

BUSINESS RESILIENCE IN THE SUSTAINABLE DEVELOPMENT GOALS (SDGs) ERA: A CONCEPTUAL REVIEW

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Abstract

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Amidst the global COVID-19 pandemic, the term resilience has gained significant momentum in global news and management studies. Although scholars from different domains have investigated resilience, there is a need to provide clarity on its definitions and assessment (Anderson, 2015). This paper provides a conceptual review on resilience and explores business resilience as a framework to guide sustainability strategy by mitigating social and environmental risks. The study contributes to the literature on resilience and tabulates the key definitions of business resilience covered in a sample of 80 peer-reviewed articles and books (Hillmann & Guenther, 2021; McKnight & Linnenluecke, 2017). We challenge the existing literature on adaptive capacity models that are short in anticipating unprecedented operational disruptions. To build business resilience we argue for the adoption of the Sustainable Development Goals (SDGs). Given their strategic outlook until 2030, the SDGs offer a framework for corporate sustainability that helps decision-makers within organizations identify social and environmental risks and establish business strategies that build resilience and meet the expectations of a firm's diverse stakeholders.

Keywords: Resilience, Business Resilience, COVID-19, Sustainable Development Goals, Business Strategy

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1. INTRODUCTION

Resilience originates from the word “*resilio*”, which means “to bounce back” in Latin (Alexander, 2013). It is a multifaceted and multidisciplinary concept that has been used across a wide range of complex

fields and systems (Alexander, 2013; Burnard & Bhamra, 2011; Ponomarov & Holcomb, 2009). Research on defining the etymology of resilience and its applications has significantly increased in the past decade corresponding with its increased use as a scholarly concept. With the adoption of

the term as a centerpiece of the United Nations (UN) Agenda 2030 for Sustainable Development (UN-SD), it is important to understand how the concept of resilience can advance the adoption and achievement of Sustainable Development Goals (SDGs). Resilience is mentioned numerous times throughout the report and is best identified through SDG 13.1 “Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries” (United Nations, 2015).

The concept of resilience has also been widely used in the field of management studies (Anderson, 2015). Resilience is defined in management literature as an innovative concept that can help organizations survive amidst disturbances caused by social, environmental, and/or economic challenges (Folke et al., 2002). Considering the recent rise in the use of the term, there is still a need to provide more clarity on its definition and measurements (Hillmann & Guenther, 2021). The term is widely used in the business community in absence of context and without a shared definition. To avoid becoming the next buzzword, this paper explores business resilience as a concept to inform anticipatory business models that mitigate rising social and environmental risks and technological change. We argue that existing adaptive business models that call for economic efficiency do not prepare businesses for unprecedented operational disruptions (Burnard & Bhamra, 2011). In addition, we explore how the Sustainable Development Goals (SDGs) can provide a framework to underpin business resilience.

The main objectives for this research are to 1) analyze the term resilience and its applications, 2) understand business resilience and its importance, 3) identify the links between the SDGs and resilience, and 4) understand the implications of how current events can impact business resilience, with a focus on COVID-19.

The paper is organized as follows. Section 1 provides a conceptual review of the term resilience. Conceptual reviews provide a more robust method to revisit existing research gaps by integrating and synthesizing extant knowledge within a domain (Hulland, 2020). Section 2 examines business resilience including definitions, applications of the term, and key constructs. This section also identifies current gaps in the organizational resilience literature. Section 3 reflects on how the SDGs can help organizations achieve business resilience given their governance models and strategic outlook until the year 2030. Section 4 provides the results of the research with the following discussion in Section 5. Finally, in Section 6, we conclude and highlight future research directions.

2. LITERATURE REVIEW

2.1. Background on resilience

Many scholars credit renowned ecologist Holling (1973) for introducing the concept of resilience as a formal research area. Rooted in the field of ecology, Holling (1973) highlights that resilience represents the ability for a system to respond and adapt to changes, while continuing to grow and

develop (Curtin & Parker, 2014; Holling, 1973). Woods (2017) argues that resilience is about more than just adaptability and highlights that resilience should also be both proactive and responsive to all changes in the surrounding systems. Folke (2006) expands on the work of Woods (2017), where he defines resilience as an interdisciplinary concept that describes the “dynamic development of complex adaptive systems that interact across temporal and spatial scales” (Folke, 2006, p. 258). Additionally, resilience research has been complemented by recovery studies, focusing on business recovery post-disaster (Morrish & Jones, 2020). Kupers (2014) defines resilience through a broader lens as “the capacity of business, economic and social structures to survive, adapt, and grow in the face of change and uncertainty related to disturbances, whether they be caused by resource stresses, societal stresses and/or acute events” (p. 27). Several research studies have attempted to map the diverse definitions of resilience (Alexander, 2013; Baggio, Brown, & Hellebrandt, 2015; Conz & Magnani, 2020; Gilly, Kechidi, & Talbot, 2014). Conz and Magnani (2020) conducted a literature review on the definitions of resilience at the firm level to create a conceptual framework. The authors assessed resilience through temporal attributes of being either: a) proactive, b) absorptive/adaptive, c) reactive, and d) dynamic. The conclusion of their work shows that the dynamic and adaptive attributes were the dominating research attributes when defining resilience. Using their literature review, they created a broad definition for resilience as “a dynamic attribute of the firm characterized by (a) a proactive phase at time ($t - 1$); an absorptive or adaptive phase at time t , and (b) a reactive phase at time ($tp1$), where t is the time when an unexpected event occurs and alters the equilibrium of the firm” (p. 408).

Alexander (2013) conducted an etymological review of the term resilience, specifically relating to disaster risk reduction. In this paper, the author traces the earliest use of the term, through its Latin roots, and determines that the term was applied in the disaster risk context prior to Holling’s (1973) application in ecology. Baggio et al. (2015) reviewed the use of resilience across disciplines and found that although there are many interconnected relations between the applications of the concepts and definitions, resilience research has been siloed in different fields. Gilly et al. (2014) discuss the relationships between the various concepts of and determinants for resilience and make connections between organizational resilience and territorial resilience. Limnios, Mazzarol, Ghadouani, and Schilizzi (2014) took examples from previous studies on organizational research and developed a novel organizational typology, which they called the Resilience Architecture Framework. In this framework, Limnios et al. (2014) identify four characteristics that shape a desirable organizational resilience: adaptability, vulnerability, rigidity, and transience. Curtin and Parker (2014) conducted a review on the history and foundations of resilience thinking. This review analyzed how resilience science, adaptive management, and ecological policy design all contribute to current understandings of resilience.

2.2. Definitions of resilience

The term resilience has been defined by scholars across different fields. This subsection aims at

providing a conceptual review of the definitions and applications of resilience. Table 1 tabulates the different fields and highlights relevant research work across each area.

Table 1. Definitions of organizational and business resilience

<i>Sources</i>	<i>Definition</i>
Home and Orr (1997)	"Resilience is a fundamental quality ... to respond productively to significant change that disrupts the expected pattern of event without engaging in an extended period of regressive behavior" (p. 31).
Hamel and Välikangas (as cited in Conz & Magnani, 2020)	"Double capacity of resistance and adaptation opening the way for new pathways. These pathways indicate the capacity of an organisation to find novel responses to new questions and not simply to reproduce previously used organisational responses" (p. 38).
Vogus and Sutcliffe (2007)	"Maintenance of positive adjustment under challenging conditions such that the organisation emerges from those conditions strengthened and more resourceful" (p. 3418).
Somers (as cited in Rahi, 2019)	"The ability of an organization to identify risks and thrive in the face of adversity" (p. 92).
McManus, Seville, Vargo, and Brunson (2008)	"The capacity of an organization to improve its awareness and its adaptive capacity in a complex and dynamic environment" (p. 88).
Tillemont, Cholez, and Reverdy (2009)	"The capacity of an organization to be aware of irregular variations and disruptions in order to manage the unexpected" (p. 231).
Dewald and Bowen (2010)	"The challenge for managers is to find ways to adopt disruptive business model innovations in order to prosper within, or even survive, the pending environmental change" (p. 198).
Linnenluecke and Griffiths (as cited in Conz & Magnani, 2020)	"Organisational survival when encountering unexpected, adverse conditions that result either from large-scale disturbances or the accumulation of several minor disruptions" (p. 37).
Stephenson (as cited in Rahi, 2019)	"The capacity of an organization to improve its awareness and its adaptive capacity in a complex and dynamic environment" (p. 92).
Acquaah, Amoako-Gyampah, and Jayaram (2011)	"Ability of a firm to persist in the face of substantial changes in the business and economic environment and/or the ability to withstand disruptions and catastrophic events" (p. 5528).
Carmeli and Markman (2011)	"Capacity of an organisation to sustain and bounce back from a setback" (p. 323).
Chrisman, Chua, and Steier (2011)	"Ability of an organisation to avoid, absorb, respond to and recover from situations that could threaten their existence" (p. 1107).
Demmer, Vickery, and Calantone (as cited in Rahi, 2019)	"The ability of an organization to improve its awareness and adapt in the face of adverse circumstances" (p. 91).
Gunasekaran, Rai, and Griffin (as cited in Rahi, 2019)	"The ability to adapt and stay competitive in evolving markets" (p. 91).
Otulana (as cited in Rahi, 2019)	"The capacity of an organization to stay aware of the changes in its environment and to adapt to changes amidst disruptions" (p. 91).
Sullivan-Taylor and Branicki (as cited in Rahi, 2019)	"Capability that enables an organisation to prepare for, and respond to, extreme events" (p. 91).
Lengnick-Hall, Beck, and Lengnick-Hall (2011)	"A firm's ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival" (p. 244).
Vargo and Seville (2011)	"Ability of an organisation to not only survive but to thrive, both in good times and in the face of adversity" (p. 5621).
Amann and Jausaud (2012)	"Firm's ability to take situation-specific, robust and transformative actions when it confronts unexpected and powerful events that have the potential to jeopardise its long-term survival" (p. 203).
Mafabi, Munene, and Ntayi (as cited in Rahi, 2019)	"Organizations' obligation to adapt its strategies in order to avoid business failure" (p. 91).
Smallbone, Deakins, Battisti, and Kitching (as cited in Conz & Magnani, 2020)	"Firm ability to respond to changes in the external environment to retain competitive advantage" (p. 37).
Linnenluecke, Griffiths, and Winn (as cited in Conz & Magnani, 2020)	"Resilience is the organizational capacity to absorb the impact and recover from the actual occurrence of an extreme weather event" (p. 37).
Herbane (as cited in Conz & Magnani, 2020)	"Capacity of organisations to build resilience against internally and externally derived threats to their activities so that they are able to absorb the pressures of the crisis and recover to their pre-crisis state" (p. 38).
Lee, Vargo, and Seville (as cited in Rahi, 2019)	"The capacity of an organization to enhance its awareness and its adaptive capacity in a complex environment" (p. 91).
Mafabi, Munene, and Ahiauzu (as cited in Rahi, 2019)	"The capacity to adapt to threats and opportunities and avoid disturbances" (p. 91).
Akgün and Keskin (as cited in Rahi, 2019)	"A firm's ability to improve its awareness and adapt effectively in response to disruptive surprises" (p. 91).
Borekci, Rofcanin, and Sahin (as cited in Rahi, 2019)	"The ability to improve organizational awareness and adapt from unexpected events" (p. 91).
Kupers (2014)	"The ability to absorb disturbances, to change, to reorganize, and to learn from them at the same time" (p. 23).
Linnenluecke (2017)	"Organizational and employee strength, perseverance and recovery when encountering adversity" (p. 4).

Source: Table 1 adapted by the authors and extended from Duchek (2020), Conz and Magnani (2020), and Rahi (2019).

In addition to Table 1, further categories of resilience were identified in fields related to or outside the scope of business resilience. These fields were helpful in both identifying the various uses for the term resilience, and understanding how the term

was used prior to being applied in the scope of business. The fields chosen for the following section were identified through the literature review as being the most frequently referenced and discussed categories of resilience. Although not exclusive, we

chose the following eight categories to expand upon, with additional examples of fields of resilience found in Table A.1 (see Appendix).

1) *Cultural/indigenous resilience*

Although the field of ecological resilience has been referenced more frequently, we cannot think about ecological resilience without first discussing the relations between “indigenous peoples” and resilience. Stout and Kipling (2003) shed light on the long historical link between resilience and the culture of indigenous peoples, who have adapted to survive and thrive amidst colonial turbulences. There are intrinsic ties between the environment and indigenous peoples, as they have a deep understanding of the resilience of the different ecological systems that they are connected to and coexist with.

2) *Ecological resilience*

As previously mentioned, Holling is known to be the founder of current ecological resilience understanding. He defines ecological resilience as the “persistence of relationships within a system and is a measure of the ability of these systems to absorb changes of state variables, driving variables, and parameters, and still persist” (Holling, 1973, p. 17). Holling (1973) examined resilience as a field of research because at the time he believed that systems-based approaches to ecology and natural resource management were not sufficient (Curtin & Parker, 2014). This focus allowed for a more comprehensive and dynamic view of resilience and its connections to ecological systems.

3) *Engineering resilience*

Engineering resilience has intrinsic ties to ecological resilience. This was evident in Holling’s (1985) seminal work, where he defines resilience in terms of equilibrium, and the rate at which a system whose equilibrium has been disturbed, can return to a single steady or cyclic state. He also concentrated on the efficiency, predictability, and constant states of these systems. Fiksel (2003) analyzed the attributes of engineering resilience, where the author viewed its characteristics through four lenses: diversity, efficiency, adaptability, and cohesion. To elaborate, Fiksel (2003) highlights that a product or system that practice resilience must have many alternatives (diversity), high productivity (efficiency), have the ability to change to fit its needs (adaptability), and develop and maintain strong relationships (cohesion) (Korhonen & Seager, 2008). Pimm (1984) also argued that resilient engineering must focus on the speed of recovery from a disturbance.

4) *Climate resilience*

The World Bank (2019) define resilience as “the capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation”, as adapted by the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) (Pachauri et al., 2014). In this context, hazardous events, such as natural disasters, are seen through volcanic eruptions, typhoons, or hurricanes, high or low rainfall, wildfires, etc. These can be regular hazardous events or climate change-related events, where resilience is defined through an engineering or technological advances and governance lens (Kelman, Gaillard,

Lewis, & Mercer, 2016). Integrating climate resilience into other fields of resilience, such as business resilience, can promote disaster risk reduction and improve overall resilience (WMO, 2019).

5) *Socio-ecological resilience*

According to Folke, Biggs, Norström, Reyers, and Rockström (2016), socio-ecological resilience is “the capacity to adapt or transform in the face of change in social-ecological systems, particularly unexpected change, in ways that continue to support human well-being” (p. 2). This is represented as the capabilities of a system to absorb and maintain its integrity, and its ability to build, learn and adapt to those disturbances. Walker, Holling, Carpenter, and Kinzig (2004) also define this type of resilience as the capability for a system to be both sustainable ecologically, economically, and socially. In 2006, some of the most notable resilience researchers published an article to understand resilience and its relations to social-ecological systems. Walker et al. (2006) state that socio-ecological systems that practice resilience can change their functional and structural feedbacks when their thresholds are exceeded.

6) *Urban resilience*

As the planet has been thrust into major urbanization, with over 50 percent of the population living in urban areas, cities must be ready to adapt to any oncoming challenges and changes (Meerow, Newell, & Stults, 2016). Urban resilience is represented as the capabilities of an urban space (i.e., a megacity, city, town, region) to adapt, surpass, and learn from all possible disasters. These disasters can be seen as sudden shocks and stressors like flood or earthquake, to more subtle chronic stressors, like poverty and migration (Zabaniotou, 2020). As such, Leichenko (2011) defines urban resilience as “the ability of a city or urban system to absorb disturbance while retaining identity, structure and key processes” (p. 164). Meerow et al. (2016) introduces a more dynamic definition for resilience and encompasses temporal and spatial scales: “Urban resilience refers to the ability of an urban system and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales-to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity” (p. 39).

7) *Regional resilience*

Regional resilience is a combination of organizational/business resilience, economic resilience, and urban resilience; it makes connections between the economic region and urban environment of a business and the business’ capacity to adapt to changes. Soroka, Bristow, Naim, and Purvis (2020) define regional resilience as “the vulnerability/capacity of a company to survive and adapt, resist, decline, and respond to opportunities” (p. 838). This field of study aims to understand how economic crises can have an impact on various regions. This concept of resilience is similar to the concept of territorial resilience, as introduced by Gilly et al. (2014) which ties the role and life of a firm with the adaptive capacity of its region or territory.

8) *Organizational resilience*

Organizational resilience focuses on how an organization can survive and thrive in the face of

change and adversity (Lee et al., 2013). It is defined as “the ability to rebound from unexpected, stressful, adverse situations and to pick up where they left off” (Lengnick-Hall et al., 2011, p. 244). Organizational resilience takes some of the theories from engineering resilience, by determining the ideal stable state or equilibrium (Holling, 1985; Limmios et al., 2014). A resilient firm must develop decision-making frameworks that focus on future and long-term benefits, so that they may anticipate, adjust, and avoid any potential stressors (Ortiz-de-Mandojana & Bansal, 2016). Organizational resilience should help a company to surpass any hardship, and continue to thrive and profit, whether there is an economic crisis, an environmental crisis, or a global health crisis. At its core, organizational resilience integrates the core fundamentals of economic resilience which is defined as “ability of an economy (state, regional, local) to retain employment and wealth in face of disturbances such as the loss of a corporation or industry” (Baggio et al., 2015, p. 2). Another interchangeable interpretation of organizational resilience is the term “corporate resilience”, which refers to “the capacity of business, economic and social structures to survive, adapt and grow in the face of change and uncertainty related to disturbances, whether they be caused by resource stresses, societal stresses and/or acute events” (Kupers, 2014, p. 27).

3. RESEARCH METHODOLOGY

For the purposes of this research, a qualitative methods approach was selected. This method was chosen to collect, analyze and interpret data to understand the chosen research topic. Qualitative research helps to promote validity and reliability in research, aiding in the accuracy and transparency of the findings (Creswell & Creswell, 2017). A grounded theory research design was chosen to allow for multiple stages of data collection and categorization of data, specifically secondary research data. A textual analysis approach was conducted specifically to analyze how the term resilience has evolved over time and its variety of applications. Alternative methods that could be suitable for this type of study would be utilizing surveys or interviews with businesses to gather first-hand information on business resilience.

Data collection and tabulations. To conduct the etymological research for the relevant papers needed to compile the conceptual review, we paired the word “resilience” with various keywords: “organization*”, “business*”, “history”, “firm*”, “enterprise*”, and “Sustainable Development or SDG*”. These six keywords were identified as being the best choices in order to return the necessary results relating to business resilience and its history. Two searches were conducted in the methodology, one for the origins of resilience, and the second for modern resilience studies. We conducted our research using two scientific online databases namely, Web of Science and Scopus. These two databases were identified and utilized because of their range of coverage and their ability to use advanced search tools. These factors aided in maximizing the inclusivity and spectrum of resulting data. Searches results were included if they were

finalized documents, were peer-reviewed articles, reviews, and book chapters, and had resilience as a keyword.

We conducted our research using three scientific online databases namely, Web of Science, Scopus, and Omni Academic Search Tool. These three databases were identified and utilized because of their range of coverage and their ability to use advanced search tools. These factors aided in maximizing the inclusivity and spectrum of resulting data. Chosen articles focused on business resilience and the SDGs. The first search was chosen with the date range of 1970–2000 and included the main sectors of resilience studies. This date range was chosen to include the earliest resilience studies conducted by ecologists and engineers in the 1970s and 1980s. The query string chosen was: *resilience** and *definition** or *define** and *history** or *origin** and *culture** or *indigenous* or *ecologic** or *engineer** or *climate* or *socio** or *urban* or *region** or *community* or *organization** or *business* or *corporate*. The second search was chosen with the date range 2000–2021 and only focused on business resilience, to include the most modern studies on business resilience and find the required definitions. The query string chosen was: *resilience** and *definition** or *define** and *organization** or *business*. A sample of 215 articles was retrieved. Consequently, we filtered and removed the duplicate articles to reach a final sample of 80 peer-reviewed articles and books for the final sample of this study. The final tabulation of the sources is in Table 1 and Table A.1 (see Appendix). The first summarizes the definitions of resilience across various fields while the latter focuses deliberately on the business resilience domain.

4. RESULTS

4.1. Business resilience

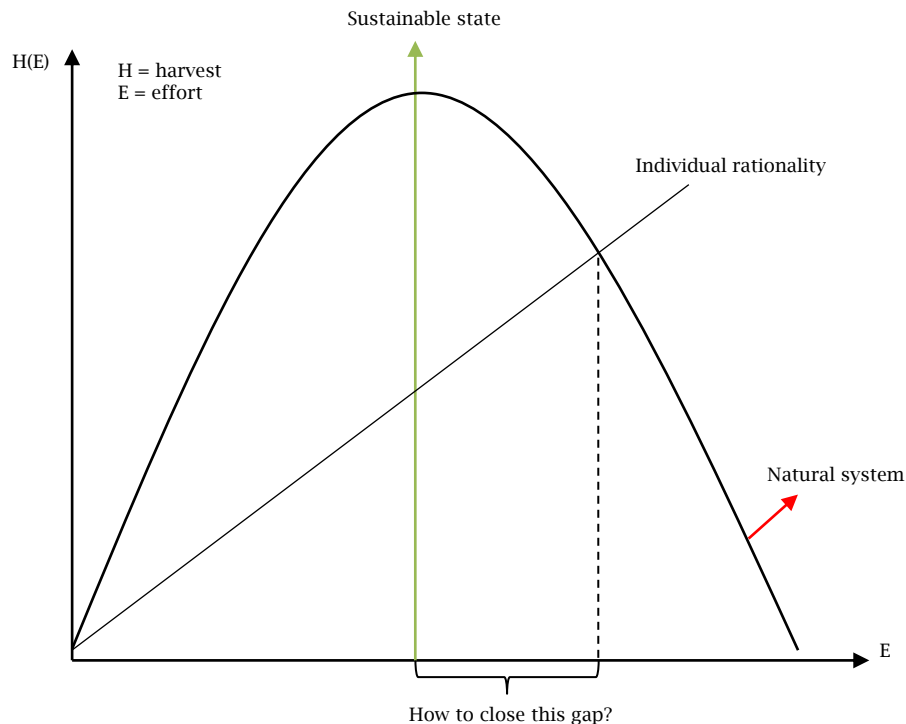
Businesses across sectors are looking to strengthen sustainable business models to better mitigate climate, financial, and operational disruptions (Alexander, 2013; Kativhu, Mwale, & Francis, 2018). Conventional sustainable business strategies focus on eco-efficiency and responsible growth leaving them unprepared to manage disruptions or mitigate risks. Business resilience has increasingly been adopted as a response to handle turbulent change and challenges the validity of eco-efficiency and responsible growth as the dominant underpinnings of sustainable business strategies. The concept of eco-efficiency as the focus of most business sustainability strategies emerged in the 1990s with the adoption of eco-efficiency as a core dimension of a sustainable business by The World Business Council on Sustainable Development (Ehrenfeld, 2005; Stigson, 2001). Eco-efficiency focuses on increasing output with less input. As a strategy, it does not prepare businesses to handle risks (Burnard & Bhamra, 2011). In order to do so, businesses need to create a buffer allowing them to rebound from unexpected disruptions. Consider, for example, the capital requirement of banks. Banks want to decrease the capital requirements as much as possible because it is not efficient to hold a large amount of capital without creating returns.

Nevertheless, capital helps banks to weather unexpected disruptions, such as financial crises or unusually high credit defaults. Hence, concepts such as value-at-risk have been introduced that try to make lenders more resilient (Saunders, 1999).

The second main business concept underpinning sustainable business models is responsible growth. Responsible growth emphasizes growth but acknowledges a need for growth to be founded on good governance, human rights, and responsibility to employees and communities. The assumption that businesses must grow to stay competitive, however, is still the same. Resilience challenges

the growth model and instead endorses a steady-state concept. Growth approaches tend to overuse resources and ignore that throughput growth is bounded by planetary limits. The growth function no longer works if resources are depleted (Daly, 2005). As depicted in figure one, if increased efforts result in increased harvests, the business will invest more effort to create more income. This is in contrast with natural systems that have a sustainable steady state. Consequently, beyond a point, increasing growth fails to achieve desired returns and ultimately compromises the function and stability of natural systems.

Figure 1. Individual growth rationale and sustainable state



Source: Authors' elaboration.

By shifting focus towards business resilience, decision-makers in firms across various sectors can enhance their operational capacity and response to different pressures. A resilient business should proactively plan its adaptive capacity thus optimizing its resources based on objective business assessments. Strategic resilience provides a robust framework for a firm to restore its operational flexibility while balancing the economic, social, and environmental pillars of business sustainability. Accordingly, resilient firms can achieve their post-distribution targeted growth via adapting to market dynamics and managing a broader array of strategic stakeholders. Global investors that already consider sustainability as part of their decision-making are starting to place emphasis on the resilience of a business (Annarelli & Nonino, 2016).

If people follow economic rationality, they will invest more effort (E), such as labor or investment, to increase their harvest, because of the assumption of infinite economic growth. Natural systems, however, do not follow this assumption (Dietz, Ostrom, & Stern, 2003). They tend to grow until they achieve a sustainable state. If they continue to grow,

they might decline. One example is overpopulation. If one species grows too much, it might not have enough food anymore to survive. However, since natural systems are complex, we often realize the decline too late. Examples are overfishing and climate change. In Maine, economic rationality led to overfishing and the extinction of ground fish (Dietz et al., 2003). Furthermore, economic rationality is one reason for fossil fuel use that created climate change. Again, the negative effect of the use of fossil fuel has been realized, after negative consequences occurred.

To close the gap, Folke, Hahn, Olsson, and Norberg (2005) propose activities related to adaptive governance. They include the analysis of socio-ecological systems (Ostrom, 2009), the connection of individuals, organizations, agencies, and institutions at multiple organizational levels to bridge the knowledge gap about natural systems and to agree on measures to close the gap presented in Figure 1 (Folke et al., 2005). One example of such an activity is the cooperative management of fishing grounds that avoid the tragedy of the commons (Hardin, 1968).

4.2. A working definition of business resilience

While business resilience offers a framework to help organizations advance strategy and sustainable business models to handle environmental, social, and economic disruption, the concept lacks a shared definition among academics and industry. The concept of business resilience while relatively new overlaps with other similar applications of the concept, including organizational resilience, corporate resilience, and regional resilience. To differentiate applications, Cote and Nightingale (2012) propose asking the questions, what is being resilient, and for whom? With respect to business resilience, it is a firm that must be resilient against environmental, social, and economic stressors. By enabling resilience against these stressors, a firm anticipates risks, remains profitable over the long term, and maintains its competitive advantage. Based on the definitions of resilience presented in Table 1 and a historical review of the term resilience presented in Table A.1 (see Appendix), we propose a comprehensive definition of business resilience as an “anticipatory approach adopted by businesses to withstand, recover, adapt and thrive when faced with adverse and uncertain disturbances, caused by environmental, social, and/or economic stressors”. By integrating an anticipatory lens, businesses resilience is understood as being a proactive position that builds buffers into the operational design and reflects steady-state dynamics.

4.3. The SDGs and resilience

The Sustainable Development Goals (SDGs), adopted by the United Nations General Assembly in 2015, provide a useful structure to advance business resilience. The SDGs provide a robust framework to guide corporate performance and resilience (Mawdsley, 2018). To elaborate, the 17 SDGs include 169 objectives and 232 metrics that can be used to accurately assess an organization’s sustainability success as well as progress against the goals (Scheyvens, Banks, & Hughes, 2016). The 17 goals represent a “new, universal set of goals to develop a global vision for sustainable development by balancing economic growth, social development, and environmental protection” (United Nations, 2015). As opposed to the Millennium Development Goals (MDGs), the SDGs provide a new governance approach between a tripartite of governments, the private sector, and civil society members (Biermann, Kanie, & Kim, 2017; Grove & Clouse, 2018). The term resilience is applied to many of the SDG objectives and is best identified through SDG 13.1 “Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries” (United Nations, 2015).

As found in the literature review, the SDGs have come to the forefront of sustainability and resilience discussions. Corporations across various sectors have adopted the SDGs as a framework for corporate sustainability that balances the economic, social, and environmental parameters of corporate performance (Donoher, 2017). By addressing identified targets and indicators under each goal, the SDGs can help companies respond better to sustainability issues as well as operational risks, thus achieving resilient operational models (Acuti,

Bellucci, & Manetti, 2020). The SDGs have a strategic outlook till 2030, which helps organizations to adopt an anticipatory lens when developing their vision to achieve the SDGs. Therefore, as a framework for corporate sustainability, the SDGs can help decision-makers within organizations identify potential risks and establish resilient business models that meet the expectations of a firm’s diverse stakeholders (Anderson, 2015). (Donoher, 2017).

5. DISCUSSION

The concept of resilience has been applied in a wide range of fields and disciplines. With roots in the fields of ecology and engineering the term is increasingly used in the context of sustainability and is prominent in current sustainability discussions and initiatives, such as the SDGs and climate adaptation. Linking resilience and the SDGs offers businesses implement and framework to implement sustainable business practices and reduce exposure to social and environmental risks.

Resilience in the COVID era. The concept of resilience and global health has a long-standing relationship, which is especially prevalent with the emergence of the COVID-19 pandemic. This pandemic has been very disruptive to life as we know it; it has had huge impacts on countries all over the world, putting a pause on many people’s lives and livelihoods. As of September 2021, there are approximately 232 million cases globally. Being faced with a crisis to this extent has presented a huge challenge to global continuity, and both short- and long-term actions are required to combat them. This global health crisis has had a huge impact on a wide range of global functions, including politics, finances, social wellbeing, and more (Ivbijaro, Brooks, Kolkiewicz, Sunkel, & Long, 2020; Pinheiro & Luis, 2020; Zabaniotou, 2020). We have seen many of the previously discussed resilience frameworks being impacted, such as urban resilience, socio-ecological resilience, and economic resilience. Countries across the world have had to shut down numerous times to contain this major health crisis, at the risk of collapsing the global economy. The more resilient businesses have managed to continue operations as usual and adapt to the countless changes, while the less resilient companies have had to halt business or close down completely. This is where the implementation of business resilience can play a very vital role in the success and longevity of businesses.

6. CONCLUSION

The use of the term resilience has come to the forefront as the global community deals with the COVID-19 pandemic. The crisis has had a huge impact not only on global health, but also on politics, governance, economics and finances, psychological health, and social wellbeing (Folger-Laronde, Pashang, Feor, & ElAlfy, 2020; Zabaniotou, 2020). The pandemic has especially challenged businesses and heightened scrutiny of their business models and risk preparedness. Countries across the world have had to shut down numerous times to contain this major health crisis, at the risk of

collapsing the global economy. In the short term, we have seen some industries thrive, while others have faced unsurmountable hardships. The wide-reaching effects of COVID-19 on global business are still unknown. At a minimum, it has highlighted a need to build resilience into operational strategy with potential long-term positive effects on sustainability and business practices (Dryhurst et al., 2020; Grove, Clouse, & Xu, 2021).

Business resilience as a framework emphasizes that all aspects of the economy, society, and the environment are accounted for in business strategy. This shift towards anticipatory capacity is core to achieving business resilience (McKnight & Linnenluecke, 2017). Businesses need to ensure that they are proactive with all their actions in the short- and long term; otherwise they will have to resort to adaptive capacity approaches (Soroka et al., 2020). By providing a conceptual review on the term business resilience we challenge those mainstream approaches to business operations that are not suitable for a post-COVID world. We argue that buffering using an anticipatory lens can help organizations become more resilient. Furthermore, we offer a comprehensive definition of business resilience as an “anticipatory approach adopted by businesses to withstand, recover, adapt and thrive when faced with adverse and uncertain

disturbances, caused by environmental, social, and/or economic stressors”. This paper contributes to the literature on resilience by providing a conceptual review that tabulates the definitions of business resilience covered in a final sample of 80 peer-reviewed articles and books, defining business resilience and proposing the SDGs as a useful structure for business resilience. Corporations that aim to achieve resilience should be willing to learn and adapt (Lee et al., 2013), and must practice creativity and innovation (Kupers, 2014). When these characteristics are implemented, a company will have the necessary tools to face the unknown and survive and thrive even when facing uncertain threats to their businesses.

Resilience as a concept holds different meanings for different fields and users, especially within the business community. As a result, the authors have had to speak of businesses generically. It is recommended that future research explore the adoption of resilient business models within specific industries. Another limitation is that the SDGs are set to end in 2030, which may result in some aspects of the research being outdated in the future. We recommended that future research focus on building a resilience framework that will apply post-2030.

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APPENDIX

Table A.1. Definitions of resilience by field

Field	Definition	Sources
Generalized		
	"(1) the amount of disturbance that a system can absorb while still remaining within the same state or domain of attraction; (2) the degree to which the system is capable of self-organization (versus lack of organization or organization forced by external factors); and (3) the degree to which the system can build and increase its capacity for learning and adaptation".	Carpenter Walker, Anderies, and Abel (2001)
	"Interdisciplinary concept that describes the dynamic development of complex adaptive systems that interact across temporal and spatial scales".	Folke (2006)
	"The capacity of business, economic and social structures to survive, adapt, and grow in the face of change and uncertainty related to disturbances, whether they are caused by resource stresses, societal stresses and/or acute events".	Kupers (2014)
	"The capacity of ecosystems, individuals, organizations or materials to cope with disruption and stress and retain or subsequently regain functional capacity and form".	Hudson (2010)
	"Resilience is a dynamic attribute of the firm characterized by a) a proactive phase at time ($t - 1$); an absorptive or adaptive phase at time t , and b) a reactive phase at time ($tp1$), where t is the time when an unexpected event occurs and alters the equilibrium of the firm".	Conz and Magnani (2020)
Culture		
Indigenous	"Culture and resilience intersect and help shape traditions, beliefs and human relationships".	Stout and Kipling (2003)
Ecology		
	"Resiliency represents the ability for a system to respond and adapt to changes, while continuing to grow and develop".	Holling (1973)
	"The amount of disturbance that can be sustained before the system changes its structure by changing the variables and processes that control behavior".	Gunderson and Holling (2001)
	"A measure of the amount of change needed to change an ecosystem from one set of processes and structures to a different set of processes and structures".	Angeler and Allen (2016)
Engineering	"Persistence of relationships within a system and the ability of these systems to absorb changes and return to an equilibrium state after a temporary disturbance".	Holling (1973)
	"Rate at which a system returns to a single steady or cyclic state following perturbation".	Holling (1985)
Climate	"The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation".	The World Bank (2019)
	"Adaptation and recovery from hazards".	Mikulewicz (2019)
Socio-ecological		
	"The capacity to adapt or transform in the face of change in social-ecological systems, particularly unexpected change, in ways that continue to support human well-being".	Folke, Biggs, Norström, Reyers, and Rockström (2016)
	"A resilient socio-ecological system is synonymous with a region that is ecologically, economically, and socially sustainable".	Holling and Walker (2003)
Psychological	"The process of, capacity for, or outcomes of successful adaptation despite challenging or threatening circumstances".	Masten, Best, and Garnezy (1990)
	"The capacity for successful adaptation and functioning despite high risk, stress or trauma".	Egeland Carlson, and Sroufe (1993)
Urban		
	"The ability of a city or urban system to absorb disturbance while retaining identity, structure and key processes".	Leichenko (2011)
	"Urban resilience refers to the ability of an urban system and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity".	Meerow et al. (2015)
	"The capability of systems — such as cities and regions — to withstand a shock and adapt to it by gradually returning to the normal state or by evolving into a better state".	Acuti, Bellucci, and Manetti (2020)
Community	"The ability of communities to withstand external shocks to their social infrastructure".	Adger (2000)
Organizational		
	"A firm's ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival".	Lengnick-Hall et al. (2011)
	"The capacity of business to survive, successfully adapt and prosper in the face of change and uncertainty related to disturbances with a high impact and a low probability".	Kupers (2014)
Business	"The ability to absorb disturbances, to change, to reorganize, and to learn from them at the same time".	Kupers (2014)
Economic and territorial	"Ability of an economy (state, regional, local) to retain employment and wealth in face of disturbances such as the loss of a corporation or industry".	Baggio et al. (2015)
	"The differential ability of a region's or a locality's firms to adapt to changes and shocks in competitive, market, technological, policy and related conditions".	Simmie and Martin (2010)
	"The ability of a territory to regain a dynamic state and to find a new pathway after a major perturbation in its environment".	Gilly et al. (2014)
Regional	"The vulnerability/capacity of a company to survive and adapt, resist, decline, and respond to opportunities".	Soroka et al. (2020)
	"The ability of a region ... to recover successfully from shocks to its economy that either throw it off its growth path or have the potential to throw it off its growth path".	Hill, Wial, and Wolman (2008)