).

2.6 Report – systematic literature review Step 6: developing a methodology for assessing organizational resilience

Analyzing the notion of organizational resilience through the different organizational resilience assessment methodologies, it has been examined that organizations' assessment methodology structures range from two to five factors, but most indicators are recurring, regardless of the structure of the methodology (Table 2).

Table 2 Organization resilience structures

Factor structure	Authors	Planning strategies	Participation in exercises	Proactive posture	External resources/ Effective partnerships	Recovery priorities	Silo mentality	Internal resources	Staff engagement	Knowledge leveraging	Leadership	Innovation and creativity	Decision-making	Situation monitoring, awareness, and reporting	Roles and responsibilities	Understanding and analysis of hazards
2F	Lee et al. (2013), Whitman et al. (2013), Gonçalves et al. (2019) and Sobaih et al. (2021)	+	+	+	+	+	+	+	+	+	+	+	+	+		
3F	McManus et al. (2007)	+	+		+	+	+	+		+	+				+	+
3F	Santoro et al. (2021) and Alayed (2019)								+							
3F	Resilient Organizations Resilience Benchmark Tool (2017)	+		+	+	+	+	+	+	+	+	+	+	+		
4F	BSI Organizational Resilience Index Report (2021)							+			+					

Factor structure	Authors	Connectivity awareness	Insurance Awareness	Stress testing plans	Organizational connectivity	Communication and relations	Strategic vision and outcome expectancy	Unity purpose	Continuous development opportunities	Group intensives	Broad job descriptions	Cross department employees	Result based evaluations	Empowerment	Employee-customer networks	Reputational risks	Financial aspects	Culture
2F	Lee et al. (2013), Whitman et al. (2013), Gonçalves et al. (2019) and Sobaih et al. (2021)	+																
3F	McManus et al. (2007)		+		+	+	+	+										
3F	Santoro et al. (2021) and Alayed (2019)								+	+	+	+	+	+	+			
3F	Resilient Organizations Resilience Benchmark Tool (2017)			+				+										
4F	BSI Organizational Resilience Index Report (2021)						+									+	+	+

The analysis of the methodologies discloses that some indicators are repeated regardless of structure, such as planning strategies, external/internal leadership resources, effective partnerships, innovation, decision-making and unity of purpose. The use of these indicators defines the Resilient Organization's Resilience Benchmark Tool, a three-factor structure.

Lee *et al.* (2013), Gonçalves *et al.* (2019), Whitman *et al.* (2013) and Sobaih *et al.* (2021) proposed methodologies that are supported by two-factor structures and used shorter versions of a questionnaire with indicators like those of the Resilient Organization's Resilience Benchmark Tool.

To carry out an empirical assessment of the resilience of organizations in those contexts where there is a lack of understanding of the level of resilience of organizations, it is preferable to include the broadest possible range of questions. By applying a broader questionnaire, it is possible to acquire a more accurate picture of the current situation. Including indicators corresponding to the most appropriate parameters in the model allows the comparison of the results with studies that have already been carried out.

Thus, after assessing the methodologies for evaluating organizations in the scientific literature and the similarities and differences, we can conclude that the Resilient Organization's Resilience Benchmark Tool (2017) can be considered the most appropriate three-factor tool because of its versatility and broad variety scope. The critical dimensions are (a) leadership and culture; (b) networks; and (c) change readiness. The assessment methodology consists of 13 indicators and 53 questions that can support the development of empirical research (Figure 4). This methodology assesses organizational resilience as the ability to recover and adapt successfully by integrating the bounce back and bounce forward.

Having assessed the scientific directions developed by various scholars, distinguishing the bounce back, oriented toward organizations' adaptive capacity, and the bounce forward, which aims to enhance learning capacity, we suggest that two dimensions should be treated as a bounce-back outcome: leadership and culture and networks. As has been mentioned already, bouncing forward concerns learning capacity. Yet, it is not sustainable without stability, preparation, absorption, recovery and adaptation capacity, which we

Figure 4 Conceptual frameworks of resilient organizations
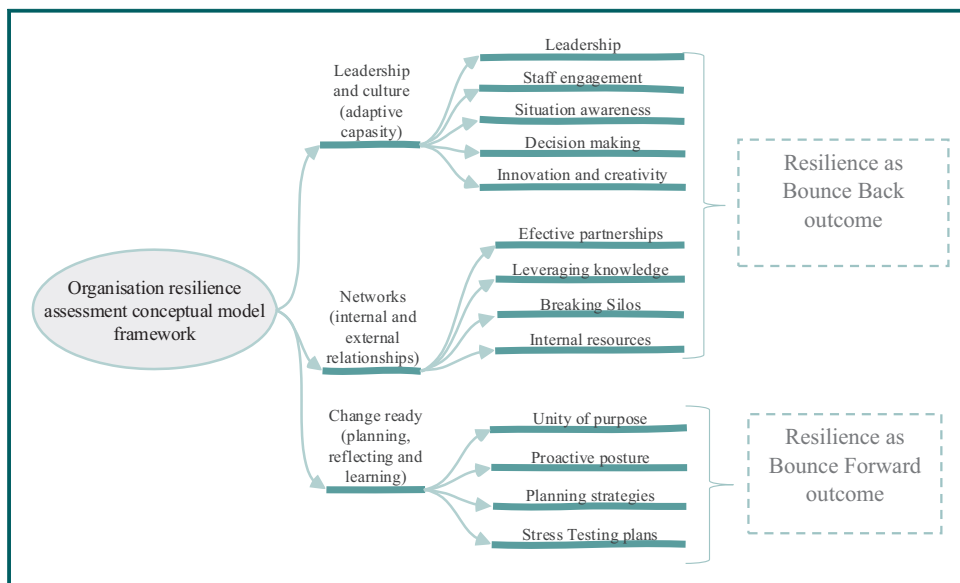
consider a bounce-back outcome. Therefore, we treat bounce back as a prerequisite to the bounce-forward stage.

3. Theoretical implications

After analyzing the most recent scientific literature that investigates the notion of the resilience, it was apparent that resilience is recognized as organizations' ability to adapt to the new conditions, influenced by the crises. Moreover, it supports the recognition of the learning phase that allows for growth by constantly learning from emerging situations and gaining unique experiences. These observations allow us to suggest the twofold approach. The first distinguishes the resilience as organizations' ability to adapt to the changing environment, that is, bounce back, while the second highlights the importance of learning capacity, that is, bounce forward. Furthermore, we suggest to assess organizational resilience using Resilient Benchmark Tool integrated with bounce-back and bounce-forward approach, where leadership and culture as well as networks are treated as bounce-back outcomes, while change readiness dimension is identified as a bounce-forward outcome. We have also learned that resilient organizations are sustainable when they enhance the ability to bounce back as well as bounce forward; therefore, we recognize organizations' ability to bounce back as an important prerequisite to a successful bounce forward.

4. Conclusion, limitations and directions for future research

Research has shown that the phenomenon of organizational resilience is attracting increasing attention, as the capacity of organizational systems to deal with today's business uncertainty and the global social, economic and humanitarian transformations is also increasing. Disruptions are increasingly becoming the "new normality." Organizations need to look for ways to deal with them by managing them properly, adapting to emergent conditions and using the lessons learned as a driving force to sustain competitiveness and sustainability. The focal question of this study is to shed clarity on the notion of organizational resilience and identify the methodological tools that could be used to assess organizational resilience. Using the SLR method, we identified two directions of scientific viewpoints. Some scholars agree that the purpose of a resilient organization is to rebound, recover and adapt, seeking to reestablish a precrisis state, that is, to bounce back. Other researchers argue that resilience not only is about adaptation but also focuses on the ability to bounce forward, that is, lifting the organization's equilibrium to a new level and continuously learning from unique experiences. A SLR provided the insights to propose a working conceptualization of organizational resilience as an organization's capacity to remain stable first, then prepare, absorb and recover after crises, adapting to the new environment and, finally, using their own experiences to enhance the capacity to learn and sustain transformations to cope with the business landscape's complexity and turbulence and gain sustainability. Therefore, organizational resilience is essential for survival and success.

It is vital to define methods to assess organizations' resilience to support resilience management. Many scholars suggest using SEM or factor analysis to examine the structure of resilience and define a set of indicators. The most used structures are either two- or three-factor structures, although recent studies have also used four- and five-factor structures. To identify similarities or differences between these methodologies, we compared them by looking at their dimensions and key indicators. The study reveals a convergence of the methods, regardless of the number of accounted dimensions, toward a set of indicators. For this reason, it is essential to refine the indicators, verify their validity during the empirical study and determine their interactions.

The critical review of the current methodologies for assessing organizational resilience highlights that the Resilient Organizations Benchmark Tool (Lee, 2013) is a useful and most suitable framework for assessing resilience in organizations. Indeed, it presents a universal structure and broad adaptability. It is characterized by a three-factor structure: (a) leadership and culture; b) networks; and (c) change readiness, consisting of 13 dimensions/structures and 53 items/questions.

The information collected during the research provided knowledge about the conceptualization of the resilience of organizations, the application of research methods and the variety of components and indicator systems. The main limitation of this study is intrinsic to the SLR method selecting publications based on predefined selection criteria. In fact, despite the objectivity of the selection criteria, there is a possibility that researchers may not have selected some significant publications because of the selected and adopted keywords. Future research will focus on the empirical implementation of the framework to assess the resilience of organizations. This will provide new scientific knowledge about the resilience of organizations and allow to test the resilience benchmarking tool.

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