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Organizational resilience: A critical review of a multi-theoretical perspective Grine American University, Turkey

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Abstract

Today businesses are operating in a highly dynamic environment which is the new normal. Therefore, organizational resilience (OR) has been gaining significant momentum among academics and practitioners to protect business from such adversity. However, the concept has been criticized due its diffuse fragmentation nature questioning its validity and usefulness. This paper investigates causes and nature of fragmentation and theories that shaped the understanding of the concept. In this view the study addresses this gap by proposing a multi-theoretical viewpoint to effectively combined to lay a foundation to prevent such fragmentation by giving a more parsimonious explanation that pulls multiple elements into a more unified whole in two phases. This study utilizes a literature review as a research methodology. Initially the conceptualization of the concept is explored based on its umbrella characteristics. Inspired by multiple theoretical studies, subsequently conducts a critical review of theories in relation to conceptualization domains as an attempt to oppose further fragmentation. Findings reveal past studies have been mainly conceptual; sound established theoretical foundations are limited. None of the foundation theories are capable to interpret the concept in isolation, but an integrated perspective of theories captures the complexity of phenomena, exploits the complementarity of theories, and tests conflicting explanations. Based on this outline findings reveal OR and its fundamentals domains mirrors multiple theoretical perspectives which includes defensive capabilities, reconfiguration of capabilities and creating new capabilities. Adopting a multi-theoretical approach on deciphering the complexity of OR will pave the way for numerous implications for future research and practice by enhancing a more defragmented conceptualization.

Keywords: *Organizational resilience, Resource base view, Dynamic capabilities, High reliability organization, Complex adaptive systems*

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Introduction

The world of today has become exceedingly unreliable and unstable, with continuous changes occurring and such super flux is identified by the acronym VUCA which is real and going to be the new normal (Ramakrishnan, 2021) where organizations are compelled to confront to survive and grow despite these challenges. The VUCA acronym stands for volatility, uncertainty, complexity, and ambiguity where these phrases have been employed to describe the condition of the business environment in a variety of ways by academics and practitioners. In such an adverse environment an organization's operation is seriously threatened by a variety of unanticipated events, including natural disasters, pandemic disease, terrorist attacks, economic downturn, equipment failure, and human errors etc.

Organizations need to be able to deal with all of these manifestations of the unexpected to thrive in unstable situations and support future success. Businesses must build resilience so they can respond appropriately to unforeseen circumstances and seize opportunities that could endanger their survival (Lengnick-Hall et al., 2011; Duchek, 2020). Organizational resilience (OR) has been shown in studies to explain how businesses are able to persist and even grow in the face of adversity or instability from both theoretical and empirical perspectives (Hillmann & Guenther, 2020).

OR enhances an organization's ability to endure and adapt to external changes as well as lengthen its life span, enabling it to maintain a sustained competitive advantage (Ortiz-de-Mandojana & Bansal, 2015). Therefore, organizations required to be be resilient with any adverse event which can be incremental (Denyer, 2017), continuous (Carden et al., 2018), repetitive (Karunaratne, 2022), catastrophic (Witmer & Mellinger, 2016), predictable or unpredictable (Madni & Jackson, 2009) and also look at such events as opportunities (Sherif, 2007).

Resilience is a novel concept in organizational science that has lately gained prominence (Hillmann & Guenther, 2020; Ruiz-Martin et al., 2018). However, in order to design strategies for enhancing resilience of an organization, it is essential to understand what makes them resilient in the real world. Therefore, a strong conceptualization, identifying influencing factors that impact OR and nurturing the same are crucial (Barasa et al., 2018). Although the concept of resilience has come to be critically important for businesses, there are gaps in the academic literature. Researchers generally agree that the

perspectives and theories have been created in a fragmented manner, giving numerous definitions and inconsistent identification of its constructs and a lack of clarity on their relationships (Ali et al., 2017; Duchek, 2020; Linnenluecke, 2017; Williams et al., 2017). Despite growing interest in OR as a significant source of competitive advantage, the conceptualization of resilience is still in its formative stages (Duchek, 2020). The concept has long been criticized for being ambiguous and not having a defined meaning (Hillmann & Guenther, 2020; Vakilzadeh & Haase 2020; Linnenluecke, 2017). Additionally, there is also no consensus about which factors build OR (Vakilzadeh & Haase 2020). Due to these circumstances, importance and prominence in study and practice have decreased (Hillmann & Guenther, 2021; Linnenluecke, 2017). Scholars have provided some significant issues related to OR which can be can be summarize as follows.

OR

1. is new to organizational context, no consensus about its components (Duchek, 2020).
2. building recommendations are contradictory (eg. stability vs change) (Karunaratne, 2022; Linnenluecke, 2017).
3. is a multidisciplinary and multidimensional nature of the constructs (Duchek, 2020; Hillmann, & Guenther, 2020; Ponomarov & Holcomb, 2009).
4. lack of unified or coherent theory (Ponomarov & Holcomb, 2009) and umbrella construct (Ducheck, 2020).
5. is a holistic and complex concept (Andersson et al., 2019; Lengnick-Hall et al., 2011).
6. research is based on mainly on adverse events and therefore context dependent (Hillmann & Guenther, 2020).
7. research is often limited to a few individual influencing factors losing sight of the big picture (Liu, et al., 2021).
8. building factors are numerous, diverse and competing (Andersson et al., 2019).
9. literature lacks or limited use of established theoretical lenses or frames (Duchek. 2020; Duit, 2015; Saad et al., 2021; Tukamuhabw et al., 2015).

Theories are simply generalization that aid to better understand reality as reveals the underlying logic of what is observed in reality (Zikmund et al., 2010). This lack of theoretical lenses has hindered understanding resilience, its variables, and their relationships (Tukamuhabwa et al., 2015) contributing to the all above issues as well. In addition, established theoretical lenses help generalizability

of findings across different contexts (Foy et al., 2011). Therefore, this study aims to address this gap by critically reviewing established theories applied in OR literature and proposing multi-theoretical perspective to better understand the phenomenon as a more unified concept.

Methodology

This study uses a literature review methodology and such research method is more important than ever despite the research discipline as the rate of knowledge production in the field of business research is increasing dramatically (Snyder, 2019). Literature review (LR) process can be viewed as a data collection tool. The foundation of all sorts of research is the literature review. This can provide evidence of an effect, set standards for policy and practice, serve as a foundation for knowledge development, and, if done correctly, have the potential to ignite new ideas and directions for a particular field (Snyder, 2019). The goal standard among reviews is the systemic review methodology as a way to synthesize research findings in a systematic, transparent, and reproducible ways (Davis et al., 2014). The study methodology is in line with recommended procedure by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and it consist of the following steps describe describe in figure 1.

1. The identification of published articles from repositories (Multiple data bases such as Dimensions, Emerald's insight and search engines including Google & Google scholar and for the initial keyword exploration, 10 search strings was selected, English language papers up to mid of 2024 with no initial date of peer reviewed articles in order to include a broad area of study.
2. The screening of the articles. Initially manual examination of escaped papers such as snowballing of meta- reviews. The inclusion of well-established meta reviews avoided minimized missing data (Linnenluecke, 2017; Vakilzadeh & Haase 2020) Then, a preliminary analysis of the titles and abstracts was carried out to select the relevant articles for this literature review.
3. Based on eligibility the selection of relevant articles (examined every paper to determine important areas related to the themes under study also removed duplications and extraneous articles which did not link or include any foundation theory). A thorough and detailed reading of the 66 articles enabled the selection of 31 scientific documents corresponding exactly to this study's purposes.
4. The finalization and inclusion of the papers for analysis

5. Final analysis and coding (thematic analysis)

Literature Review

A theory is a set of systematically connected constructions and propositions that, under certain restrictions and suppositions, aims to explain and predict an interesting event or behavior (Bhattacherjee, 2012). It is simply an explanation or interpretation of a phenomenon such as OR. A phenomenon (plural, phenomena) is a general result that has been observed reliably in systematic empirical research.

Bhattacherjee, (2012) does emphasize, however, that theories must be carefully chosen based on how well they fit the target problem and how much their underlying premises align with the target problem. Theories give context and relevance to observations, while observations help to confirm, improve, or develop new theories. Each researcher must decide which lens to use or which blueprint to follow in order to develop an argument, define the context of the problem, and explain findings because different theories offer various perspectives on the same problem (Grant & Osanloo, 2014). A theory of OR would provide insight on how organizations and the people and units that make them up continue to produce desired results in the face of difficulty, stress, and considerable obstacles to adaptation and growth (Vogus & Sutcliffe, 2007).

However prior in search of a theory a strong conceptualization is required of OR to better comprehend the concept based on the umbrella characteristics of the phenomenon (Hillmann, 2020). The concept of resilience is currently broad, diverse, and multidimensional (Ponomarov & Holcomb 2009), and it is a current concern in many scientific domains. It is not new; it was first introduced in the field of material science in 1800 and then spread to other academic fields like ecology, psychology, organizational studies leading to a lack of consensus on the concept (Banahene et al., 2014). However, the historical overview is not reviewed in this study, but an organizational perspective is examined. Although the concept of OR is becoming more widely acknowledged in scholarly literature, the concepts and characteristics of OR have so far mostly remained ambiguous and undefined (Vakilzadeh & Haase 2020; Linnenluecke, 2017). In spite of the construct's ambiguity and the variety of definitions, Duchek (2020) emphasizes that OR is a significant source of competitive advantage. The development of OR research has been largely context-dependent (Linnenluecke, 2017) and literature sources identifies a problem with lack of using well-established theories to comprehend the resilience

phenomenon (Duit, 2015; Saad et al., 2021; Tukamuhabw et al., 2015).

However, within the current strategic context, organizations must cope with situations where discontinuities and disruptions arise as a result of turbulent operational environments (Burnard & Bhamra, 2011; McManus, 2008). Such disturbances may seriously jeopardize an organization's ability to function and survive, putting it at high risk and making its future uncertain (Burnard & Bhamra, 2011). Resilience is currently viewed as a potential solution that goes beyond mere survival to actually thrive, while still achieving one's major objectives, even in the face of adversity. This is accomplished by prospering in the face of both present and potential future challenges.

Definition and conceptualization of organizational resilience

Even though in the academic community there is no uniform definition for the term OR at present (Linnenluecke, 2017) much of the definition are revolving around the capability perspective (Ducheck, 2020; Karunratne, 2022). Tennakoon and Janadari (2021) states OR is a philosophy for managing adverse environmental events in a continual and progressive manner, based on a diverse set of capabilities. The capability construct is the "new kid in the (framework building) block," and it can be used to solve a variety of problems. Over the past decade, capability constructs have replaced or coexisted with well-known constructs, theories, and paradigms used to represent (natural, social, man-made, and biological) systems (Tell, 2014). As a result, most academics describe OR as the capacity or ability to manage risks, shocks, and changes both internally and externally (Ruiz-Martin et al., 2018). For example, Denyer (2017) defines OR is “the ability of an organization to anticipate, prepare for, respond and adapt to incremental change and sudden disruptions in order to survive and prosper” (p. 25). Duchek (2020,) defines “organizations ability to anticipate potential threats, to cope effectively with adverse events, and to adapt to changing conditions” (p. 220). Ruiz-Martin et al. (2018) highlights most authors refer OR as a desirable ability or capability to adapt to internal and external changes, threats, or jolts. Therefore, organization needs to build capabilities to manage processes to overcome adversity (Carden, et al., 2018).

Process-based viewpoint of resilience, meaning they pay attention to specific phases built around a crisis-event (Duchek, 2020; Madni & Jackson, 2009; Williams et al., 2017). Williams et al. (2017) define resilience as “the process by which an actor (i.e., individual, organization, or community) builds and uses its

capability endowments to interact with the environment in a way that positively adjusts and maintains functioning prior to, during, and following adversity" (p. 742). With these definitions it is revealed that OR is defined mostly as capability perspective in relation to process stage of resilience.

However previous research on resilience capabilities is vastly diversified. A resilience capability portfolio leads to overall OR but capability reference to diverse situations, concentrate on particular issues, and employ various research methodologies (Manfield & Newey, 2017; Duchek, 2020; Linnenluecke, 2017). Therefore, recent scholars have attempted to group these resilience capabilities in some form of methodology. Duchek (2020) and Vakilzadeh & Haase (2020) classifies resilience capabilities as anticipation, coping and adapting capabilities which are based on phases of the resilience process. Others categorize as routine-based and heuristics-based resilience capabilities (Manfield & Newey, 2017).

Lengnick-Hall and Beck (2005), states a firm's ability for resilience is made up of cognitive, behavioural, and contextual components and arises through the use of various organizational routines in dealing with uncertainty and complexity. In addition, Hillmann and Guenther (2020) identifies six domains of the concept of resilience and categorize capabilities accordingly: Awareness and sense making, stability, change, growth, performance and behaviour. Woods (2015) identifies four meanings of resilience that bring four interpretations of "surviving". These four streams are using resilience as rebound (i.e. returning to previous or normal activities after a disruption), robustness (i.e. absorbing disturbances), graceful extensibility (i.e. how to extend adaptive capacity in the face of disruptions) and sustaining adaptability (i.e. the ability to adapt to future disruptions as the conditions change and evolve). Supardi and Hadi (2021) classify resilience as proactive, absorptive/adaptive, reactive attribute and dynamic aspects of resilience.

Madni and Jackson (2009), combined all of these aspects of system resilience into one of the most complete viewpoints on OR. The authors defined resilience as a multi-faceted capability of a complex system that encompasses avoiding, absorbing, adapting to, and recovering from disruptions. The many facets model developed by Madni and Jackson (2009) can be applied to view OR which is described next, which is one of the most comprehensive perspectives of the concept. Anticipation is required to avoid interruptions, which is made possible by predictive or look ahead

capabilities. As a result, a system that avoids disruption must be able to predict events and take proactive action to avoid the incidence or repercussions of disruption. The system must be strong to withstand disturbances. Shock absorbers, such as resource buffers, enable the system to tolerate a disruption without having to restructure itself to response to the disruption, which is how robustness is achieved. The ability to reconfigure form (i.e., structure) or available capacity is required to adapt to unforeseen change. Finally, recovering from disruptions entails being able to restore the system as closely as feasible to its pre-disruption state. However, there is evolution of the definition from recovering to the previous state to a better new state (Melián-Alzola et al., 2020) as in social ecological perspective.

Resilience capabilities are complicated and rooted in social contexts, making it difficult to identify key variables and conditions for their development (Ducheck, 2020). Therefore, scholars have identified numerous predictors or influencing factors to the development of capabilities such as knowledge base, resource availability, social resources, leadership, culture, environmental scanning, power/responsibility etc. Vakilzadeh and Haase (2020) summarize large number of such factors that influence OR has led to an unnecessary extension and to a blurry boundary of the construct. Morales et al., (2019) further elaborated that OR is a complex and challenging task because there may be too many factors contributing to the effectiveness of resilient capabilities. It is clear that academics have attempted to empirically linked a wide number of influencing factors to resilience without any theoretical underpinning (Tukamuhabw et al., 2015) and also are fragmented (Liu et al., 2021).

Even though Vakilzadeh and Haase (2020) has attempt to categorize these factors or building blocks in the common categorization of anticipation, coping and adaptation, there is no priority of building blocks or not any relationship between them. Due to the concepts complex and diffused nature (Alexander, 2013), it is difficult to garner an understanding of the multitude of factors that seem to facilitate resilience within an organization. The extensive research on resilience makes it challenging to build a consistent understanding of the concept (Linnenluecke, 2017). To maintain the concept's value, resilience research must avoid becoming too fragmented. As Hirsch and Levin (1999, p. 210) put it "[…] when a scholarly idea becomes dangerously close to meaning all things to all people, that idea's validity cannot be maintained indefinitely […]".

Resilience and its umbrella character

Since OR is a complex phenomenon scholars are more in favour of obtaining research in other disciplines (e.g., psychology, ecology, and resilience engineering) in order to gain more knowledge on the concept (Ducheck, 2020; Hilmann, 2020; Liu et al., 2021). The influence of multi-disciplinary approach and numerous factors building in OR itself further challenges the validity of the concept leading to a theoretical umbrella characteristic (Hilmann, 2020). Relatedly but conceptually separate, an umbrella construct might form when scientists, from different research domains, rely on a common-sensical term without seeking to connect to the same theoretical construct (Meglio & Schriber, 2019). Umbrella concepts arise from study fields without a clear theoretical framework and unconnected concepts (Hirsch & Levin 1999). Umbrella constructs are vague, ambiguous concepts that can refer to various meanings, much like metaphorical umbrella ranging from coherent to broader, capturing paradoxical tensions in research, implying a broad semantic space with loosely coupled content and ideas (Meglio & Schriber, 2019).

The definition of OR includes combination of several components such as capabilities, processes in different stages in relation to crisis event underpinning the umbrella character. Further scientists have excessively broadened the concept of resilience by increasingly analyzing more and more factors under the resilience label. As a result, recently scholars increasingly refer to resilience as an umbrella concept (Darkow, 2019; Duchek, 2019; Vakilzadeh & Haase, 2020). These authors highlight the importance of the umbrella nature of the construct since it enables the analysis of interdependencies and contradictions of different capabilities in this broad concept. Few scholars' emphasis the importance of applying paradoxical lens to aid in explain the contradictions of OR and such contradictions deserve attention and may spur research development which are characteristics of an umbrella construct (Karunaratne, 2022; Denyer; 217).

Hillmann (2020) states that when a concept is considered an umbrella construct does not mean that it does not have value for research. Management field is filled with umbrella constructs such as Organizational Learning, Strategy as Practice, Total Quality Management, culture (Meglio & Schriber, 2019), Knowledge Management (Gray & Meister, 2003), Organizational Effectiveness (Hirsch & Levin, 1999). Meglio & Schriber (2019) states if the the construct itself can be criticized for suffering from blurry boundaries is part of the usefulness of the term, if the multiple use of the construct is clear.

The umbrella construct has greater coherence and consistency and also resilient than the sum of its individual components (Suddaby, 2010) and therefore it is important to retain such charter. However once established, umbrella constructs are not static. Instead, they evolve over time. Umbrella constructs undergo a life-cycle and starts with excitement resulting a flurry of research, followed by research, questioning its validity and utility. Then researchers propose typologies to separate aspects, but focus on differences rather than commonalities. This leads to divergent threads, eventually resulting in a lack of consensus, ultimately causing the original concept's collapse (Hirsch and Levin, 1999). The authors of the paper describe the importance of having umbrella advocates and the validity police to ascertain whether a concept is a clearly defined and measurable construct, whether it collapses, or if it remains a valuable umbrella concept (Hirsch and Levin 1999). The dynamic of the umbrella concept take place between two forces that is theory (umbrella advocates) and measurement (validity police) as both forces are required for the construct to be scientific and relevant (Rodrigues et al., 2012). Hillman (2018) elaborates the OR construct is in its early stage of the life cycle with the exponentially growth of research of OR in recent past but is on the verge of having its validity challenged.

Despite fuzzy fragmented nature of OR according to literature review, resilience is a critical organizational capability that contributes to competitive advantage and long-term success for an organization (Duchek, 2020; Rahi, 2019). OR as, it progresses though the inevitable lifecycle it is threatened by potentially-fatal fragmentation and therefore as mentioned earlier scholars have attempted to group capabilities (Manfield & Newey, 2017), influencing factors (Vakilzadeh & Haase, 2020), processes (Duchek, 2020), indicators (Rahi, 2019) to preserve the holistic nature of the umbrella phenomenon. In this article, the comprehensive nature of resilience is accepted while also recognizing its limitations. The assessment revealed that the field of resilience research should exercise caution to avoid excessive fragmentation, in order to maintain the value of the concept. Inspired by multi-theoretical studies this study applies an integrative perspective in order to avoid excessive fragmentation and provide a more cohesive understanding of complex phenomena of OR (Jaakkola, 2020).

A review of foundation theories underpinning prior research

Tellis (2017) emphasis a deep understanding of the phenomenon or self-immersion in the phenomenon is important as theories may come and go but the phenomenon will stay

forever. This has been drastically followed by scholars of resilience as there are plethora of articles describing what resilience is from a multi-disciplinary to a multidimensional perspective. Tellis (2017) questions "what is a good theory?" A good theory is just a simple explanation for a phenomenon. One important purpose of scientific theories is to organize phenomena in ways that help people think about them clearly and efficiently. A second purpose of theories is to allow researchers and others to make predictions about what will happen in new situations. A third purpose of theories is to generate new research by raising new questions.

Even though standard theories are seldom, it is evident the studies that have used theories to explain OR is aided mostly by applying a single theory after critically reviewing the same. Tsang (2022) describes many management researchers are trained to be single theory experts studies based on more than one theory are still relatively few. For instance complex adaptive systems are applied by Barasa, 2018 ; Burnard & Bhamra, 2011) ; Crisis management (Gittell et al., 2006), HRO (Vogus & Sutcliffe, 2007), RBV (Tengblad,, 2017), Dynamic capabilities (Khan et al., 2019). Supplier chain resilience one stream of OR research specified by Linnenluecke, 2017, which has the widest scope of resilience to which includes the supply chains rather than single organizations also a single theory usage is dominant (Tukamuhabwa et al.,2015). These authors argue and attempt to justify the application the predetermine theory to interpret and comprehend the OR phenomenon. OR theories provide valuable insights into an organization's ability to withstand and recover from crises and disruptions while adapting to changing environments (Mizrak, 2024). These theories contribute to our understanding of how organizations can maintain or even enhance their performance in the face of adversity (Baykal & Mizrak, 2019).

Despite multiple theoretical studies, there is common perspective in organizational research to use multiple theories for complex constructs as it is always possible to look at it from different perspectives. Management researchers typically develop theories that concentrate on specific features of a phenomenon, resulting in limited explanatory capability (Tsang, 2022).

Different theories of the same set of phenomena can be complementary—with each one supplying one piece of a larger puzzle. Scientists are continually comparing theories in terms of their ability to organize phenomena, predict outcomes in new situations, and generate research. But different theories of the same phenomena can also be competing in

the sense that if one is accurate, the other is probably not. Although scientists generally do not believe that their theories ever provide perfectly accurate descriptions of the world, they do assume that this process produces theories that come closer and closer to that ideal. Table 1 presents the summary of prominent established theories of the OR phenomenon.

Established theories applied in organizational resilience

Business continuity management

Resilience related literature has focused explicitly on few establish theories and has been dominated by business continuity management theories which include crisis and disaster management theories that frequently focused on discrete occurrences (Kantur& Say, 2015; Saad et al., 2021; Linnenluecke, 2017). This focus is explanatory as actions that has been taken to arrest the unexpected event has already happened and studying the same is feasible rather than event that has not happened or not happened at all. In addition, as there are number of factors impacting OR narrowing and the focus to an organization's capacity to deal with a certain event reduces the empirical complexity (Linnenluecke, 2017).

Studies on crisis management and disaster response strategies deal with organizations' immediate emergency reactions when faced with unfavorable conditions that are not related to regular economic activity (originating either within the firm or externally) (Linnenluecke et al., 2012). The occurrence of such conditions is thought to be a low-probability, high-impact event that threatens the organization's sustainability. It is marked by uncertainty of cause, effect, and ways of resolution, as well as a belief in the importance of making rapid decisions. The body of research on crisis and disaster management provides insights into an organization's defensive capabilities for detecting, predicting, and averting crises or mitigating their impacts once they arise (Preble, 1997).

Such capabilities can include the development and use of forecasting systems, contingency plans, exercises and simulations as well as the allocation of human and organizational resources, equipment and systems to respond to the potential occurrence of a crisis.

Despite this, past research on resilience simply linked the idea to distinct disruptions that were brought on by particular, event-driven conditions, and then tried to produce insights on how to improve OR going forward. Such response and insights includes social capital (Torres et al., 2018), relational reserves (the maintenance of positive employee relationships) and financial reserves

(Gittell et al., 2006), strong management and leadership, core employee competencies, and efficient planning (Tibay et al., 2018), integrated business continuity and disaster recovery planning (Sahebjamnia et al. 2017), institutional conditions and mechanisms of support and guidance and resources (Halkos, et al., 2018), proactive risk management behavior and the ability to reconfigure firm resources (Parker & Ameen, 2022).

Continuity plans and specific response procedures imply that adversities are no longer unexpected in relation to their content or form; only when they happen remains unexpected. Organizations should seek to anticipate disasters and create comprehensive plans for mitigating loss, or implement measures that enhance the ability to respond to disasters by increasing resilience (Somers, 2009). Contingency plans can generally be subdivided into business continuity plans (with a focus on preventing operational disruptions) and disaster recovery plans (with a focus on coping and bouncing back) (Sahebjamnia et al., 2018).

Identifying and evaluating risks and issues is the first step in BCM and not all crises are preventable (Rerup, 2001) However, having effective risk and issues management processes in place will help organizations foresee, plan scenarios, be more proactive and decide on whether to take, treat, transfer or terminate the risk. Actual crisis management planning deals with the loss, just as disaster recovery and business continuity planning deal with the situation after the loss. Crisis related management is about being prepared to handle adversity and minimized impact most effectively and facilitating the management process during chaos. The abovementioned plans are not static and must be regularly evaluated and revised in order to enable improvements (Adini et al., 2017; Burnard et al., 2018).

Resource base view (RBV)

Based on a survey of the literature on supply chain resilience, Tukamuhabwa et al. (2015) discovered that RBV was the theory that was most frequently used and second abundantly used in OR. The foundation of any organization is its resources (Nemeth, 2008). Proponents of the RBV argues valuable, inimitable, rare and non-substitutable (VRIN) internal organizational resources are a source of competitive advantage and resilience, particularly in resource-scarce contexts (Acquaah et al., 2011).

A ‘VRIN’ criterion is as follows 1. Valuable (V) – In order to provide strategic value resources needs to be valuable. 2. Rare (R) – Resources must be unique among competitors. 3.

Imperfect Imitability (I)- Difficulty of imitating resources 4. Non-Substitutable (N) - Unavailability of an alternative resource. It asserts that a company is made up of both tangible and intangible resources, which may combine to form capabilities that control how it responds to various internal and external threats as well as opportunities (Wernerfelt 1984; Barney 1991).

The RBV has been utilized in OR research to clarify the resources and capabilities that are viewed as precursors of resilience such as strategic human resource to create competences among core employees (Lengnick-Hall et al., 2011), financial, technical and social resources to be agile and swift to prevent crisis and exploit opportunities (Tengblad,, 2017), range of strategies (diversification, increase distribution channels etc) and resources (capital, updated machinery, excellent after sales service etc) to develop resilience potential (Alberti et al., 2018), Slack resource and planning expertise (Branicki et al., 2018) to develop organizational level resilience. Such availability of resources contributes to OR by the contribution to develop resilience capabilities and also to act as buffering capacity in times of hardship. While resources can be exchanged and are therefore not unique to the company, capabilities are more difficult to transfer. They are unique to the company because the firm gradually developed them via experiences and learning (Castiaux, 2012). In the context of resilience, organizations that possess and effectively utilize specific resources and capabilities are better prepared to manage crises and mitigate risks (Do et al., 2022).

RBV is thought to be static in nature and insufficient to explain the firm's competitive advantage in a changing business climate (Priem & Butler, 2001). As the RBV theory mainly focuses on the past and may be the present but not the future which requires more attention and also mainly internal focus are some critics of the theory (Németh, 2008).

Dynamic capability (DC)

Operating capabilities and dynamic capabilities are distinguished in capability literature (Helfat & Peteraf, 2003). Operating capabilities typically follow a routine and carry out the firm's regular daily operations, or business as usual (Winter, 2003). In contrast, dynamic capabilities generate, extend or change, integrate, build and reconfigure, and are heuristics-based (Teece et al., 1997) or the ability of the company to sense, seize, and transform operational capabilities. (Teece, 2007).

According to Teece et al. (1997), the ability of the company to combine, develop, and reconfigure external and internal expertise in order to respond

to a rapidly changing environment is the definition of DC. Teece (2020) stated there are three categories of dynamic capability: sensing (the capacity to examine the firm's environment in order to identify opportunities), seizing (opportunities must be taken advantage of as soon as they are sensed), and reconfiguring (firms must reorganize their resources in order to take advantage of new opportunities). The first two cover very fundamental functions, whereas reconfiguring capabilities requires more sophistication and occasionally calls for a complete redesign of the business model.

This analysis of dynamic capabilities is primarily motivated by the need to clarify the deployment, growth, and manifestation of dynamic capabilities. DC is a "meta-capability" that transcends an ordinary firm capability. Dynamic capabilities are understood as instruments for the reconstruction of existing capabilities, they are defined as the ability to adjust to sudden changes and unpredictable environments (Kurtz &Varvakis, 2016).

A number of researchers have used the DC theory to develop or comprehend resilience capability, which reflects a dynamic process for quick environmental adaptability (Khan et al., 2019, Akgü n &Keskin, 2014). The DC method takes into account the resources and the company's capabilities to adapt to its environment in order to evaluate the sustainability of competitive advantage in dynamically changing environments (Kurtz & Gregorio Varvakis, 2016). According to Burnard and Bhamra (2011), organizational flexibility (Hatum and Pettigrew, 2006) or adaptive capacity—which is necessary for building resilience is mainly determined by the development of dynamic capability. Khan et al (2019) applies dynamic capability as a theoretical lens to conceptualize OR

Resilient sensing capability

Sensing capabilities are required for situational awareness which considers it to be a type of organizational sensing practices that enable it to be aware of its external business environment (opportunities and threats). McManus et al. (2008) taking a system view viewpoint, includes organizational situational awareness as a quality of resilient organizations to continually be aware of their environment. This form of dynamic capability enables the business to recognize such data and incorporate it into its knowledge base (Vogus & Sutcliffe, 2007).

Resilient seizing capability

Although an organization can become aware of its surrounds by detecting environmental opportunities and threats, this awareness is insufficient

unless the company takes action to address the concerns (Khan. 2019). Only awareness is not sufficient, realizing these opportunities and addressing the key vulnerabilities is called seizing in order to better cope with uncertainties. According to Stephenson (2010), managing keystone vulnerabilities is the ability of the organization to recognize key vulnerabilities in relation to its business environment and create stimuli that allow the organization to mobilize its array of internal and external resources in order to practice planned recovery based approaches. The ability of the organization to invest in new resources, innovations, and change is key to this concept (Teece, 2007).

Resilient reconfiguration capability

Finally, an organization's adaptive capacity which is the heart of resilience (McManus et al. (2008) refers to its ability to continuously change so that its systems can meet the demands of its external environment (Seville, 2008). Reduced silo mentality, a united strategic vision, and the reconfiguration of an organization's resources and structural mechanisms in response to shifting technical and market conditions enable firms to quickly and successfully adapt to a diverse range of situations (Khan et al., 2019). Dynamic capability is a "meta-capability" that transcends an ordinary firm capability. Dynamic capabilities are understood as instruments for the reconstruction of existing capabilities,

However, there is no clear distinction between operational and dynamic capabilities because change is always happening, at least to some extent; some capabilities can be used for both operational and dynamic purposes; and it is impossible to separate dynamic from operational capabilities based on whether they support perceived radical or non-radical change or new or existing businesses (Helfat and Winter, 2011).

High reliability organizing theory (HRO)

According to the high reliability organizing theory (HRO), some businesses rarely experience operational failures or disruptions despite working in complex and high hazardous environments and having several possibilities to do so each day. These organizations (Nuclear power plants, Air traffic control system etc) maintain impressively consistent operations despite working in stressful conditions with minimal to no tolerance for mistakes. Since these research studies have significantly increased understanding of reliability and safety, high reliability organizing theory has emerged as the dominant theory and entered mainstream organization theory (Linnenluecke, 2017).

The concept of collective mindfulness was introduced by Weick. in 1999 and is a key component of a resilient organization (Vogus & Sutcliffe, 2007). The fundamental premise of the approach was that accidents or catastrophic failures can be prevented by continuously making small modifications that prevent errors from accumulating (Linnenluecke, 2017).

It consists of five interconnected characteristics shared by HROs and is used in daily operations to operate safely and reliably in the face of challenging circumstances. Weick and Sutcliffe (2007) stated in high hazard environment HROs must manage the operation both before the occurrence or incident (in anticipation) and after it has occurred (containment). Each of these organizing modes, according to these authors, requires a unique way of thinking and doing things. No organization can anticipate everything therefore containment is a must for success. The goal of anticipation is to prevent operations from failing by being ready for the unexpected and having the awareness to recognize unanticipated situations. Contrarily, containment entails managing such a failure and overcoming it in order to maintain the operation safe and operational. Thus, these authors identified two organizing for containment principles (commitment to resilience and deference to authority) together with three organizing for anticipation principles (preoccupation with failure, unwillingness to embrace simplicity, and sensitivity to operations).

Preoccupation with failure

All failures, including minor ones, are a source of concern for HROs. Every person in a HRO is urged to consider how their work processes could fail. The health of the entire system can be gleaned from the small things that go wrong because they are frequently early warning signs of bigger problems. However, the propensity to overlook or disregard an organizations failure, which imply that the organization lack competence, and instead place greater emphasis on its achievements (which suggest the company is competent).

Reluctance to simplify

HROs resist the urge to simplify through a variety of checks and balances, adversarial evaluations, and the development of alternative viewpoints. When processes don't function well, broad, rational excuse can be appealing. Nevertheless, HROs reject simplifications. HROs are aware of the dangers of using generalizations or simple explanations and not digging far enough to get to the root of a problem.

Sensitivity to operations

HROs react strongly to weak signals (indications that something might be a miss) and it is important for maintaining situational awareness that is keeping the attention on the situation as it is happening. Leaders and employees must always be aware of how processes and systems impact

the organization. Each person in HROs pays close attention to operations and keeps them aware of what is and isn't working.

Commitment to resilience

HROs place a high value on their capacity to improvise and act without knowing what will occur. Leaders are continually proactive to find new solutions in order to respond to failures. Unexpended events are respondent by improvisation and quality to develop new ways to respond. Although HROs may encounter many failures, it is their resilience and quick problem-solving that avoid catastrophes.

Deference to expertise

Decisions are being made by experts and experienced people rather than by formal authorities. At all levels of` the hierarchy, decision-making shifts to experts during periods of intense activity. No matter where they are in the hierarchy, even if those people don't always have the most seniority, they are nevertheless encouraged to express their opinions.

System and complex adaptive systems (CAS)

The concept of OR, which is defined as an organization's ability to absorb in, adapt to, and transform in the face of difficulties, is based on the idea that systems are complex and adaptive (Barasa, 2018). Online firms and more traditional organizations both use hybrid business models where hierarchical structures and complex adaptive system (CAS have been encouraged by businesses to coexist. To understand and analyze OR, a CAS framework is frequently employed. CAS is made up of a number of interconnected parts whose interaction is dynamic and non-linear. Railsback (2001) notes that the foundation of CAS research is an attempt to demonstrate how very complicated macrobehavior results from simple interactions between microlevel individual parts. Therefore, for an organization to start cultivating resilience, understanding the mechanisms of this emergent behavior may prove to be crucial (Burnard & Bhamra, 2011).

CAS is characterized by emergence and self-organization (Begun, 2003). When system parts cooperate to change their configurations in response to outside signals, this is known as self-organization. Emergence, or the sudden emergence of unanticipated outcomes like new structures and behavioral patterns, is the result of a system's self-organization. The system as a whole is driven by a collective force, and there is no visible leader. Complex interactions between system components provide multiple paths for action and enable organizations to adapt to multiple environmental changes

Organizations can adapt to a variety of external changes due to complex interactions between system components, which offer various paths for action. This realization led to the development of the perspective of resilience as the ability of systems to adapt and transform through the emergence of new structures like policies, procedures, and organizational cultures that enable organizations to continue carrying out their tasks in the face of difficulties (Pickett et al., 2004; Pike et al., 2010). The concept of resilience as an emergent property of CAS is well mapped onto collateral routes, complex leadership, governance approaches that encourage flexibility, and nurturing of social networks and collaborations (Barasa, 2018).

Collateral paths promote resilience by providing for alternative courses of action; when a system faces disruption or obstacles on one path, an alternative pathway is deployed to attain the same purpose, this feature comes from the complex adaptive systems. Complex leadership practices emphasize the importance of fostering productive emergence rather than prescriptive control, recognizing the CAS nature of systems and creating environments that incentivize positive adaptations (Barasa, 2018).

Discussion

Fragmentation occurs when different aspects of the umbrella construct are studied in isolation, leading to incomplete or disjointed insights. Multiple theoretical perspectives can be effectively integrated to prevent such fragmentation. by providing a more parsimonious explanation that pulls disparate elements into a more coherent whole (Jaakkola, 2020). When research on a specific topic has been split among several literatures, this form of systematization is particularly beneficial in identifying and stressing commonalities which offer coherence. Therefore, in this study components or domains or facets of the OR are described based on view of the conceptualization of the umbrella nature of the phenomenon and subsequently to match each theoretical perspective to specific component of the construct (Tellis, 2017). This alignment helps ensure that each theory contributes to understanding a different facet or domains of the construct, reducing the risk of fragmentation which is presented in Table 2.

Conclusion

There is widespread consensus in the research community that OR research needs to concentrate on unifying its various concepts and definitions because it is a broad concept with diverse focuses that have given rise to diverse theories and definitions (Linnenluecke, 2017; Sutcliffe

&Vogus 2003). The conceptual domain and description show the broadness of the concept and enhances the risk of concept proliferation. Therefore, numerous studies which includes multi-disciplinary perspectives (Koswatte, 2022; Hillmann, 2020) and systematic reviews of the definitions and theoretical frameworks (Duchek, 2020; Karunaratne, 2022; Tennakoon & Janadari, 2021) can be found in existing OR literature to improve congruence to assure the concept's relevance and validity in business and management studies. However, these attempt lacks any theoretical basis and just adds up to the fragmentation domain.

This review intended to revisit the establish theories of OR, comparison to aid in more clarity of its understanding and explanation in order to build a more cohesive construct. OR theories provide valuable insights into an organization’s ability to anticipate, withstand and recovery from crises and disruptions while adapting to changing environments. OR theories contribute to the understanding of how organizations can maintain or even enhance their performance in the face of adversity.

These theories were selected as there exists a sufficient degree of conceptual similitude between components of OR and the five theories in integration, mainly due to their epistemological similarities within the theoretical assumptions of chaotic systems, environmental dynamism, and achieving competitive advantage. Integrative perspectives in parallel for understanding the theoretical connections can lead to clarifications on the holistic nature at an ontological level of OR.

The two principles of parsimony, sometimes known as "Ockham's razor," is frequently regarded as a significant criterion for evaluating the value of a theory (Jaakkola, 2020). The author emphasis the principles to be applicable to multiple theoretical perspective and reveals a phenomenon should be explained with minimum number of theories (anti-quantity principle (AQP)) and to avoid superfluous nature (the anti-superfluity principle (ASP)). These two principals were adapted to carry out this study in selection of these five theories. Complying to the AQP remotely found theories such as contingency theory, sustainability theory etc. was excluded in this study. To ensure the applicability of ASP principal, analyzing the context of OR and foundation theories seems to be similar on closer perspective but there are noticeable differences for example BCM addresses discrete high impact external or internal events, RBV for competitive business environment, DC for rapidly changing external environment, CAD for complex and

dynamic internal and external environment and HRO for high risk and high hazard environment. In combination or in integration five contextual perspectives represents the VUCA environment which has been much attention in OR studies.

Further, most of the main theories used have shortcomings for studying OR. Even though most OR literature lacks standard theories, many have used only one theory. This was also observed in supplier chain resilience which has an even wider scope than OR (Tukamuhabwa et al., 2015). Therefore, it can be concluded that OR being a multidimensional and complex phenomenon, lacks foundation theories and a single theoretical lens is inadequate for a clear explanation of the phenomenon.

BCM related theories focus only on specific catastrophic environmental events with risk and crisis management plans and mainly on defensive capabilities and adequate resource to bounce back after a crisis (Ducheck, 2020), resulting in only survival and no growth (Pal, 2013). In addition, narrow focus is based on past events and is not applicable to everyday resilience (Andersson et al., 2019) and in addition risk management cannot predict all the risk of a firm (Fiksel, 2003). RBV optimizes using resource to buffer or absorb crisis and capture competitive opportunities (Tengblad, 2018). DC reconfigures capabilities in a dynamic environment to increase adaptive capacity (Khan et al., 2019). RBV focus is on internal resource (Nemex, 2008) that are static (Priem & Butler, 2001) opposing the market base view (Madhani, 2010) implying stable environment (Kraaijenbrink, et al., 2010) while DC have tradeoffs between different types and levels of dynamic capability. RBV and DC lack system perspective and focus on component level (Burisch &Wohlgemuth, 2016; Kraaijenbrink, at al., 2010;). CAS fosters adaptive capacity for everyday challenges and acute shocks as an emergent property of system in complex environments. CAS cannot be instructed to follow a predetermined path (Planning) and their outcomes are unpredictable, making it risky to fully incorporate them into a strategy (Sammut-Bonnici, 2017). HRO focuses on sensemaking and collective mindfulness (Ogliastri & Zúñiga, 2016) in high risk and hazard environment for effective anticipation. Applying mindfulness to all the procedures in large organizations is impossible (Perrow, 1984), especially in efficiency-driven organizations (Weick, et al., 1999).

It is argued here that the main theories used so far are not sufficient for explaining OR in isolation as each theory has weakness and also addresses only one or two aspects of OR. Therefore, this generates the

potential risk of using a single theory and the use of single or few factors where it loses the big picture of the phenomenon. Further resilience also encompasses the conventional long lasting inevitable contradictions of organizational life of stability vs change, routine vs innovation etc. The integrate perspective of foundation theories support this view in the umbrella domain as theories such as BCM/RBV/HRB focus on planning, stability and recovering related domains while DC/CAS is more towards change and adaptation related domains.

Thus, this paper takes a broader approach and presents an elaboration of how the multi-theoretical lens can help to address most of the aforementioned gaps identified in the OR literature. Building more complete and superior theories that can describe a given phenomenon more effectively than existing theories is the key challenge for academics (Bhattacherjee, 2012). Therefore, this study can aid in academics to build better relevant theoretical frameworks in future based on sound establish theories to comprehend the concept rather relying on own heuristic approaches and also in addition the study will provide insights to identify more relevant and important influencing factors to build OR by the above-mentioned standard theories in the new normal of today preventing fatal fragmentation.

Journal Selection Procedure

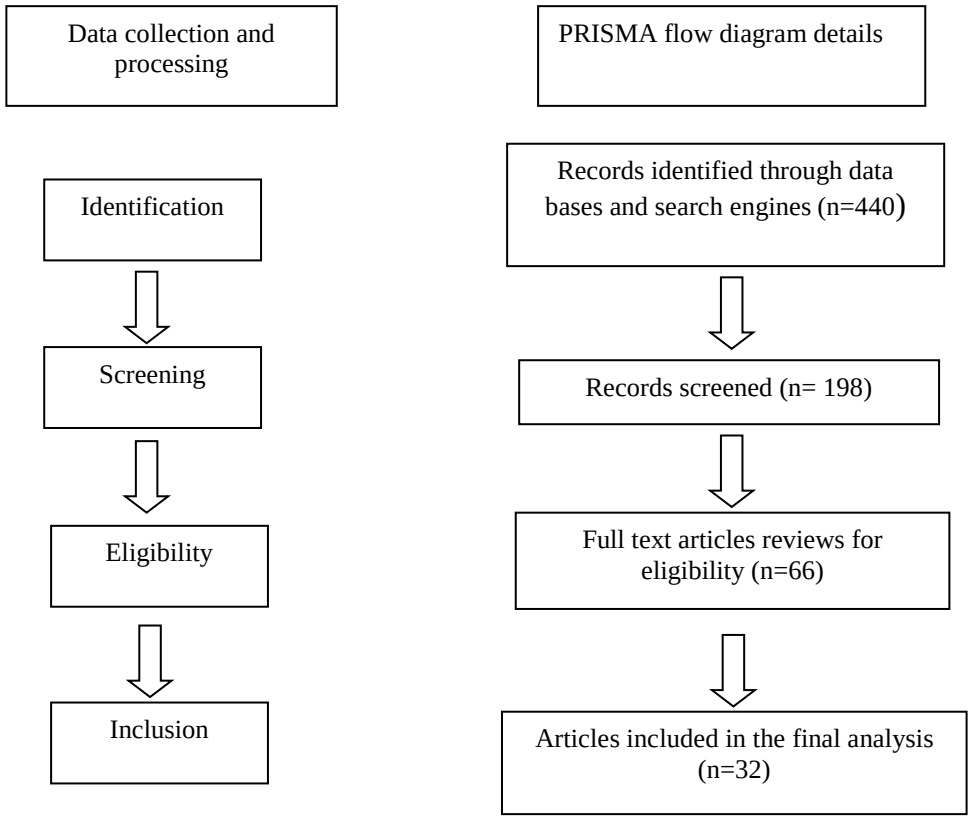

Table 1

Summary of theoretical Lenses Applied in Prior Organizational Resilience Research.

Theories	Authors
Crisis/Disaster /Risk Management (BCM- Business Continuity Management)	Harries et al., 2018; Marković, 2018; Mendoza et al., 2018; Pascua & Chang-Richards, 2018; Parker & Ameen, 2018; Sahebjamnia et al., 2018; Tibay et al., 2018; Torres et al., 2018
Dynamic Capabilities (DC)	Akgün & Keskin, 2014; Acquaah et al., 2011; Duchek, 2014; Manfield & Newey 2017; Khan et al., 2019; Akpan et al., 2021

Table 1 (continued)

Summary of theoretical Lenses Applied in Prior Organizational Resilience Research

Theories	Authors
Complex Adaptive system theory (CAS)	Burnard & Bhamra, 2011; Barasa et al., 2018; Akpinar, & Özer-Çaylan, 2022; Erol et al., 2010; Chan, 2011); Coetzee et al., 2016
High Reliability Organizing (HRO)	Vogus & Sutcliffe, 2007; Spagnoletti & Za, 2021; Dekker & Woods, 2010; Ishak & Williams, 2018; Carden et al., 2017; Darkow, 2018; Ogliastri & Roy Zúñiga, 2016

Table 2

Comparison: Conceptual domains and Multiple theories of OR

Conceptual domain of OR	**Description**	**Main theory**	**Relationship between aspect of phenomenon and theory**
Adapt for change (reconfiguration) Madni & Jackson (2009)	Capability to adapt (Teo et al., 2017; Burnard and Bhamra 2011). Adapting of resources, interpersonal processes and organizational routines to address the impacts of a disruptive event (Gilly et al. 2014). Organizations should invest in structures and processes that promote the adaptive capacity (Barasa et al., 2018).	DC	Sensing capability to increase situational awareness (opportunities and threats), seizing to manage vulnerability and to invest in resources/capabilities and increase adaptive capacity by reconfiguration of capabilities (Khan et al., 2019)
		CAS	Foster adaptive capacity as it is emergent property through collateral pathways (Redundancy), governance practices (Decentralization) that promote flexibility, nurturing of social networks and collaborations and learning (Barasa, 2018)

Table 2

Comparison: Conceptual domains and Multiple theories of OR

Conceptual domain of OR	Description	Main theory	Relationship between aspect of phenomenon and theory
Recover (Restoration) Madni & Jackson, S. (2009) or to regain performance (Sheffi, 2007)	Ability to bounce back or recover from impacts, which describes how (fast) the organization is able to return to the pre-event state (Acquaah et al. 2011; Ortiz-de-Mandojana and Bansal 2016)	BCM	Disaster recovery plans (with a focus on coping and bouncing back) (Sahebjamnia et al., 2018)
Growth (Hillmann, 2020)	Growth following a crisis has been associated with resilience concept. This area encompasses the capacity to not only overcome the crisis, but also to emerge from it with increased strength and resourcefulness (Sutcliffe and Vogus 2003; Teo et al. 2017). This is about developing new capabilities by learning from experience (Teo et al. 2017).	DC	Identify capabilities for detecting opportunities, learning, coordination, and integration, with the goal of restructuring current capabilities to better align with the environment (Kurtz and Gregorio Varvakis, 2016). To capitalize on market opportunities, it's crucial to move rapidly and prioritize learning, innovation, and integration capabilities (Teece 2007).

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