

TESIS DOCTORAL

Organizational Resilience and Sustainability: The Role of Investors in Organizational Crisis Periods

Resiliencia Organizacional y Sostenibilidad: El Papel de los Inversores en Periodos de Crisis Organizacional

Presentada por
Elena Mellado García

Dirigida por
Prof. Dra. Natalia Ortiz Martínez de
Mandojana
Prof. Dr. Juan Alberto Aragón Correa

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*Solo porque la Luna está lejos no significa que
tengas que resignarte a alcanzarla.*



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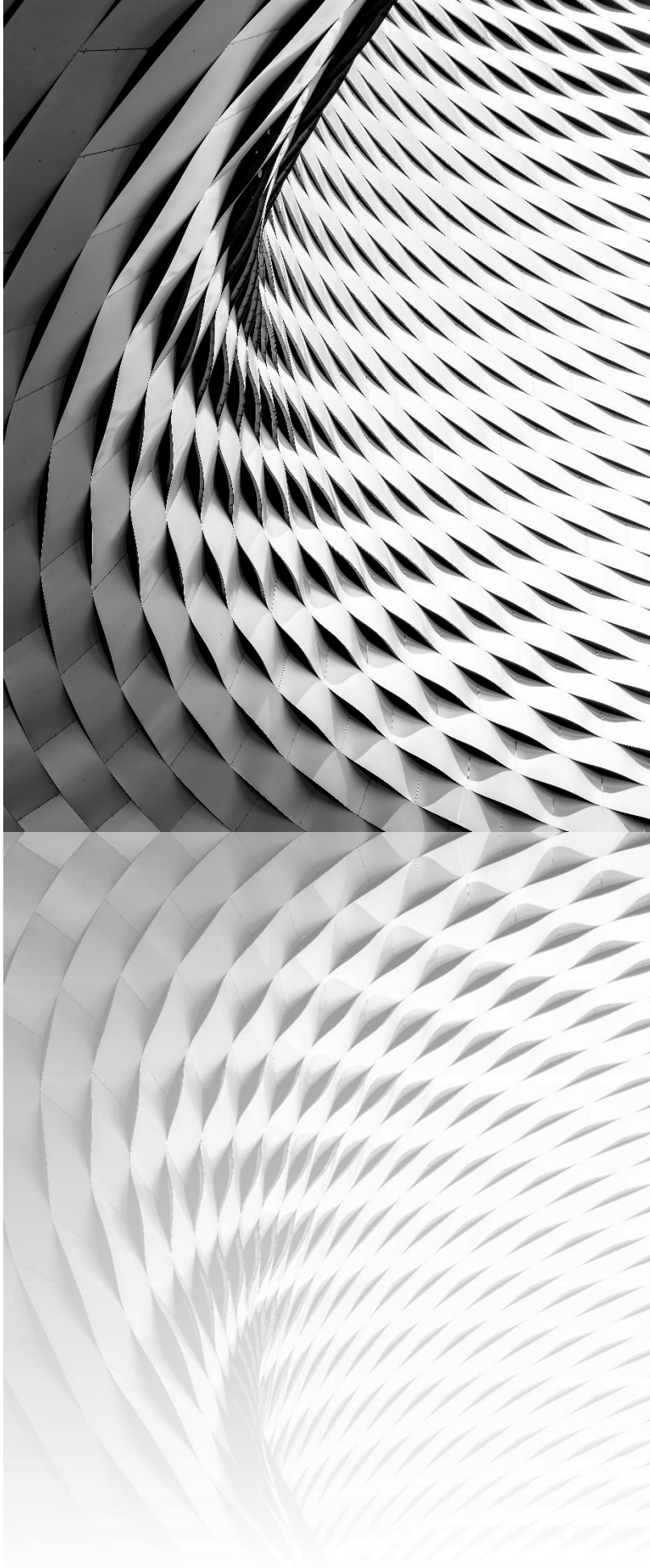
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CHAPTER 1.

INTRODUCTION

1.1. An approach to the subject under study and its relevance

As organizations operate in an increasingly complex and globalized business environment, the ability to cope with and recover from crises becomes a key differentiator between success and failure. The growing interest in understanding how organizations can not only survive but thrive in times of crisis has led to a significant body of research on organizational resilience (Bansal & Clelland, 2004; Sutcliffe & Vogus, 2003). The concept of organizational resilience has evolved from being a theoretical concept (Williams et al., 2017) to becoming a central element in current business management (Broadstock et al., 2021; DesJardine et al., 2019; Lu et al., 2022; Ortiz-de-Mandojana & Bansal, 2016).

Organizational resilience is understood as the ability of an organization to withstand, adapt to, and recover from crises (Kahn et al., 2018; Linnenluecke & Griffiths, 2010; Ortiz-de-Mandojana & Bansal, 2016; Williams & Shepherd, 2016). Therefore, organizational resilience involves an approach that recognizes an organization's capacity to face and overcome crises as not being an isolated event but a continuous and dynamic process (Williams & Shepherd, 2016). This process encompasses a multitude of factors, capabilities, and agents (both internal and external) to achieve a high degree of resistance to a crisis, adaptability during the crisis, and readiness for recovery afterward (Aldrich, 2012; Gittell et al., 2006; Harrison et al., 2010). Prior literature has focused on unraveling the secrets of organizational resilience, defining the practices, policies, decisions, strategies, and organizational cultures that nurture resilient capabilities within an organization and implement them to undergo a process of adaptation, adjustment, or recovery (Sutcliffe & Vogus, 2003; Williams et al., 2017).

Although significant strides have been made in this field, substantial gaps persist in understanding the development and implementation of resilient capabilities and mechanisms within organizations. It is noteworthy that even those organizations making apparent efforts to be prepared and confront crises often encounter unforeseen challenges and experience notable failures during times of crisis. For instance, Toyota, positioned as the largest automaker in the world until it was hit by a tsunami in March 2011. Toyota's operations came to a complete halt for many months, contributing to significant financial losses. Therefore, this points to the existence of factors that, thus far, have not been thoroughly studied but play a crucial role in the development of resilient capabilities. The

apparent paradox between external perceptions of resilience and actual performance in critical situations underscores the urgent need to delve into research to unravel the underlying factors determining authentic organizational resilience.

In this context, the role played by investors in organizations' ability to withstand, adapt to, and recover from crisis situations is a potentially influential factor that has received little attention in the literature on management, resilience, and organizational crises (Marcus & Goodman, 1991). Investors establish a certain financial-strategic connection with the organization, so their decisions and actions can have significant repercussions on the organization's ability to manage crises (Granado-Peiró & López-Gracia, 2017). This approach motivates us to explore how relationships with investors, their behaviors, strategic decisions, and their commitment and involvement in the functioning of the organization can be determining factors in the development and implementation of organizational resilience, providing a more comprehensive and specific insight into the driving forces behind an organization's ability to face adversity (Van den Broek et al., 2017). However, in a context marked by growing interest in sustainability engagement, it is crucial to recognize that investor commitment and involvement are influenced by the perception of the organization's legitimacy and sustainable commitment (Suchman, 1995).

Currently, attention to sustainability has gained significant relevance in investment decisions (Bansal & Clelland, 2004; Busch, et al., 2016; Cardoni, et al., 2022; Carmeli et al., 2020). Indeed, Gittell et al. (2006) found that investors of Southwest Airlines demonstrated strong support for the airline during the 9/11 terrorist attacks. This support was attributed to the airline's choice to uphold its corporate social commitments, notably by avoiding employee layoffs. Investors, increasingly aware of their role in promoting ethical and sustainable business practices, consider an organization's legitimacy and sustainable commitment as crucial elements (Bansal & Clelland, 2004; Suchman, 1995). The way an organization addresses environmental, social, and corporate governance (ESG) issues at an organizational level influence not only its reputation but also investors' perception of its ability to manage organizational crises and maintain resilience in the face of future challenges (Bansal & Clelland, 2004).

Perceiving the real world as a set of interconnected systems at different levels within a hierarchical structure (Simon, 1962; Wu & David, 2002) implies viewing resilience as a multi-

dimensional concept that involves interactions and effects across these levels (Holling, 2001). In this context, lower-level dynamics have an influence on higher levels, and vice versa, giving rise to a network of interactions that defines the overall resilience configuration of an organization. More specifically, this interconnectedness shapes how an organization responds to challenges and crises, establishing the foundation for its ability to withstand, adapt to, and recover from crises. Moreover, the impact of these interactions extends beyond immediate crisis management, influencing the organization's long-term sustainability at an organizational level, but also the global sustainability at a planetary level.

Organizational resilience, therefore, becomes intricately linked to sustainability efforts. It is imperative to recognize that sustainability is not limited to the organizational sphere but also manifests globally (macro-level, the highest level of a system). Within this intricate web of organizational dynamics, the concept of “organizational design” emerges as a critical determinant of resilience at various levels. Organizational design encompasses structural, process-oriented, and cultural aspects that define how an organization operates and responds to challenges. Specifically, the organizational designs let us “to understand how an organization structures itself, its components parts, what functions each performs, and how these functions interrelate” (Mintzberg, 1984, p. 17). Organizations that embrace flexible and adaptive organizational designs are better positioned not only to enhance its ability to withstand challenges and adapt to changing circumstances (Davis, et al., 2009), but also to contribute to the broader goals of sustainability (Demastus & Landrum, 2023). Recognizing this interconnectedness provides a holistic perspective on how organizational decisions, particularly in design, reverberate across different levels, influencing both resilience and sustainability outcomes.

These background considerations lead us to formulate a general question (GQ) that we aim to answer with this doctoral thesis:

- (GQ): What factors contribute to and influence the resilience capacity of organizations?

This question is further broken down into more specific and direct questions (SQ), such as:

- (SQ1): Why are investors a crucial factor in the development and implementation of resilience in organizations?

- (SQ2): How does the increasing sustainable commitment during a crisis affect investor commitment and reduce an organization recovery time after a crisis?
- (SQ3): What distinctions exist between organizational designs emphasizing efficiency and those prioritizing resilience?
- (SQ4): How do differences between organizational designs at lower-level systems within a hierarchical structure impact the resilience and sustainability at higher-level systems in the same hierarchy?
- (SQ5): Why does a trade-off between efficiency and resilience contribute to achieving sustainability at the highest level in a hierarchical structure?

1.1.1. *Delimitation and concept of the subject under study*

The main objective of this doctoral thesis is to shed light on how the commitment and characteristics of investors influence organizational resilience, and how this organizational resilience contributes to sustainable development at a global level. In this sense, considering that the central theme of our work is organizational resilience, and the influence of investors and sustainability, it is first convenient to delimit the basic concepts related to this work.

The concept of "resilience" originates in the ecological field as "ecological resilience" and refers to the ability of an ecosystem to withstand disturbances, adapt to changes, and recover from disruptions while maintaining its purpose, structure, function, identity, and essential processes (Holling, 2001; Walker, et al., 2004). Applying this definition to the business context, *organizational resilience* refers to an organization's ability to anticipate, withstand, adapt, and recover from changes or crises (Kahn et al., 2018; Linnenluecke & Griffiths, 2010; Ortiz-de-Mandojana & Bansal, 2016; Williams & Shepherd, 2016). Therefore, organizational resilience involves the capacity to maintain the continuity of essential operations, preserve internal cohesion, and simultaneously learn and improve from adverse experiences (Welbourne Eleazar, & Park, 2022).

The literature on organizational resilience has highlighted the need for an organization to have certain capabilities, make decisions, and design strategies that are implemented at three key temporal moments: before a crisis (pre-crisis), during the development of a crisis, and after a crisis has occurred (post-crisis) (Kahn et al., 2018; Williams, et al., 2017). This three-dimensional approach provides a comprehensive view of organizational resilience,

acknowledging that organizational resilience is a continuous process to address the three key temporal moments. Previous research has sought to address these three fundamental temporal instances, shedding light on the inherent complexities of each phase.

Part of the previous literature has focused on detailing practices, policies, decisions and strategies which help to promote resilient capabilities within organizations (Bunderson & Sutcliffe, 2002; Cannella Jr, et al., 2008; DesJardine et al., 2019; Teece, et al., 1997; Van Der Vegt, et al., 2015). As an illustration, Ikea effectively utilized the dynamism of the environment to explore and identify other local optimal points that contributed to its enhanced performance, highlighting its emphasis on adaptability (Wu & Sekiguchi, 2023). Additionally, the growing body of research on organizational resilience reflects a pragmatic interest in understanding how organizations can implement it in crisis situations, i.e., how organizations can adapt quickly, make effective decisions under pressure, and maintain operational continuity. In the high-technology sector, rapid technological advancements and innovations contribute to constant changes, requiring an adaptive capability within organizations (Jung, et al., 2023; Santos & Eisenhardt, 2009; Weick & Roberts, 1993; Wu & Sekiguchi, 2023). The post-crisis phase not only involves recovering from the impacts suffered but also creating new resilient capabilities to face future crises. Studies in this stage focus on how organizations can learn from experience, adapt to a changing environment, and strengthen their systems to reduce vulnerability (Sutcliffe & Vogus, 2003).

Within the literature on organizational resilience, a significant focus has been observed on the influence of stakeholders as key agents in shaping the purpose and direction of an organization, steering it toward resilient objectives (Bansal & Clelland, 2004; Morrow Jr. et al., 2007; Suchman, 1995). While various stakeholders have been analyzed in the literature, with special attention to customers, suppliers, and employees (Barnett, 2007; Liu & Yin, 2020; Williams & Shepherd, 2016), highlighting them as essential agents contributing substantially to organizational resilience (Gittell et al., 2006), the role of investors in organizational resilience has received less attention.

Investors are defined as those agents or entities contributing to the financing of an organization with the goal of obtaining a return (Dupuy et al., 2010; Goyal & Low, 2019; Jabbouri, & Naili, 2019; Tucker, 2017). Investors play a multifaceted role within the business landscape, extending beyond their financial contribution. As agents investing significant

monetary amounts in an organization, their commitment is not solely focused on seeking financial returns but becomes an integral factor influencing the shaping and evolution of the organization (Barnett, et al., 2022). This involves a heightened interest in the performance, functioning, and viability of the organization (Carpenter & Westphal, 2001; Hadlock & Schwartz-Ziv, 2019; Taghian et al., 2015).

According to previous studies, substantial investments not only grant investors a direct stake in the ownership of the organization but also provide them with a seat at the decision-making and strategic planning table (Choi et al., 2012; Groenendaal & Helsloot, 2020; Lv et al., 2019; Schulz-Hardt & Mojzisch, 2012). This level of involvement and commitment implies an intrinsic connection with the overall performance, day-to-day functioning, and long-term viability of the organization. Investors' financial interest is closely intertwined with their perception of the health and resilience of the organization, as their investment is directly linked to its ongoing performance and success (Deudon et al., 2015; Thomsen & Pedersen, 2000).

From their investment preferences to their strategic decisions, the commitment of investors can have a significant impact on organizational strategies and decisions (Carpenter & Westphal, 2001; Hadlock & Schwartz-Ziv, 2019; Taghian et al., 2015). However, the literature has shown that investor commitment with an organization is not solely limited to financial returns but is also linked to fundamental factors such as the behavior and legitimacy of the organization (Bansal & Clelland, 2004; Busch, et al., 2016; Carmeli et al., 2020). These factors act as key determinants influencing the relationship between investors and the organization. Therefore, the behavior of the organization plays a crucial role in investors' perception (Bansal & Clelland, 2004). The way the organization addresses ethical, social, and environmental issues, its ability to ethically and effectively manage crises, and its engagement to sustainable business practices can directly impact investors' trust and commitment.

In an increasingly sustainability-focused business environment, studying investor behavior provides valuable insights into how sustainable practices and initiatives in organizations impact investor perception and support (Barnett, 2007; Barnett, et al., 2022; Cordeiro, et al., 2018). Sustainability involves adopting actions and behaviors that contribute to sustainable development (Demastus, & Landrum, 2023). *Sustainable development* goes beyond meeting

immediate needs as a holistic, future-oriented approach that seeks to "meet the needs of the present without compromising the ability of future generations to meet their own" (WCED, 1987, p. 41). It involves making decisions and implementing strategies that preserve (natural) resources, advocate for social equity, ensure economic stability, and maintain ecological balance to secure the well-being and viability of current and future generations (Bansal, 2005).

Recently, the growing relevance of sustainability in investment decisions has emerged as a prominent phenomenon in research (e.g., Aich et al., 2021; Busch, et al., 2016). Informed and ethically committed investors now consider an organization's legitimacy and sustainable commitment as critical factors when making financing decisions (Cardoni, et al., 2022; Carmeli et al., 2020). This trend reflects a significant shift in investors' mindset, as they become increasingly aware of their role not only as financial agents but also as drivers of change towards sustainable practices at the organizational level. In other words, this change in investors' perception underscores the need to adjust traditional organizational designs based on efficiency and outcomes maximization towards organizational designs that prioritize resilience, aiming for greater sustainability at a macro-system level.

Traditional efficiency-driven designs often emphasize rigid procedures, standardized, and centralized control to optimize performance in stable conditions (Davis, et al., 2009; Marginson, & McAulay, 2008; Mouzas, 2006; Yang, & Chen, 2009). Efficiency-based organizing is therefore characterized by tightly coupled structures (Perrow, 1999b), high formalization (Mintzberg, 1984), and centralized decision-making processes (Weber, 1947) to optimally allocate resources and achieve common objectives (Perrow, 1999b). However, efficient organizational designs may often yield inefficient outcomes (Schaefer, & Wickert, 2015). In dynamic and unpredictable environments, such organizational designs might hinder an organization's ability to adapt and recover swiftly in the face of crises (Davis, et al., 2009).

Conversely, a resiliency-based organizing, marked by a more flexible and adaptive approach (DesJardine et al., 2019), fostering collaboration (Cannella Jr, et al., 2008), shared values (Duchek, 2020; Lengnick-Hall, & Beck, 2005), functional diversity among employees (Bunderson, & Sutcliffe, 2002) and decentralized decision-making processes (Van Der Vegt, et al., 2015; Pearson, & Clair, 1998), becomes particularly relevant in facing dynamism (Davis, et al., 2009; Lengnick-Hall, et al., 2011). Loose coupling in such organizational designs allows

different components of the organization to operate independently yet collaboratively, facilitating a more responsive stance in challenging situations (Perrow, 1999b).

The traditional efficiency-oriented models may not align seamlessly with the demands of current business environments, where resilience and adaptability are paramount (Davis, et al., 2009). Adapting organizational designs to incorporate elements of resilience becomes a strategic imperative for fostering sustainability at a higher level. Indeed, organizations need to extend their designs beyond their immediate boundaries and adopt a more adaptive (Sartal, & Vázquez, 2017) and holistic approach to their strategy (Barnett, 2006), in order to survive dynamic environments and, ultimately, achieve sustainability at a global level.

1.1.2. *Relationship between organizational resilience and sustainability*

Currently, the relationship between organizational resilience and sustainability is positioned as an important aspect in the business environment (e.g., DesJardine et al., 2019; Ortiz-de-Mandojana, & Bansal, 2016; Tuazon, et al., 2021). Traditionally, organizations have focused their efforts on efficiency-oriented organizational designs, aiming to maximize productivity and optimize resources (Marginson, & McAulay, 2008; Mouzas, 2006; Yang, & Chen, 2009). However, in a business environment characterized by dynamism, complexity, uncertainty, and the frequency of crises, efficiency alone may not be sufficient to ensure sustainability at a macro level. Furthermore, the increasing pressure from sustainability-conscious investors has led to a reassessment of organizational models, shifting the focus towards resiliency-based designs.

Therefore, the relationship between organizational resilience and sustainability emerges as a catalyst for change in business decision-making. This evolution not only responds to investor expectations but also acknowledges that, while efficiency is important, a resilient organizational design contributes more to sustainable goals at the macrosystem level (Davis, et al., 2009). Sustainability, understood not only as an environmental responsibility but as a comprehensive concept encompassing economic, social, and environmental viability, requires a balance between efficiency and resilience (Eisenhardt, et al., 2010).

This holistic approach acknowledges that sustainability cannot be limited solely to environmentally friendly practices but must incorporate economic and social aspects to be truly effective and enduring (Demastus & Landrum, 2023; Slawinski & Bansal, 2012).

Efficiency, therefore, may not be sufficient when addressing large-scale challenges such as those related to sustainability (Davis et al., 2009). While business efficiency has commonly translated into resource reduction practices and process optimization to achieve “more with less” (partially protecting against the waste of natural resources and raw materials), this efficient perspective has limitations in economic and social dimensions. On the one hand, the exclusive pursuit of efficiency can lead to decisions that, despite optimizing resources, result in significant investments to access the best materials or technologies (Kennedy, 1994; Perrow, 1999a, 1999b). Organizational designs aiming to maximize efficiency often translate into more intensive workloads, a lack of professional development, and high standardization and formalization of processes (Adler et al., 1999; Marginson & McAulay, 2008; Mintzberg, 1984), potentially neglecting employee well-being.

However, the literature underscores that an organization's ability to adapt, withstand disruptions, and recover from crises becomes crucial in the pursuit of long-term sustainability (Davis et al., 2009). In a dynamic world, resilience becomes the necessary pillar (Davis et al., 2009; Demastus & Landrum, 2023). The ability of an organization to resist and adapt to unexpected changes not only preserves its financial stability but also positions it more robustly to face economic and social challenges that may arise (Kahn et al., 2018; Van der Vegt, et al., 2015; Williams & Shepherd, 2016). Resilient organizations do not solely rely on a single source of income; besides exploring opportunities in different markets or segments, they are more likely to receive support and financial backing from stakeholders in times of crisis, thus reducing their vulnerability (Drees & Heugens, 2013; Hillman et al., 2009; Pfeffer & Salancik, 1978).

Moreover, organizational resilience is manifested in the ability to anticipate and agilely respond to changes in market conditions. Organizations that implement continuous monitoring and evaluation systems can identify early signals of potential economic challenges, enabling them to adjust strategies and make informed decisions proactively (Aragón-Correa, & Sharma, 2003; Furlan, et al., 2019; Lengnick-Hall, & Beck, 2009; Pearson, & Clair, 1998). Another key aspect of organizational resilience, widely discussed in the literature, is investment in innovation and development (Lengnick-Hall, Beck, & Lengnick-Hall, 2011). Organizations that maintain a constant focus on improving products, services, and processes are better positioned to adapt to changing market demands and sustain their

competitiveness over time. Additionally, this resilience involves the careful management of relationships with business partners (Faraj, & Xiao, 2006; Jia, et al., 2020; Lengnick-Hall, et al., 2011). Building strong and collaborative relationships with internal and external stakeholders allows the organization to have support and flexibility (Risi, et al., 2023), especially in times of crisis. A notable example of this was observed in the case of Southwest Airlines during the 9/11 terrorist attacks. The airline maintained close relationships with its stakeholders, resulting in strong support during the crisis (Gittell, et al., 2006).

Socially, organizational resilience translates into an organization's ability to maintain strong relationships with employees, customers, and communities during times of crisis (Faraj & Xiao, 2006; Gittell et al., 2006; Jia et al., 2020; Lengnick-Hall et al., 2011) and to foster a work environment that promotes long-term satisfaction and commitment (Duchek, 2020; Van Der Vegt et al., 2015). Transparency in communication, empathy towards the needs of customers, employees, and the community at large, and agile adaptation to changing circumstances are previously studied fundamental components (e.g., Belinda & Christian, 2023; Rao & Greve, 2018; Sonenshein & Nault, 2023).

Regarding the communities in which the organization operates, resilient organizations play an active and responsible role, undertaking specific actions to support the community in difficult times (Williams & Shepherd, 2016). Contributions to local aid programs, the creation of sustainable employment, and the promotion of ethical business practices are examples of how resilience can positively impact the organization-community relationship. For instance, in the aftermath of the 2010 Haiti earthquake, spontaneously formed organizations responded to the suffering caused by the disaster. These organizations, totaling six ventures, played a crucial role in providing resources and support to the affected community (Williams & Shepherd, 2016). This interaction strengthens the organization's reputation and legitimacy on environmental issues, thereby enhancing visibility among stakeholders, specifically investors (Bansal & Clelland, 2004; Suchman, 1995).

In a dynamic environmental context, resilient organizations have a constant ability to adapt to changing regulations and the need for more sustainable practices, establishing an ongoing commitment to environmental responsibility and the mitigation of negative impacts. According to previous studies, organizational resilience enables the organization to anticipate and respond to changes in environmental legislation and regulations (Lengnick-

Hall & Beck, 2009; Pearson & Clair, 1998; Van der Vegt et al., 2015). Organizations that take a proactive approach to sustainability seek not only to comply with current regulations but also to anticipate and prepare for future environmental demands, ensuring their adaptability to a constantly evolving regulatory environment.

Therefore, this transition to a more resilient approach in the organizational design of organizations is grounded in a series of key considerations. Firstly, it responds to the changing expectations of investors who, increasingly aware of their role in promoting ethical and sustainable practices, seek not only financial performance but also a commitment to sustainability (Demastus & Landrum, 2023). However, the pressure from these investors has not been the sole reason for a reassessment of organizational models, shifting the focus from purely efficient designs to those incorporating resilient practices and policies.

This evolution recognizes the inherent limitation of an exclusive focus on efficiency (David et al., 2009). Despite the need for a balance between efficiency and resilience to achieve sustainability on a macro-system level, a resilient organizational design emerges as a more comprehensive and adaptive response to the current dynamic environment. This resilient approach enables organizations to have diverse income sources, invest in innovation and development, and manage strong relationships with stakeholders who can contribute in times of crisis. Consequently, the shift towards a more resilient organizational design not only aligns with the expectations of sustainability-conscious investors but also acknowledges that organizational resilience is essential for addressing contemporary challenges and ensuring long-term sustainability globally.

1.1.3. *Research interest*

This doctoral thesis presents a compilation of three research works that focus on how investors' characteristics and their commitment influence organizational resilience, and how organizational design contributes to achieving global sustainability at a macro level. The business management literature has addressed crucial aspects, but there are still gaps that this doctoral thesis aims to fill.

This work has examined how investors engage with organizations based on their legitimacy and sustainable initiatives (Busch, et al., 2016; Cardoni, et al., 2022), the existing differences in structure and the performance of processes and tasks according to each type of

organizational design (Bowman, & Singh, 1993; Harris, & Raviv, 2002; Karim, 2006; Kikulis, et al., 1995), and organizations' efforts to achieve sustainability at the organizational level (Wu, & Sekiguchi, 2023). This work aims to provide empirical and theoretical evidence to this line of research, utilizing as theoretical foundations both Resource-Dependency Theory, Legitimacy Theory, Hierarchy Theory, and systemic thinking.

Firstly, the aim is to broaden the understanding of how investors, based on their characteristics and levels of commitment, influence the resilience capabilities of organizations. In this context, the application of Resource-Dependency Theory (Drees & Heugens, 2013, Hillman et al., 2009; Pfeffer & Salancik, 1978) in this work is crucial to provide a robust theoretical framework that allows the analysis and comprehension of interactions between organizations, their investors, and the critical resources for resilience. The theory enables the exploration of resource diversification and how organizations can seek additional sources of support (Pfeffer & Salancik, 1978). Investors represent a significant source of financial and social resources for organizations, especially in times of crisis when the organization notably relies on extra resources, having been affected in their own resources (Aldrich, 2012; Harrison et al., 2010; Sajko et al., 2021; Welbourne Eleazar & Park, 2022). This theory also aids in understanding power dynamics and negotiation between organizations and their investors, creating relationships of interdependence, providing consistency and meaning to the study.

Secondly, while much of the existing research has focused on understanding and managing practices and strategies before, during, and after a crisis (Williams, et al., 2017), this thesis takes a proactive perspective that delves into anticipating and preventing potential disruptions in critical situations. This innovative approach recognizes that organizational resilience extends beyond the mere ability to recover and adapt to adverse events. It explores how investors with certain characteristics enable the structuring of strategies, decisions and processes in a way that minimizes the likelihood of facing recurring crises.

Thirdly, the work delves into how dynamics between legitimacy, sustainability, and investor commitment can significantly impact the ability of organizations to overcome and recover from crises, thus contributing to advancing knowledge in the field of organizational resilience. Legitimacy theory (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995) allows exploration of a key facet of the relationship between organizations

and their investors. This theory suggests that organizations seek to maintain a positively perceived and socially accepted image to gain support from their stakeholders, including investors (Bansal & Clelland, 2004; Scott, 1995). In this context, the focus is on understanding how an organization's legitimacy and engagement to sustainability directly impact investor commitment, especially in times of crisis. Therefore, as organizations adopt and promote ethical and sustainable practices, they aim not only to secure general social support but also to build trust and specific approval among their investors.

Finally, drawing on Hierarchy theory (Bertalanffy, 1968; Boulding, 1956), and the systems thinking perspective (Wu, & Sekiguchi, 2023), the thesis enables an understanding of the composition of the real world as a set of interconnected systems at different levels in a hierarchical structure (Simon, 1962; Wu & David, 2002). This holistic perspective seeks to go beyond a merely focus on efficiency (Sartal, & Vázquez, 2017), exploring how resilience in organizational design at lower-level systems (i.e., organizational levels) can be a key component in achieving sustainability at a macro level within a hierarchical structure. It delves into different organizational designs with the aim of understanding how each type of organizational design (efficiency or resiliency-based approach) impacts an organization's ability to face disruptions and achieve global sustainability.

1.2. Research objectives

The previous arguments, along with the relevance of studies on the business world and sustainability, allow for establishing a series of general and specific objectives for each chapter in this thesis, accordingly to the research questions of this thesis explained before (see Table 1.1.).

FIRST. The **general objectives (GO)** of this work are:

- (GO1): Conduct a theoretical review of the literature in business management on the main concepts studied along the chapters of this work: organizational resilience, investors' behavior and characteristics, organizational designs, and sustainability.
- (GO2): Provide evidence on how different factors influence on and/or promote organizational resilience.
- (GO3): Consolidate all the research findings, emphasizing academic implications for managers and governments.

SECOND. The **specific objectives (SO)** are as follows:

- (SO1): Conduct a detailed analysis of the impact of certain specific characteristics of investors on an organization's ability to avoid relapses in future crises [Chapter 2].
- (SO2): Explore the impact of reinforcing sustainable commitment during times of crisis on the organizational resilient capability [Chapter 3].
- (SO3): Provide evidence on how sustainable commitment and legitimacy in organizations influence investors commitment in times of crisis [Chapter 3].
- (SO4): Analyze how investors commitment reduces the recovery time after a crisis period [Chapter 3].
- (SO5): Enhance the theoretical comprehension of the distinctions between a conventional efficiency-based organizational design and one oriented towards resilience [Chapter 4].
- (SO6): Provide insights and a conceptual framework that elucidate how organizational designs at lower-level systems may influence resilience and sustainability outcomes at higher-level systems within a hierarchical structure [Chapter 4].
- (SO7): Explain the require of a holistic perspective encompassing a balance between efficiency gains and resilient properties in achieving sustainability at a macro-system level [Chapter 4].

TABLE 1.1. Connection between research questions and objectives

Research question	Objectives	Chapter
GO: <i>What factors contribute to and influence the resilience capability of organizations?</i>	GO1; GO2; GO3	Chapters 2, 3, 4 and 5
SQ1: <i>Why are investors a crucial factor in the development and implementation of resilience in organizations?</i>	SO1; SO4	Chapter 2 and 3
SQ2: <i>How does the increasing sustainable commitment during a crisis affect investor commitment and reduce an organization recovery time after a crisis?</i>	SO2; SO3	Chapter 3
SQ3: <i>What distinctions exist between organizational designs emphasizing efficiency and those prioritizing resilience?</i>	SO5	Chapter 4
SQ4: <i>How do differences between organizational designs at lower-level systems within a hierarchical structure impact the resilience and sustainability at higher-level systems in the same hierarchy?</i>	SO6	Chapter 4

SQ5: Why does a trade-off between efficiency and resilience contribute to achieving sustainability at the highest level in a hierarchical structure?

SO7

Chapter 4

1.3. Methodology

For the development of this doctoral thesis, we have followed a general methodology that can be summarized in the following steps:

1. In-depth review of the most relevant literature in the previously mentioned field of study.
2. Definitive formulation of specific research objectives based on those outlined in the previous section and the formulation of research hypotheses.
3. Collection of operational and financial secondary data from organizations at risk of crisis, in-crisis, and recovered from it, as well as data on investors and sustainability metrics in organizations, through databases of a significant sample of organizations.
4. Application of various statistical techniques to test hypotheses and obtain statistically significant data.
5. Drawing conclusions based on the obtained data, reviewing the study's limitations, and proposing future lines of research.

Each work comprising the thesis has some specificity in its methodology and data from various sources, which is detailed more thoroughly in each of the corresponding chapters.

In compiling data for both Chapter 2 and Chapter 3 we used the Refinitiv Eikon database, but distinct samples were employed to explore the relationships between investor commitment, organizational resilience, and sustainability practices during crises. While we gathered data on organizations' financial health to determine the likelihood of relapsing into future crises in chapter 2, we extracted those organizations facing financial difficulties in a specific year but with favorable financial conditions in the previous year in chapter 3. To filter those organizations facing financial difficulties, we used the Altman Z-Score indicator included in the database. This indicator has been used to measure resilience in the literature (Dolz et al., 2018), indicating the likelihood of a significant financial crisis for an organization (Altman et al., 2017).

Additionally, we collected data on organizations' main investors to ascertain their characteristics and commitment to the organization during times of crisis. Numerous studies address investor commitment to the organization, considering the type of investor (Einig, 2022; Sakaki, & Jory, 2019). In our Chapter 2, we focused on investors with specific characteristics, such as geographic diversity, capital concentration, and patience, while in Chapter 3 we extracted data from main investors' portfolios. From all those data contained in Refinitiv Eikon database, we created a complex database with financial and individual information about main investors from 2009 to 2021. This database led us to construct essential variables such as *investor diversity*, *increase in concentrated investors*, *patient investors* (in Chapter 2), and *investor commitment* (in Chapter 3).

Similarly to prior seminal studies (e.g., Abdi, et al., 2020; Atif & Ali, 2021; Duque-Grisales & Aguilera-Caracuel, 2021), Chapter 3 also employed Environmental, Social and Governance (ESG) score from Refinitiv Eikon database. The Refinitiv Eikon's ESG score evaluates an organization's performance across the three ESG dimensions, and it was useful in measuring organizations' commitment to sustainability in this study. In this same chapter of the thesis, data from the Organization for Economic Cooperation and Development (OECD), specifically the Consumer Confidence Index, were used to measure the organization's country economic context. This indicator allows us to differentiate whether the environment is munificent when the indicator shows high consumer confidence values or, on the contrary, hostile. We also employed variables such as the Environmental Performance Index (EPI) and the Global Industry Classification Standard (GICS).

In terms of statistical techniques, we employed a logistic regression model in Chapter 2, given the dichotomous nature of the dependent variable in this study; and we combined a regression model with causal mediation analysis and moderation analysis in Chapter 3. The statistical software package used throughout the thesis has been STATA.

The integration of both quantitative and qualitative methodologies provides a comprehensive and nuanced approach to understanding a phenomenon. Chapter 4 of this doctoral thesis is presented as qualitative research grounded in a comprehensive review of specialized literature in three key areas: systemic thinking, organizational designs, and sustainability. The choice of a qualitative approach allows for a detailed and contextualized

exploration of concepts and theories relevant in these fields, aiming to comprehensively and holistic understand how these aspects interrelate and contribute to a global sustainability.

Rigorous statistical methods have been employed across all chapters to ensure the reliability of the results. The table below (Table 1.2.) illustrates the diverse methodologies utilized, accompanied by concise references outlining the rationale behind their selection.

TABLE 1.2. Statistical methodologies

Chapter	Methodology	Reason
Chapter 2. Avoiding Relapses after Crises: Exploring the Influence of Firm Investors' Characteristics on Organizational Resilience	Logistic regression model	<i>The binary dependent variable distinguishes organizations that experience a relapse after recovery ($y=1$) from those that do not ($y=0$). By estimating the likelihood of specific investor characteristics being present in each group, the logistic regression coefficients provide a quantitative measure of the influence of independent variables on the probability of relapse after recovery.</i>
Chapter 3. Does Reinforcing Sustainability in Times of Organizational Crisis Help? The Mediating Effect of Investor Commitment	Regression model, causal mediation analysis and moderation analysis	<i>Exploring the direct effects and relationships predicted by hypotheses, such as the impact of ESG performance on recovery periods required a regression analysis model.</i> <i>A causal mediation analysis was crucial for testing the relationship between legitimate organizations and recovery time mediated by main investor commitment. This analysis allowed for the separation of total effects into direct and indirect paths, providing insights into the underlying mechanisms at play.</i> <i>Moderation analyses were conducted to explore the influence of the external economic context on the relationships. These analyses utilized interaction terms and visually represented the moderating effects, contributing to a nuanced understanding of how economic conditions impact the relationships between ESG performance, investor commitment, and recovery periods.</i>

Chapter 4. Cheaper and Faster, But Not Better: The Relationship between Efficiency, Resilience, and Sustainability	Theoretical research	<i>The desire to achieve a thorough and nuanced understanding of the interconnected fields of systemic thinking, organizational designs, and sustainability. This methodology allows for in-depth insights into how these aspects contribute to global sustainability, offering a qualitative lens to complement and enrich the quantitative findings presented in the preceding chapters of the thesis.</i>
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1.4. The structure of the research work

This research work, in addition to an introductory chapter, comprises three additional chapters corresponding to three research works, and a final chapter with conclusions, implications, and concluding remarks that conclude the doctoral thesis. Brief descriptions of the contents of the mentioned chapters are provided below.

Chapter 2 of this thesis presents the work titled “**Avoiding Relapses after Crises: Exploring the Influence of Firm Investors' Characteristics on Organizational Resilience**”. This research work has been published in *BRQ Business Research Quarterly* in 2024 (Mellado-Garcia, et al., 2024). This chapter focuses on analyzing, from the perspective of the Resource-Dependence Theory (Drees & Heugens, 2013, Hillman et al., 2009; Pfeffer & Salancik, 1978), the management of organizational crises and the prevention of relapses following successful recovery—an issue that has received limited attention in the literature. The study suggests that certain characteristics of investors, such as their geographic diversity, capital concentration, and patience, influence organizational resilience by reducing the risk of rapid relapse after a crisis.

Previous literature has done significant work addressing crisis management and recovery (e.g., Corey & Deitch, 2011; Gittell et al., 2006; Morrow Jr. et al., 2007), but there is a significant gap in understanding how to prevent relapses, especially concerning the influence of external agents, such as investors. The work is grounded in the Resource-Dependence Theory, highlighting the influence of investors as crucial resource providers in crisis situations. Through an empirical approach, hypotheses are tested by examining data from 359 organizations that faced financial difficulties in 2015 and stabilized in 2016. The results of

this research broaden the resource dependence perspective, showing that investor dependence not only affects the acquisition of external resources but also the development of internal competencies, such as organizational resilience.

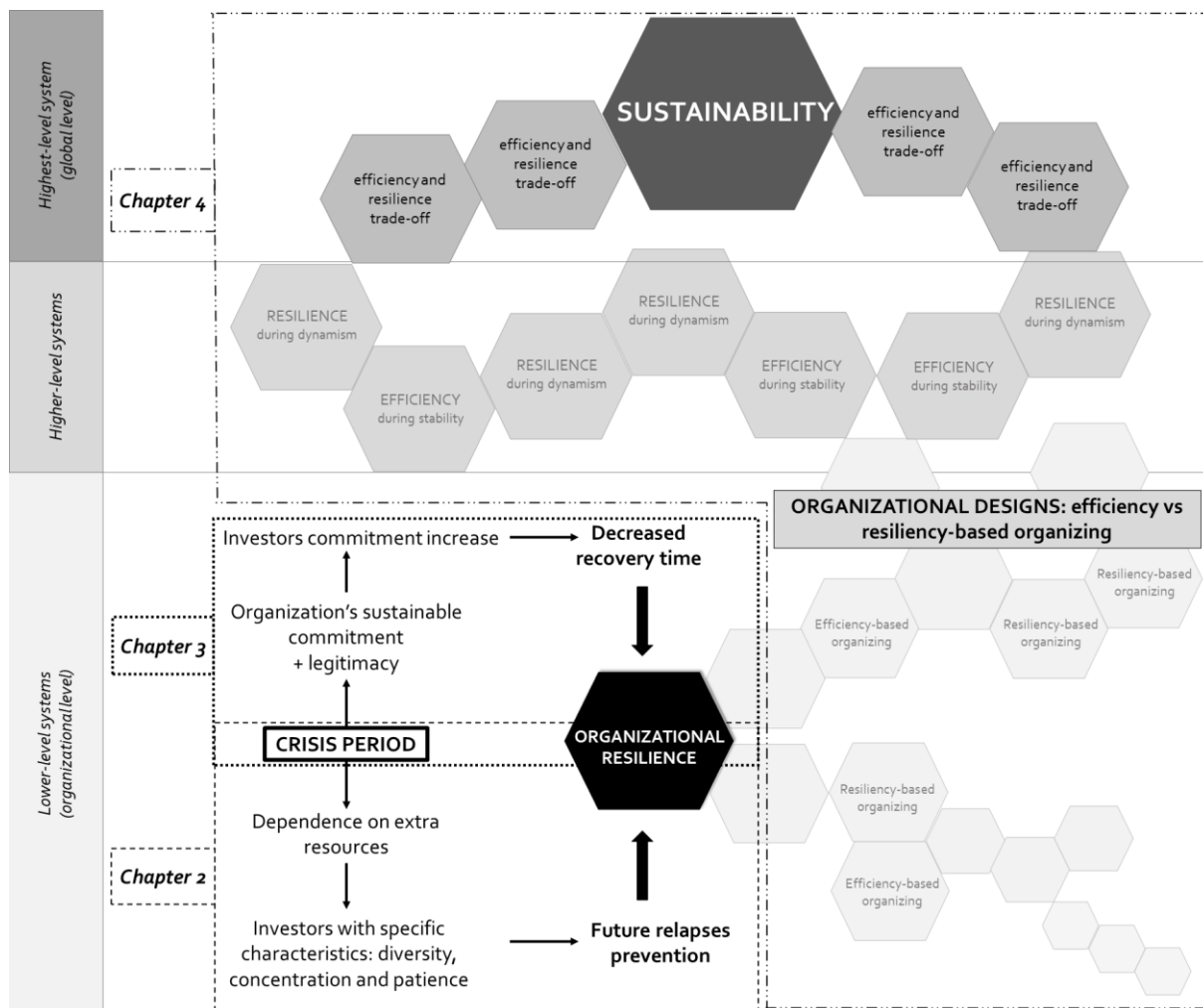
Chapter 3 of this thesis encompasses the research work titled "***Does Reinforcing Sustainability in Times of Organizational Crisis Help? The Mediating Effect of Investor Commitment***". With legitimacy theory as the theoretical foundation (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995), this work addresses a gap in the literature regarding the influence of sustainable initiatives during moments of crisis or financial difficulty and how this affects investor commitment and the speed of recovery after a crisis. According to previous literature, organizational crises, by threatening the survival of organizations, often lead to a shift in attention away from sustainable initiatives (Aich, et al., 2021; Bansal & Clelland, 2004; Roloff, 2023; Shaikh, 2022) towards prioritizing financial concerns and investor relations (Broadstock, et al., 2021). However, this work highlights the importance of maintaining a commitment to sustainability during financial constraints by the organization to strengthen investor commitment and accelerate recovery. It examines the relationship between sustainable commitment, investor commitment, and recovery speed in 190 organizations experiencing financial crisis in 2015. Furthermore, it emphasizes the mediation of investor commitment between increased sustainability commitment and recovery time, as well as the moderation of these effects by external economic conditions. Therefore, the integration of external dimensions into organizational resilience is included, highlighting how sustainability commitment, instead of being sacrificed during financial crises, can be a key tool to strengthen the organization's position with investors and expedite recovery. In summary, this research expands the understanding of the relationship between sustainability, investor commitment, and organizational resilience in the context of financial crises.

Chapter 4 encompasses the research work titled "***Cheaper and Faster, But Not Better: The Relationship between Efficiency, Resilience, and Sustainability***", a qualitative and theoretical study that aims to conduct an in-depth review of specialized literature on systemic thinking, organizational designs, and sustainability. This work is grounded in Hierarchy Theory (Bertalanffy, 1968; Boulding, 1956) and the systemic thinking perspective (Wu, & Sekiguchi, 2023), aiming to build a robust theoretical foundation that considers

sustainability as a holistic phenomenon achieved at a higher level within a system (global or macro level). Hierarchy Theory and the perspective of systemic thinking become essential components to understand how the interaction and interdependence among systems at lower levels influence the ability of an entire system to achieve sustainability at a macro level. Traditionally, literature has focused on detailing organizational designs based on efficiency, considering them essential for the productivity and profitability of organizations (Marginson, & McAulay, 2008; Mouzas, 2006; Yang, & Chen, 2009), ignoring the impact this may have on global sustainability. This work outlines how these organizational designs influence the ability of organizations to face challenges in dynamic environments and achieve global sustainable goals (Davis, et al., 2009). Considering the limitations of efficiency-based organizational designs, emphasis is placed on the need for a shift toward a resiliency-based organizational design, allowing greater flexibility, adaptability, and interdependence but collaboration among its components and parts (loose coupling design). Regarding achieving sustainability at a macro level, it is highlighted that an excessive focus on efficiency-based organizing at lower-level systems, while serving to optimize resources and processes, is not sufficient to ensure sustainability at a macro-system level within the hierarchical structure, whereas a resilience-focused approach in lower-level systems plays a fundamental role in achieving global sustainability.

Figure 1.1. provides a schematic diagram showcasing the main points investigated across the three chapters of this doctoral thesis, elucidating the interconnections and relationships among them.

FIGURE 1.1. A schematic overview of the studied matters across the chapters



REFERENCES

- Abdi, Y., Li, X., & Càmara-Turull, X. (2020). Impact of sustainability on firm value and financial performance in the air transport industry. *Sustainability*, 12(23), 9957.
- Adler, P. S., Goldoftas, B., & Levine, D. I. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, 10(1), 43-68.
- Aich, S., Thakur, A., Nanda, D., Tripathy, S., & Kim, H. C. (2021). Factors Affecting ESG towards Impact on Investment: A Structural Approach. *Sustainability*, 13(19), 10868.
- Aldrich, D. P., (2012). *Building Resilience: Social Capital in Post-Disaster Recovery*. University of Chicago Press: Chicago.
- Altman, E. I., Iwanicz-Drozdzowska, M., Laitinen, E. K., & Suvas, A. (2017). Financial distress prediction in an international context: A review and empirical analysis of Altman's Z-score model. *Journal of International Financial Management & Accounting*, 28(2), 131-171.
- Aragón-Correa, J. A., & Sharma, S. (2003). A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review*, 28(1), 71-88.
- Atif, M., & Ali, S. (2021). Environmental, social and governance disclosure and default risk. *Business Strategy and the Environment*, 30(8), 3937-3959.
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26(3), 197-218.
- Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management journal*, 47(1), 93-103.
- Barnett, M. L. (2006). The keystone advantage: what the new dynamics of business ecosystems mean for strategy, innovation, and sustainability. *Academy of Management Perspectives* 20 (2), 88-90
- Barnett, M. L. (2007). Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review*, 32(3), 794-816.
- Barnett, M. L., Dimitrov, V., & Gao, F. (2022). The nail that sticks out: corporate social responsibility and shareholder proposals. *Review of Accounting Studies*, 1-44.
- Belinda, C. D., & Christian, M. S. (2023). A Spillover Model of Dreams and Work Behavior: How Dream Meaning Ascription Promotes Awe and Employee Resilience. *Academy of Management Journal*, 66(4), 1152-1182.
- Bertalanffy, L. V. (1968). *General system theory: Foundations, development, applications*. G. Braziller.
- Boulding, K. E. (1956). General systems theory—the skeleton of science. *Management science*, 2(3), 197-208.
- Broadstock, D. C., Chan, K., Cheng, L. T., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, 38, 101716.

- Bunderson, J. S., & Sutcliffe, K. M. (2002). Comparing alternative conceptualizations of functional diversity in management teams: Process and performance effects. *Academy of Management Journal*, 45(5), 875-893.
- Busch, T., Bauer, R., & Orlitzky, M. (2016). Sustainable development and financial markets: Old paths and new avenues. *Business & Society*, 55(3), 303-329.
- Cannella Jr, A. A., Park, J. H., & Lee, H. U. (2008). Top management team functional background diversity and firm performance: Examining the roles of team member colocation and environmental uncertainty. *Academy of Management Journal*, 51(4), 768-784.
- Cardoni, A., Kiseleva, E., & Bellucci, A. (2022). The quality of SMEs stakeholder communication during strategic crises: The case of Italian unlisted SMEs. *Business Strategy and the Environment*, 1-17.
- Carmeli, A., Dothan, A., & Boojihawon, D. K. (2020). Resilience of sustainability-oriented and financially-driven organizations. *Business Strategy and the Environment*, 29(1), 154-169.
- Carpenter, M. A., & Westphal, J. D. (2001). The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making. *Academy of Management journal*, 44(4), 639-660.
- Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, 35(1), 1-23
- Choi, S. B., Park, B. I., & Hong, P. (2012). Does ownership structure matter for firm technological innovation performance? The case of Korean firms. *Corporate Governance: An International Review*, 20(3), 267-288.
- Cordeiro, J. J., Galeazzo, A., Shaw, T. S., Veliyath, R., & Nandakumar, M. K. (2018). Ownership influences on corporate social responsibility in the Indian context. *Asia Pacific Journal of Management*, 35, 1107-1136.
- Corey, C. M., & Deitch, E. A. (2011). Factors affecting business recovery immediately after Hurricane Katrina. *Journal of Contingencies and Crisis Management*, 19(3), 169-181.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative Science Quarterly*, 54(3), 413-452.
- Demastus, J., & Landrum, N. E. (2023). Organizational sustainability schemes align with weak sustainability. *Business Strategy and the Environment*, 1-19.
- DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management*, 45(4), 1434-1460.
- Deudon, J. C., Marques, A. C., & Sarens, G. (2015). Ownership concentration of three large Belgian banks during the crisis. *Corporate Governance*, 15(5), 663-677.
- Dolz, C., Iborra, M., & Safón, V. (2019). Improving the likelihood of SME survival during financial and economic crises: The importance of TMTs and family ownership for ambidexterity. *BRQ Business Research Quarterly*, 22(2), 119-136.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122-136.

- Drees, J. M. and Heugens, P. P, 2013, "Synthesizing and extending resource dependence theory: A meta-analysis". *Journal of Management*, 39(6): 1666–1698.
- Duchek, S. (2020). Organizational resiliency: a capability-based conceptualization. *Business Research*, 13(1), 215–246.
- Dupuy, C., Lavigne, S., & Nicet-Chenaf, D. (2010). Does geography still matter? Evidence on the portfolio turnover of large equity investors and varieties of capitalism. *Economic Geography*, 86(1), 75–98.
- Duque-Grisales, E., & Aguilera-Caracuel, J. (2021). Environmental, social and governance (ESG) scores and financial performance of multilatinas: Moderating effects of geographic international diversification and financial slack. *Journal of Business Ethics*, 168(2), 315–334.
- Einig, S. (2022). Financial return or social responsibility? An investigation into the stakeholder focus of institutional investors. *Business Ethics, the Environment & Responsibility*, 31(2), 307–322.
- Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). CROSSROADS—Microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization Science*, 21(6), 1263–1273.
- Faraj, S., & Xiao, Y. (2006). Coordination in fast-response organizations. *Management Science*, 52(8), 1155–1169.
- Furlan, A., Galeazzo, A., & Paggiaro, A. (2019). Organizational and perceived learning in the workplace: a multilevel perspective on employees' problem solving. *Organization Science*, 30(2), 280–297.
- Gittell, J. H., Cameron, K., Lim, S., & Rivas, V. (2006). Relationships, layoffs, and organizational resilience: Airline industry responses to September 11, *The Journal of Applied Behavioral Science*, 42(3), 300–329.
- Goyal, V. K., & Low, A. (2019). Investor myopia and CEO turnover. *International Review of Finance*, 19(4), 759–786.
- Granado-Peiró, N., & López-Gracia, J. (2017). Corporate governance and capital structure: A Spanish study. *European Management Review*, 14(1), 33–45.
- Groenendaal, J., & Helsloot, I. (2020). Organisational resilience: Shifting from planning-driven business continuity management to anticipated improvisation. *Journal of Business Continuity & Emergency Planning*, 14(2), 102–109.
- Hadlock, C., & Schwartz-Ziv, M. (2019). Blockholder heterogeneity, multiple blocks, and the dance between blockholders. *The Review of Financial Studies*, 32(11), 4196–4227.
- Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. *Strategic Management Journal*, 31(1), 58–74.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1427.
- Holling, C. S. (2001). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4, 390–405.

- Idode, P. E., Oluoch, O. J., & Oloko, M. (2018). Does Ownership Concentration Influence Discretionary Earnings Quality in Emerging Market: Evidence from Nigeria. *International Journal of Management, Accounting and Economics*, 5(2), 105–117.
- Jabbouri, I., & Naili, M. (2019). Does ownership concentration affect cost of debt? Evidence from an emerging market. *Review of Behavioral Finance*, 12(3), 282–296.
- Jia, X., Chowdhury, M., Prayag, G., & Chowdhury, M. M. H. (2020). The role of social capital on proactive and reactive resiliency of organizations post-disaster. *International Journal of Disaster Risk Reduction*, 48, 101614.
- Jung, C., Mallon, M. R., & Wilden, R. (2023). Strategy by Doing and Product-Market Performance: A Contingency View. *Journal of Management*, 1-30.
- Kahn, W. A., Barton, M. A., Fisher, C. M., Heaphy, E. D., Reid, E. M., & Rouse, E. D. (2018). The geography of strain: Organizational resilience as a function of intergroup relations. *Academy of Management Review*, 43(3), 509–529.
- Kennedy, P. W. (1994). Information processing and organization design. *Journal of Economic Behavior & Organization*, 25(1), 37-51.
- Kim, A. R., & Cho, M. H. (2008). Types of foreign investors, dividend and investment policy: An empirical study of Korean firms. *Journal of Strategic Management*, 11(1), 25–42.
- Kim, K. (2010). Blockholder monitoring and the efficiency of pay-performance benchmarking. *Journal of Corporate Finance*, 16(5), 748-766.
- Lengnick-Hall, C. A., & Beck, T. E. (2005). Adaptive fit versus robust transformation: How organizations respond to environmental change. *Journal of Management*, 31(5), 738-757.
- Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resiliency through strategic human resource management. *Human Resource Management Review*, 21(3), 243-255.
- Linnenluecke, M., & Griffiths, A. (2010). Beyond adaptation: resiliency for business in light of climate change and weather extremes. *Business & Society*, 49(3), 477-511.
- Liu, Y., & Yin, J. (2020). Stakeholder relationships and organizational resilience. *Management and Organization Review*, 16(5), 986-990.
- Lu, J., Rodenburg, K., Foti, L., & Pegoraro, A. (2022). Are firms with better sustainability performance more resilient during crises?. *Business Strategy and the Environment*, 31, 3354-3370.
- Lv, W., Wei, Y., Li, X., & Lin, L. (2019). What dimension of CSR matters to organizational resilience? Evidence from China. *Sustainability*, 11(6), 1561.
- Marcus, A. A., & Goodman, R. S. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Academy of Management Journal*, 34(2), 281–305.
- Marginson, D., & McAulay, L. (2008). Exploring the debate on short-termism: A theoretical and empirical analysis. *Strategic Management Journal*, 29(3), 273-292.
- Mellado-Garcia, E., Ortiz-de-Mandojana, N., & Aragon-Correa, J. A. (2024). Avoiding relapses after crises: Exploring the influence of firm investors' characteristics on organizational resilience. *BRQ Business Research Quarterly*, 1-16.

- Meyer, J., & Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology* 83(2), 340–363.
- Mintzberg, H., (1984). *The Structuring of Organizations (A Synthesis of Research)*. Prentice-Hall Inc.
- Morrow Jr, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007). Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic management journal*, 28(3), 271-283.
- Mouzas, S. (2006). Efficiency versus effectiveness in business networks. *Journal of business research*, 59(10-11), 1124-1132.
- OECD (2022), *Consumer confidence index (CCI) (indicator)*. <https://data.oecd.org/leadind/consumer-confidence-index-cci.htm>
- Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, 37(8), 1615-1631.
- Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of Management Review*, 23(1), 59-76.
- Perrow, C. (1999a). *Normal accidents: Living with high risk technologies*. Princeton university press.
- Perrow, C. (1999b). Organizing to reduce the vulnerabilities of complexity. *Journal of Contingencies and Crisis Management*, 7(3), 150-155.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence approach*. New York: Harper and Row Publishers.
- Qian, G., Khoury, T. A., Peng, M. W., & Qian, Z. (2010). The performance implications of intra- and inter-regional geographic diversification. *Strategic Management Journal*, 31(9), 1018–1030.
- Rao, H., & Greve, H. R. (2018). Disasters and Community Resilience: Spanish Flu and the Formation of Retail Cooperatives in Norway. *Academy of Management Journal*, 61(1), 5–25.
- Risi, D., Wickert, C., & Ramus, T. (2023). Coordinated enactment: How organizational departments work together to implement CSR. *Business & Society*, 62(4), 745-786.
- Roloff, J. (2023). Surviving or solidarity? Crisis responses of small and medium-sized enterprises during the Covid-19 pandemic. *Business Ethics, the Environment & Responsibility*, 32, p. 243–256
- Sakaki, H., & Jory, S. R. (2019). Institutional investors' ownership stability and firms' innovation. *Journal of Business Research*, 103, 10–22.
- Santos, F. M., & Eisenhardt, K. M. (2009). Constructing markets and shaping boundaries: Entrepreneurial power in nascent fields. *Academy of Management Journal*, 52(4), 643-671.
- Sartal, A., & Vázquez, X. H. (2017). Implementing information technologies and operational excellence: planning, emergence and randomness in the survival of adaptive manufacturing systems. *Journal of Manufacturing Systems*, 45, 1-16.

- Schaefer, S., & Wickert, C. (2015). The efficiency paradox in organization and management theory. *Academy of Management Proceedings* 2015(1), 10958.
- Schulz-Hardt, S., & Mojzisch, A. (2012). How to achieve synergy in group decision making: Lessons to be learned from the hidden profile paradigm. *European Review of Social Psychology*, 23(1), 305-343.
- Scott, W. R. (1995). *Institutions and organizations: Ideas, interests, and identities*. Sage publications: London
- Shaikh, I. (2022). Environmental, social, and governance (ESG) practice and firm performance: an international evidence. *Journal of Business Economics and Management*, 23(1), 218-237.
- Simon, H. A. (1962). The architecture of complexity. *Proceedings of the American philosophical society*, 106(6), 467-482.
- Slawinski, N., & Bansal, P. (2015). Short on time: Intertemporal tensions in business sustainability. *Organization Science*, 26(2), 531-549.
- Sonenshein, S., & Nault, K. (2023). When the Symphony Does Jazz: How Resourcefulness Fosters Organizational Resilience during Adversity. *Academy of Management Journal*, 1–31.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571-610.
- Sutcliffe, K. M., & Vogus, T. J. (2003). *Organizing for resilience*. In Cameron, K. S., Dutton, J. E., & Quinn, R. E. (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 94–110). San Francisco, CA: Berrett-Koehler.
- Taghian, M., D'Souza, C., & Polonsky, M. (2015). A stakeholder approach to corporate social responsibility, reputation and business performance. *Social Responsibility Journal*, 11(2), 340–363.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21(6), 689–705.
- Tsai, H., Ren, S., & Eisingerich, A. B. (2020). The effect of inter- and intra-regional geographic diversification strategies on firm performance in China. *Management Decision*, 58(1), 16-38.
- Tuazon, G. F., Wolfgramm, R., & Whyte, K. P. (2021). Can you drink money? Integrating organizational perspective-taking and organizational resilience in a multi-level systems framework for sustainability leadership. *Journal of Business Ethics*, 168(3), 469-490.
- Tucker, A. M. (2017). The Long and the Short: Portfolio Turnover Ratios & Mutual Fund Investment Time Horizons. *The Journal of Corporation Law*, 43(3), 581–648.
- Van den Broek, T., Langley, D., & Hornig, T. (2017). The effect of online protests and firm responses on shareholder and consumer evaluation. *Journal of Business Ethics*, 146(2), 279–294.
- Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resiliency. *Academy of Management Journal*, 58(4), 971-980.

- Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resiliency, adaptability and transformability in social–ecological systems. *Ecology and Society*, 9(2).
- Weber, M. (1947). *The theory of social and economic organization*. Henderson, M.A., & Parsons, T., (trans). The Free Press: New York Williams, K. Y., & O'Reilly III, C. A. (1998).
- WCED. (1987). *Our Common Future*. Oxford University Press: Oxford
- Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, 357-381.
- Welbourne Eleazar, M. J., & Park, H. D. (2022). Who will stay when crisis strikes? venture capitalist threat-defiant learning response to ventures in crisis. *Academy of Management Journal*, 65(4), 1218-1239.
- Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal*, 59(6), 2069-2102.
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733-769
- Wu, J., & David, J. L. (2002). A spatially explicit hierarchical approach to modeling complex ecological systems: theory and applications. *Ecological modelling*, 153(1-2), 7-26.
- Wu, J., & Sekiguchi, T. (2023). Understanding Organizational Performance in Dynamic Environments: An Integrative Framework of Activity-System Maps and the NK Model. *Academy of Management Learning & Education*, 22(2), 239-256.
- Yang, C. H., & Chen, K. H. (2009). Are small organizations less efficient?. *Small Business Economics*, 32(4), 375-395.



CHAPTER 2.

AVOIDING RELAPSES AFTER CRISES: EXPLORING THE INFLUENCE OF FIRM INVESTORS' CHARACTERISTICS ON ORGANIZATIONAL RESILIENCE

2.1. Introduction

Organizational crises manifest when managerial decisions falter in sustaining the alignment of an organization's strategy with its evolving external environment (Furrer et al., 2007). Four in five business leaders anticipate that their organizations will encounter an organizational crisis within the next twelve months, and nearly half of these leaders have formulated plans to expedite recovery (Deloitte, 2022). However, it is intriguing to note that emerging stronger from an organizational crisis and preventing a quick relapse into an upcoming crisis remains a relatively uncommon occurrence within the business sphere (PwC, 2022). Relapse prevention refers to an organization's need to follow the right approach to avoid returning to an organizational crisis (Omorede, 2021). This involves implementing strategies and decision-making processes aimed at fortifying an organization's resilience and mitigating vulnerabilities that could lead to a return to a state of crisis. Recovery from a crisis is urgent, but executive decisions must focus on a long-term implementation process to prevent relapse (Thürmer et al., 2020).

Organizational resilience encompasses the capacity of an organization to effectively respond to and absorb disruptions when they come (Kahn et al., 2018; Linnenluecke & Griffiths, 2010; Ortiz-de-Mandojana & Bansal, 2016; Williams & Shepherd, 2016), and the organization's adaptive and transformative capabilities to mitigate disruptions before they occur (Lengnick-Hall et al., 2011; Van Der Vegt et al., 2016). Therefore, organizational resilience includes an organization's capability to prevent relapses into upcoming crises.

In this context, previous management research on organizations during organizational crises and the literature on resilience have predominantly focused on examining the decisions and strategies employed by organizations to recover from such crises (e.g., Corey & Deitch, 2011; Gittell et al., 2006; Morrow Jr. et al., 2007), encompassing financial approaches (Dao, 2017), entrepreneurial management (Kusa et al., 2022), and environmental practices (DesJardine et al., 2019). However, it overlooks the critical aspect of sustaining resilience in the aftermath. While the notion of preventing relapse has been well established in the context of psychology and health-related studies, there is a noticeable gap in the examination of relapses

concerning organizational crises, particularly in navigating crises and how external actors may influence an organization's capability to prevent relapses into upcoming crises.

Resource dependence literature is useful to underscore that executive decision-making during a crisis is markedly influenced by external actors who provide resources (Drees & Heugens, 2013; Hillman et al., 2009; Pfeffer & Salancik, 1978). Among the external actors that can influence relapse prevention, we focused on investors because of the organization's strong dependence on them in crises situations (Abdurakhmonov et al., 2021; Choi et al., 2012; Desender et al., 2013; Lin, 2019; Schmid & Roedder, 2021). The investors play a relevant role in a crisis recovery by representing the most reliable source of accessible resources (Cordeiro, et al., 2018; Furrer et al., 2007) and invaluable social resources (Huang & Knight, 2017), and contributing to decision stability (Sakaki & Jory, 2019). However, investors' influence on executives' decisions can vary depending on specific investors' characteristics.

Therefore, based on resource dependence literature, we propose certain investor features, with underlying psychological characteristics (Duxbury et al., 1996; Nakai et al., 2018), to characterize their influence on executive decisions during a crisis period. Specifically, we propose that the diversity, concentration, and patience of organizations' investors in crisis situations strongly influence organizational resilience by reducing the risk of rapid relapse following recovery from an organizational crisis.

To empirically test our hypotheses, we selected a sample from all organizations listed in the Refinitiv Eikon database that faced financial distress in 2015 (i.e., in-crisis year), but showed stability in 2016 (i.e., recovery year). Our results included a comprehensive analysis of these organizations' financial status from 2014 (the pre-crisis year) to 2019, and revealed that a higher level of investor diversity and patience is associated with a decreased likelihood of relapse following recovery. Conversely, an increase in the concentration of large investors during a crisis elevates the risk of relapse.

This study makes two significant contributions to the literature. First, it extends the resource-dependence perspective (Drees & Heugens, 2013; Hillman et al., 2009; Pfeffer & Salancik, 1978) by emphasizing that an organization's dependence on external agents is inevitable in certain circumstances, and contributes by confirming that dependence on investors impacts not only the acquisition of diverse external resources and support (Choi et al., 2012; David et

al., 2010), but also the development of an organization's internal competencies such as organizational resilience for preventing relapses. Moreover, our results suggest that some investors' characteristics, such as diversity and patience, help to understand the psychological traits influencing investors behavior in the aftermath of crises, which finally influences executive decisions, contributing to the prevention of relapses in crises.

Second, this study contributes to the domain of organizational resilience (Kahn et al., 2018; Sutcliffe & Vogus, 2003; Williams et al., 2017). The literature on resilience has traditionally focused on internal resources and recovery phase from a crisis, without focusing on factors that positively influence the subsequent phase of a recovery period. Prior literature on relapse prevention has been traditionally associated with psychological (e.g., Brandon et al., 2007; Homan, et al., 2023), medical (e.g., Brandon, et al., 2012), biological (e.g., Santos-de-Frutos, & Djouder, 2021), and technological (e.g., Chen, et al., 2021) contexts. By examining the post-recovery period in a management field, this study advances our understanding of crucial investor characteristics for preventing relapse and reinforcing organizational resilience. We find that investor diversity and patience contribute to resilient capabilities by fostering adaptability and long-term orientation in decision-making processes.

To sum up, we address the gaps in the literature regarding the prevention of relapse after a successful recovery from a crisis by examining how certain investor characteristics during the crisis period are crucial for resilience-based processes. We contribute to the resource dependence and resilience literatures by identifying and delimitating the role of investors in sustaining the corporate resilience in the post-crisis period.

2.2. Theoretical background

2.2.1. Role of investors in the resource-dependence perspective

In the event of an organizational crisis, internal resources become notably constrained, prompting organizations to rely on external agents to acquire resources, thereby fortifying their capacity to navigate challenges (Bass & Chakrabarty, 2014; Morrow Jr. et al., 2007). The resource-dependence perspective, articulated by scholars such as Drees and Heugens (2013), Hillman et al. (2009), and Pfeffer and Salancik (1978), extensively delves into mechanisms through which agents who provide these critical resources influence executive decisions

(Abdurakhmonov et al., 2021; Bass & Chakrabarty, 2014). Reliance on investors' resources intensifies during an organizational crisis, driven by the need to overcome the limitations posed by the organization's internal reservoir of material, social, and financial resources, necessitating an external increase (Marcus & Goodman, 1991). Notably, while many external agents, such as suppliers or financial institutions, may hesitate to support organizations facing financial adversity (López-Gutiérrez et al., 2015), investors emerge as a cornerstone of an organization's survival because they provide both direct and indirect access to resources (Cordeiro, et al., 2018; Van den Broek et al., 2017). For instance, Chhatwani et al., (2022) conducted a study demonstrating the influence of investors' resource provision on organizations' survival during the pandemic. Consequently, investor reliance substantially influences the decision-making processes of organizations undergoing crises (Furrer et al., 2007). This influence extends beyond the strategic aspects of decision making and encompasses a nuanced understanding of the investors and executives' cognitive and emotional dimensions (Alshebami, 2022; Zhao, & Wibowo, 2021), and the individual psychological characteristics involved (Sheeran, 2002; Utsch & Rauch, 2000; Wang, 2014).

Previous studies, such as Duxbury et al., (1996), and Nakai et al., (2018), have delved into the examining psychological characteristics of investors to uncover the motivations behind their investment decisions or behaviors. Nakai and colleagues, (2018) emphasize the importance of altruism and risk consciousness as two crucial psychological characteristics to understand the investors' decisions. Investors may want to prioritize initiatives and decisions that contribute to organizational success, even if the returns are not immediate. However, their investment choices tend to lean towards safety and stability. In this context, Duxbury and colleagues, (1996) identify different psychological characteristics in investors that emphasize their internal motivation, strong engagement with their work and investments within the organization, and a desire for autonomy in decision-making processes, alongside a focus on control in their influence on decisions. This autonomy is valued for making independent decisions while maintaining a connection or affiliation to the organization.

In our study, we explore how three pivotal investors' characteristics (diversity, concentration, and patience) impact corporate decisions intended to reinforce organizational resilience. These investors characteristics are connected to psychological traits. Diversity in investors is related to autonomy in decision-making processes due to the range of perspectives and

insights they provide (Gao & Hafsi, 2019; Santoro et al., 2020). The autonomy arises from that each investor's unique perspective is considered, allowing for a more comprehensive evaluation of options. The desire for control is a psychological characteristic that manifests strongly in concentrated investors, as they seek to actively shape, influence and guide decisions that align with their strategic vision for the organization (Carpenter & Westphal, 2001; Hadlock & Schwartz-Ziv, 2019). These investors tend to take a cautious, consciousness and conservative approach to decision-making to minimize risks (Deudon et al., 2015; Thomsen & Pedersen, 2000). Finally, investors' patience is closely linked to psychological characteristics such as motivation, and high engagement with the organization. When investors exhibit patience, it suggests a high level of motivation and engagement (Thürmer et al., 2020; Tucker, 2017), as they are willing to endure longer timelines in the pursuit of sustained success over immediate returns and uncertainties (Ly et al., 2019; Sajko et al., 2021; Sakaki & Jory, 2019).

We propose that the distinct characteristics of investors play a crucial role in shaping the contributions they make in a crisis situation, highlighting the essential role of their contributions in cultivating a resilient approach to prevent relapse following an organizational crisis.

2.2.2. Developing organizational resilience to prevent relapses

Sutcliffe and Vogus (2003) are notable for pioneering the concept of a “resilient organization” emphasizing an organization's capacity to rebound from disruptions while fortifying the organizational structure to prevent relapses and foster enduring stability. Recent literature on resilience identified three factors that are crucial for supporting organizational resilience. First, the capability to cultivate adaptive decision-making processes (DesJardine et al., 2019) by incorporating diverse perspectives and information integration (Salas-Vallina et al., 2022; Santoro et al., 2020). Second, organizational resilience is bolstered by the capacity for cohesion (Beckman & Stanko, 2020), collaboration among individuals (Harrison et al., 2010), and the establishment of trustworthy relationships (You & Williams, 2023). Third, organizational resilience is exemplified by consistent performance amid chaos, as evidenced by established routines in which long-term decision-making processes (Farjoun, 2010), enable stability and control in performance despite disruptions.

Drawing on the resilience literature, we propose that investors with specific characteristics such as diversity, concentration, and patience may foster resilient capabilities (Utsch & Rauch, 2000; Zhao & Wibowo, 2021), thereby facilitating executive decisions that hold the potential to prevent relapse (Chhatwani et al., 2022). Specifically, we propose that diverse investors bring adaptability to decision-making processes; concentrated investors support collaborative decision-making, while patients bring stability to decision-making processes, collectively enhancing the organization's overall resilience and ability to prevent relapses after successfully navigating through an organizational crisis.

2. 3. Hypotheses

2.3.1. Diversity of investors and relapse prevention

In the aftermath of an organizational crisis, an organization requires fresh perspectives as previous practices and resources are inadequate to prevent a subsequent crisis (Williams & Shepherd, 2016). The diversity of investors during crises can influence the decisions of executives, affecting the future of the organization by providing diverse experiences that encompass various management perspectives (Gao & Hafsi, 2019; Santoro et al., 2020), varied information (Lien et al., 2021; Chang & Hong, 2002), connectivity between an organization and its external environment (Nadeem, 2020), and fostering innovative approaches and strategies (Sakaki & Jory, 2019). This access to a diverse array of information and perspectives from diverse investors during the recovery period brings about more adaptive decision-making processes (DesJardine et al., 2019).

The motivation to retain diverse investors in times of crisis will prompt the executives to adopt more diverse solutions and approaches. To secure continued support, executives must navigate this diversity by tailoring strategies that align with the preferences of different investors (Lv et al., 2019). This decision to adopt a range of different solutions to accommodate investor diversity during crises equips executives with tools to navigate the challenges of the post-crisis period that enhance the organization's resilience and ability to prevent a potential relapse.

Therefore, the diversity of investors improves executive decisions, as it may integrate diverse information and perspectives to make a better decision (Schulz-Hardt & Mojzisch, 2012) and

enable the adaptation of executive decisions to evolving environmental conditions (Choi et al., 2012; Groenendaal & Helsloot, 2020). We propose that this situation may seem relevant to avoid future relapses after a crisis. Therefore, we hypothesize:

Hypothesis 1 (H1). Higher intensity of investor diversity during the in-crisis period is negatively associated with relapse after recovery.

2.3.2. Increase in concentration of investors and relapses prevention

Jabbouri and Naili (2019) define concentrated ownership as “investors holding a significant equity claim in the firm that grants them both the incentive and the power to discipline managers” (p. 284). Previous research has established a correlation between concentrated investors during organizational crises and a reduction in insolvency risk (e.g., Iannotta et al., 2007), an improvement in organizational performance (e.g., Gaur et al., 2015), and value, attributed to the effective monitoring capabilities of large investors (e.g., Granado-Peiró & López-Gracia, 2017). We propose that an increased concentration of investors during a crisis influences executives’ behavior in a manner that guides them toward making decisions aimed at preventing relapse by mitigating risks that would be especially negative for these investors.

Considering the high proportion of an organization's assets that concentrated investors retain (Hamadi, 2010), they exhibit a significant interest in the organization's survival. Moreover, investors with significant stakes have increased opportunities to influence managerial decisions and shape an organization's management strategies (Carpenter & Westphal, 2001; Hadlock & Schwartz-Ziv, 2019; Taghian et al., 2015). This results in stronger incentives to limit excessive risk-taking compared to organizations including investors with more limited engagement (Deudon et al., 2015; Thomsen & Pedersen, 2000). Therefore, with concentrated investors increasing in times of crisis and exercising influence, the organization tends to take fewer risks, as these investors are deeply vested in the organization's success and motivated to avoid excessive risk taking.

Moreover, the need for collaboration becomes paramount in the aftermath of an organizational crisis. An increase in the concentration of large investors during times of crisis contributes to the development of a trusting relationship between investors and the executive team (Salas-Vallina et al., 2022), as these investors choose to remain with the

organization even during challenging times. Unlike smaller investors, who may opt to exit during crises, large investors with concentrated ownership stakes display a true commitment to organizations' success and resilience.

The concentration of large investors fosters a collaborative and trustworthy climate, and contributes to the establishment of shared leadership in the decision-making processes. In this shared leadership model, large investors align with executives (Lin, 2019), actively participate in collaborative processes and strategic planning (Dufour et al., 2019; Lin, 2019; Sakaki & Jory, 2019). Hence, the concentrated investors' commitment with the organization and their interest to reduce future risks make a strong influence in the executives during a crisis period.

Therefore, we suggest that an increase in the concentration of large investors during turbulent times contributes to an organization's resilience and ability to sustain stability post-crisis. Accordingly, we hypothesize:

Hypothesis 2 (H2). An increase in the concentration of large investors during in-crisis period is negatively associated with relapse after recovery.

2.3.3. Patience of investors and prevention of relapse

Following an organizational crisis, it is relevant for executives to ensure that external stakeholders offer them the opportunity to look at the long-term key aspects of the organization, including financial health, operational functions, and overall organizational coherence. While adopting a long-term orientation in decision-making contributes to preventing potential relapses into crises, a volatile and short-term orientation can impede the development of organizational resilience (Lv et al., 2019; Tucker, 2017).

The degree of turnover among principal investors plays a pivotal role in determining an organization's inclination toward long- or short-term decision orientation (Dupuy et al., 2010). Drawing from existing literature (e.g., Dupuy et al., 2010; Goyal & Low, 2019; Tucker, 2017), we define "patient investors," often referred to as "patient capital" or "low-turnover investors," as those who have been actively involved in organizational decision-making and practices over an extended period. These investors are more likely to influence executives to make long-term decisions because of their stability and commitment to the organization

over time (Thürmer et al., 2020; Tucker, 2017). Furthermore, their prolonged involvement allows them to accumulate comprehensive knowledge and insights into the internal performance of the organization, as well as the decision-making processes of executives (Dupuy et al., 2010). Therefore, patient investors reflect a genuine interest in an organization's resilience and survival, along with a strategic, long-term approach (Lv et al., 2019). In contrast, "impatient investors" or high-turnover investors are inclined toward seizing immediate opportunities, advancing self-interest (Dupuy et al., 2010), and exhibiting limited commitment to the organization (Goyal & Low, 2019), resulting in a preference for short-term approach (Wang, 2014).

Consequently, the sustained commitment exhibited by patient investors during disruptions reflects a strategic partnership (Rogbeer, 2009). This temporal stability allows decision-makers to navigate difficulties with greater clarity and looking at the long term because the influence of patient investors. On the one hand, patient investors can afford executives the advantage of time for strategic decisions, enabling a more thoughtful and comprehensive approach to decision-making. Executives can pursue structural advancements that require extended planning and implementation. Unlike situations with impatient investors, where the emphasis may be on immediate performance improvements, the presence of patient investors enables executives to focus on enduring and transformative strategies (Dean Jr. & Sharfman, 1996; Khatri & Ng, 2000). On the other hand, these investors remain committed to the organization despite crisis circumstances, enhancing the organization's credibility, reputation, and reliability from external stakeholders' perspective. Highly-reliable organizations exhibit continuity and error-free functioning even in turbulent environments (Bigley & Roberts, 2001). This improved credibility increases the likelihood of establishing long-term relationships with external agents in times of crisis.

Therefore, we propose that investors who maintain their position in an organization for an extended period are more likely to contribute to the maintenance of organizational resilience over time by influencing executives to maintain long-term approaches that will help prevent relapses. We thus hypothesize as follows:

Hypothesis 3 (H₃). Greater continuity of patient investors during the pre-crisis period is negatively associated with relapse after recovery.

2.4. Methodology

2.4.1. Sample and data collection

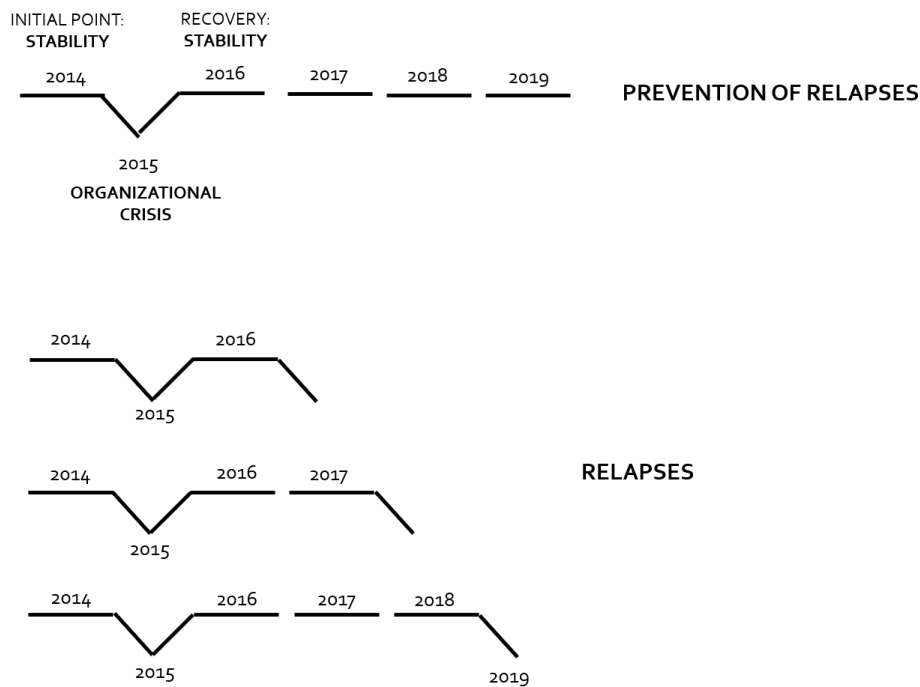
Our sample encompasses organizations listed in the Refinitiv Eikon database showing a pattern of crisis and recovery that allows us to examine potential relapses after recovery. Specifically, we analyzed organizations that met the following criteria: maintained a stable financial status in 2014, experienced a financial crisis in 2015, and subsequently recovered in 2016. Consistent with established methodologies in prior research on corporate crises (e.g., Boubakri & Saffar, 2019; Tong et al., 2020), we employed the Altman Z-Score index as a metric to evaluate each organization's financial health (Altman et al., 2017). A score below 1.81 was set as an indicator of a high risk of potential bankruptcy (Altman et al., 2017). This screening process yielded 359 organizations for our analysis.

To construct our sample, we initially identified organizations in the database that were in the crisis recovery phase. This involved identifying organizations facing financial distress in 2015 that subsequently rebounded in 2016. To ensure the exclusion of organizations with a protracted history of financial difficulties (which may make them susceptible to relapse), we required a stable financial situation in 2014. Additionally, we examined whether these organizations encountered subsequent crises in 2017, 2018, and 2019 (see Figure 2.1.). Figure 2.1. illustrates the profile of an organization that exhibited stability and successfully averted relapses into crises from 2016 to 2019. In contrast, it contrasts with other organizations that encountered relapses into organizational crisis periods in the subsequent years (2017, 2018, or 2019) after a recovery process initiated in 2016. The selected timeframe for analysis, from 2014 to 2019, was deemed appropriate, as it affords a comprehensive view of several consecutive years, encompassing crisis and recovery, and allows for an assessment of the stability of the recovery phase. We excluded data from 2020 and 2021 to avoid potential distortions arising from the global pandemic. The exclusion of these years was deemed necessary to prevent confusing effects in our findings, given the unique and disruptive economic and psychological circumstances that characterized this period driven by the influence of COVID-19.

Our final sample comprised organizations from 42 countries in five regions: America (30.1%), Europe (13.4%), Asia (41.5%), Africa (2.2%), and Oceania (12.8%). They came from different

sectors of activity, such as energy and utilities (7.5%), materials (30.9%), industry (16.6%), consumer discretionary and staples (18.4%), healthcare (6.4%), financials (2.8%), information and communication technologies (ICT) (14.8%), and real estate (2.3%). The diversity of sectors and countries provides this study with opportunities for generalization.

FIGURE 2.1. Prevention versus relapses into organizational crisis period



Source: Own elaboration

2.4.2. Description of variables

Dependent variable. The dependent variable is referred to as “*relapsing after recovery*.” It is operationalized as a dichotomous variable. Specifically, it takes a value of 1 if the organization successfully recovered from the corporate crisis in 2016 (indicated by an Altman Z-Score > 1.81) but subsequently experienced a relapse in 2017, 2018, or 2019 (signified by an Altman Z-Score < 1.81). Conversely, it assumes a value of 0 if the organization recovered in 2016 and did not encounter a relapse into corporate crisis in any of the subsequent years under consideration.

Explanatory variables. The explanatory variables include investor diversity, concentration, and patience. Investor diversity was assessed using a geographic diversification index derived

from entropy (Tsai et al., 2020). This index measures an organization's investors "geographic diversification across different regions" for the in-crisis year (Qian et al., 2010, p. 1021). The entropy measurement results from the:

$$Investors' geographic diversity = \sum_{i=1}^m P^i \ln\left(\frac{1}{P^i}\right)$$

where m is the number of regions from which all investors may have originated. P^i signifies the proportion of the i^{th} region relative to the organization's overall portfolio percentage across all regions. This is computed by dividing the total investor portfolio percentage in each country by the total investor portfolio percentage in 2015. A high value for this variable indicates a greater presence of diverse investors, whereas a value close to or equal to 0 indicates that most of the organization's investors are from the same region.

The concentrated investors in each organization were defined as those holding more than 5% of the focal organization's total holdings (Hadlock & Schwartz-Ziv, 2019; Kim & Cho, 2008; Zahedi et al., 2015). Following this criterion, the portfolio percentages of these large investors were aggregated and our variable of *increase in concentrated investors* includes the change in investor concentration calculated as the difference between the pre-crisis and recovery years (2014–2016). Elevated values of this variable indicate an increased concentration of large investors during the in-crisis period, whereas diminished values suggest a reduction in the degree of concentration of large investors during the period. Evaluating changes in investor concentration allows for a more detailed understanding of how the influence of large investor evolves over a critical in-crisis period.

Patient investors were measured by counting the years, within the 2010–2015 timeframe, during which the main investor belonged to the low-turnover portfolio category, as per the Refinitiv Eikon database classifications (encompassing high-turnover, moderate-turnover, and low-turnover portfolios). Therefore, this variable ranged from 0 to 6. A higher value (close to or equal to 6) indicates greater patience of the main investor as belonging to the low-turnover category for an extended time, while a value close to or equal to 0 indicates low patience of the main investor as belonging to a high- or moderate-turnover category for the analyzed period.

We also performed a robustness check on our final results, which involved substituting investor diversity in 2015 with a measure from 2010 to 2015. We also replaced concentrated investors, defined as those holding more than 5% of the total holdings, with the top five investors (regardless of their total percentage of holdings) (Li et al., 2015; Yang et al., 2023). Furthermore, we replaced the presence of patient capital from 2010 to 2015 with its presence in 2015 alone. The outcomes were comparable to those of the original studies with no significant alterations in the findings.

Control variables. We controlled for several factors that may influence the probability of relapse into a crisis, including organization size, stability of the organization's country in the in-crisis year (2015), and the regions and sectors in which the organization operates according to the Global Industry Classification Standard (GICS sectors). The size of an organization significantly influences resilient capabilities in an organization (Ferrón-Vílchez & Leyva-de la Hiz, 2023). A larger organizational size may provide a buffer against crises by allowing for the diversification of operations, more extensive networks and collaborations, and increased adaptability driven by external support and resource access (Galkina et al., 2023). We use organizations' *total assets* value during an in-crisis year as a measure of *organization size* (Li et al., 2015; Ortiz-de-Mandojana & Bansal, 2016). Moreover, favorable economic development within a country, supported by sound financial policies and robust reserves, is essential for maintaining stable and resilient organizational operations (Dao, 2017; Marcus & Goodman, 1991). To assess the *stability of an organization's country*, we measured it using the *Gross Domestic Product (GDP) per capita value* in the different home countries of the analyzed organizations from the World Bank database in the in-crisis year. Finally, we control by region and sector, as the prevention of relapse can be influenced by institutional factors.

2.4.3. Data analysis

Logistic regression models (Cox, 1958) are widely employed and effective statistical techniques for modeling binary dependent variables (Whitaker et al., 2021). Our models estimate the likelihood that specific investor characteristics are present in organizations that experience a relapse after recovery ($y=1$) compared to those that do not ($y=0$). The regression coefficients quantify the influence of independent variables on the probability of an event

occurring. A positive coefficient indicates that the variable increases the probability of relapse after recovery, whereas a negative coefficient indicates the opposite.

2.5. Results

Table 2.1. presents the descriptive statistics for the examined variables. Despite the modest correlations among independent variables, we assessed Variance Inflation Factors (VIF) to ensure that collinearity did not influence our analyses. The observed values fell within acceptable thresholds, with no VIF surpassing 10, thereby affirming that heightened correlation is not a factor warranting concern (Hair et al., 1995). Furthermore, we constructed the models in a hierarchical manner to enable a comprehensive evaluation of the enhancement in model fit, while also eliminating the potential for spurious associations (Judge et al., 2010).

Table 2.2. presents the results of the binary logistic regression analysis. Model 1 serves as the baseline and encompasses the control variables. Subsequent models (Models 2, 3, and 4) progressively introduce the independent variables under examination. The likelihood ratio chi-squared test for our final model (Model 4) demonstrates statistical significance [likelihood ratio (LR) Chi-square (17) = 28.06 | $p = 0.031$]. Furthermore, the percentage of correct classifications improved from Model 1 (64.35%) to Model 4 (67.13%).

Hypothesis 1 posits that organizations characterized by a high degree of investor diversity are less susceptible to a relapse. This hypothesis is supported by the negative and statistically significant coefficient of *investor diversity* in Model 2 [*Coef.* = -1.16 , odds ratio = 0.31 | $p = 0.005$]. This finding suggests that holding all other variables constant, an augmentation in investor diversity during the run-up period with the crisis leads to a reduction in the odds of relapse after recovery by 3.23 times (i.e., $1/\text{odds ratio}$, as the coefficient for the variable is negative) compared with organizations lacking diversity in their investor base. Therefore, we conclude that our results support *Hypothesis 1*; consequently, *investor diversity* prevents the risk of relapse into organizational crises.

TABLE 2.1. Means, standard deviations and correlations^a

Variable	Mean	S.D	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Relapse after recovery	.64	.48	0	1																
2. Total assets ^b	.12	.76	.00	9.28	.03															
3. Consumer sector	.18	.39	0	1	.00	.02														
4. Energy sector	.08	.26	0	1	-.03	.05	-.14*													
5. Health Care sector	.06	.25	0	1	.03	-.04	-.12*	-.07												
6. ICT's sector	.15	.36	0	1	-.01	-.06	-.20***	-.12*	-.11*											
7. Industrial sector	.16	.37	0	1	-.03	-.06	-.21***	-.13*	-.11*	-.18***										
8. Material sector	.31	.46	0	1	.01	.03	-.32***	-.19***	-.18**	-.28***	-.29***									
9. Real Estate Sector	.03	.17	0	1	-.03	.13*	-.08	-.05	-.05	-.07	-.08	-.12*								
10. Region of Europe	.13	.34	0	1	-.04	-.06	-.14**	-.02	.16**	-.00	.23***	-.17***	-.02							
11. Region of America	.30	.46	0	1	-.03	-.10*	-.19***	.14*	-.07	.00	-.11*	.24***	-.08	-.26***						
12. Region of Africa	.02	.15	0	1	-.04	-.02	-.02	.03	.04	-.01	-.02	.02	-.03	-.06	-.10†					
13. Region of Oceania	.13	.33	0	1	.03	-.06	-.10†	-.08	.04	-.04	-.10†	.25***	-.07	-.15**	-.25***	-.06				
14. GDP per capita ^c	.04	.02	.00	.10	.01	-.23***	-.18***	.03	.13*	.02	-.02	.10†	-.13*	.17***	.33***	-.20***	.36***			
15. Investors' Geographical Diversity	.19	.28	0	1.34	-.15**	-.00	.03	-.01	.07	-.05	-.00	.04	-.07	.10†	.03	-.01	.07	.16**		
16. Increase in Concentrated Investors	-.06	.17.53	-.70.00	79.33	.12*	-.04	.05	.11*	.02	-.06	-.03	-.09	.05	-.01	.03	.06	-.06	-.01	-.10†	
17. Patient Capital	3.75	1.64	0	6	-.12*	.04	.08	-.02	-.02	-.02	-.00	-.02	.05	-.02	-.04	.01	.06	.08	.04	.06

^a N= 359. The correlation involving the dichotomous variable (variable 1) are polyserial correlations. All other are Pearson's correlation. Significant at the †.10; *.05; **.01; ***.001 lev

^b expressed in trillions;

^c expressed in millions

TABLE 2.2. Influence of investors' characteristics on relapses into crises

	Model 1	Model 2	Model 3	Model 4
Control variables	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)
Total assets ^b	0.09 (0.17)	0.11 (0.17)	0.14 (0.18)	0.16 (0.18)
Consumer sector	-1.88 [†] (1.11)	-1.70 (1.11)	-1.67 (1.12)	-1.57 (1.13)
Energy sector	-1.91 [†] (1.14)	-1.80 (1.14)	-1.83 (1.15)	-1.82 (1.17)
Health Care sector	-1.42 (1.16)	-1.24 (1.16)	-1.19 (1.17)	-1.21 (1.18)
ICT's sector	-1.84 [†] (1.10)	-1.73 (1.11)	-1.63 (1.12)	-1.61 (1.13)
Industrial sector	-1.84 [†] (1.09)	-1.72 (1.10)	-1.65 (1.11)	-1.62 (1.12)
Material sector	-1.72 (1.09)	-1.58 (1.10)	-1.48 (1.10)	-1.47 (1.11)
Real Estate Sector	-2.27 [†] (1.24)	-2.23 [†] (1.24)	-2.27 [†] (1.25)	-2.16 [†] (1.27)
Region of Europe	-0.62 (0.42)	-0.52 (0.42)	-0.54 (0.43)	-0.60 (0.43)
Region of America	-0.41 (0.36)	-0.38 (0.36)	-0.40 (0.37)	-0.46 (0.37)
Region of Africa	-0.67 (0.75)	-0.63 (0.77)	-0.76 (0.78)	-0.73 (0.80)
Region of Oceania	-0.23 (0.49)	-0.17 (0.49)	-0.16 (0.49)	-0.18 (0.49)
GDP per capita ^c	5.29 (7.86)	7.34 (7.93)	7.36 (7.97)	10.17 (8.13)
Independent variables				
Investors' Geographical Diversity		-1.16** (0.41)	-1.09** (0.42)	-1.09** (0.42)
Increase in Concentrated Investors			0.01* (0.01)	0.02* (0.01)
Patient Capital				-0.18* (0.07)
Intercept	2.37* (1.09)	2.36* (1.10)	2.31* (1.10)	2.89* (1.14)
ΔChi-square (d.f)	7.21 (13)	7.86** (1)	4.68* (1)	6.24* (1)
-2 Log-likelihood	-231.23	-227.21	-224.75	-221.54
R ² Nagelkerke	0.02	0.04	0.05*	0.06*
Percentage correctly classified	64.35%	66.30%	67.13%	67.13%

Wald statistics are in parentheses.

Significant at the [†].10; * .05; ** .01; *** .001

^a non-standardized estimates (*b*) and standard errors (*SE*)

^b expressed in trillions; ^c expressed in millions

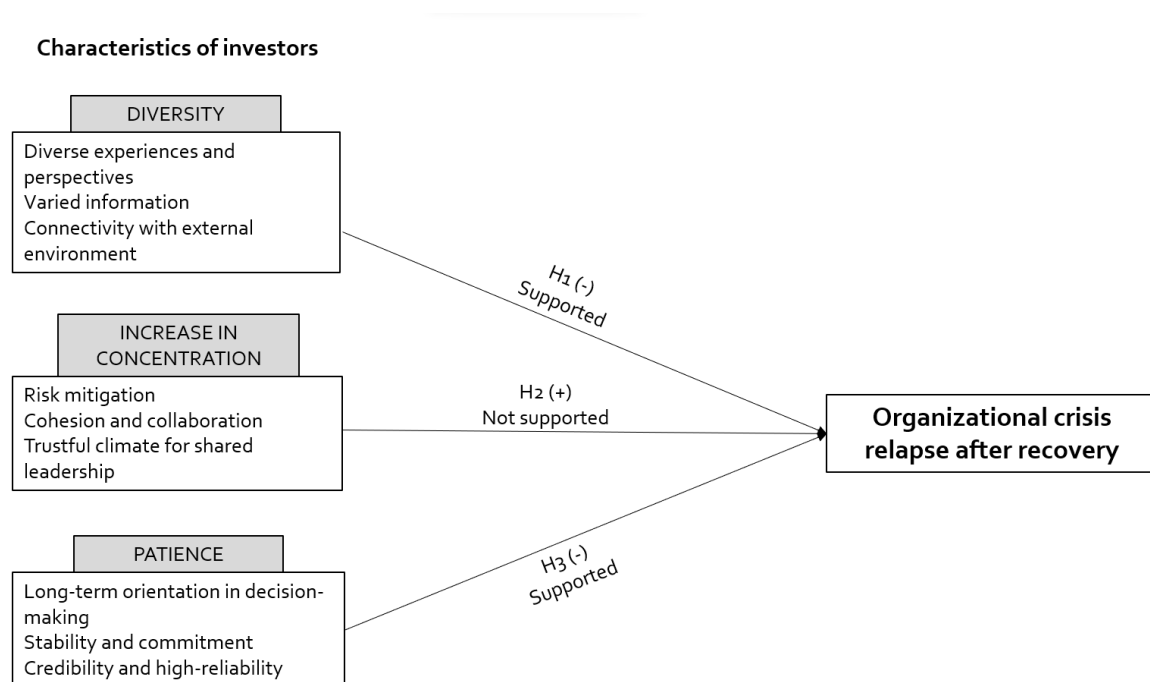
Hypothesis 2 proposes that an increase in the concentration of large investors diminishes the probability of *relapse after recovery*. Model 3 in Table 2 reveals a positive and statistically significant coefficient for *increase in concentrated investors* [*coef.* = 0.01, odds ratio = 1.02 | *p* = 0.030]. This finding means that the odds of relapsing into an organizational crisis are 1.02

times greater (i.e., the associated odds ratio, as the coefficient of the variable is positive) when large investors augment their degree of concentration during an in-crisis year. Consequently, these results do not support *Hypothesis 2* as they show that heightened investor concentration during the in-crisis period amplifies the risk of relapsing into upcoming crises for the sampled organizations.

Hypothesis 3 posits that the presence of patient investors reduces the probability of relapse. In Model 4, a negative and statistically significant coefficient is observed for *patient investors* [*coef.* = -0.18, odds ratio = 0.83 | *p* = 0.013]. This finding indicates that, when compared to their absence, the odds of relapse after recovery are 1.20 times lower in the presence of patient investors (i.e., 1/odds ratio, given the negative coefficient). Consequently, the results empirically support *Hypothesis 3*, affirming that the presence of patient investors prevents the risk of relapse turning into an organizational crisis.

In summary, our findings underscore the positive impact of both investor diversity (*Hypothesis 1*) and patient investors (*Hypothesis 3*) on preventing an organization's relapse. However, they also substantiate the influence of investor concentration, which contradicts our initial expectations and has a negative effect (*Hypothesis 2*). See Figure 2.2.

FIGURE 2.2. Contributions of each investor characteristic to the organizational crisis relapse prevention



Source: Own elaboration

2.5.1. Robustness check

We conducted a robustness check to ensure that our findings were not contingent on idiosyncrasies in the variables. Additionally, we employed a binary logistic regression model to examine whether our primary results exhibit variability based on the selection of different periods or investor characteristics. In particular, we analyzed whether the risk of relapse diminishes with investor diversity over an extended period (2010–2015), an increase in the concentration of the top five investors (regardless of their percentage holdings) (Li et al., 2015; Yang et al., 2023), and low turnover behavior in the principal investor in the in-crisis year (see Table 2.3.).

Table 2.3 presents consistent results that affirm the outcomes of our initial models. Model 2 indicates that the presence of investor diversity observed over an extended period leads to a reduction in the odds of *relapse after recovery* (i.e., the 1/odds ratio, as the coefficient for the variable is negative) by 3.85 times compared to a group of non-diverse investors over the same duration [Coef. = -1.33 , odds ratio = 0.26 | $p = 0.008$]. Similar to our initial model, Model 3 reveals that the probability of relapse into an organizational crisis is 1.02 times higher (i.e., the associated odds ratio, as the coefficient of the variable is positive) when the top five investors increase their concentration degree during the in-crisis period [Coef. = 0.01 , odds ratio = 1.02 | $p = 0.101$]. Finally, Model 4 suggests that investors exhibiting a low-turnover behavior in the in-crisis year reduce the odds of relapse after recovery by 1.59 times (i.e., 1/odds ratio, given the negative coefficient) compared to investors with a high-turnover behavior [Coef. = -0.47 , odds ratio = 0.63 | $p = 0.122$].

While the variables for increase in investor concentration and patient capital exhibit a reduction in significance levels, they maintain the direction of the predicted results. This decrease in significance may be attributed to the smaller sample size (comprising 308 observations), which could potentially account for this change.

TABLE 2.3. Robustness check. Influence of investors' characteristics on relapses into crises

	Model 1	Model 2	Model 3	Model 4
Control variables	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)	<i>b</i> (SE)
Total assets ^b	0.10 (0.18)	0.10 (0.18)	0.12 (0.19)	0.11 (0.18)
Consumer sector	-14.98 (779.88)	-15.57 (1130.60)	-15.48 (1117.04)	-14.61 (752.89)
Energy sector	-14.30 (779.88)	-14.98 (1130.60)	-14.94 (1117.04)	-14.13 (752.89)
Health care sector	-14.58 (779.88)	-15.17 (1130.60)	-15.07 (1117.04)	-14.25 (752.89)
ICT's sector	-14.90 (779.88)	-15.58 (1130.60)	-15.47 (1117.04)	-14.67 (752.89)
Industrial sector	-14.90 (779.88)	-15.57 (1130.60)	-15.48 (1117.04)	-14.67 (752.89)
Material sector	-14.49 (779.88)	-15.09 (1130.60)	-14.99 (1117.04)	-14.17 (752.89)
Real Estate sector	-14.91 (779.88)	-15.58 (1130.60)	-15.61 (1117.04)	-14.70 (752.89)
Region of Europe	-0.54 (0.47)	-0.46 (0.48)	-0.44 (0.48)	-0.46 (0.48)
Region of America	-0.63 (0.41)	-0.64 (0.42)	-0.62 (0.41)	-0.69† (0.42)
Region of Africa	-0.73 (1.47)	-0.18 (1.64)	-0.19 (1.63)	-0.09 (1.65)
Region of Oceania	-0.33 (0.52)	-0.37 (0.52)	-0.34 (0.52)	-0.50 (0.54)
GDP per capita ^c	5.98 (8.63)	8.86 (8.76)	8.24 (8.80)	9.04 (8.90)
Independent variables				
Investors' diversity		-1.33** (0.51)	-1.26* (0.51)	-1.27* (0.51)
Increase in Concentrated Investors			0.01 (0.01)	0.02† (0.01)
Investor' patience				-0.47 (0.30)
Intercept	15.31 (779.88)	16.10 (1130.60)	16.01 (1117.04)	15.57 (752.89)
ΔChi-square (d.f)	5.30 (13)	6.96** (1)	2.69† (1)	3.39 (1)
-2 Log-likelihood	-196.44	-192.86	-191.45	-190.22
R ² Nagelkerke	0.03	0.05	0.05†	0.06†
Percentage correctly classified	62.99%	64.29%	65.26%	65.91%

Wald statistics are in parentheses.

Significant at the †.10; * .05; ** .01; *** .001

^a non-standardized estimates (*b*) and standard errors (*SE*)

^b expressed in trillions

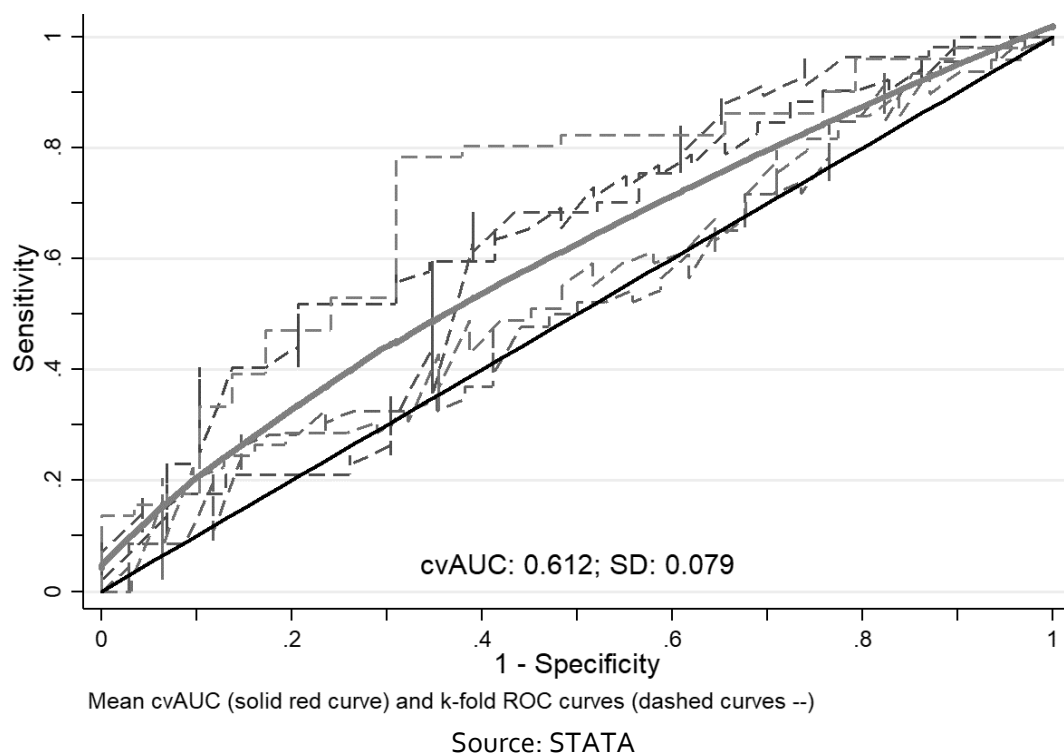
^c expressed in millions

We also conducted a robustness check using a k-fold cross-validation analysis to ensure the reliability and stability of our findings (Huang, 2018). Cross-validation is a widely recognized data resampling method employed to assess a model's generalization ability and mitigate

the risk of overfitting (Berrar, 2018). The robustness check involved categorizing the dataset into “k” subsets, using a portion for training the model and the remainder for testing. The data were categorized into five k-folds of approximately the same size for each fold, yielding five data subsets. For each of the five data subsets, the cross-validation test used four k-folds for training, and one k-fold for testing. This process was repeated k times to obtain a value for each part. The final result was obtained by averaging the values obtained in each iteration, thereby providing a comprehensive assessment of model performance across different data subsets (Berrar, 2018).

Calculation using the *cvauroc* command in STATA showed 0.0453 points lower accuracy (area under the curve [AUC] = 0.6124) than the AUC computed using the classical approach from the predicted probabilities of relapse after recovery (AUC = 0.6577) (Luque-Fernandez et al., 2019). An AUC-ROC (receiver operating characteristic curve) of 0.6124 indicates that the logistic regression model can discriminate between organizations that are at risk of relapse and those that are not. Although the ROC curve did not fully reach the upper-left corner of the graph, it rose above the diagonal reference line, as shown in Figure 2.3. Therefore, the model has the capacity to identify organizations at risk of relapse.

FIGURE 2.3. cvAUC and k-fold ROC curves



2.6. Discussion, limitations, and future research

In the event of an organizational crisis, depletion of internal resources leads organizations to rely intensively on external agents for the acquisition of additional necessary resources (Bass & Chakrabarty, 2014; Morrow Jr. et al., 2007). Drawing on the resource dependence theory (Drees & Heugens, 2013, Hillman et al., 2009; Pfeffer & Salancik, 1978), external agents who provide critical resources gain influence over executive decisions (Abdurakhmonov, et al., 2021; Bass & Chakrabarty, 2014). Therefore, we propose that the characteristics of investors providing resources in a crisis situation influence whether executives can recover from a crisis by developing a more resilience-based orientation in decisions that help prevent relapses.

We analyze how certain investor characteristics (i.e., diversity, concentration, and patience), related to psychological characteristics, such as risk consciousness (Nakai et al. 2018), autonomy and control in decisions, motivation and a high commitment to the organization (Duxbury, et al. 1996), may prevent a rapid relapse following the recovery of a prior crisis period. Our findings complement prior research highlighting the significant dependence of organizations in crisis on external resource providers and, consequently, the impact of these actors on managerial discretion (Bass & Chakrabarty, 2014; Morrow Jr. et al., 2007). While Wang's (2014) study reveals that investors' bargaining power in constraining abnormal accrual usage by managers is contingent on investors' characteristics such as block-holding levels, investment strategies, and investment durations, our findings show that investors' characteristics such as diversity and patience prevent the risk of relapse after recovery from an organizational crisis.

After running a logistic regression analysis, we first observe a significant and negative correlation between investor diversity and the probability of a relapse into crisis. These results are congruent with previous research showing that diverse investors contribute to organizational resilience by providing organizations with innovative information exchanges (Chang & Hong, 2002; Lien et al., 2021), heterogeneous resources (Gedajlovic & Shapiro, 2002), and varied perspectives (Gao & Hafsi, 2019; Santoro et al., 2020), which subsequently influence the organization's capacity for adaptive and flexible decision-making processes (Choi et al., 2012; DesJardine et al., 2019; Groenendaal & Helsloot, 2020). Our results show

that a higher investor diversity during a crisis is associated with a lower probability of experiencing subsequent crises.

Second, our findings show a strong and positive correlation between investors exhibiting low-turnover behavior in their portfolios during the pre-crisis period and the probability of avoiding relapse into upcoming organizational crises. Our results confirm that patient investors contribute to establishing the requisite commitment for cultivating organizational resilience capabilities, exposing firmness and consistency in their behaviors (Thürmer et al., 2020). Therefore, our results suggest that patient investors' display of high commitment in an organization's long-term performance (Dupuy et al., 2010) and stable decisions (Dean Jr. & Sharfman, 1996; Farjoun, 2010; Khatri & Ng, 2000) play a relevant role in executives' decisions that contribute significantly to the prevention of relapses.

Third, relapse prevention decreases when the concentration of large investors increases during an in-crisis period. These results differ from our expectations and suggest that the benefits of concentrated investors in the literature under regular circumstances (De Miguel et al., 2004; Gaur et al., 2015; Gedajlovic & Shapiro, 2002) may be less relevant in the analyzed crisis and post-crisis situations. Our results show that the negative consequences of concentrated capital are stronger than its positive implications when an organization has to recover from crises and suggest that the difficulties of concentrated capital to look at beyond their own short-term interest may influence here. The literature on concentrated capital has already shown that investor concentration may have negative consequences on collaborative relationships and organizations' adaptability (Zhang, 2006; Desender et al., 2013). These features are particularly relevant in developing resilience after a crisis, because collaboration with other agents (Harrison et al., 2010) and flexibility (DesJardine et al., 2019) are key factors in developing innovative processes that avoid previous mistakes (Omorede, 2021). Furthermore, Lo and colleagues (2016) argue that large investors misuse resources for their own benefits; besides, the higher the degree of concentration among investors, the greater the level of financial leverage (Granado-Peiró & López-Gracia, 2017), and lower the performance (Hamadi, 2010). Therefore, concentrated investors may focus in the short term to limit their risks in the event of a crisis. Hence, our results seem to indicate that concentrated capital in a crisis situation may be driven more by a desire to protect their immediate interests and ensure stability for themselves than by a long-term interest in the

organization. In any case, we acknowledge that further research is warranted to ascertain the circumstances under which concentrated investors may either bolster or hinder organizational resilience.

Our contributions manifest in two ways. Firstly, our manuscript extends the traditional resource dependence theory (Drees & Heugens, 2013; Hillman et al., 2009; Pfeffer & Salancik, 1978) that highlights the implications of an in-crisis organization's dependence on its investors (Choi et al., 2012; David et al., 2010) by demonstrating how investor characteristics also impact executive decisions that may prevent relapses into upcoming crisis periods. While much of the existing research on dependence resources underscores strategies for organizations to mitigate their reliance on external actors, we highlight the significance of recognizing that dependence may be inescapable under particular circumstances, offering insights into its implications. The necessity for resources poses significant challenges in the event of an organizational crisis, and engaging with suppliers, financial institutions, or customers may involve uncertainties and risks. In contrast, main investors are more dependable sources of support (Bass & Chakrabarty, 2014; Dufour et al., 2019; Ramírez et al., 2022; Zheng & Xia, 2018). Therefore, while previous resource-dependence literature has discussed how in-crisis organizations are highly dependent on investors during crises (e.g., Abdurakhmonov et al., 2021; Lin, 2019; Schmid & Roedder, 2021), our results show that investors' characteristics also affect executives' decisions that contribute to the prevention of relapses into upcoming crises. Our results also highlight the importance of complementing the resource dependence theory with the analysis of the psychological characteristics of investors when analyzing the influence of these external agents on organizational resilience.

Secondly, this study contributes to the literature on organizational resilience (Kahn et al., 2018; Sutcliffe & Vogus, 2003; Williams et al., 2017). The existing body of literature on organizational resilience has traditionally focused on organizational characteristics that help organizations recover from a crisis (e.g., Corey & Deitch, 2011; Morrow Jr. et al., 2007; Omorede, 2021), leading to a notable gap in research related to the exploration of the subsequent phase of preventing relapses after a successful recovery to guarantee resilience. By shifting the analytical viewpoint to this often-overlooked phase, our study seeks to advance the understanding of factors that play a crucial role in preventing relapses after an organization has successfully navigated a crisis. Our logic suggests that an organization's

investors influence its resilient capabilities in two distinct ways. On the one hand, investors possessing specific characteristics (i.e., diversity and patience) play a role in building resilient capabilities (Choi et al., 2012; David et al., 2010). On the other hand, these characteristics involve heterogeneity in perceptions and information and high commitment and stability in decisions that support resilient capabilities such as adaptive and long-term decision-making processes. Therefore, we enrich the literature on the determinants of resilience, which conventionally concentrates on internal resources (e.g., Gittell et al., 2006) and corporate practices (DesJardine et al., 2019; Ortiz-de-Mandojana & Bansal, 2016), by joining the emergent literature (You & Williams, 2023) that highlights the significance of external actors in their interactions with organizations.

This study has significant implications for practitioners, regulators and society. Beyond the provision of resources, our results show that investors wield a heightened influence over executive decisions because of organizations' heightened vulnerability during organizational crises (Dufour et al., 2019). Accordingly, investors should be cognizant of their impact on an organization's position and strategic orientation given that executives are particularly attuned to their preferences during crises. Moreover, the work exhibits implications in terms of managing investors' relations to enhance resilience. On one hand, organizations must strategically align themselves with investors who possess characteristics conducive to organizational resilience, such as diversity and patience. Actively seeking investors who align with the organization's long-term objectives and values can contribute to a more resilient organizational strategy. On the other hand, clear and transparent communication channels with investors during both stable and crisis periods may foster commitment to resilience.

Furthermore, this study is relevant for regulators, as it scrutinizes specific pertinent attributes that can inform the development of governmental rescue initiatives. Regulators engaging in substantial investments to salvage organizations facing severe financial distress must consider that investors' characteristics at the time of financial assistance can influence the long-term efficacy of such aid. Understanding how certain investor characteristics influence the long-term effectiveness of financial support provides a basis for designing more effective rescue programs tailored to the specific needs of each situation. Furthermore, policymakers can leverage the study's insights to advocate for policies that encourage diversity and patience among investors. This can be particularly relevant in regulatory frameworks that

incentivize long-term investment strategies, ultimately promoting stability and resilience within the broader economic ecosystem.

In addition, the study has significant social implications, as it extends beyond the corporate realm to potentially impact societal welfare. When organizations adopt strategies informed by the findings of this study (i.e., establish reliable relationships with investors with characteristics that promote resilient capabilities within the organization, such as diversity and patience), they are better equipped to navigate and prevent crises, thereby reducing the negative consequences on employment and overall economic health. Therefore, by emphasizing the promotion of organizational practices that enhance resilience to crises, this study indirectly contributes to safeguarding jobs and maintaining economic stability within communities.

Although we consider the findings to be important for academia and practitioners, this study has certain limitations. Considering the inherent nature of this phenomenon, we conducted a cross-sectional study rather than longitudinal. Although this approach provides valuable insights, it limits our ability to definitively establish causality. Additionally, the origin and nature of the crises experienced by the organizations in our study remain unknown. Different types of crises (e.g., financial, natural disasters, and global pandemics) may exert distinct impacts on an organization's internal decisions and actions. Consequently, investors' contributions to averting a relapse may vary depending on specific crisis contexts. Exploring this issue is a valuable avenue for future research. Moreover, investigating how certain institutional conditions such as regulatory frameworks influence investors' engagement in an organization's crisis recovery and future avoidance strategies would be of significant interest. Finally, extending our results to consider how the characteristics of other stakeholders may also be a factor in organizational resilience during the crisis process represents a promising avenue for further research.

2.7. Conclusions

The establishment of organizational resilience constitutes a dynamic and intricate process that encompasses various critical factors. Drawing on the literature on resource dependence, we posit that specific investor characteristics may foster conditions conducive to averting future relapses in organizational crises. Our findings show that investor diversity and patience

help prevent the probability of relapse following an organizational crisis. Conversely, an increase in the concentration of significant investors heightens the risk of relapse.

This study extends the literature on resource dependency theory and organizational resilience by illuminating the dependence on investors with specific characteristics to fortify organizational resilience and prevent relapses following organizational crises. In essence, our research underscores that investors' contributions to an in-crisis organization significantly impact its potential to avoid future relapses. We contend that the influence of investor characteristics on executive decisions warrants heightened scrutiny; investors represent more than mere providers of financial resources but rather pivotal agents in shaping an organization's capacity for resilience.

REFERENCES

- Abdurakhmonov, M., Ridge, J. W., & Hill, A. D. (2021). Unpacking firm external dependence: How government contract dependence affects firm investments and market performance. *Academy of Management Journal*, 64(1), 327–350.
- Alshebami, A. S. (2022). Psychological features and entrepreneurial intention among Saudi small entrepreneurs during adverse times. *Sustainability*, 14(13), 7604.
- Altman, E. I., Iwanicz-Drozdzowska, M., Laitinen, E. K., & Suvas, A. (2017). Financial distress prediction in an international context: A review and empirical analysis of Altman's Z-score model. *Journal of International Financial Management & Accounting*, 28(2), 131–171.
- Bass, A. E., & Chakrabarty, S. (2014). Resource security: Competition for global resources, strategic intent, and governments as owners. *Journal of International Business Studies*, 45(8), 961–979.
- Beckman, C. M., & Stanko, T. L. (2020). It takes three: Relational boundary work, resilience, and commitment among navy couples. *Academy of Management Journal*, 63(2), 411–439.
- Berrar, D. (2018). Cross-validation. *Encyclopedia of Bioinformatics and Computational Biology* (Vol. 1, pp. 542–545). Elsevier.
- Bigley, G. A., & Roberts, K. H. (2001). The incident command system: High-reliability organizing for complex and volatile task environments. *Academy of Management Journal*, 44(6), 1281–1299.
- Boubakri, N., & Saffar, W. (2019). State Ownership and Debt Choice: Evidence from Privatization. *Journal of Financial & Quantitative Analysis*, 54(3), 1313–1346.
- Brandon, T. H., Simmons, V. N., Meade, C. D., Quinn, G. P., Lopez Khoury, E. N., Sutton, S. K., & Lee, J. H. (2012). Self-help booklets for preventing postpartum smoking relapse: a randomized trial. *American Journal of Public Health*, 102(11), 2109–2115.
- Brandon, T. H., Vidrine, J. I., & Litvin, E. B. (2007). Relapse and relapse prevention. *Annual Review of Clinical Psychology*, 3, 257–284.
- Carpenter, M. A., & Westphal, J. D. (2001). The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making. *Academy of Management journal*, 44(4), 639–660.
- Chang, S. J., & Hong, J. (2002). How much does the business group matter in Korea? *Strategic Management Journal*, 23(3), 265–274.
- Chen, C., Zhang, K. Z., Gong, X., Lee, M. K., & Wang, Y. Y. (2021). Preventing relapse to information technology addiction through weakening reinforcement: A self-regulation perspective. *Information & Management*, 58(5), 103485.
- Chhatwani, M., Mishra, S. K., Varma, A., & Rai, H. (2022). Psychological resilience and business survival chances: A study of small firms in the USA during COVID-19. *Journal of Business Research*, 142, 277–286.
- Choi, S. B., Park, B. I., & Hong, P. (2012). Does ownership structure matter for firm technological innovation performance? The case of Korean firms. *Corporate Governance: An International Review*, 20(3), 267–288.

- Cordeiro, J. J., Galeazzo, A., Shaw, T. S., Veliyath, R., & Nandakumar, M. K. (2018). Ownership influences on corporate social responsibility in the Indian context. *Asia Pacific Journal of Management*, 35, 1107-1136.
- Corey, C. M., & Deitch, E. A. (2011). Factors affecting business recovery immediately after Hurricane Katrina. *Journal of Contingencies and Crisis Management*, 19(3), 169-181.
- Cox, D. R. (1958). The regression analysis of binary sequences. *Journal of the Royal Statistical Society: Series B (Methodological)*, 20(2), 215-232.
- Dao, M. Q. (2017). Determinants of the global financial crisis recovery: an empirical assessment. *Journal of Economic Studies*, 44(1), 36-46.
- David, P., O'Brien, J. P., Yoshikawa, T., & Delios, A. (2010). Do shareholders or stakeholders appropriate the rents from corporate diversification? The influence of ownership structure. *Academy of Management Journal*, 53(3), 636-654.
- De Miguel, A., Pindado, J., & De la Torre, C. (2004). Ownership structure and firm value: New evidence from Spain. *Strategic Management Journal*, 25(12), 1199-1207.
- Dean Jr, J. W., & Sharfman, M. P. (1996). Does decision process matter? A study of strategic decision-making effectiveness. *Academy of Management Journal*, 39(2), 368-392.
- Deloitte. (2022, January 24). CEOs Eye 2022 *With Optimism and a Dash of Uncertainty*. <https://www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/ceos-eye-2022-with-optimism-and-a-dash-of-uncertainty.html>.
- Desender, K. A., Aguilera, R. V., Crespi, R., & García-Cestona, M. (2013). When does ownership matter? Board characteristics and behavior. *Strategic Management Journal*, 34(7), 823-842.
- DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management*, 45(4), 1434-1460.
- Deudon, J. C., Marques, A. C., & Sarens, G. (2015). Ownership concentration of three large Belgian banks during the crisis. *Corporate Governance*, 15(5), 663-677.
- Drees, J. M. and Heugens, P. P, 2013, "Synthesizing and extending resource dependence theory: A meta-analysis". *Journal of Management*, 39(6): 1666-1698.
- Dufour, L., Andiappan, M., & Banoun, A. (2019). The impact of emotions on stakeholder reactions to organizational wrongdoing. *European Management Review*, 16(3), 761-779.
- Dupuy, C., Lavigne, S., & Nicet-Chenaf, D. (2010). Does geography still matter? Evidence on the portfolio turnover of large equity investors and varieties of capitalism. *Economic Geography*, 86(1), 75-98.
- Duxbury, L., Haines, G., & Riding, A. (1996). A personality profile of Canadian informal investors. *Journal of Small Business Management*, 34(2), 44.
- Farjoun, M. (2010). Beyond Dualism: Stability and Change as a Duality. *Academy of Management Review*, 35(2), 202-225.
- Ferrón-Vílchez, V., & Leyva-de la Hiz, D. I. (2023). Calm after the storm? The role of social and environmental practices on small and medium enterprises resilience throughout COVID-19 crisis. *Business Ethics, the Environment & Responsibility*, 32, 179-195.

- Furrer, O., Pandian, J. R., & Thomas, H. (2007). Corporate strategy and shareholder value during decline and turnaround. *Management Decision*, 45(3), 372-392.
- Galkina, T., Atkova, I., & Gabrielsson, P. (2023). Business modeling under adversity: Resilience in international firms. *Strategic Entrepreneurship Journal*, 1-28
- Gao, Y., & Hafsi, T. (2019). How Owners Matter? An Examination of Ownership Type in Corporate Disaster Relief Giving. *Canadian Journal of Administrative Sciences*, 36(1), 70-83.
- Gaur, S. S., Bathula, H., & Singh, D. (2015). Ownership concentration, board characteristics and firm performance: A contingency framework. *Management Decision*, 53(5), 911-931.
- Gedajlovic, E., & Shapiro, D. M. (2002). Ownership structure and firm profitability in Japan. *Academy of Management Journal*, 45(3), 565-575.
- Gittell, J. H., Cameron, K., Lim, S., & Rivas, V. (2006). Relationships, layoffs, and organizational resilience: Airline industry responses to September 11. *The Journal of Applied Behavioral Science*, 42(3), 300-329.
- Goyal, V. K., & Low, A. (2019). Investor myopia and CEO turnover. *International Review of Finance*, 19(4), 759-786.
- Granado-Peiró, N., & López-Gracia, J. (2017). Corporate governance and capital structure: A Spanish study. *European Management Review*, 14(1), 33-45.
- Groenendaal, J., & Helsloot, I. (2020). Organisational resilience: Shifting from planning-driven business continuity management to anticipated improvisation. *Journal of Business Continuity & Emergency Planning*, 14(2), 102-109.
- Hadlock, C., & Schwartz-Ziv, M. (2019). Blockholder heterogeneity, multiple blocks, and the dance between blockholders. *The Review of Financial Studies*, 32(11), 4196-4227.
- Hair, J. F. Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate Data Analysis* (3rd ed). New York, NY: Macmillan.
- Hamadi, M. (2010). Ownership concentration, family control and performance of firms. *European Management Review*, 7(2), 116-131.
- Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. *Strategic Management Journal*, 31(1), 58-74.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404-1427.
- Homan, P., Schooler, N. R., Brunette, M. F., Rotondi, A., Ben-Zeev, D., Gottlieb, J. D., ... & Kane, J. M. (2023). Relapse prevention through health technology program reduces hospitalization in schizophrenia. *Psychological Medicine*, 53(9), 4114-4120.
- Huang, L. (2018). The role of investor gut feel in managing complexity and extreme risk. *Academy of Management Journal*, 61(5), 1821-1847.
- Huang, L., & Knight, A. P. (2017). Resources and relationships in entrepreneurship: An exchange theory of the development and effects of the entrepreneur-investor relationship. *Academy of Management Review*, 42(1), 80-102.
- Iannotta, G., Nocera, G., & Sironi, A. (2007). Ownership structure, risk and performance in the European banking industry. *Journal of Banking & Finance*, 31(7), 2127-2149.

- Jabbouri, I., & Naili, M. (2019). Does ownership concentration affect cost of debt? Evidence from an emerging market. *Review of Behavioral Finance*, 12(3), 282–296.
- Judge, W. Q., Gaur, A., & Muller-Kahle, M. I. (2010). Antecedents of shareholder activism in target firms: Evidence from a multicountry study. *Corporate Governance: An International Review*, 18, 258–273.
- Kahn, W. A., Barton, M. A., Fisher, C. M., Heaphy, E. D., Reid, E. M., & Rouse, E. D. (2018). The geography of strain: Organizational resilience as a function of intergroup relations. *Academy of Management Review*, 43(3), 509–529.
- Khatri, N., & Ng, H. A. (2000). The role of intuition in strategic decision making. *Human Relations*, 53(1), 57–86.
- Kim, A. R., & Cho, M. H. (2008). Types of foreign investors, dividend and investment policy: An empirical study of Korean firms. *Journal of Strategic Management*, 11(1), 25–42.
- Kusa, R., Duda, J., & Suder, M. (2022). How to sustain company growth in times of crisis: The mitigating role of entrepreneurial management. *Journal of Business Research*, 142(1), 377–386.
- Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resiliency through strategic human resource management. *Human Resource Management Review*, 21(3), 243–255.
- Li, K., Lu, L., Mittoo, U. R., & Zhang, Z. (2015). Board independence, ownership concentration and corporate performance—Chinese evidence. *International Review of Financial Analysis*, 41, 162–175.
- Lien, D., Hung, P. H., & Chen, H. J. (2021). Who knows more and makes more? A perspective of order submission decisions across investor types. *The Quarterly Review of Economics and Finance*, 79, 381–398.
- Lin, W. T. (2019). Market distance and insider–ownership strategies: A resource–dependence perspective. *Management Decision*, 57(11), 2958–2977.
- Linnenluecke, M., & Griffiths, A. (2010). Beyond adaptation: resiliency for business in light of climate change and weather extremes. *Business & Society*, 49(3), 477–511.
- Lo, H. C., Ting, I. W. K., Kweh, Q. L., & Yang, M. J. (2016). Nonlinear association between ownership concentration and leverage: The role of family control. *International Review of Financial Analysis*, 46, 113–123.
- López-Gutiérrez, C., Sanfilippo-Azofra, S., & Torre-Olmo, B. (2015). Investment decisions of companies in financial distress. *BRQ Business Research Quarterly*, 18(3), 174–187.
- Luque-Fernandez, M. A., Redondo-Sánchez, D., & Maringe, C. (2019). cvauroc: Command to compute cross-validated area under the curve for ROC analysis after predictive modeling for binary outcomes. *The Stata Journal*, 19(3), 615–625.
- Lv, W., Wei, Y., Li, X., & Lin, L. (2019). What dimension of CSR matters to organizational resilience? Evidence from China. *Sustainability*, 11(6), 1561.
- Marcus, A. A., & Goodman, R. S. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Academy of Management Journal*, 34(2), 281–305.

- Morrow Jr, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007). Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic Management Journal*, 28(3), 271–283.
- Nadeem, M. (2020). Does board gender diversity influence voluntary disclosure of intellectual capital in initial public offering prospectuses? Evidence from China. *Corporate Governance: An International Review*, 28(2), 100–118.
- Nakai, M., Honda, T., Nishino, N., & Takeuchi, K. (2018). Psychological characteristics of potential SRI investors and its motivation in Japan: An experimental approach. *Journal of Sustainable Finance & Investment*, 8(4), 349–367.
- Omoredede, A. (2021). Managing crisis: a qualitative lens on the aftermath of entrepreneurial failure. *International Entrepreneurship and Management Journal*, 17(3), 1441–1468.
- Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, 37(8), 1615–1631.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence approach*. New York: Harper and Row Publishers.
- PwC. (2022). *Five ingredients to turn a corporate crisis into an opportunity. How to emerge stronger*. <https://www.pwc.com/gx/en/issues/crisis-solutions/corporate-crisis-into-opportunity.html>
- Qian, G., Khoury, T. A., Peng, M. W., & Qian, Z. (2010). The performance implications of intra- and inter-regional geographic diversification. *Strategic Management Journal*, 31(9), 1018–1030.
- Ramírez, C., Tarziján, J., & Lagos, G. (2022). The effect of ownership structure on investment decisions under exogenous shocks. *Corporate Governance: An International Review*, 30, 783–805.
- Rogbeer, S. N. (2009). The impact of portfolio convergence and divergence on portfolio turnover. *Academy of Management Proceedings*, 2009(1), 1–6.
- Sajko, M., Boone, C., & Buyl, T. (2021). CEO greed, corporate social responsibility, and organizational resilience to systemic shocks. *Journal of Management*, 47(4), 957–992.
- Sakaki, H., & Jory, S. R. (2019). Institutional investors' ownership stability and firms' innovation. *Journal of Business Research*, 103, 10–22.
- Salas-Vallina, A., Rofcanin, Y., & Las Heras, M. (2022). Building resilience and performance in turbulent times: The influence of shared leadership and passion at work across levels. *BRQ Business Research Quarterly*, 25(1), 8–27.
- Santos-de-Frutos, K., & Djouder, N. (2021). When dormancy fuels tumour relapse. *Communications Biology*, 4(1), 747.
- Santoro, G., Bertoldi, B., Giachino, C., & Candelo, E. (2020). Exploring the relationship between entrepreneurial resilience and success: The moderating role of stakeholders' engagement. *Journal of Business Research*, 119, 142–150.
- Schmid, S., & Roedder, F. (2021). Gaijin invasion? A resource dependence perspective on foreign ownership and foreign directors. *International Business Review*, 101861.

- Schulz-Hardt, S., & Mojzisch, A. (2012). How to achieve synergy in group decision making: Lessons to be learned from the hidden profile paradigm. *European Review of Social Psychology, 23*(1), 305-343.
- Sheeran, P. (2002). Intention—behavior relations: a conceptual and empirical review. *European Review of Social Psychology, 12*(1), 1-36.
- Sutcliffe, K. M., & Vogus, T. J. (2003). *Organizing for resilience*. In Cameron, K. S., Dutton, J. E., & Quinn, R. E. (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 94–110). San Francisco, CA: Berrett-Koehler.
- Taghian, M., D'Souza, C., & Polonsky, M. (2015). A stakeholder approach to corporate social responsibility, reputation and business performance. *Social Responsibility Journal, 11*(2), 340–363.
- Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal, 21*(6), 689–705.
- Thürmer, J. L., Wieber, F., & Gollwitzer, P. M. (2020). Management in times of crisis: Can collective plans prepare teams to make and implement good decisions? *Management Decision, 58*(10), 2155-2176.
- Tong, L., Wang, H., & Xia, J. (2020). Stakeholder preservation or appropriation? The influence of target CSR on market reactions to acquisition announcements. *Academy of Management Journal, 63*(5), 1535–1560.
- Tsai, H., Ren, S., & Eisingerich, A. B. (2020). The effect of inter- and intra-regional geographic diversification strategies on firm performance in China. *Management Decision, 58*(1), 16-38.
- Tucker, A. M. (2017). The Long and the Short: Portfolio Turnover Ratios & Mutual Fund Investment Time Horizons. *The Journal of Corporation Law, 43*(3), 581–648.
- Utsch, A., & Rauch, A. (2000). Innovativeness and initiative as mediators between achievement orientation and venture performance. *European Journal of Work and Organizational Psychology, 9*(1), 45-62.
- Van den Broek, T., Langley, D., & Hornig, T. (2017). The effect of online protests and firm responses on shareholder and consumer evaluation. *Journal of Business Ethics, 146*(2), 279–294.
- Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resiliency. *Academy of Management Journal, 58*(4), 971-980.
- Wang, M. (2014). Which types of institutional investors constrain abnormal accruals? *Corporate Governance: An International Review, 22*(1), 43-67.
- Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal, 59*(6), 2069–2102.
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals, 11*(2), 733–769.
- Whitaker, T., Beranger, B., & Sisson, S. A. (2021). Logistic regression models for aggregated data. *Journal of Computational and Graphical Statistics, 30*(4), 1049–1067.

Yang, C., Wang, J., & David, L. K. (2023). The same or different? How optimal distinctiveness in corporate social responsibility affects organizational resilience during COVID-19. *Business Ethics, the Environment & Responsibility*, 1-23

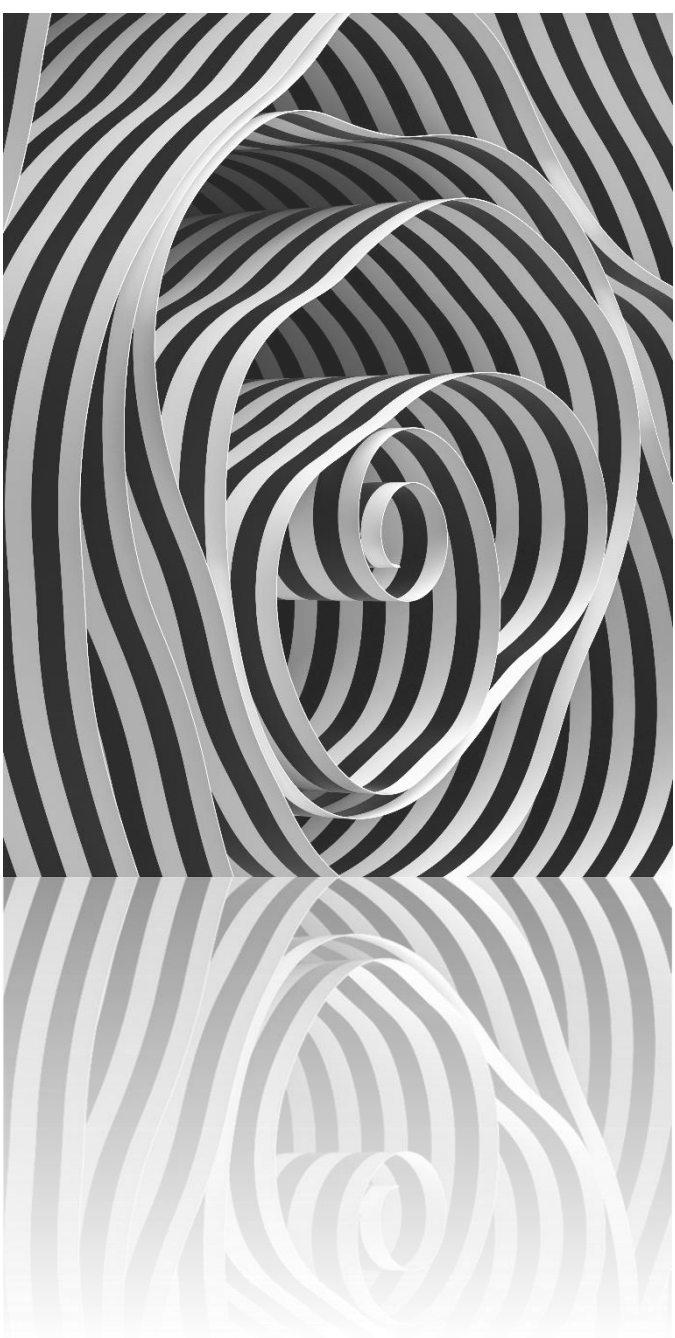
You, J. J., & Williams, C. (2023). Organizational resilience and interorganizational relationships: An exploration of Chinese business service firms. *European Management Review*, 1-19.

Zahedi, J., Talebi, E., & Aval, S. L. (2015). Ownership Concentration, Cash Holding and Firm Value. *International Journal of Management, Accounting and Economics*, 2(8), 902–912.

Zhang, W. (2006). China's SOE reform: A corporate governance perspective. *Corporate Ownership and Control*, 3(4), 132–150.

Zhao, H., & Wibowo, A. (2021). Entrepreneurship resilience: can psychological traits of entrepreneurial intention support overcoming entrepreneurial failure?. *Frontiers in Psychology*, 12, 707803.

Zheng, Y., & Xia, J. (2018). Resource dependence and network relations: A test of venture capital investment termination in China. *Journal of Management Studies*, 55(2), 295–319.



CHAPTER 3.

**DOES REINFORCING SUSTAINABILITY IN TIMES
OF ORGANIZATIONAL CRISIS HELP? THE
MEDIATING EFFECT OF INVESTOR COMMITMENT**

3.1. Introduction

A corporate disruption is a high-impact event that threatens the survival of organizations (Pearson & Clair, 1998; Williams & Shepherd, 2016), creating uncertainty regarding recovery (Smith & Wenger, 2007), and imposing financial constraints that can limit the ability to respond efficiently. In such situations, organizations may divert attention from their sustainable initiatives (Aich, et al., 2021; Bansal & Clelland, 2004; Roloff, 2023; Shaikh, 2022) due to a prioritization of addressing financial concerns and maintaining positive investor relations (Broadstock, et al., 2021). For instance, Roloff, (2023) observed a paused in sustainable actions in some organizations during the Covid-19 pandemic, while others developed new actions to address the crisis.

Previous research has shown that environmental, social, and governance (ESG) initiatives can provide legitimacy for organizations (e.g., Arvidsson & Dumay, 2021; Bansal & Clelland, 2004; Cordeiro, et al., 2018; Richards, et al., 2017; Xue, et al., 2022), defined as establishing credibility and acceptance through adherence to societal norms (Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995). However, the impact of reinforcing sustainable initiatives during corporate financial constraints remains totally underexplored (Broadstock et al., 2021; Ferrón-Vílchez, & Leyva-de la Hiz, 2023; Xia, et al., 2023), as well as, the impact of ESG performance on investor commitment during financial difficulties is debated in the academic literature. While some scholars argue investors may prioritize short-term gains over long-term legitimacy (Johnson & Greening, 1999; Kochhar & David, 1996; Sakaki & Jory, 2019), others emphasize investor commitment's importance in navigating crises (Aldrich, 2012; Harrison et al., 2010; Sajko et al., 2021; Welbourne Eleazar & Park, 2022), with sustainable initiatives potentially reinforcing it (Morrow Jr., et al., 2007). Thus, this study aimed to investigate whether reinforcing sustainability commitment during financial constraint conditions can enhance investor commitment and expedite recovery. Moreover, the study assesses the influence of the broader economic context on these relationships.

Drawing on legitimacy theory (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995) and resilience perspectives (Kahn, et al., 2018; DesJardine, et al., 2019; Linnenluecke, 2017; Sutcliffe & Vogus, 2003), we propose that organizations can uphold main

investor commitment by proactively addressing sustainability amid financial constraints. Despite initial investor hesitance, main investors increasingly consider an organization's ESG commitment for long-term performance assessment (Arvidsson & Dumay, 2021; Busch, et al., 2016), risk-return evaluations (Wang, et al., 2021), and resilience to adversities (Bansal & Clelland, 2004).

The literature supports an organization legitimacy, rooted in ESG adherence, benefits investors. ESG commitment correlates with resilience generation (Ferrón-Vílchez, & Leyva-de la Hiz, 2023), lower risk (Bansal & Clelland, 2004), heightened engagement (Kurki & Lähdesmäki, 2023), increased efficiency and value (Minutolo et al., 2019), improved reputation (Jia, 2018; Tamimi & Sebastianelli, 2017), and better resource access (Pfeffer & Salancik, 1978). We argue that sustaining ESG performance amid financial constraints is crucial for stakeholder support, fostering enduring relationships (Bansal & Clelland, 2004). Furthermore, external economic conditions may significantly moderate these effects.

The study examined 190 financially constrained organizations in 2015 using Refinitiv Eikon data. It asserts that an organization's ESG performance during financial constraints can expedite recovery and fortify main investor commitment. Moreover, the study finds that investor commitment serves as a mediator between ESG performance and recovery time. It also notes that a hostile external economic environment intensifies the relationship between sustainability performance and main investor commitment, while a munificent economic context enhances the relationship between investor commitment and a rapidly recovery.

The study makes several contributions to the literature. Firstly, it aligns with the resilience literature, showing how investors maintain commitment when organizations uphold legitimate ESG practices during financial difficulties (Kahn et al., 2018; DesJardine et al., 2019; Linnenluecke, 2017; Sutcliffe & Vogus, 2003). Secondly, it expands traditional legitimacy theory (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995) by emphasizing that organizations can cultivate main investors commitment through proactive sustainability efforts amid financial constraints. This study addresses calls for integrating external dimensions in the examination of corporate resilience (Carmeli et al., 2020; Liu & Yin, 2020; Ortiz-de-Mandojana & Bansal, 2016; Sutcliffe & Vogus, 2003; Williams et al., 2017).

3.2. Theoretical background

Legitimacy is pivotal in comprehending organizational behavior (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995). Organizations operate within established cultural and social norms, influencing how they are formed, managed, and evaluated from externals (Dowling & Pfeffer, 1975). Corporate legitimacy, as defined by Bansal and Clelland (2004), denotes the general perception of an organization's appropriateness within a specific system of values and beliefs. External institutional factors further influence how an organization's legitimacy is perceived and embraced (Barin Cruz et al., 2016; Kostova & Zaheer, 1999). Thusly, legitimate organizations, aligning with these norms, gain social acceptance (Deephouse & Carter, 2005; Kostova & Zaheer, 1999; Jia, 2018).

Stakeholders' perception of an organization's aligns with a morally favored taxonomic category (Suchman, 1995, p. 581). More specifically, stakeholders perceive an organization in a way that aligns with a morally or ethically favored behavior (Barnett, 2007). For example, if an organization consistently engages in socially responsible practices, stakeholders may categorize it as morally upright, while a perception of organizational misconduct can categorize it as a corrupt or unethical (Barnett, 2014). A favorable perception leads to a stakeholders' commitment and willingness to provide resources for achieving the organization's goals (Bansal & Clelland, 2004; Barnett, et al., 2022; Mellado-Garcia, et al., 2024; Suchman, 1995). Generally, higher legitimacy translates to increased access to vital resources like funding, personnel, and key suppliers (Pfeffer & Salancik, 1978).

High legitimacy is linked to lower unsystematic risk, attributed to enhanced resource access, suggesting that legitimate organizations are better equipped to handle disruptions (Bansal & Clelland, 2004). Attaining legitimacy, though complex, fosters preparedness for disruptions (Kostova & Zaheer, 1999). Legitimate organizations cultivate adaptive capabilities, necessitating adjustments to meet evolving requirements (Dowling & Pfeffer, 1975; Kostova & Zaheer, 1999). These capabilities are crucial for long-term viability, continuity, and success. Legitimate practices instill confidence and control during disruptions, leading to viability (Dowling & Pfeffer, 1975), continuity (Suchman, 1995), and heightened chances of success (Ortiz-de-Mandojana, Aguilera-Caracuel, & Morales-Raya, 2016). Therefore, legitimacy, by

fostering linkages, enhancing resources, and promoting adaptability and preparedness, drives organizational resilience during disruptions or constraints (Kostova & Zaheer, 1999).

3.3. Hypotheses

3.3.1. *Sustainable performance and recovery process*

Organizational resilience in recovery relies on diverse resources (Williams & Shepherd, 2016), including robust social networks (Aldrich, 2012; Gittell, et al., 2006; Harrison et al., 2010), interrelations (Williams, et al., 2021), community knowledge (Shepherd & Williams, 2014), and financial resources (Gittell et al., 2006). "Time of recovery" refers to the duration to return to pre-disruption state (DesJardine et al., 2019). In this context, organizations with strong resilient capabilities adeptly navigate challenges, ensuring swift and effective recovery (Williams et al., 2017).

Literature on organizational resilience reveals that organizations with robust ESG practices are better equipped to reduce internal risks and mitigating corporate disasters (Bansal & Clelland, 2004; Broadstock et al., 2021; DesJardine et al., 2019; Lu, et al., 2022; Ortiz-de-Mandojana & Bansal, 2016). ESG implementation enables access to diverse resources, fostering greater resilience (Dentoni, et al., 2021; Shafer, & Szado, 2020; Xia, et al., 2023; Zhang, et al., 2022). Moreover, positive ESG performance leads to operational efficiencies, facilitating resource utilization (Minutolo et al., 2019). It also improves access to social capital for adaptive responses (Carmeli & Tishler, 2004; Van Der Vegt et al., 2015) and secures support from corporate governance for resource allocation (Aguilera et al., 2021; Suchman, 1995). Strong ESG performance, as found by DesJardine et al. (2019), accelerates recovery due to the manifold benefits of sustainable initiatives. Additionally, Perez-Valls, et al., (2016) highlight the positive relationship between sustainable practices and the development of strategic flexibility in organizations.

However, in such conditions, organizations may prioritize financial goals over sustainability responsibilities (Roloff, 2023), while others focus on legitimacy and resilience through sustainable responses (Adomako & Tran, 2023; Carmeli et al., 2020). For instance, Ferrón-Vílchez, & Leyva-de la Hiz, (2023) reveal how the adoption of sustainable initiatives during the Covid-19 pandemic was a crucial requisite for developing a higher level of resilience in

that period, similar to findings of Lu et al., (2022). Roloff, (2023), demonstrate that organizations focus on other-regarding actions and sustainability, even as the organization fights for its survival. Broadstock et al. (2021) emphasized ESG's importance in mitigating financial risk in such periods. Flammer and Ioannou (2021) showed that certain organizations prioritized sustainability despite financial constraints, underlining ESG's significance in such conditions. These studies collectively underscore ESG's role in enhancing resilience amid financial challenges. In line with these previous studies, we suggest that organizations reinforcing sustainability during financial difficulties tend to recover faster.

Hypothesis 1 (H1). Reinforcing ESG performance during a period of corporate financial constraint conditions reduces the recovery period.

3.3.2. Mediating effect of investor commitment

Trust-based relationships and networks with external agents, as highlighted by Gittell et al. (2006) and Williams and Shepherd (2016), play a crucial role in building organizational resilience and reducing recovery time. Existing research underscores the significance of investor commitment in enabling organizations to navigate crises (Aldrich, 2012; Harrison et al., 2010; Mellado-Garcia, et al., 2024; Sajko et al., 2021; Welbourne Eleazar & Park, 2022). We posit that upholding legitimacy during financial difficulties is instrumental in retaining the commitment of main investors, further bolstering organizational resilience.

Organizations prioritizing legitimate beliefs, values, and stakeholder relationships over quick recovery value main investor commitment during financial difficulties (Carmeli et al., 2020). Main investors assess an organization's behavior, including its legitimacy, impacting survival prospects (Busch, et al., 2016). In this vein, Gittell et al. (2006) found that Southwest Airlines' investors committed to the organization during the 9/11 terrorist attacks because of the organization's decision to maintain its corporate social commitments, particularly by not laying off employees. In contrast, other organizations that laid off employees had more difficulties retaining their traditional investors, who perceived these organizations as insecure about their future. Therefore, high ESG scores signify legitimate behavior (Suchman, 1995) and higher risk-return trade-offs (Wang et al., 2021), encouraging investor commitment (Barnett, 2007; Busch, et al., 2016). Legitimacy from strong ESG performance

aids in retaining investor backing, signifying stability and reliability (Bansal & Clelland, 2004; Cardoni, et al., 2022).

When investors commit to organizations due to their legitimate and sustainable goals, they offer significant support (Barnett, et al., 2022; Cordeiro, et al., 2018; Zhang et al., 2022). Committed investors actively invest in the organization, aligning with executives for long-term growth and resource sharing (Ahmed, et al., 2021; Einig, 2022; Mellado-Garcia, et al., 2024; Neckebrouck, et al., 2021; Lin, 2019). They enhance corporate decision-making, resource availability, and reduce organization-specific risk (Lin, 2019). ESG performance in financial constraints conditions encourages committed investors to aid the organization by facilitating adaptation and resource allocation for recovery (Barnett, et al., 2022; Busch, et al., 2016; Cordeiro, et al., 2018). However, sustainable performance may not be enough without committed investors' involvement in expediting recovery from financial constraints (Morrow Jr. et al., 2007; Suchman, 1995).

Thus, committed investors play a vital role in facilitating swift recovery from financial disruptions, offering access to crucial information (Mellado-Garcia, et al., 2024; Van den Broek, et al., 2017), resources availability from linkages and networks (Ortiz-de-Mandojana & Aragon-Correa, 2015), a long-term corporate performance (Neckebrouck et al., 2021), and fostering resilience (Mellado-Garcia, et al., 2024; Sajko et al., 2021). It becomes crucial the investors involvement in decision-making processes for expediting recovery and providing additional resources. We hypothesize that investor commitment mediates the relationship between ESG performance in a financial constraint period and the recovery time.

Hypothesis 2 (H2). The main investor commitment mediates the relationship between reinforcing ESG performance during a period of corporate financial constraint conditions and the recovery period.

3.3.3. Moderating influences of economic conditions

In times of financial difficulty, organizations often seek support from external sources (Morrow Jr. et al., 2007), such as institutional entities, governments, NGOs, and other stakeholders to enhance resilience (Williams & Shepherd, 2016). However, availability of these resources relies on the institutional context (Barin Cruz, et al., 2016; Ortiz-de-Mandojana, et al., 2016). A munificent economic context increases the likelihood of

organizations receiving both financial and non-financial external support (Dao, 2017; Marcus & Goodman, 1991; Morrow Jr. et al., 2007), enabling better resource distribution (Bansal, 2005), and enhancing their ability to withstand disruptions (Van Der Vegt et al., 2015). Conversely, a hostile economic context, characterized by elevated risk, uncertainty, and limited resources (Barin Cruz, et al., 2016), may pose challenges for organizations in accessing resources, necessitating the exploration of alternative options to maintain external relationships

3.3.3.1. Moderating influence of the organization's economic context on the relationship between ESG performance in a financial constraint situation and investors' commitment

Alliances and collaborations with stakeholders are crucial for advancing sustainable practices (Da Giau et al., 2020). Nevertheless, external institutional factors influence how stakeholders view an organization's legitimate practices (Kostova & Zaheer, 1999). In times of financial constraints, some stakeholders may distance themselves and weaken their connections (Yu, Sengul, & Lester, 2008). Hence, hostile external economic conditions during financial constraints can trigger disengagement, driven by feelings of insecurity or doubts about the organization's viability. This prompts stakeholders to engage in sensemaking, a process of assigning meaning and seeking interpretations to guide their actions, as outlined by Yu et al. (2008).

For instance, Einig, (2022), finds that investors place great importance on ESG factors and sustainability, which play a decisive role in their investment decisions and commitment to the organization. In hostile economic conditions, investors view an organization's strong ESG focus as a source of safety, legitimacy, and resource access due to potential limitations. They recognize that robust sustainable performance improves external support (e.g., Shafer & Szado, 2020; Pfeffer & Salancik, 1978; Zhang et al., 2022), reputation (e.g., Jia, 2018; Tamimi & Sebastianelli, 2017), and legitimacy (e.g., Arvidsson & Dumay, 2021; Gold, Taib, & Ma, 2022; Richards et al., 2017). In uncertain resource contexts, investors favor organizations with strong ESG performance, anticipating better access to alternative resources. Therefore, we posit the following hypothesis:

Hypothesis 3a (H3a). An organization's hostile economic context increases the relationship between reinforcing corporate ESG performance during a period of corporate financial constraint conditions and main investor commitment.

3.3.3.2. Moderating influence of the organization's economic context on the relationship between investor commitment and organization recovery time

Additionally, commitment and network relationships with stakeholders are pivotal in navigating disruptions, providing vital resources and problem-solving abilities that bolster organizational resilience (Ortiz-de-Mandojana & Bansal, 2016; Shepherd & Williams, 2014). However, external institutional conditions can also impact the dynamics between stakeholders and organizations (Ortiz-de-Mandojana, et al., 2016), shaping main investors' decisions on engaging with the organization.

In a munificent economic context, organizations enjoy increased resource availability (Dao, 2017; Marcus & Goodman, 1991; Morrow Jr. et al., 2007), due to other economic agents are more willing to contribute necessary resources. In this vein, investors place a great importance on other stakeholder actions and collaborate with them (Einig, 2022). Investors are more inclined to demonstrate commitment and collaboration with other economic agents (e.g., through increased purchases, higher payments), further hastening the recovery. Therefore, in a favorable economic context, committed investors' efforts are amplified by the support of external agents, ultimately resulting a recovery expedite.

Thusly, in such contexts, investors find it easier to complement their resources with external agents (Dao, 2017; Marcus & Goodman, 1991; Morrow Jr. et al., 2007). This enhanced resource accessibility builds greater capacity for resilience in recovery. Additionally, collaborative efforts between committed investors and other economic agents are more likely, further expediting recovery. Conversely, in a hostile economic environment, the same level of investor commitment may have a smaller impact on recovery period reduction, as collaboration and positive evaluations from external agents can be more challenging (Ahmed et al., 2021; Huang, & Knight, 2017). We thus hypothesize:

Hypothesis 3b (H3b). An organization's munificent economic context reinforces the positive relationship between main investor commitment and recovery time.

3.4. Methodology

3.4.1. Data source and sample

The study employed the Refinitiv Eikon database, which offers access to financial data, information, and analytics on leading organizations. We identify organizations that experienced corporate financial constraints in 2015 but stable financial conditions in 2014, by using Altman Z-Score index, as in previous studies (e.g., Boubakri & Saffar, 2019; Saona, Muro, & Alvarado, 2020; Tong, Wang, & Xia, 2020). Organizations with a Z-score below 2.99 were classified as financially constrained (Altman, Danovi, & Falini, 2013). The 2015 as the “selected year” allowed us to examine the relevance of ESG for investors and make a subsequent assessment of the six-year recovery time (2016-2021). Moreover, these organizations also have available ESG scores for 2015 and consecutive years up to 2021, maintaining comparability with those lacking such scores in various aspects. This timeline (2015-2021) enabled us to analyze an organization's ESG performance and investor commitment over several consecutive years, including the speed of the recovery.

The sample consisted of 190 organizations distributed across regions: South and North America (47.89%), Asia (16.32%), Europe (16.32%), Oceania (15.26%), and Africa (4.21%). These organizations spanned various sectors per the Global Industry Classification Standard (GICS): industrials (19.58%), materials (16.40%), consumer discretionary (14.81%), energy (12.17%), health care (10.05%), information technology (7.94%), consumer staples (7.94%), communication services (7.41%), financials (1.59%), real estate (1.59%), and utilities (0.53%).

3.4.2. Description of variables

Recovery period. The dependent variable was measured by using Altman Z-Score index. We coded as follows: 1 for recovery in the immediate year (2016) with Z-score > 2.99, 2 for recovery in two consecutive years (2017) with Z-score > 2.99, and so forth up to 6 for recovery in six consecutive years (2021) with Z-score > 2.99. A code of 7 indicated non-recovery in the 2016-2021 period (Z-score < 2.99), while 8 signified organization's discontinuations, with no Z-score disclosure from 2016 to 2021. This coding captured a spectrum of recovery scenarios, from swift to prolonged recovery and eventual cessation.

Reinforcing ESG performance. This study employed ESG scores from Refinitiv Eikon as the independent variable, as per seminal studies (e.g., Abdi, et al., 2020; Atif & Ali, 2021; Cheng, et al., 2014; Duque-Grisales & Aguilera-Caracuel, 2021). Refinitiv Eikon's ESG score relies on verifiable data from public sources (e.g., annual reports, CSR reports, websites, and global media sources) (Refinitiv, 2018), and is rigorously standardized for comparability (Abdi et al., 2020). It objectively assesses an organization's ESG performance across environmental, social, and governance dimensions, offering a valuable tool for investors (Atif & Ali, 2021; Cheng et al., 2014). The score encompasses ten categories within these three dimensions, each weighted and normalized to a 0-100 scale (Refinitiv Eikon, 2022). For the purpose of this study, the Eikon ESG score variation between consecutive years ($t - [t-1]$) was used, specifically from the selected year (2015) to the preceding year (2014). A positive value indicates increased ESG reinforcement despite financial difficulties, 0 denotes no impact on ESG performance, and a negative value signifies reduced ESG focus during financial constraints.

Investor commitment. The mediating variable in our study was measured by the adjustment rate of main investors' portfolios from the selected year (2015) to the preceding year (2014). A positive value indicates increased commitment despite financial constraints, 0 denotes no change, and a negative value signifies reduced commitment. In line with the literature (Idode, Oluoch, & Oloko, 2018; Kim, 2010; Kim & Cho, 2008), main investors were identified based on their higher weight in organization holdings, indicating greater decision-making power. Specifically, blockholders with at least 3% ownership were considered. Blockholders, with more influence over decision-making, are better positioned to navigate corporate uncertainties and challenges (Hickson, Hinings, Lee, Schneck, & Pennings, 1971; Pfeffer & Salancik, 1978).

Organization's country economic context. The economic context of an organization's country was assessed using the Organization for Economic Cooperation and Development's (OECD) Consumer Confidence Index, which measures consumer spending intentions and economic perceptions for the next year. A higher index value indicates confidence in the country's economic outlook, implying increased spending and reduced saving. This was termed a "munificent" economic context. Conversely, a lower value signifies pessimism about economic development, potentially leading to decreased consumption or increased savings, indicating a "hostile" economic context (OECD, 2022).

Control variables. Various control measures were implemented to enhance result validity, encompassing factors such as the stability of the organization's country, organization size, investor concentration, long-term orientation in both the organization's and the main investor's country, risk aversion in the main investor's country, Environmental Performance Index (EPI) of the main investor's country, and the organization's industry classification according to the Global Industry Classification Standard (GICS).

Stable economic growth, robust financial policies, and sufficient reserves are vital for a resilient corporation (Dao, 2017; Marcus & Goodman, 1991). We assessed country *stability* through the increase in GDP per capita from 2014 to 2015. Larger organizations tend to garner more stakeholder attention, impacting legitimacy and investor commitment (Suchman, 1995). *Organization size* was quantified by total debt value in the selected year. Concentrated ownership structures prove advantageous in financial disruptions (Deudon, Marques, & Sarens, 2015), reducing insolvency risk (Iannotta, Nocera & Sironi, 2007), and enhancing organization value due to more effective monitoring by key investors (De Miguel, Pindado & De la Torre, 2004). *Investor concentration* by region was gauged using a geographic diversification index based on entropy (Qian, Khoury, Peng, & Qian, 2010).

Resilience relies on a long-term outlook in internal decisions and external relationships (Carmeli & Tishler, 2004; Kostova & Zaheer, 1999; Van Der Vegt, et al., 2015). ESG-performing organizations tend to exhibit durable performance (Arvidsson & Dumay, 2021). To account for this, we considered the Hofstede dimension pertaining to *long-term orientation* in both the organization's and main investor's countries. Given the adverse financial conditions, we also factored in investors' comfort with uncertainty or ambiguity using the Hofstede dimension for *uncertainty avoidance* (Hofstede, 2011). Moreover, we used the EPI from Yale University to assess investors' *awareness of sustainability* and legitimacy (Wendling et al., 2018). Additionally, we incorporated sector dummies for precise control.

3.5. Results

We tested hypotheses using regression, causal mediation, and moderation analyses in Stata (Hicks & Tingley, 2011; Imai, et al., 2010; Imai, et al., 2010). Descriptive statistics are in Table 3.1, while Table 3.2. shows Pearson's correlations. To ensure the validity of our models, we

calculated the variance inflation factors (VIFs) for all models and found that they were less than 4, indicating that multicollinearity was not an issue (Hair, et al., 1995).

TABLE 3.1. Descriptive statistics ^a

Variable	Mean	S.D.	Min	Max
1. Recovery period	4.57	2.71	1	8
2. ESG performance	40.39	20.50	.86	86.34
3. Investors' commitment	2.38	11.34	-26.84	86.74
4. Organization's economic context	103.62	24.87	98.31	279.23
5. Stability of organization's country	1.83	3.21	-4.35	23.99
6. Organization size ^b	.70	5.69	0	70.65
7. Concentration of investors	.47	.27	.01	1.34
8. Long-term orientation of organization	40.02	22.80	0	100
9. Long-term orientation of investors	39.22	22.10	7	100
10. Risk aversion of investors	50.75	15.18	8	92
11. EPI of investor's country	68.68	9.86	31.23	87.67
12. Consumer sector	.22	.42	0	1
13. Energy sector	.13	.33	0	1
14. Financial sector	.02	.12	0	1
15. Health Care sector	.09	.29	0	1
16. ICT sector	.15	.36	0	1
17. Industrial sector	.19	.40	0	1
18. Material sector	.16	.37	0	1
19. Real Estate sector	.02	.12	0	1

^a N=190

^b expressed in trillions

TABLE 3.2. Pearson's correlations^a

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Recovery period																		
2. ESG performance	-.08																	
3. Investors' commitment	-.13 [†]	.07																
4. Organization's economic context	.03	.11	.02															
5. Stability of organization's country	.04	.15*	-.07	-.23**														
6. Organization size ^b	.10	.02	-.06	-.02	-.00													
7. Concentration of investors	.10	.20**	.03	-.01	-.02	.05												
8. Long-term orientation of organization	.08	.09	-.11	.01	.01	.19**	.16*											
9. Long-term orientation of investors	.03	-.02	.01	-.01	.01	.24**	.08	.83***										
10. Risk aversion of investors	-.05	.02	-.16*	.12 [†]	-.10	-.08	-.15*	.38***	.44***									
11. EPI of investor's country	-.04	-.11	-.12	-.10	-.18*	.07	-.03	-.22**	-.16*	.05								
12. Consumer sector	.05	-.02	.03	.11	.00	.12 [†]	.03	.20**	.17*	.11	-.03							
13. Energy sector	-.05	.07	.10	-.05	-.07	-.05	-.03	-.14 [†]	-.06	-.08	.10	-.20**						
14. Financial sector	.00	-.05	-.02	.24***	-.03	-.02	.01	-.08	-.07	-.02	.09	-.07	-.05					
15. Health Care sector	.09	.06	-.02	-.06	.13 [†]	-.04	.02	-.10	-.03	-.01	.05	-.17*	-.12 [†]	-.04				
16. ICT sector	-.00	-.02	-.03	.04	-.01	-.05	-.01	.05	-.04	.07	-.12 [†]	-.22**	-.16*	-.05	-.13 [†]			
17. Industrial sector	-.02	-.04	.07	-.08	.10	.05	.01	.06	.08	-.07	-.04	-.26***	-.19**	-.06	-.16*	-.20**		
18. Material sector	-.14 [†]	-.05	-.11	-.06	-.12	-.05	-.06	-.13 [†]	-.10	-.02	.01	-.24**	-.17*	-.06	-.14*	-.18*	-.22**	
19. Real Estate sector	-.01	.08	-.06	-.03	-.00	-.02	.14 [†]	.01	-.08	-.04	-.02	-.07	-.05	-.02	-.04	-.05	-.06	-.06

^a N=190. The correlation involving variable (variable 1) are polyserial correlations. All other are Pearson's correlation. Significant at the †.10; * .05; ** .01; *** .001 level

^b expressed in trillions

Table 3.3. presents the results of the regression analyses (OLS models) and causal mediation analysis generated by the mediation package in Stata (*medeff* command). As shown in Model 1, the results support *Hypothesis 1* which predicts that ESG-performing organizations experience shorter recovery periods. This relationship is indicated by a negative and slightly significant coefficient [Coef. = .02 | p = .056].

Hypothesis 2 asserts that the link between legitimate organizations and recovery time is mediated by main investor commitment. Using Stata's mediation package (Hicks & Tingley, 2011), we conducted this analysis, and we separated the total effect of ESG performance on recovery time into direct and indirect paths. The results, detailed in Table 3, indicate a positive and significant connection between ESG performance and main investor commitment (Coef. = .10 | p = .046, Model 2a). Furthermore, a negative and significant relationship exists between main investor commitment and recovery time (Coef. = -.03 | p = .029, Model 2b). After accounting for indirect effects, the direct impact of ESG performance on recovery time was not significant (Coef. = -.02 | p = .111, Model 2b). These findings affirm the significance of the indirect effects in supporting our hypotheses.

TABLE 3.3. Regression and casual mediation analyses ^a

	<i>Recovery period</i>	<i>Investors commitment</i>	<i>Recovery period</i>	<i>Investors commitment</i>	<i>Recovery period</i>
	Model 1	Model 2a	Model 2b	Model 3a	Model 3b
Controls	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
Stability of organization's country	.03 (.07)	-.51** (.17)	.02 (.07)	-.57** (.19)	.01 (.06)
Organization size ^b	.05* (.02)	-.21*** (.17)	.04* (.02)	-.20*** (.05)	.04 (.02)
Concentration of investors	1.02 (.75)	.20 (3.69)	1.02 (.75)	-.56 (3.75)	.83 (.75)
Long-term orientation of organization	.02 (.02)	-.24*** (.07)	.02 (.02)	-.25*** (.07)	.01 (.02)
Long-term orientation of investors	-.02 (.02)	.25*** (.07)	-.01 (.02)	.25*** (.07)	-.01 (.02)
Risk aversion of investors	-.00 (.02)	-.16** (.05)	-.01 (.02)	-.14** (.05)	-.02 (.02)
EPI of investor's country	-.01 (.02)	-.15 (.10)	-.02 (.02)	-.17 (.11)	-.01 (.02)
Sectors dummies	<i>Included</i>	<i>Included</i>	<i>Included</i>	<i>Included</i>	<i>Included</i>
Direct effects					
ESG performance	-.02† (.01)	.08† (.04)	-.02† (.01)	.47*** (.14)	
Organization's country economic context				.21*** (.05)	.01* (.00)
Indirect effects					
Investors' commitment			-.03* (.02)		.15** (.05)
Moderating effects					
ESG performance X Organization's country economic context				-.00*** (.00)	
Investors' commitment X Organization's country economic context					-.00*** (.00)
Constant	6.24*** (1.78)	19.13* (8.92)	6.85*** (1.80)	-1.14 (8.39)	4.63* (1.95)
R ²	.07†	.15***	.09*	.17***	.09***
F(df)	1.54† (15, 174)	2.95*** (15, 174)	1.75* (16, 173)	4.13*** (17, 172)	5.44*** (17, 172)

Notes: Unstandardized regression coefficients (b) are reported with SEs in parentheses.

Significant at the †.10; * .05; ** .01; *** .001 level

^a N=190.

^b expressed in trillions

In line with Hicks and Tingley's (2011) approach, we calculated the average causal mediation effect (ACME) to elucidate the causal mechanisms between ESG performance and recovery time in Table 3.4. The bootstrapping test (based on 500 samples) confirmed that both the direct and total effects of ESG performance on recovery time were statistically significant, with confidence intervals not encompassing zero. Additionally, the ACME was also statistically significant, as its confidence interval

did not include zero. These outcomes lend support to *Hypothesis 2*, emphasizing the mediating role of investor commitment in the association between ESG performance and recovery time.

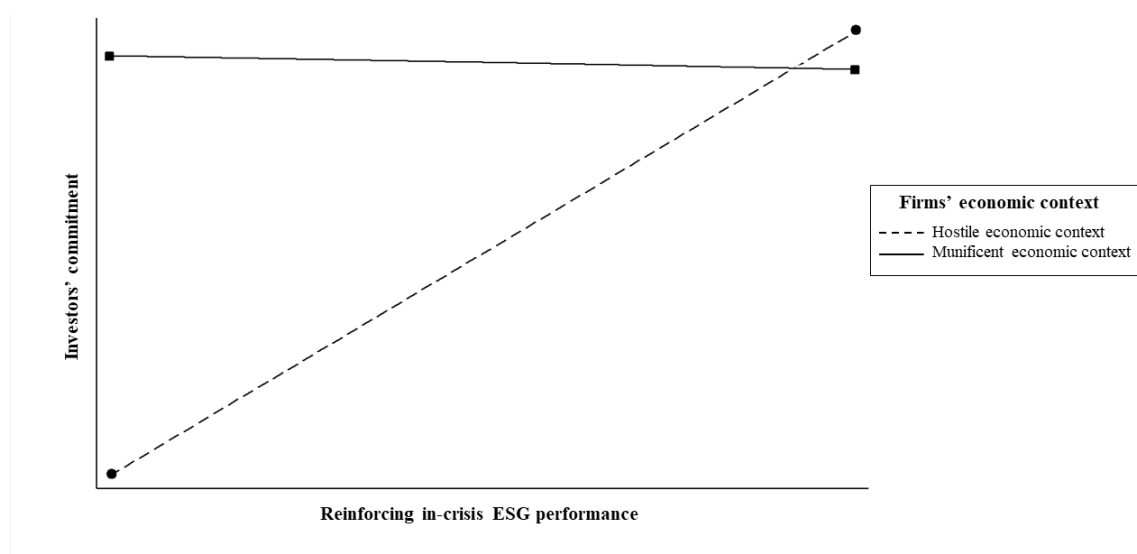
TABLE 3.4. Bootstrapping analyses of the simple mediation effect^a

Model 2a and 2b	Mean	[90% Conf. Interval]	
ACME	-.002	-.006	-.000
Direct Effect	-.018	-.034	-.000
Total Effect	-.020	-.036	-.003
% of Total Effect mediated	.120	.062	.464

^an=190. Confidence interval to 90%

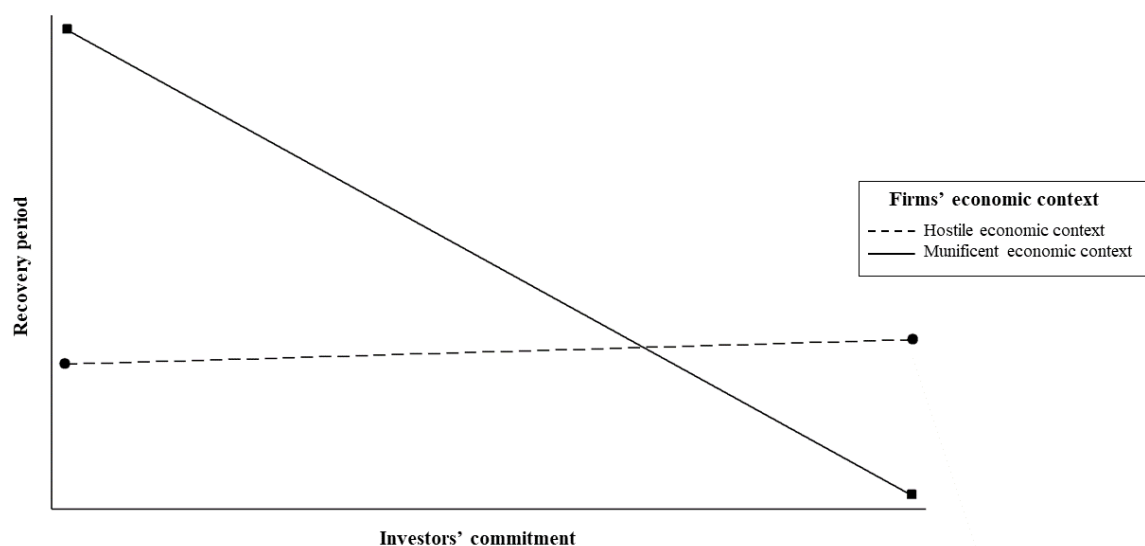
Hypothesis 3a examines the moderation effect of the hostile external economic context on the relationship between ESG performance and investor commitment. Model 3a indicates a negative and statistically significant interaction term [Coef. = -.00 | p = .001]. This is visually depicted in Figure 3.1., where the positive slope of the line signifies increased investor commitment when an organization emphasizes ESG performance amid financial constraints. Notably, when economic conditions are hostile, the slope is steeper, indicating even higher investor commitment. Thus, the findings support *Hypothesis 3a*.

FIGURE 3.1. Moderating effect of organization's economic context on main investors' commitment



Hypothesis 3b suggests that a munificent external economic context further moderates the link between investor commitment and the recovery period, resulting in a reduction. Model 3b confirms this hypothesis with a negative and statistically significant coefficient for the moderating model [Coef. = -.00 | $p = .000$]. This relationship is graphically represented in Figure 3.2. The figure shows that organizations with strong committed investor presence experience shorter recovery times in munificent economic contexts. Conversely, in hostile economic environments, main investor commitment leads to a slight increase in the recovery period, as indicated by the slope of the line. Further discussion of this result is provided in the Discussion section.

FIGURE 3.2. Moderating effect of organization's economic context on the recovery period



3.6. Discussion and conclusion

3.6.1. Overview and contributions

The study addresses a gap in the literature, exploring the impact of reinforcing ESG efforts during corporate financial constraints. It draws on legitimacy theory and resilience literature, suggesting that strong ESG performance enhances legitimacy (Adomako, & Tran, 2023; Arvidsson & Dumay, 2021; Bansal & Clelland, 2004; Richards

et al., 2017; Roloff, 2023; Suchman, 1995; Xue, Zhang, Chen, & Yin, 2022), potentially expediting recovery. Furthermore, the study investigates how investor commitment mediates this relationship, considering the economic context of the organization's country.

Our findings support that an organization's ESG reinforcement during financial constraints reduces the recovery time, corroborating prior research linking legitimacy and sustainability with lower internal risks (Bansal & Clelland, 2004) and improved access to external resources (Pfeffer & Salancik, 1978; Xia et al., 2023). Additionally, these findings align with DesJardine et al. (2019), underscoring that organizations with strong sustainable practices recover more rapidly. This study further extends the work of Broadstock et al. (2021), Flammer and Ioannou (2021), and Lu et al. (2022), highlighting the critical role of ESG performance in enhancing organizational resilience during disruptions.

Our study demonstrates that ESG performance during financial constraints impacts recovery time through the mediating effect of investor commitment. Main investors show heightened commitment to organizations demonstrating sustained ESG practices, perceiving them as secure, legitimate, and resource-accessible even in financially challenging times (Cardoni et al., 2022). Consequently, committed investors wield greater influence in decision-making processes (Cordeiro, et al., 2018), reinforced by their power during such vulnerable periods (Mellado-Garcia, et al., 2024). This dynamic prompts their increased resource contributions, expediting the organization's recovery.

Additionally, the findings indicate that the relationships between ESG performance during a financial difficulties period and investor commitment and between investor commitment and recovery time are moderated by the economic context of the organization's country. First, hostile economic conditions amplify the relationship between reinforcing ESG performance in times of financial constraints and investor commitment. This environment constrains resource allocation, prompting investors to positively value sustainable practices for enhanced access to resources and support (e.g., Barnett, et al., 2022; Shafer & Szado, 2020; Pfeffer & Salancik, 1978; Zhang et al.,

2022), reputation (e.g., Jia, 2018; Tamimi & Sebastianelli, 2017), and legitimacy (e.g., Arvidsson & Dumay, 2021; Gold et al., 2022; Richards et al., 2017). Therefore, this heightened reliance on ESG emphasizes its role in fortifying commitment, even in challenging financial situations. Second, in an organizations' munificent economic context, main investor commitment accelerates recovery due to enhanced collaboration with other economic agents, who also believe that organizations are legitimate when investors do not abandon them during times of financial difficulties. Committed investors attract additional resources, promoting legitimacy and expediting the process. Interestingly, Figure 2 also shows that, in a hostile economic context, investor commitment slightly increases recovery time. That may be because this situation of uncertainty may lead investors to make more conservative decisions focused on self-protection over organization support (Mellado-Garcia, et al., 2024).

This study provides substantial contributions to the fields of organizational resilience and legitimacy research. On the one hand, it offers fresh insights by prioritizing recovery speed, sustainability, investor commitment, and external conditions over the traditional recovery process and broader stakeholders. This approach aligns with the core tenets of resilience theory, emphasizing adaptability, collaboration, and speed (Kahn et al., 2018; DesJardine et al., 2019; Linnenluecke, 2017; Sutcliffe & Vogus, 2003). Our study underscores that main investors are inclined to reinforce their commitment to an organization displaying ESG dedication amid financial constraints, recognizing the value of legitimate and sustainable practices (Barnett, et al., 2022; Einig, 2022; Wang et al., 2021). The study identifies investor commitment as a crucial mediator between ESG performance and the speed of recovery. Consequently, investor commitment emerges as a pivotal factor in expediting recovery by facilitating access to essential resources (Van den Broek et al., 2017). Furthermore, the study introduces the notion that recovery speed relies not only on external support and commitments (Aldrich, 2012; Harrison et al., 2010), but also on the external economic context. It corroborates the hypothesis that a hostile economic context can influence the relationship between ESG-performing organizations and main investor commitment during financial constraints. Conversely, a munificent economic context can expedite

recovery by streamlining access to external resources and support (Barin Cruz, et al., 2016). This dual perspective enriches resilience literature.

On the other hand, this study significantly advances the legitimacy theory (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995, Suchman, 1995) and adds to the discourse on how legitimacy, stemming from ESG performance, impacts investor commitment during disruptions. Investors are increasingly valuing an organization's ethical and legitimate dimensions (Aich et al., 2021; Barnett, 2007), reinforcing commitment to ethically sound organizations (Bansal & Roth, 2000; Barnett, et al., 2022). Therefore, organizations emphasizing ESG initiatives in financial constraints prioritize legitimacy for rapidly recovery, transcending mere ethical compliance (Adomako & Tran, 2023; Cordeiro, et al., 2018; Roloff, 2023; Xue, et al., 2022). Legitimate organizations are better poised to mitigate disruption-induced constraints (Zhang et al., 2022) and access crucial external resources (Pfeffer & Salancik, 1978). The study posits that maintaining legitimacy in adversity reinforces investor commitment, deeming it desirable and fitting. Thus, organizations prioritizing legitimacy demonstrate responsibility in their sustainable practices and endeavors (Adomako & Tran, 2023). Additionally, the study underscores how specific external institutional dimensions influence investor perceptions and acceptance of an organization's legitimacy (Kostova & Zaheer, 1999; Ortiz-de-Mandojana et al., 2016).

3.6.2. Limitations and future research directions

This study has several limitations that offer opportunities for further research. One limitation is the use of a limited measure of legitimacy based on the ESG scores. Future studies could use a broader measure of organizations' legitimacy to examine the relationship between legitimacy and investor commitment as well as the relationship between legitimacy and organizational resilience. Additionally, this study only examined the commitment of main investors and did not investigate the relationship between corporate legitimacy and the commitment of other stakeholders or the relationship between the commitment of other stakeholders and the recovery process. While previous research has investigated the support of stakeholders due to legitimacy (Bansal & Clelland, 2004; Suchman, 1995) and the need to maintain relationships with

stakeholders to create value in organizations (Harrison, et al., 2010) and in response to a disruption (Shepherd & Williams, 2014), future studies may focus on the impact of stakeholders' commitment on the disruption recovery processes. Additionally, institutional dimensions could be analyzed in the relationship between stakeholder behaviors in times of corporate financial difficulties.

3.6.3. Managerial and regulator implications

Based on our findings, managers facing financial difficulties may be advised to prioritize their ESG initiatives, fostering positive investor perception and commitment. Investing in ESG can also facilitate access to vital external resources, reducing recovery time. Given the increasing interest of investors in sustainability, an emphasis on ESG for investors, rather than broader stakeholders, is advised. Finally, each country has established its own regulations related to sustainable scores, such as United States (e.g., Toxic Release Inventory TRI), European regulations, China (e.g., Institute of Public & Environmental Affairs IPE), or Canada (e.g., National Pollutant Release Inventory NPRI). Regulators could collaborate to standardize sustainability reporting, enhancing global understanding.

REFERENCES

- Abdi, Y., Li, X., & Càmara-Turull, X. (2020). Impact of sustainability on firm value and financial performance in the air transport industry. *Sustainability*, 12(23), 9957.
- Adomako, S., & Tran, M. D. (2023). Doing well and being responsible: The impact of corporate social responsibility legitimacy on responsible entrepreneurship. *Corporate Social Responsibility & Environmental Management*, 1.
- Aguilera, R. V., Aragón-Correa, J. A., Marano, V., & Tashman, P. A. (2021). The corporate governance of environmental sustainability: A review and proposal for more integrated research. *Journal of Management*, 47(6), 1468-1497.
- Ahmad, M. (2020). Does underconfidence matter in short-term and long-term investment decisions? Evidence from an emerging market. *Management Decision*, 59(3), 692-709.
- Ahmed, D., Xie, Y., & Issam, K. (2021). Investor confidence and life insurance demand: can economic condition limit life insurance business?. *International Journal of Emerging Markets*.
- Aich, S., Thakur, A., Nanda, D., Tripathy, S., & Kim, H. C. (2021). Factors Affecting ESG towards Impact on Investment: A Structural Approach. *Sustainability*, 13(19), 10868.
- Aldrich, D. P., (2012). *Building Resilience: Social Capital in Post-Disaster Recovery*. University of Chicago Press: Chicago.
- Altman, E. I., Danovi, A., & Falini, A. (2013). Z-score models' application to Italian companies subject to extraordinary administration. *Journal of Applied Finance*, 23(1), 128-137.
- Arvidsson, S., & Dumay, J. (2021). Corporate ESG reporting quantity, quality and performance: Where to now for environmental policy and practice?. *Business Strategy and the Environment*, 1-20.
- Atif, M., & Ali, S. (2021). Environmental, social and governance disclosure and default risk. *Business Strategy and the Environment*, 30(8), 3937-3959.
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26(3), 197-218.
- Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management journal*, 47(1), 93-103.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4), 717-736.
- Barin Cruz, L., Aguilar Delgado, N., Leca, B., & Gond, J. P. (2016). Institutional resilience in extreme operating environments: The role of institutional work. *Business & Society*, 55(7), 970-1016.
- Barnett, M. L. (2007). Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review*, 32(3), 794-816.

- Barnett, M. L. (2014). Why stakeholders ignore firm misconduct: A cognitive view. *Journal of Management*, 40(3), 676-702.
- Barnett, M. L., Dimitrov, V., & Gao, F. (2022). The nail that sticks out: corporate social responsibility and shareholder proposals. *Review of Accounting Studies*, 1-44.
- Boubakri, N., & Saffar, W. (2019). State Ownership and Debt Choice: Evidence from Privatization. *Journal of Financial & Quantitative Analysis*, 54(3), 1313-1346.
- Broadstock, D. C., Chan, K., Cheng, L. T., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, 38, 101716.
- Busch, T., Bauer, R., & Orlitzky, M. (2016). Sustainable development and financial markets: Old paths and new avenues. *Business & Society*, 55(3), 303-329.
- Cardoni, A., Kiseleva, E., & Bellucci, A. (2022). The quality of SMEs stakeholder communication during strategic crises: The case of Italian unlisted SMEs. *Business Strategy and the Environment*, 1-17.
- Carmeli, A., Dothan, A., & Boojihawon, D. K. (2020). Resilience of sustainability-oriented and financially-driven organizations. *Business Strategy and the Environment*, 29(1), 154-169.
- Carmeli, A., & Tishler, A. (2004). The relationships between intangible organizational elements and organizational performance. *Strategic Management Journal*, 25(13), 1257-1278.
- Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, 35(1), 1-23.
- Cordeiro, J. J., Galeazzo, A., Shaw, T. S., Veliyath, R., & Nandakumar, M. K. (2018). Ownership influences on corporate social responsibility in the Indian context. *Asia Pacific Journal of Management*, 35, 1107-1136.
- Da Giau, A., Foss, N. J., Furlan, A., & Vinelli, A. (2020). Sustainable development and dynamic capabilities in the fashion industry: A multi-case study. *Corporate Social Responsibility and Environmental Management*, 27(3), 1509-1520.
- Dao, M. Q. (2017). Determinants of the global financial crisis recovery: an empirical assessment. *Journal of Economic Studies*, 44(1), 36-46.
- De Miguel, A., Pindado, J., & De la Torre, C. (2004). Ownership structure and firm value: New evidence from Spain. *Strategic Management Journal*, 25(12), 1199-1207.
- Deephouse, D. L., & Carter, S. M. (2005). An examination of differences between organizational legitimacy and organizational reputation. *Journal of Management Studies*, 42, 329-360.
- Dentoni, D., Pinkse, J., & Lubberink, R. (2021). Linking sustainable business models to socio-ecological resilience through cross-sector partnerships: A complex adaptive systems view. *Business & Society*, 60(5), 1216-1252.
- DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management*, 45(4), 1434-1460.

- Deudon, J. C., Marques, A. C., & Sarens, G. (2015). Ownership concentration of three large Belgian banks during the crisis. *Corporate Governance*, 15(5), 663–677.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122-136.
- Duque-Grisales, E., & Aguilera-Caracuel, J. (2021). Environmental, social and governance (ESG) scores and financial performance of multilatinas: Moderating effects of geographic international diversification and financial slack. *Journal of Business Ethics*, 168(2), 315-334.
- Einig, S. (2022). Financial return or social responsibility? An investigation into the stakeholder focus of institutional investors. *Business Ethics, the Environment & Responsibility*, 31(2), 307-322.
- Ferrón-Vílchez, V., & Leyva-de la Hiz, D. I. (2023). Calm after the storm? The role of social and environmental practices on small and medium enterprises resilience throughout COVID-19 crisis. *Business Ethics, the Environment & Responsibility*, 32, p. 179–195.
- Flammer, C., & Ioannou, I. (2021). Strategic management during the financial crisis: How firms adjust their strategic investments in response to credit market disruptions. *Strategic Management Journal*, 42(7), 1275-1298.
- Gittell, J. H., Cameron, K., Lim, S., & Rivas, V. (2006). Relationships, layoffs, and organizational resilience: Airline industry responses to September 11, *The Journal of Applied Behavioral Science*, 42(3), 300–329.
- Gold, N. O., Taib, F. M., & Ma, Y. (2022). Firm-Level Attributes, Industry-Specific Factors, Stakeholder Pressure, and Country-Level Attributes: Global Evidence of What Inspires Corporate Sustainability Practices and Performance. *Sustainability*, 14(20), 13222.
- Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. & Black, W. C. (1995). *Multivariate Data Analysis* (3rd ed). New York, NY: Macmillan.
- Harrison, J. S., Bosse, D. A., & Phillips, R. A., (2010). Managing for stakeholders, stakeholder utility functions and competitive advantage. *Strategic Management Journal*, 31(1), 58–74.
- Hicks, R., & Tingley, D. (2011). Causal mediation analysis. *The Stata Journal*, 11(4), 605-619.
- Hickson, D. J., Hinings, C. R., Lee, C. A., Schneck, R. E., & Pennings, J. M. (1971). A strategic contingencies' theory of intraorganizational power. *Administrative Science Quarterly*, 216-229.
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, 2(1), 2307-0919.
- Huang, L., & Knight, A. P. (2017). Resources and relationships in entrepreneurship: An exchange theory of the development and effects of the entrepreneur-investor relationship. *Academy of Management Review*, 42(1), 80-102.

- Iannotta, G., Nocera, G., & Sironi, A. (2007). Ownership structure, risk and performance in the European banking industry. *Journal of Banking & Finance*, 31(7), 2127–2149.
- Idode, P. E., Oluoch, O. J., & Oloko, M. (2018). Does Ownership Concentration Influence Discretionary Earnings Quality in Emerging Market: Evidence from Nigeria. *International Journal of Management, Accounting and Economics*, 5(2), 105–117.
- Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods*, 15(4), 309.
- Imai, K., Keele, L., & Yamamoto, T. (2010). Identification, inference and sensitivity analysis for causal mediation effects. *Statistical Science*, 25(1), 51–71.
- Jia, N. (2018). The “make and/or buy” decisions of corporate political lobbying: Integrating the economic efficiency and legitimacy perspectives. *Academy of Management Review*, 43(2), 307–326.
- Johnson, R. A., & Greening, D. W. (1999). The effects of corporate governance and institutional ownership types on corporate social performance. *Academy of Management Journal*, 42(5), 564–576.
- Kahn, W. A., Barton, M. A., Fisher, C. M., Heaphy, E. D., Reid, E. M., & Rouse, E. D. (2018). The geography of strain: Organizational resilience as a function of intergroup relations. *Academy of Management Review*, 43(3), 509–529.
- Kim, K. (2010). Blockholder monitoring and the efficiency of pay-performance benchmarking. *Journal of Corporate Finance*, 16(5), 748–766.
- Kim, A. R., & Cho, M. H. (2008). Types of foreign investors, dividend and investment policy: An empirical study of Korean firms. *Journal of Strategic Management*, 11(1), 25–42.
- Kochhar, R., & David, P. (1996). Institutional investors and firm innovation: A test of competing hypotheses. *Strategic Management Journal*, 17(1), 73–84.
- Kostova, T., & Zaheer, S. (1999). Organizational legitimacy under conditions of complexity: The case of the multinational enterprise. *Academy of Management Review*, 24(1), 64–81.
- Kurki, M., & Lähdesmäki, M. (2023). Cultivating sustainability thinkers: Analyzing the routes to psychological ownership in local business units of multinational enterprises (MNEs). *Business & Society*, 62(3), 530–564.
- Lin, W. T. (2019). Market distance and insider–ownership strategies: a resource–dependence perspective. *Management Decision*, 57(11), 2958–2977.
- Linnenluecke, M. K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, 19(1), 4–30.
- Liu, Y., & Yin, J. (2020). Stakeholder relationships and organizational resilience. *Management and Organization Review*, 16(5), 986–990.
- Lu, J., Rodenburg, K., Foti, L., & Pegoraro, A. (2022). Are firms with better sustainability performance more resilient during crises?. *Business Strategy and the Environment*, 31, 3354–3370.

Marcus, A. A., & Goodman, R. S. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Academy of Management Journal*, 34(2), 281-305.

Mellado-Garcia, E., Ortiz-de-Mandojana, N., & Aragon-Correa, J. A. (2024). Avoiding relapses after crises: Exploring the influence of firm investors' characteristics on organizational resilience. *BRQ Business Research Quarterly*, 1-16.

Meyer, J., & Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology* 83(2), 340–363.

Minutolo, M. C., Kristjanpoller, W. D., & Stakeley, J. (2019). Exploring environmental, social, and governance disclosure effects on the S&P 500 financial performance. *Business Strategy and the Environment*, 28(6), 1083–1095.

Morrow Jr, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007). Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic management journal*, 28(3), 271-283.

Neckebrouck, J., Meuleman, M., & Manigart, S. (2021). Governance implications of attracting external equity investors in private family firms. *Academy of Management Perspectives*, 35(1), 25–44.

OECD (2022), *Consumer confidence index (CCI) (indicator)*.
<https://data.oecd.org/leadind/consumer-confidence-index-cci.htm>

Ortiz-de-Mandojana, N., Aguilera-Caracuel, J., & Morales-Raya, M. (2016). Corporate governance and environmental sustainability: The moderating role of the national institutional context. *Corporate Social Responsibility and Environmental Management*, 23(3), 150-164.

Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, 37(8), 1615-1631.

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of Management Review*, 23(1), 59-76.

Perez-Valls, M., Céspedes-Lorente, J., & Moreno-Garcia, J. (2016). Green practices and organizational design as sources of strategic flexibility and performance. *Business Strategy and the Environment*, 25(8), 529-544.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Qian, G., Khoury, T. A., Peng, M. W., & Qian, Z. (2010). The performance implications of intra-and inter-regional geographic diversification. *Strategic Management Journal*, 31(9), 1018–1030.

Refinitiv, (2018). Thomson Reuters ESG scores. Available online:
https://www.refinitiv.com/content/dam/marketing/en_us/documents/fact-sheets/esg-scores-fact-sheet.pdf

Refinitiv Eikon, (2022). Environmental, Social and Governance Scores from Refinitiv. Available online:

https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Richards, M., Zellweger, T., & Gond, J. P. (2017). Maintaining moral legitimacy through worlds and words: an explanation of firms' investment in sustainability certification. *Journal of Management Studies*, 54(5), 676-710.

Roloff, J. (2023). Surviving or solidarity? Crisis responses of small and medium-sized enterprises during the Covid-19 pandemic. *Business Ethics, the Environment & Responsibility*, 32, p. 243-256

Sajko, M., Boone, C., & Buyl, T. (2021). CEO greed, corporate social responsibility, and organizational resilience to systemic shocks. *Journal of Management*, 47(4), 957-992.

Sakaki, H., & Jory, S. R. (2019). Institutional investors' ownership stability and firms' innovation. *Journal of Business Research*, 103, 10-22.

Saona, P., Muro, L., & Alvarado, M. (2020). How do the ownership structure and board of directors' features impact earnings management? The Spanish case. *Journal of International Financial Management & Accounting*, 31(1), 98-133.

Scott, W. R. (1995). *Institutions and organizations: Ideas, interests, and identities*. Sage publications: London

Shafer, M., & Szado, E. (2020). Environmental, social, and governance practices and perceived tail risk. *Accounting & Finance*, 60(4), 4195-4224.

Shaikh, I. (2022). Environmental, social, and governance (ESG) practice and firm performance: an international evidence. *Journal of Business Economics and Management*, 23(1), 218-237.

Shepherd, D. A., & Williams, T. A. (2014). Local venturing as compassion organizing in the aftermath of a natural disaster: The role of localness and community in reducing suffering. *Journal of Management Studies*, 51(6), 952-994.

Smith, G., & Wenger, D., (2007), Sustainable Disaster Recovery: Operationalizing An Existing Agenda. In H. Rodriguez, E. Quarentelli, & R. Dynes (Eds), *Handbook of Disaster Research* (p.234-257). Springer: New York

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571-610.

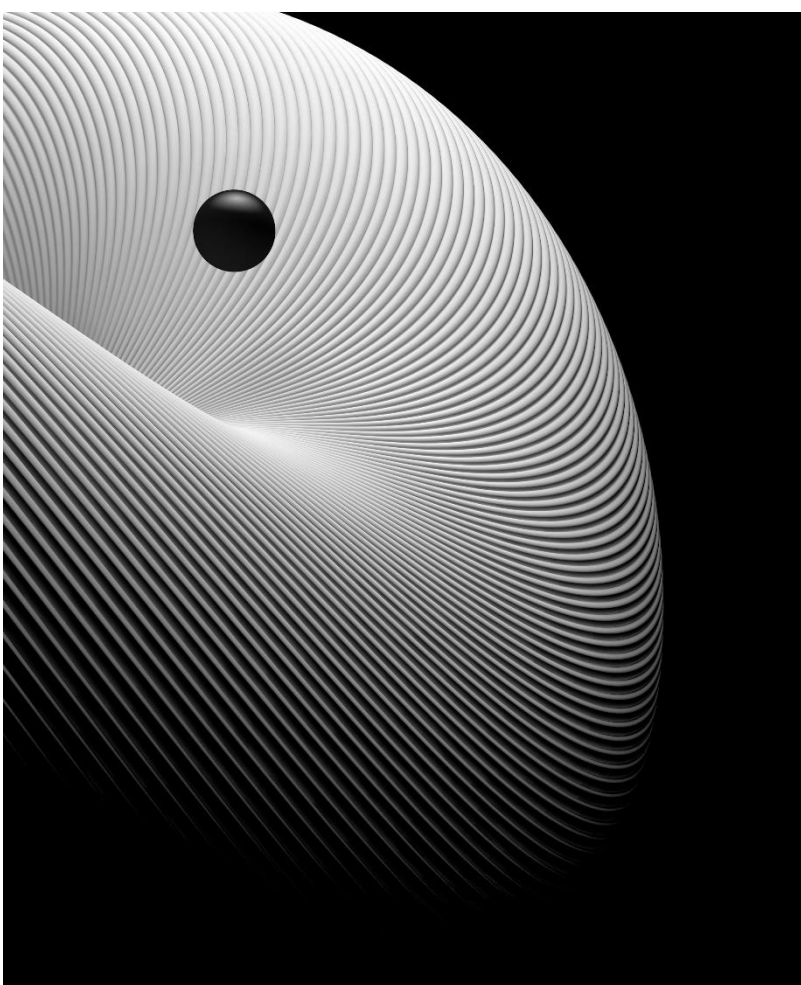
Sutcliffe, K. M., & Vogus, T. J. (2003). *Organizing for resilience*. In K. S. Cameron, J. E. Dutton & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 94-110). San Francisco, CA: Berrett-Koehler.

Tamimi, N., & Sebastianelli, R. (2017). Transparency among S&P 500 companies: An analysis of ESG disclosure scores. *Management Decision*, 55(8), 1660-1680.

Tong, L., Wang, H., & Xia, J. (2020). Stakeholder preservation or appropriation? The influence of target CSR on market reactions to acquisition announcements. *Academy of Management Journal*, 63(5), 1535-1560.

Van den Broek, T., Langley, D., & Hornig, T. (2017). The effect of online protests and firm responses on shareholder and consumer evaluation. *Journal of Business Ethics*, 146(2), 279-294.

- Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resilience. *Academy of Management Journal*, 58(4), 971-980.
- Wang, Z., Liao, K., & Zhang, Y. (2021). Does ESG Screening Enhance or Destroy Stock Portfolio Value? Evidence from China. *Emerging Markets Finance and Trade*, 1-15.
- Welbourne Eleazar, M. J., & Park, H. D. (2022). Who will stay when crisis strikes? venture capitalist threat-defiant learning response to ventures in crisis. *Academy of Management Journal*, 65(4), 1218-1239.
- Wendling, Z. A., Emerson, J. W., Esty, D. C., Levy, M. A., de Sherbinin, A., Spiegel, N., & Mardel, S. (2018). *Environmental performance index*. Yale Center for Environmental Law & Policy: New Haven.
- Williams, A., Whiteman, G., & Kennedy, S. (2021). Cross-scale systemic resilience: Implications for organization studies. *Business & Society*, 60(1), 95-124.
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733-769.
- Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal*, 59(6), 2069-2102.
- Xia, F., Chen, J., Yang, X., Li, X., & Zhang, B. (2023). Financial constraints and corporate greenwashing strategies in China. *Corporate Social Responsibility and Environmental Management*, 1-12.
- Xue, S., Zhang, L., Chen, H., & Yin, J. (2022). Does environmental underperformance duration affect firms' green innovation? Evidence from China. *Business Ethics, the Environment & Responsibility*, 31(3), 662-681.
- Yu, T., Sengul, M., & Lester, R. H. (2008). Misery loves company: The spread of negative impacts resulting from an organizational crisis. *Academy of Management Review*, 33(2), 452-472.
- Zhang, D., Wang, C., & Dong, Y. (2022). How Does Firm ESG Performance Impact Financial Constraints? An Experimental Exploration of the COVID-19 Pandemic. *The European Journal of Development Research*, 1-21.



CHAPTER 4.

**CHEAPER AND FASTER, BUT NOT BETTER: THE
RELATIONSHIP BETWEEN EFFICIENCY,
RESILIENCE, AND SUSTAINABILITY**

4.1. Introduction

Sustainability encompasses a broad panorama that requires both individual and organizational endeavors aimed at fostering sustainable development (Demastus, & Landrum, 2023), which is characterized by economic progress, social equity, and environmental preservation, that satisfies current needs without compromising the capacity of future generations to meet their own (WCED, 1987, p. 41). This multifaceted concept embodies a holistic and prospective perspective, seeking to generate global prosperity that caters to human needs while ensuring the regenerative potential of environmental systems (Bansal, 2005).

Drawing on Hierarchy Theory (Bertalanffy, 1968; Boulding, 1956) and Systems Thinking (Wu, & Sekiguchi, 2023), we conceptualize the real world as a complex network of interconnected systems nested at different levels of analysis within hierarchical structures (Simon, 1962; Wu, & David, 2002). Within this framework and the holistic perspective inherent in the phenomenon of sustainability, it is considered at the highest-level of the entire socio-environmental system (macro-system level) (Musters, et al., 1998), while organizations are positioned at lower levels within the hierarchy as integral systems connected to other systems (i.e., departments, units), and to other larger systems such as industries, supply chains, and, ultimately, to the broader socio-environmental system (McBride, 2016; Matusik, et al., 2022; Musters, et al., 1998; Simon, 1962).

However, despite the broad implications and heavily interest on sustainability, the predominant focus in management studies remains at the organizational level of analysis (e.g., Barnett, 2006; Delgado-Ceballos, et al., 2023; Ortiz-de-Mandojana, & Bansal, 2016). This narrow perspective often overlooks the intricate relationships and influences that operate beyond the organizational boundaries. By delving deeper into sustainability discourse, a broader scope is needed to encompass dynamics between different levels of analysis for a more comprehensive understanding of sustainability challenges at a macro-level system (Bansal, & DesJardine, 2014).

At the organizational level, which comprises lower-level systems, there exists a discourse primarily centered around efficiency-based organizational designs, a pivotal

concept in organizational management. Efficiency-based organizing pertains to the optimization of resources and processes to attain maximum output with minimal input, thereby enhancing productivity and profitability (Marginson, & McAulay, 2008; Mouzas, 2006; Ostroff, & Schmitt, 1993; Yang, & Chen, 2009). This emphasis on efficiency is deeply entrenched in traditional management paradigms, where organizations strive to streamline operations, mitigate redundancies, and increase output efficiency.

However, within this efficiency-focused discourse lies a growing recognition of the importance of resilience, especially in the context of sustainability. Resiliency-based organizing, unlike efficiency-based organizing, is more concerned with the organization's ability to adapt, withstand, and recover from disruptions, or changes in its internal and external environment while maintaining essential functions and performance (Kahn, et al., 2018; Linnenluecke, & Griffiths, 2010; Ortiz-de-Mandojana, & Bansal, 2016; Williams, & Shepherd, 2016), closely aligned to sustainability.

Previous literature describes both, efficiency and resilience, as desirable outcomes of the organizational designs, however, scholars also acknowledge the trade-off between operational efficiency, that optimizes resource allocation through tight coupled structures and standardizes operations, and resilient capabilities which need loose coupled structures to allow the organization to withstand, absorb and recover from disruptions (Adler, et al., 1999; Davis, et al., 2009; Eisenhardt, et al., 2010). In most cases, organizations combine both, as the organizations must navigate between maximizing gains and ensuring adaptability and survival (Ortiz-de-Mandojana, & Bansal, 2016). However, this dual pursuit will create tensions because achieving the objectives of efficiency and resilience relies on different organizational designs.

While there has been extensive research on the organizational designs and their outcomes at organizational level (e.g., Bowman, & Singh, 1993; Harris, & Raviv, 2002; Karim, 2006; Kikulis, et al., 1995), how these organizational designs at lower-level systems contribute to outcomes at a macro-system level remains still missing from management literature. This paper argues for a cross-hierarchical understanding of systems, emphasizing how higher-level systems, such as the organizational

environment, shape outcomes of organizational designs at lower-level systems, as well as how organizational designs influence outcomes in higher hierarchical levels, such as global sustainability. Existing literature often confounds sustainability with resilience, and overlooks that it operates at a different level of analysis (Bansal, & DesJardine, 2014).

The aim of this paper is to deeply understand the relationship between efficiency, resilience and sustainability. To achieve this goal, we first analyze the trade-off between efficiency-based and resiliency-based organizing at organizational level. Second, recognizing the importance of exploring the dynamics within organizational hierarchical systems we focus on the impact of higher levels of analysis (organizational environment) on the outcomes resulting of an efficient organizational design, and the impact of efficiency-based organizing at lower levels of analysis on outcomes at higher levels. Finally, this work aims to address a gap in discourse by examining the differential impacts of resiliency-based organizing versus efficiency-based organizing at lower-level systems on the advancement of global sustainability.

Thus, achieving sustainability transcends the organizational boundaries and requires a more holistic approach that acknowledges the collective impact of interrelated (sub)systems (Wu, & Sekiguchi, 2023). Our arguments extend beyond the traditional search for organizational designs characteristics at an organizational level to a distinction between different levels of analysis within a hierarchical structure.

4.2. Organizational designs: a cross-hierarchical perspective

Hierarchy Theory (Bertalanffy, 1968; Boulding, 1956) and Systems Thinking (Wu, & Sekiguchi, 2023) describes the complexities of systems organized hierarchically. Within these assumptions, a “system” is a coherent and interconnected arrangement of diverse components such as individuals, objects, technologies, and processes, which dynamically interrelate and collaboratively operate to achieve a collective purpose or goal (Ashby, 1962, Ackoff, 1971; Von Bertalanffy, 1972).

Hierarchy Theory introduces the principle of “horizontal coupling” (Simon, 1977; Wu & David, 2002), which implies that systems at the same hierarchical level can maintain a degree of autonomy or dependence on its components and operations (Davis, et al.,

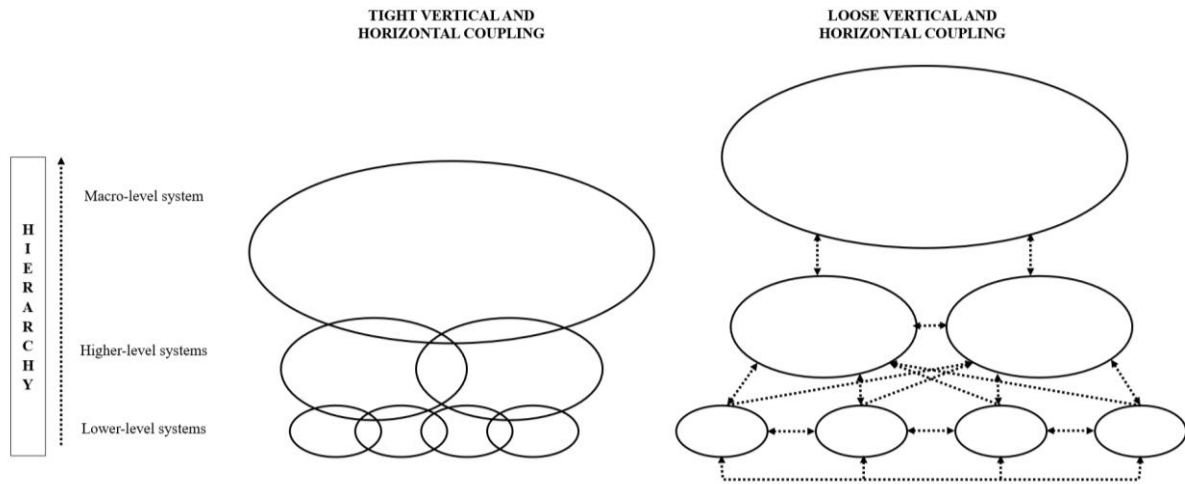
2009; Perrow, 1999a, 1999b). A loose horizontal coupling delineates a diminished degree of interdependence among diverse units, components and individuals operating at the same hierarchical level, allowing for greater autonomy and flexibility among systems and facilitating adaptability to changing circumstances (Davis, et al., 2009). Contrarily, there exists a high degree of interdependence and coordination among different units, components and individuals (systems are graphically superimposed on each other, as seen in Figure 4.1.) at the same hierarchical level within a tightly horizontal coupling structure (Perrow, 1999b).

However, the distinction between higher and lower-level systems is further elucidated through the principle of “vertical coupling” (Simon, 1977; Wu & David, 2002). Similarly to horizontal coupling, the loose vertical coupling allows systems at different hierarchical levels to operate more independently (Wu & David, 2002). Higher levels involve slower and larger systems, often associated with low-frequency events, while lower levels comprise faster and smaller systems, characterized by high-frequency events (O’Neill, et al., 1991; Simon, 1962; Wu, 2013). With loose vertical coupling, connections between systems at different levels are more flexible, with changes at one level having a lesser impact on others, fostering independence and autonomy (Davis, et al., 2009). In contrast, tight vertical coupling reflects stronger and more immediate connections between systems at different levels, leading to a more interconnected and interdependent hierarchical structure that is less adaptable to disturbances (Clement, 2023; Perrow, 1999a, 1999b). Changes at one level directly and significantly influence other levels (Davis, et al., 2009). Figure 4.1. depicts the graphical representation of both tight and loose organizational designs, illustrating their vertical and horizontal dimensions.

Loose couplings, both vertical and horizontal, are essential for the decomposability of complex systems (Simon, 1977; Wu & David, 2002). They allow systems to be disassembled into its hierarchical levels or subsystems with minimal loss of information (Wu & David, 2002). Complete decomposability, achieved when there are no interactions between levels or systems at the same level, is rare due to the interconnected nature of real-world systems (Simon, 1962). Therefore, while loose coupling facilitates some degree of decomposition, tight coupling hinders it by

maintaining strong interdependencies that resist separation without significantly impacting the system's overall functioning.

FIGURE 4.1. Tight/loose vertical and horizontal coupling structures



Source: Own elaboration

In the following sections, our study will delve into the implications of both horizontal and vertical coupling designs at lower-level systems in outcomes at the same and higher-level systems.

4.3. Organizing systems for efficiency and resilience

4.3.1. Efficiency-based organizing

Efficiency-based organizing requires the rational allocation and utilization of resources for maximizing output or performance, while minimizing inputs or costs (Marginson, & McAulay, 2008; Mouzas, 2006; Ostroff, & Schmitt, 1993; Yang, & Chen, 2009). It embodies an organization's capacity to realize its objectives with minimal resource outlay and manifests in organizational design principles emphasizing profit maximization, optimization, and cost reduction (Kennedy, 1994). These principles are illuminated below.

Within an efficiency-based system, components and parts are tightly coupled and interdependent on each other through the structures of formalization, standardization, specialization, and centralization. Components often encompass a wide range of

entities, including individuals, departments, teams, processes, technologies, resources, and any other identifiable and distinct components that contribute to the functioning of the organization as a whole. This high level of interdependence fosters a seamless cooperation and synchronization among components, tightly aligned to optimally allocate resources and achieve common objectives (Perrow, 1999b; Vazquez, et al., 2016). Therefore, the actions of one component directly influences the actions of others (Clement, 2023), allowing a cascade of increasingly serious failures where disruptions or changes in one part of the system quickly propagate throughout, potentially leading to widespread consequences (Perrow, 1999a, 1999b).

Formalization establishes clear and inflexible rules for component behavior within the organization (Mintzberg, 1984), creating a consistent framework for how tasks and procedures should be carried out. It brings a high level of order, predictability, and control to organizational operations. Procedures therefore are uniform, standardized, and often simple, with minimal variability (Adler, et al., 1999; Marginson, & McAulay, 2008; Mintzberg, 1984; Sartal, et al., 2017), in order to contribute to different matters. Firstly, the optimization of processes to maximize output with minimum inputs and redundancies (Herrero, 2011), saving time and capital (Glisson, & Martin, 1980). Secondly, a high interdependence, where each component relies on others adhering to the same standardized procedures (Mintzberg, 1984).

Specialization also becomes a crucial feature. Individuals become knowledgeable, proficient and experience at their specific assigned task for optimal performance (Marginson, & McAulay, 2008), allowing each individual to excel in a particular function. However, nobody possesses the breadth of skills required to accomplish a range of tasks within the organization and often without a broader understanding of the overall objectives of the organization. Each specialized individual relies on others to fulfill complementary tasks, and the successful completion of one task may rely on the timely and accurate execution of another, involving dependencies them.

In tightly coupled systems, such as in the automotive industry (e.g., Toyota), or e-commerce industry (e.g., Amazon or Shein), the significance of network of connections becomes evident, as they form the tissue binding together intricately linked tasks and

responsibilities (Perrow, 1999b). Nevertheless, individuals may have limited awareness of the broader connections and interdependencies. An effective management is essential to actively coordinate the high interdependencies and connections that exist among individuals to ensure that the tightly coupled system operates seamlessly toward organizational objectives (Marginson, & McAulay, 2008). The centralized decision-making process within an efficiency-based organizing ensures a systematic but synchronized dissemination of information, which adheres strictly to established rules and procedures, limiting individual inputs or deviations. Supervisors are given clear lines of authority (Weber, 1947) over the activities of units and teams (Child, 1972; Mintzberg, 1984) to ensure operations are efficient and objectives met (Von Zedtwitz, 2003). It consolidates control at higher levels, fostering a closely interconnected system where decisions flow from the top down.

4.3.2. Resiliency-based organizing

A focus on resiliency-based organizing promotes organizations to create adaptive capabilities to changes in its environment, without altering its fundamental purpose, identity, and structure. Previous research has defined organizational resilience as a dynamic capability that helps organizations effectively respond to and absorb (Ortiz-de-Mandojana, & Bansal, 2016; Kahn, et al., 2018) and rebound from disruptions resourcefully (Linnenluecke, & Griffiths, 2010; Williams, & Shepherd, 2016). These organizations are also effective in preparing for disruptive events (Lengnick-Hall, et al., 2011) and even mitigating them before they occur (Van Der Vegt, Essens, Wahlström, & George, 2015; Williams, & Shepherd, 2016).

Unlike efficiency-based organizing which relies on tight coupling, resiliency-based organizing can be characterized as the loose coupling of components within systems. A loose coupled structure allows for the separation between components of systems (holons) (Simon, 1977). Components exhibit more independence and autonomy than in efficiency-based organizing (Weick, 1976), and each one has the capacity to adjust to changing circumstances, without comprising its overall functionality (Perrow, 1999b). Such as different gears working together: components and systems connect to achieve an overall goal, but they can still turn on their own without being too dependent on the

precise actions or details of the others. A loose coupled system results from a combination of factors such as flexibility, diversity and adaptability, a shared vision among individuals, collaborative practices, and decentralization. The individuals can integrate, reconfigure, and align the organization's internal resources and competencies to respond to dynamic external environments (Teece, et al., 1997), ensuring the organization can adapt to changing circumstances (Vogus & Sutcliffe, 2007).

While flexibility allows system for easy adjustment (DesJardine et al., 2019), diversity introduces a wide range of skills, perspectives, and approaches within the system (Liu, & Yin, 2020). Multi-skilled individuals promote functional diversity since these workers can be assigned to various tasks according to the specific needs at any given time (Bunderson, & Sutcliffe, 2002). Connections among individuals are more flexible, allowing for collaborative problem-solving (Furlan, et al., 2019) without being constrained by rigid dependencies but fostering versatility and adaptability (Cannella Jr, Park, & Lee, 2008). In management context, adaptability refers to the capability of an organization to undergo changes in response to external disturbances or shifting conditions, while maintaining its core structure, operations, values and purposes (Lengnick-Hall, & Beck, 2005; Linnenluecke, & Griffiths, 2010; Nelson, et al., 2007), and gaining back and/or building new resources (Williams, et al., 2017). Therefore, knowledge and expertise are distributed across the workforce (Bunderson, & Sutcliffe, 2002), allowing for a network of interrelated yet independently functioning components.

To adapt effectively, individuals often understand how their role fits in the organization (Van Der Vegt, et al., 2015). This awareness contributes to a more global understanding of the organization's vision, values, and identity, fostering a shared vision and values (Duchek, 2020). A sense of collective objective also motivates individuals and give them a sense of purpose and direction in their work (Lengnick-Hall, & Beck, 2005).

Unlike tightly coupled systems where communication is often hierarchical and rigid, a loose coupled system encourages lateral communication, enabling individuals to exchange ideas more freely and to contribute unique perspectives that support and

complement one another (Bunderson, & Sutcliffe, 2002; Cannella Jr, et al., 2008). Linkages are fostered through collaboration and partnership. Collaboration involves open communication, sharing of information, and a collective commitment to the organizational goals. Partnership, both internal and external, further contribute to the flexibility of a loose coupled system. Internally, different teams or units may form partnerships to leverage each other's strengths and resources. Externally, collaborations with stakeholders create a network of support that can help organizations respond more effectively to disruptions (Faraj, & Xiao, 2006; Jia, et al., 2020; Lengnick-Hall, et al., 2011). Thus, a shared vision creates a common ground for collaboration (Gittell, 2001, 2002), which occur not only internally to the organization but also with external partners.

Resiliency-based organizing empowers individuals at various levels to make decisions autonomously (Duchek, 2020; Galeazzo, et al., 2021; Van Der Vegt, et al., 2015; Pearson, & Clair, 1998), which fosters shared responsibility and an openness to change (Nahapiet, & Ghoshal, 1998; Pal, et al., 2014). Therefore, decision making in a loose coupled systems tends to be decentralized. Individuals possess the autonomy to address issues within their domain (Galeazzo, et al., 2021), drawing on their expertise and knowledge (Duchek, 2020). This enables quicker and more adaptive responses to disruptions, as decision-makers can quickly assess and address challenges without being hindered by excessive layers of hierarchy. This decentralized system, flexibility, diversity, and adaptability in loose coupled systems help organizations to tailor their responses to varied situations (Duchek, 2020) by combining different approaches, skills, and procedures to address specific challenges.

Table 4.1. provides a comparative overview of efficiency-based organizing and resiliency-based organizing's structural design.

TABLE 4.1. The structural design of efficiency and resiliency-based organizing

	<i>Efficiency-based organizing</i>	<i>Resiliency-based organizing</i>
Structure	Tight coupled system	Loose coupled system
Processes	Standardization and formalization	Flexibility and diversity
Tasks	High job specialization	Functional diversity and multi-skilled employees
Individual focus	Individuals are intricately linked in their specific tasks and responsibilities with no awareness of the broader connections and interdependencies	Understanding of one's job within a shared vision of the organization
Linkages	A connective tissue which coordinates interdependencies and connections for seamless operation toward objectives	Collaboration and partnership: open communication and sharing information among individuals, and a collective commitment
Decision making	Centralized	Decentralized

Source: Own elaboration

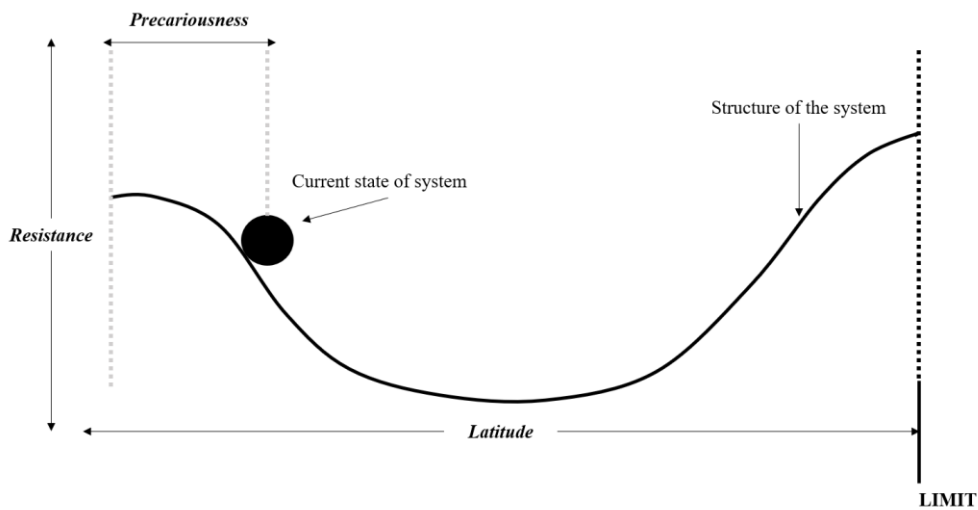
4.4. The relationship between efficiency-based organizing and resiliency-related systems properties within a single level of analysis

In spite of the many interconnections among the system's components, systems are able to have the remarkable quality of remaining dynamically stable. For instance, specific understory plants in a forest environment facilitate the maintenance of overstory, creating self-reinforcing loop. The understory uses energy and resources efficiently, while enduring substantial stress, as the overstory adapts to new conditions. Drawing from socioecological systems, Walker, et al., (2004) describe these system dynamics through the concept of a "basin of attraction".

The basin of attraction can be described by three components: latitude, resistance, and precariousness. These components are illustrated in Figure 4.2. Latitude refers to the width, resistance is determined by its height, and precariousness denotes the system's position in relation to the top edge. Systems within a particular basin exhibit not only consistent organizational arrangements (i.e., structure), but also share a common role (i.e., function), possess identifiable and unique qualities (i.e., identity), and engage in similar patterns of information exchange and adjustment (i.e., feedback mechanisms)

(Walker, et al., 2004). Resilience as an outcome is exemplified by systems possessing high latitude, resistance, and low precariousness, enabling them “to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks—in other words, stay in the same basin of attraction” (Walker, et al., 2004, p. 7). Therefore, a gravitational-like attraction anchors a system within a basin.

FIGURE 4.2. Latitude, resistance, and precariousness of systems



Source: adapted from Walker, et al., (2004)

Although Walker and colleagues (Holling, 1973; 1996; 2001; Walker, et.al, 2004) developed their model to explain resilience, the three components can also be used to describe efficiency. By mapping efficiency and resilience on the same model, we can theorize the relationship between efficiency and resilience.

In next sections, we propose that efficiency-based organizing within an organization (or system) reduces the presence of the three properties of resilience as an outcome, leading to the inability of a system to undergo change while retaining its core function, structure, identity, and feedback mechanisms, in other words, resulting in a less resilient system (Walker, et al., 2004).

4.4.1. *Latitude*

In this section, we propose that efficiency-based organizing has little latitude, unlike resiliency-based organizing. Latitude refers to the number of different states that a system can hold while still maintaining the same structure, function, identity and feedback mechanisms (Walker, et al., 2004). It represents the range of states a system can assume, before reaching a tipping point where it no longer reflects these properties. Because the system can hold a number of states and still be perceived as the same system, systems that have greater latitude are able to experience diverse states to different conditions of the environment without crossing a threshold (Holling, 1996; Walker, et al., 2004).

Tightly coupled designs are efficient due to specialized and simplified job roles (Marginson, & McAulay, 2008), high interdependence among components, parts and individuals within the organization, and a focus on maximizing procedures (Davis, et al., 2009), although at the expense of functional diversity and robust stakeholders' relationships.

Loose coupling designs in resiliency-based organizing fosters independence among components and parts, and autonomy in individuals (Davis, et al., 2009; Weick, 1976), resulting in greater latitude (Smith, & Besharov, 2019; Van Der Vegt, et al., 2015). In efficiency-based organizing, interdependence and limited functional diversity manifest as rigid and inflexible actions and decisions, constraining individuals' responsiveness, creativity, and flexible thinking to accommodate deviations from established procedures (Galeazzo et al., 2021), thereby limiting latitude.

Furthermore, the relentless pursuit of maximization may lead efficiency-based organizations to prioritize cost-cutting measures, expedient solutions, and short-term gains over stakeholder interests, concerns, and long-term relationship building (Ancona et al., 2001). In contrast, the flexibility and diversity inherent in resiliency-based organizing allow for better accommodation of stakeholders' needs and concerns, fostering more positive relationships and collective engagement in finding solutions (Ortiz-de-Mandojana & Bansal, 2016; Shepherd & Williams, 2014). However, investing time and resources in communication and engagement may be perceived as inefficient

within efficiency-based organizing, leading to strained or deteriorated relationships with stakeholders.

Specifically, efficiency-based organizing avoids diverging organizational actions and decisions towards endeavors that may lead to suboptimal outcomes or losses. Consequently, organizational design in this context tends to allow only one state: the state optimizing operational efficiency.

Proposition 1 (P1). The greater the efficiency-based organizing, the less the latitude of the system.

4.4.2. Resistance

In this section, we propose that, unlike resiliency-based organizing, efficiency-based organizing exhibits lower resistance. Resistance relates to the ability of a system to withstand pressure from the outside or, in other words, how the ability for a system to withstand change (Walker, et al., 2004). Systems with high resistance are able to maintain their core structure, function, identity and feedback mechanisms, even when subjected to external pressure.

In a resiliency-based organizing framework, individuals and good relationships with stakeholders leads to unify and engagement around a shared purpose (Der Vegt, et al., 2015), vision (Duchek, 2020) and core identity (Lengnick-Hall, & Beck, 2005) within a loose coupling system. This fosters involvement and cohesion in the face of pressures (Faraj, & Xiao, 2006). As illustration, despite the challenges posed by the 9/11 terrorist attack, Southwest Airlines swiftly overcame them due to a shared commitment and vision of survival and recovery among employees and external stakeholders (Gittell, et al., 2006). This collective sense of purpose aligns actions toward a common goal, fostering collaboration and support among individuals and stakeholders (Sutcliffe, & Vogus, 2003; Weick, & Roberts, 1993), thereby enhancing the organization's resistance to these pressures and challenges.

However, within an efficiency-based organizing framework, the emphasis often lies on individual task specialization, simplification, and optimization (Marginson, & McAulay, 2008), rather than on fostering collective cohesion and unity. This narrow focus on

specific tasks may lead to a lack of engagement and collaboration among individuals and stakeholders, as efficiency is prioritized over building cohesion. Thus, there is a lack of shared vision and collective commitment, resulting in disengagement and inattention to changes, broader objectives and dynamics within the organization (Bigley, & Roberts, 2001). Consequently, when faced with external pressures or challenges, individuals may prioritize individual tasks or objectives over collective well-being, leading to a lack of synergy among team members (Davis, et al., 2009). Likewise, stakeholders may struggle to mobilize efforts and support, hampering effective responses. Without a shared sense of purpose or vision, collaboration amidst changing circumstances may diminish. The lack of collaboration and engagement among individuals and stakeholders diminishes the organization's capacity to respond to emerging challenges, ultimately undermining its stability and resistance.

Proposition 2 (P2). The greater the efficiency-based organizing, the less the resistance of the system.

4.4.3. Precariousness

In this section, we propose that efficiency-based organizing is more precarious than resiliency-based organizing. Precariousness reflects the proximity of the system to a critical limit or threshold that will result in significant changes to its core structure, function, identity, and feedback mechanisms, making it near impossible to return to its previous state (Walker, et al., 2004). Hence, a system with high precariousness is more prone to shifting to alternative basins, collapse, or experience irreversible damage.

An efficiency-based organizing leads to heightened precariousness within systems due to its inherent characteristics and designs limitations. The tight coupling and centralized structures serve as significant impediments to the organization's ability to mobilize resources effectively in times of disruptions (Clement, 2023, David, et al., 2009). Centralized decision-making processes tend to overlook or dismiss alternative viewpoints and novel ideas from individuals at different levels within the organization, unlike empowered individuals to take actions in response to emerging threats or disruptions due to decentralized decision-making processes in resiliency-based organizing (Galeazzo, et al., 2021; Van Der Vegt, et al., 2015). The inability to functional

diversity encompasses that individuals focus narrowly on their assigned tasks often restricting the flow of information and collaboration among them (Clement, 2023). Moreover, the lack of robust relationships with stakeholders further exacerbates the situation, as it limits the organization's access to external resources and support networks.

In contrast, the diversity and versatility in resiliency-based organizing enable the organization to possess a wide range of skills, knowledge, and perspectives (Furlan, et al., 2019), further reducing the likelihood of tipping into a new basin (Risi, et al., 2023). However, in efficiency-based organizing, individuals adopt a passive approach to problem-solving and decision-making, just waiting for instructions from above rather than taking proactive action. As a result, when faced with critical changes, an efficiency-based organizing may find itself ill-equipped to respond promptly and adequately, leading to prolonged periods of instability or even failure.

Proposition 3 (P3). The greater the efficiency-based organizing, the more the precariousness of the system.

To draw a more robust picture of the outcomes of efficiency-based organizing, it is important to explore the dynamics within organizational hierarchical systems. Nested within larger and more intricate ones, systems exhibit overlapping interactions across various scales (Simon, 1962; Wu, & David, 2002). The next section of this paper focuses on the impact of higher levels of analysis (organizational environment) on the outcomes resulting of an efficient organizational design. In the following sections of this paper, we focus on the impact of efficiency-based organizing at lower levels of analysis on outcomes at higher levels.

4.5. The impact of higher levels of analysis: organizational environment and the outcomes resulting from an efficiency-based organizing

Drawing on this hierarchical assumption, the organizational environment can be represented as the broader system in which the organization is embedded (McBride,

2016; Matusik, et al., 2022; Musters, et al., 1998; Simon, 1962). Hence, Hierarchy theory aids in comprehending the influence of higher levels of analysis, such as the organizational environment, and how it shapes the outcomes of efficiency-based organizing.

Some organizations, such as those in the food industry (Wu, & Sekiguchi, 2023), or health-care services sector, often operate within an environment characterized by a consistent equilibrium and predictable changes (i.e., stability), seamless integration of components (i.e., simplicity) and similarity between them (i.e., homogeneity), an abundance of resources for their functioning (i.e., munificence) (Mintzberg, 1984; Sharfman, & Dean Jr, 1991) For instance, within the healthcare sector, established medical practices and protocols contribute to a steady equilibrium, and changes follow structured and regulated processes, ensuring predictability. The food industry maintains standardized production processes, quality control measures, and predictable changes in product offerings. External factors, such as regulatory frameworks and industry standards, remain relatively constant, providing a sense of assurance and continuity for organizations in these both sectors.

However, other organizations, such as those in the fast-moving consumer goods or high-technology sectors, operate in more dynamic environments (Wu, & Sekiguchi, 2023), encompassing factors such as unstable governments, economic shifts, changing customer demands, competitiveness, technological advancements, or weather variations, contributing to create an environment characterized by infrequent stability (Mintzberg, 1984). These environments involve constant and unpredictable changes (i.e., uncertainty), a high diversity of components (i.e., heterogeneity) and interconnections among them (i.e., complexity), and challenging or threatening conditions (i.e., hostility) (Bigley, & Roberts, 2001; Davis, et al., 2009; Eisenhardt, 1989; Mintzberg, 1984; Sharfman, & Dean Jr, 1991). Therefore, dynamic environments demand adaptive responses, such as technological advancements, or other transformative events that require a departure from routine practices (Wu, & Sekiguchi, 2023).

Based on the premise that the way an organization operates and responds to the organizational environment at higher level is influenced by its organizational design focus at lower level (Bourgeois III, et al., 1978; Clement, 2023), in following sections, we examine the influence of the stable and dynamic organizational environments, as a higher level of analysis, on the efficiency-based organizing's outcomes at a lower level of analysis.

4.5.1. Efficiency and resilience in stable environments

In stable environments, some organizations find themselves in a potential advantageous context. However, the ability of organizations to capitalize on stability for resource accumulation and performance improvement depends significantly on their organizational design (Bourgeois III, et al., 1978; Clement, 2023).

The absence of frequent and disruptive changes creates a conducive atmosphere for efficiency-based organizing to accumulate resources and capitalize on stable circumstances (David, et al., 2009). Tightly coupled designs make the most of stability by standardizing and formalizing processes, minimizing variability errors, and allowing for better resource planning and allocation through formalization (Marginson, & McAulay, 2008; Mintzberg, 1984; Sartal, et al., 2017; Vazquez, et al., 2016). Within stable and routine contexts, individuals are able to efficiently perform their tasks (Galeazzo, & Furlan, 2021), preventing the need for corrective actions and conserving resources (Marginson, & McAulay, 2008) as repetitive practice fosters expertise, increasing productivity and minimizing deviations (Pugh, et al., 1968; Hinings, & Lee, 1971; Mintzberg, 1984). Moreover, centralized decision-making ensures a unified and consistent approach to resource allocation and accumulation (Von Zedtwitz, 2003), preventing dispersed or inconsistent use of resources across different units. This reinforces the system's capacity to accumulate resources for future needs.

Conversely, reduced uncertainty and infrequent disruptions in stable environments mitigate the necessity of resiliency-based designs which prioritizes adaptability to changes and disruptions (Nahapiet, & Ghoshal, 1998; Pal, et al., 2014). Emphasizing multi-skilled and functionally diverse individuals (Cannella Jr, et al., 2008), a shared vision, and decentralized decisions (Duchek, 2020; Van Der Vegt, et al., 2015; Pearson,

& Clair, 1998), resiliency-based organizing may disperse resources because of their diverse strategies and resource allocation decisions for adaptability (Duchek, 2020), impeding a high resources accumulation. A loose vertical and horizontal coupling may not be as critical in stable environments where the system can function effectively with a more centralized and tightly coupled structure (David, et al., 2009; Perrow, 1999a).

In such environments, established and more tightly coupled designs prove well-suited to handle routine operations (Galeazzo, & Furlan, 2021) without the need for constant adjustments or adaptability (David, et al., 2009), as seen the study of Wu, and Sekiguchi, (2023). The authors compared Ikea and Muji's organizational design focuses, delving into the organizational characteristics and strategies of each organization in stable and dynamic contexts. Ikea, renowned for its flexible capability and adaptability in the furniture retail industry, with a decentralized organizational structure, allowing for quick decision-making and flexibility to respond to market trends and consumer preferences. In contrast, Muji, short for Mujirushi Ryohin, is a Japanese retailer with a minimalist design philosophy and focus on simplicity, cost minimization, standardization, and streamlining processes to maximize efficiency and profitability.

The findings were that, when conditions remained relatively constant, the stability provided Muji with a predictable operating environment, allowing the organization to leverage its standardized processes and operations to optimize resource accumulation and minimize waste. Standardization plays a crucial role in Muji's operations during stable periods, as it allows the organization to maintain quality standards, streamline production processes, optimize inventory management, and ultimately maintain a high level of performance. In contrast, Ikea's organizational design focused on adaptability did not yield significant improvements in performance under a stable environment. We thus propose:

Proposition 4 (P₄). In stable environments, efficiency-based organizing will accumulate more resources over time than resiliency-based organizing.

4.5.2. Efficiency and resilience in dynamic environments

As a system moves from a stable environment to a dynamic one, changes in the organizational environment emerges. The organizational design plays a crucial role in

determining how organizations perform in dynamic environments (David, et al., 2009). Specifically, the degree of latitude, resistance, and precariousness within an organization in such environments is heavily influenced by its organizational design. Within this context, efficient organizational designs can in many cases lead to undesirable results (Schaefer, & Wickert, 2015).

Dynamism involves uncertain and unforeseen conditions that require adaptive and proactive organizational responses (Aragón-Correa, & Sharma, 2003; Furlan, et al., 2019), such as unusual novel resource allocation and combinations, and reevaluated strategies. However, efficiency-based organizing is structured to optimize performance within specific set of parameters or conditions. However, when faced with dynamic and changing conditions, these rigid and efficient designs become obsolete or ineffective. The very features that make efficiency-based organizing successful in stable environments – such as standardized procedures, specialized roles, and streamlined processes – can hinder its adaptability, resistance and magnify its precariousness in face of uncertainty and dynamism.

In a dynamic environment, organizations must possess sufficient latitude to adapt, robust resistance to external pressures, and minimize precariousness by avoiding critical thresholds, ensuring their resilience. Efficiency-based organizing, while prioritizing resource accumulation (Glisson, & Martin, 1980) and optimization (Marginson, & McAulay, 2008) through rigidity and narrow focus of its designs within stable and predictable conditions, it faces challenges in accumulating resources, and devising novel resource combinations and adaptive responses in dynamic and changing environments.

Tightly coupled systems, with high interdependencies among components, become inefficient or even counterproductive in the face of dynamic environments. This can restrict their ability to effectively connect and integrate resources, leading to a breakdown in operations, reduced productivity, and ultimately, a failure to accumulate resources effectively when facing changes (Merton, 1963), limiting latitude (Yang, & Chen, 2009). Moreover, individuals are focused on their specific tasks (Marginson, & McAulay, 2008) because of the high specialization and simplification, and they

disengage with other issues, ultimately not anticipating changes in their external environment (Bigley, & Roberts, 2001), limiting resistance. These challenges become particularly evident when critical resources are depleted, and organizations are required to generate and accumulate new resources, leading to rapid system failures or precariousness. Thus, while tightly coupled systems excels in stable environments (David, et al., 2009; Durand, & Vargas, 2003; Mouzas, 2006), it is more likely to fail in the rapidly changing and dynamic conditions. Consequently, efficiency-based organizing exhibits a higher level of rejection to rapidly adapt to changes (Walsh, & Seward, 1990), rooted in its interdependent processes and routines (Galeazzo, & Furlan, 2021; Marginson, & McAulay, 2008).

A loose vertical and horizontal coupled system, by contrary, allows for high latitude, resistance and low precariousness to dynamism. The independent, flexible nature of interactions (Simon, 1977; Wu & David, 2002) facilitates the creation of unusual but diverse resource accumulation and combinations to effectively confront disruptions. Resiliency-based organizing distributes decision-making authority to lower-level units (Pearson, & Clair, 1998), and empowered, multi-skilled individuals embrace new ways of working and adapt rapidly to changes (Risi, et al., 2023), further reducing the risk of failures (Jia, et al., 2020), and encouraging creative responsiveness to resist changes (Furlan, et al., 2019; Sutcliffe & Vogus, 2003). This absence of tight interdependences significantly reduces the probability of a cascading failure across the entire organizational system (Perrow, 1999b), decreasing precariousness.

In the vein of the study of Wu, and Sekiguchi, (2023), while Muji excels in stable environments where its efficiency-driven approach allows for consistent performance and cost control, it may struggle to adapt to rapid changes or disruptions in the dynamic market. However, Ikea's organizational design focused on adaptability enabled the organization to thrive amidst change. Ikea effectively leveraged the dynamism of the environment to explore new opportunities and identify optimal points that contributed to its enhanced performance, highlighting its emphasis on adaptability and resistance (Wu, & Sekiguchi, 2023). This illustrates how organizational design influences an organization's ability to navigate different environmental conditions and underscores

the importance of aligning design choices with the state of the environment. We thus propose:

Proposition 5a (P5a). In dynamic environments, efficiency-based organizing is less likely to accumulate resources than resiliency-based organizing.

Proposition 5b (P5b). In dynamic environments, the less latitude and resistance and more precariousness of efficiency-based organizing will mean it is less likely to survive than resiliency-based organizing.

4.6. The impact of lower levels of efficiency-based organizing on higher levels of resilience

In this section, we draw on Hierarchy theory to explore how outcomes emerge across hierarchical levels within lower-level systems (e.g., organizational designs) to higher-level ones (e.g., industry or economy) (Harrison, & Klein, 2007; Klein, & Kozlowski, 2000; Morgeson, & Hofmann, 1999; Wu, & David, 2002). Specifically, we propose that an efficiency-based organizing at lower level undermine the resilience at higher systems in a hierarchical structure. In other terms, resilience properties (i.e., latitude, resistance, and low precariousness) at a macro-system level may be derailed by a singular emphasis on efficiency and tight structures in organizational designs at lower-level systems.

As we state in previous section, the proper functioning of these efficiency-based structures at lower-level systems is closely dependent on the conditions of the higher-level system (i.e., organizational environment), which must be stable (Davis, et al., 2009). Therefore, in addition to tight horizontal coupling, in which systems are interdependent on other systems at the same hierarchical level, it exists a close interconnection across systems of different levels, implying that the evolution of both systems is closely linked, so they cannot operate independently. An illustrative example highlighting the interdependence between systems at various levels can be observed in the Toyota episode during the tsunami disaster in 2011.

Toyota had revolutionized manufacturing industry with its Toyota Production System (TPS), a pioneering lean approach that emphasized just-in-time inventory management, minimizing slack within the system and fostering tight horizontal

coupling between the organization and its suppliers. The organization achieved remarkable efficiencies and become a benchmark for organizations worldwide, boasting some of the lowest per unit costs in the industry. However, the flaws in the tight organizational design were revealed by the disaster. After the tsunami, many of Toyota's critical suppliers, integral to its tightly horizontal coupled production processes, were devastated, leading to a cascading effect that completely halted Toyota's production and resulted in significant financial losses (Adler, et al., 1999). Thus, that high interconnectedness with suppliers amplified the impact of the disruption, highlighting the vulnerability inherent in such tightly organizational structures.

Efficiency-based designs at lower-level systems, such as Toyota's organizational design, also create tight vertical coupling structures with minimal redundancies, high standardized processes and optimized resource utilization across levels because of its heavy interdependencies among components (Perrow, 1999b). The lack of redundancy and diversity at lower-level of efficient systems prevent the upper-level systems from continuing to operate if a failure occurs at lower-level systems, increasing the dependence across levels. This heightened dependency leads to a state of tighter vertical coupling, where any failures in the lower-level systems directly impact the higher-level systems, increasing precariousness at higher-level systems. As a consequence, systems at higher levels become increasingly reliant on the stability and functionality of these lower-level systems, but these systems operating at lower levels become highly susceptible to disruptions and changes.

In the vein of Toyota's illustration, the tight vertical coupling within Toyota's organizational structure created interconnected dependencies with higher-level systems that magnified the consequences of the disaster, extending its effects beyond Toyota to the automotive sector as a whole. When the disaster struck and disrupted Toyota's production, it not only affected the organization itself at an organizational level, but also had cascading effects throughout its vertically integrated supply chain at higher levels, due to the close relationships and dependencies between them. More specifically, this disruption in Toyota's operations led to shortages in parts and components, affecting other automakers who relied on the same suppliers. As a result,

production lines in other automotive organizations were also disrupted, causing a broader impact on the automotive industry (Adler, et al., 1999).

Increasing tightly vertical coupling structures hinders the possibility of separation among systems at different hierarchical levels (Wu & David, 2002), so they cannot operate independently. Tightly interdependent processes in a vertical direction thus have a negative impact on adaptability needed for overall system resilience at higher levels. The system at higher levels finds itself constrained by the rigidities imposed by the tightly interdependent lower-level processes, thereby impeding its ability to remain resilient in the face of disruptions. Therefore, more efficiency-focus in systems at lower levels leads to tighter vertical coupling, which leads to less the resilience of systems at higher levels. In such cases, the emphasis on efficiency in organizational design at lower-level systems, and an increase in tight vertical coupling, might inadvertently compromise latitude, resistance and precariousness at higher-level systems.

Proposition 6 (P6). The greater the efficiency-based organizing among organizations at lower-levels systems, the lower the resilience of higher-level systems in a hierarchical systems structure.

4.7. The relationship between efficiency and resiliency-based organizing and sustainability over time and across levels

Few organizations cannot sustain themselves indefinitely without using resources and generating waste, but a system of organizations can create/use each other's inputs, and this perspective aligns with the idea that sustainable development necessitates intricate connections among various systems. Hierarchical assumptions encourage us to consider sustainability as a global phenomenon, interlaced with the intertemporal dynamics of systems operating at different levels in a hierarchical structure (Musters, et al., 1998). In this section, we define the concept of sustainability and its interplay with the intertemporal dynamics of hierarchical organizational systems.

Achieving sustainability at a macro-system level transcends the boundaries of organizational-level systems, and extends to the broader socio-environmental systems that comprise interconnected components. This holistic perspective emphasizes the

collective impact and interactions of multiple systems (Musters, et al., 1998), including both efficiency-based and resiliency-based organizing systems at lower-level. Therefore, sustainability necessitates addressing immediate needs and challenges while also accounting for enduring impacts and consequences that may manifest over an extended period.

The cyclical nature of environments involves alternating periods of stability and dynamism over time. The hierarchical structure of a system allows for a harmonious combination of both efficiency-based and resiliency-based organizing systems at lower levels, contributing to the sustained functionality of the entire hierarchical structure (Brown, & Eisenhardt, 1997) when moving from stability to dynamism. The alternating periods of stability and dynamism over time creates a conducive setting where streamlined and efficient processes can coexist with resilient mechanisms (Eisenhardt, et al., 2010). Lower-level systems can operate optimally in terms of efficiency, focusing on maximizing immediate outcomes and resource utilization during stable periods. Simultaneously, the system maintains a degree of resilience, ensuring that it can absorb minor disruptions and adapt to gradual changes without compromising overall functionality during dynamic periods. This alternating pattern enables systems to strike a balance, utilizing efficiency-based processes when stability prevails and seamlessly transitioning to resiliency-based mechanisms when faced with dynamic shifts in the environment.

However, while organizational designs at lower levels play a crucial role in contributing to sustainability, its ultimate measure lies in the resilient coexistence of the entire macro-level system. Sustainability, within this context, involves the resilience of higher-levels systems over a prolonged period. The singular focus on sustained efficiency-based organizing tends to optimize operations within stable environments, but may falter in the face of significant dynamic or changing conditions, potentially impeding the system's long-term sustainability. For instance, Amazon's introduction of free shipping for Amazon Prime users while increasing efficiency, also contributing to higher carbon emissions (Pailwar, 2020). In a 2017 report, Greenpeace highlighted that among 15 major internet organizations, only three—Apple, Facebook, and Google—demonstrated significant use of renewable energy, while Amazon Web Services' (AWS)

fell short of its commitment to environmental leadership. Amazon's relentless pursuit of efficiency is emblematic of the broader trend prioritizing short-term gains and operational efficiency over long-term sustainability. This failure to align with renewable energy goals, coupled with the continuous expansion of cloud computing capacity, resulted in their increased carbon footprint. Greenpeace ranked Amazon 12th out of 15 major internet organizations, with a modest clean energy index of 17%, earning an overall grade of C and lagging behind key competitors like Google (Greenpeace, 2017). The Amazon example underscores the growing sustainability challenges at a macro-level system posed by the prevailing emphasis on efficiency-based organizational designs at lower-level systems, reflecting the overarching trend observed in macro systems where short-term gains often overshadow long-term environmental concerns.

Moreover, Slawinski and Bansal, (2012) illustrate that organizations focus on short-termism are more likely to face climate change by using energy efficiency. That initiative has several advantages both business and society, such as reducing costs, and greenhouse gas emissions. However, the long-term implications of that sustained focus on efficient designs are less evident, as the long-term nature of climate change requires organizations to create energy from fossil fuels, that is, complying with the basic premise of the sustainable development.

Therefore, within cyclical environments, a sustained efficiency-based organizing at lower-level systems without considering resilient approaches can result in challenges that impact sustainability across environmental, social, and economic dimensions in the long term. Socially, the high-pressure work environment created by tight coupling may contribute to stress and burnout among individuals, compromising social sustainability. Economically, substantial investments required for technology and infrastructure to maintain tight coupling can risk resource overallocation, affecting economic sustainability (Sartal, et al., 2017). Moreover, the heightened resource consumption associated with tightly coupled systems can increase environmental impacts, further challenging the sustainability of the system across its three pillars. Thus, an undue emphasis on attaining heightened levels of efficiency at lower levels of analysis over time potentially yields deleterious repercussions for the sustainability in macro socio-environmental systems.

Proposition 7 (P7). Sustained efficiency-based organizing at lower levels of analysis lead to less the sustainability at macro level systems

However, due to current environment is marked by a heightened frequency of dynamic environments, with continuous change and unpredictability, sustainability involves the ability to endure and thrive in the face of dynamic and unpredictable challenges (Demastus, & Landrum, 2023). This increased frequency of dynamism poses challenges for organizations that solely focus on sustained efficiency-based organizational designs, emphasizing the need for adaptable and resilient strategies to navigate the evolving and less stable environment. More specifically, sustainability is depicted as a dynamic process that encompasses departing from tightly organizational designs as needed (Demastus, & Landrum, 2023).

In periods characterized by dynamism, more resiliency-based organizational designs at lower-level systems need to be adopted, and this becomes imperative for sustainability. Southwest Airlines serves as a notable example, showcasing how a shift towards resilience in its organizational design contributed to its sustained success in the face of unforeseen challenge (Gittell, et al., 2006). Therefore, a resiliency-based organizing at lower-level systems, characterized by high latitude, resistance, and low precariousness, plays a crucial role in fostering sustainability within the socio-environmental system level. The latitude, coupled with high resistance and low precariousness, enables the system to withstand pressures and disruptions, preventing it from crossing critical thresholds (Walker, et al., 2004).

A loose horizontal and vertical coupled design, by allowing each system at the same and different levels of analysis to operate independently, creates a dynamic and adaptable hierarchical structure that can effectively navigate challenges (Wu, and David, 2002). Unlike an overly efficient system that might resist change, a resilient system embraces adaptability as a core attribute (Cannella Jr, et al., 2008). A resiliency-oriented approach and loose coupling empower lower-level systems to adapt and thrive amidst dynamic conditions, thereby contributing to sustainability at the socio-environmental system level. This adaptability allows the broader system to address

evolving environmental, social, and economic conditions, fostering long-term stability and viability. In contrast, a predominant emphasis on efficiency in organizational designs at lower-level systems results in rigidity and tightly coupled structures, impeding effective responses to disruptions in a increasingly dynamic environment (David, et al., 2009).

Therefore, because of regular dynamic periods over time, achieving sustainability at a socio-environmental system level requires a resiliency-oriented approach operating within lower-level systems over an extended time horizon. A resiliency-based organizing across systems at lower hierarchical levels ensure the entire system's continued ability to absorb disturbances, adapt to changing conditions, and maintain its core purpose over time, contributing to the enduring viability of the socio-environmental system level. Hence, for a system to persist over time, continual regeneration and transformation are vital (Walker, et al., 2004), particularly at lower-levels systems with components having finite lifecycles. For instance, regenerative processes at lower levels, involving the introduction of new components (birth) and the termination of others (death), infuse the system with vitality, mitigate the potential for stagnation (Allen, et al., 2014; Gunderson, et al., 1995), and maintain a dynamic equilibrium, enabling the system to absorb disruptions, adapt to the changed conditions, and ultimately evolve to retain the long-term stability of higher-level systems for sustainability. By minimizing dependencies on finite resources, sustainability practices decrease the risk of disruptions due to resource scarcity or environmental degradation. This reduced precariousness contributes to the long-term stability of the system. This heightened resilient organizational designs in lower-level systems act as a robust foundation for the overall system, increasing its sustaining equilibrium, functionality and sustainability at a macro-system level.

Proposition 8 (P8). In dynamic environments, the greater the resiliency-based organizing at lower-levels systems over time, the greater the sustainability of macro-level systems.

4.8. Discussion and conclusion

4.8.1. *Overview and contributions*

Within the real world, as a complex network of interconnected systems nested at different levels of analysis within hierarchical structures, sustainability operates at a macro level. This scenario prompts crucial considerations regarding the impact of current practices in organizations, with are low-level systems, to sustainability which is macro level outcome. Reflected as the United Nations' Sustainable Development Goals (SDGs) for the 2030 Agenda for Sustainable Development (United Nations, 2015), sustainable development encompasses a broader perspective, considering the interconnectedness and interdependence of social, economic, and environmental factors at a global scale. For example, achieving sustainability requires not only organizational level practices such as minimizing resource consumption and emissions but also achieving a state of "net zero" in these aspects (Murray, et al., 2017). However, in a real-world, achieving a state of "net zero" emissions or resource consumption may not be accomplished solely by individual organizations acting independently; rather, it requires a systems approach considering the interconnectedness and interdependence of organizations within broader socio-environmental systems. For instance, environmental impact is not isolated to the practices and decisions of individual organizations but is influenced by the broader ecosystem in which they operate. Supposing multiple organizations, each with relatively low levels of emissions and resource consumption, situating in close proximity to each other in a densely populated urban area. Despite the individual efforts of these organizations to minimize emissions and resource consumption, the cumulative effect of their practices can still result in significant environmental degradation. In such a scenario, the ecosystem may struggle to regenerate and maintain its balance due to the volume of pollutants being released into the environment (air and water pollution, soil degradation, and harm to local flora and fauna). Conversely, supposing and organization operating in isolation or in a sparsely populated area, its impact on the ecosystem may be relatively minimal, even if its resource consumption and emissions are not reduced to zero. In this scenario, the ecosystem has a greater capacity to absorb and recover from the organization's

practices without experiencing detrimental effects. This example illustrates the need to consider the levels of analysis when talking about sustainability. However, this consideration has been very scarce in previous studies. This cross-hierarchical level study allows for a comprehensive understanding of how organizational practices and strategies at lower levels of hierarchy impact sustainable outcomes at the macro level.

In this paper, we argued the interplay between organizational designs at lower hierarchical levels and their implications for a global sustainability at a macro-system level. We delve into the cross-hierarchical dynamics between different levels of analysis, positing that an emphasis on efficiency within lower-level systems adversely impacts on resilient properties of higher-level systems within a hierarchical structure, and ultimately, on sustainability at a macro level. This theoretical work comprises eight propositions (see Figure 4.3.).

Firstly, we focus on the trade-off between efficiency-based organizing and achieving resilience. Taking Southwest Airlines as an example, it serves as a compelling illustration of a traditional efficient and low-cost organization shifting its organizational design towards resilience. This shift, though not the most efficient in the short term, ultimately led to a quicker recovery and showcased the benefits of a more resilient organizational design (Gittell, et al., 2006). Southwest's ability to adapt and collaborate in the face of disruption not only helped the airline resist the crisis but also contributed to a more sustainable approach by prioritizing long-term relationships and employee well-being over immediate cost reductions.

Each organizational action, such as Southwest's emphasis on positive working relationships and stakeholder support, has the potential to influence the organization's overall organizing (Bourgeois III, et al., 1978; Clement, 2023; Davis, et al., 2009). Rather than adhering strictly to theoretical ideals, we acknowledge the significance of real-world behaviors and adaptive strategies in shaping an organization's design. Southwest's departure from the conventional efficiency model highlights the importance of considering practical, context-specific actions in organizational decision-making.

Moreover, organizations may have ability to achieve cost-effectiveness while maintaining adaptability. The organizational design of Ikea fostered a culture of continuous improvement, allowing swift responses to changes, contributing to a proactive approach that explores, experiment, and learns from complexities, while maintaining a low-cost approach to furniture retailing (Wu, & Sekiguchi, 2023). However, management literature acknowledges the existence of tradeoffs between efficiency and resilience (Adler, et al., 1999; Davis, et al., 2009; Eisenhardt, et al., 2010). The paradox literature highlights the challenge of simultaneously maintaining both efficiency and resilience in organizational designs (Davis, et al., 2009). This implies that while it is possible for an organization to strike a balance between high standardization, specialization and a tight coupled structure, and adaptability, functional diversity and a loose coupled structure, it is inherently difficult to sustain both aspects at peak levels due to the inherent tensions and tradeoffs involved (Smith, & Lewis, 2011). The pursuit of efficiency might require certain sacrifices in resilience, and vice versa, creating a delicate equilibrium that organizations need to navigate.

Secondly, we offer important prescriptive advice in how to organize for resilience, which may offer solutions to balance resource utilization, adaptability, and sustainable responsibility. We argue about the adoption of loose coupling structures in organizational designs, allowing components and processes to operate independently and flexibly (Perrow, 1999b; Weick, 1976). In a dynamic environment, this flexibility is crucial as it enables components to combine efficiently in response to specific disruptions, avoiding unnecessary utilization of resources (Teece, et al., 1997; Vogus & Sutcliffe, 2007), contributing to a more resilient operational framework at lower-level systems, and promoting sustainability at the macro system.

Thirdly, we highlighted that achieving sustainability at a macro-system level requires organizations to navigate this paradox. Efficiency is crucial for resource optimization, it is context-dependent and can contribute to resource maximization without heavily compromising sustainability in stable environments (Davis, et al., 2009). However, achieving sustainability at the whole system requires more than just efficiency; it demands adaptability to face challenges in dynamic, real-world (Demastus, &

Landrum, 2023). Thus, sustainability necessitates a delicate balance between efficiency and resilience (Brown, & Eisenhardt, 1997).

We argue that an organizational design at lower-level systems, centered around resilience, characterized by flexibility, adaptability, and the ability to respond effectively to disruptions (Sartal, & Vázquez, 2017), is more conducive to sustainability at the macro-level system in the hierarchical structure. In essence, we recognize that resiliency-based organizing is better aligned with the complex and dynamic nature of sustainability on a global scale compared to a rigid and efficiency-focused approach (Davis, et al., 2009; Sartal, & Vázquez, 2017).

Recent corporate sustainability literature has drawn connections between organizational resilience and sustainability (e.g., DesJardine, et al., 2019; Ortiz-de-Mandojana, & Bansal, 2016; Tuazon, et al., 2021), exemplified by instances such as Southwest Airlines (Gittell, et al., 2006). While these concepts are closely related, they are often conflated for one another. In this work, we clarify that sustainability and resilience operates at a different level of analysis (Bansal, & DesJardine, 2014).

Resilience, as previously defined by authors, involves anticipating and preventing shocks, adjusting during the shock periods, and bouncing back afterward (Linnenluecke, et al., 2012; Ortiz-de-Mandojana, & Bansal, 2016; Sutcliffe, & Vogus, 2003). Our exploration extends to the socioecological roots of the concept, where it originated in describing ecosystems' capacity to respond to environmental changes and return to equilibrium depending on their degree of latitude, resistance, and precariousness (Holling, 1973; 1996; 2001; Walker, et al., 2004). Recognizing the studied relationship between corporate sustainability and organizational resilience, our work goes beyond this by shifting the focus towards understanding how lower hierarchical levels oriented towards resiliency-based organizing (or efficiency-based organizing) contribute to sustainability at a macro level within a hierarchical structure.

While efficiency plays a critical role in corporate sustainability, solely focusing on improving efficiency within organizational designs may not be enough to address sustainability challenges across broader levels. Higher levels in a hierarchical-system

structure are becoming increasingly less sustainable because of a heavy focus on efficiency and productivity such as the emphasis on the circular economy, or organizational efficiency-driven practices without regard for sustainable consequences, such as Amazon's case. Amazon's exclusive focus on efficiency, without concurrent consideration of adaptive strategies to environmental challenges, has led to a detrimental impact on sustainability. This organization, as earlier mentioned in this paper, besides its initiative of free shipping in order to improve profitability but conjointly increasing carbon emissions (Pailwar, 2020), its subsidiary Amazon Web Services (AWS), that provides cloud computing platforms, also decided to prioritize efficiency and profit without adequate consideration for sustainability at a macro-systems level (Greenpeace, 2017). When organizations prioritize cost-effective and efficient solutions instead of investing in strategies to reduce emissions and waste generation at the source, it can hinder progress towards achieving sustainability at a macro level. The circular economy emphasizes the importance of viewing waste as a valuable resource, leading sometimes to have unintended consequences (Corvellec, et al., 2022). When waste is perceived as valuable material that can be reused, recycled, or repurposed, there may be a tendency to increase the demand for waste rather than reducing waste volumes. Therefore, "if demand is growing, the circle cannot remain closed" (Allwood, 2014, p. 446). This paradox arises because industries and organizations may seek out more waste materials to fulfill their resource needs, leading to a situation where waste generation remains high or even increases despite efforts to promote circularity (Greer, et al., 2021).

Based on the premise that sustainability involves meeting the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987), in efficiency-based organizing, instead of focusing on preventing waste generation or designing products with minimal environmental impact, there may be a tendency to rely on recycling or other efficient solutions as a primary means of addressing needs. While efficiency within organizational designs is essential, broader changes are necessary to address sustainability challenges across multiple hierarchical levels, including economic, social, and environmental dimensions. The need for a more resilient-based organizing becomes apparent as organizations like Amazon, with its

expansive and resource-intensive operations, face challenges in meeting renewable energy goals.

Our work makes seminal contributions to the sustainability literature in two distinct directions, each offering valuable insights into a global sustainability achievement. Firstly, the paper delves into hierarchical organizational structures and their relationship to sustainability, illuminating how organizational choices and practices reverberate across different levels of analysis. By differentiating between the organizational level (i.e., lower level) and macro level, the study sheds light on the intricate dynamics that shape sustainability outcomes at a macro level. In doing so, we provide valuable insights for a more comprehensive understanding of hierarchical structures within systems.

Secondly, we emphasize that organizational designs have far-reaching implications for broader sustainability, emphasizing the interconnectedness and interplay of efficiency-based and resiliency-based organizing's practices and decisions, and their impact on macro systems (Simon, 1962; Wu, & David, 2002). By recognizing the complex interplay between organizational designs at lower levels in a hierarchy, environmental pressures, societal needs, and economic affairs at global levels, our work contributes to advancing the understanding of how organizations can effectively balance efficiency gains with the imperative for resilience in the pursuit of sustainability. We highlight the importance of considering the trade-offs and synergies between efficiency metrics and adaptability and flexibility, offering valuable insight for organizations striving to navigate the complex environment of sustainability goals.

4.8.2. Practical implications and future research lines

This research work holds significant managerial implications for organizations striving to focus their organizational designs in order to contributing to global sustainability. Firstly, organizational decisions have far-reaching consequences that extend beyond their immediate context (Simon, 1962), reverberating into broader sustainability outcomes (Wu, & David, 2002). It underscores the importance for management to embrace adaptability and responsiveness to the evolving context rather than rigidly adhering to predefined structures (Adler, et al., 1999; Demastus, & Landrum, 2023;

Musters, et al., 1998). It emphasizes that sustainability is an evolving process that requires organizations to deviate from tightly structured approaches when necessary (David, et al., 2009; Teece, et al., 1997; Vogus & Sutcliffe, 2007). By being adaptable, organizations can better align their strategies with sustainability goals and navigate complex and unpredictable environments effectively. Thus, and secondly, the focus on practical behaviors and adaptability highlights the necessity for organizations to prioritize real-world actions. Drawing on the example of Southwest Airlines and Ikea, which have demonstrated the effectiveness of realistic decision-making in achieving sustainability (Gittell, et al., 2006; Wu, & Sekiguchi, 2023). This suggests that organizations must be open to revising their organizational designs that goes beyond immediate gains (Barnett, 2006) and embraces a broader perspective on changing environmental, social, and economic conditions. Organizations should translate sustainability principles into actionable strategies and initiatives that can yield tangible results, and prioritize building adaptive capabilities and embracing change as integral components of their strategies and decisions for achieving a global sustainability. Therefore, achieving sustainability at a macro-system level means deviating from theoretical ideals, efficient, standardized and tightly designs at lower-level systems, to more resilient, adaptive, and loose designs to face with dynamism in real-world (Demastus, & Landrum, 2023; Musters, et al., 1998). These implications provide valuable insights for management in navigating the complexities of sustainability and fostering resiliency-based organizing.

The implications of this paper extend beyond organizational management and also offer valuable insights for regulators. Regulators play a pivotal role in shaping the regulatory landscape and setting the framework within which organizations operate. As sustainability challenges continue to evolve and intensify in response to global trends, recognizing this dynamic nature of sustainability challenges, regulators should prioritize the development of regulatory frameworks that are flexible, responsive, and forward-thinking. By establishing broad principles and objectives for sustainability, regulators can provide organizations with the flexibility to innovate and adapt their strategies to meet evolving sustainability goals. This approach allows regulations to remain relevant and effective in addressing emerging challenges without becoming

quickly outdated. Regulators should also prioritize monitoring and evaluation mechanisms to assess the effectiveness of existing regulations in achieving sustainability objectives. Regular reviews and assessments can help identify gaps, weaknesses, and areas for improvement in the regulatory framework, allowing regulators to make timely adjustments and enhancements to better address evolving sustainability challenges.

Future research in the field of sustainability holds immense potential for advancing our understanding of how organizational design influences sustainability outcomes and shaping strategies for global sustainability. One key area of study involves exploring the long-term impacts of different organizational design approaches on sustainability outcomes. By examining the enduring effects of various organizational structures and practices, researchers can provide valuable insights into the most effective strategies for fostering long-term sustainability. Additionally, there is a pressing need to investigate the effectiveness of organizational strategies in promoting sustainability on a global scale. This includes studying initiatives such as circular economy principles, adoption of green technologies, and sustainability-focused leadership practices. Empirical studies can shed light on which strategies are most successful in achieving sustainability goals and inform future corporate sustainability initiatives.

Furthermore, empirical research is warranted to explore how various industries and sectors are responding to sustainability challenges and the role played by organizational design in shaping these responses. By analyzing industry-specific practices and organizational structures, researchers can identify best practices and opportunities for enhancing sustainability across different sectors. Moreover, future research should investigate the dynamics between stakeholders, organizational decision-makers, and sustainability initiatives to develop strategies that align with stakeholder interests while promoting sustainability goals. Lastly, sustainability requires a holistic approach that integrates insights from various disciplines, including management, environmental science, economics, and others. Future research should emphasize interdisciplinary collaboration to develop comprehensive approaches to sustainability. By combining knowledge from diverse fields, researchers can address complex sustainability challenges more effectively and generate innovative solutions.

REFERENCES

- Ackoff, R. L. (1971). Towards a system of systems concepts. *Management science*, 17(11), 661-671.
- Adler, P. S., Goldoftas, B., & Levine, D. I. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, 10(1), 43-68.
- Allen, C. R., Angeler, D. G., Garmestani, A. S., Gunderson, L. H., & Holling, C. S. (2014). Panarchy: theory and application. *Ecosystems*, 17, 578-589.
- Allwood, J.M., (2014). Squaring the circular economy: the role of recycling within a hierarchy of material management strategies. In Worrel, E., and Reuter, M.A. (Eds.), *Handbook of Recycling State-of-the-art for Practitioners, Analysts, and Scientists* (p. 445-477). Elsevier, Waltham.
- Ancona, D. G., Goodman, P. S., Lawrence, B. S., & Tushman, M. L. (2001). Time: A new research lens. *Academy of Management Review*, 26(4), 645-663.
- Aragón-Correa, J. A., & Sharma, S. (2003). A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review*, 28(1), 71-88.
- Ashby, W. R. (1962). Principles of the self-organizing system. In H. Von Foerster and G. W. Zopf, Jr. (eds.), *Principles of Self-Organization: Transactions of the University of Illinois Symposium*. Pergamon Press, pp. 255-278.
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26(3), 197-218.
- Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic Organization*, 12(1), 70-78.
- Barnett, M. L. (2006). The keystone advantage: what the new dynamics of business ecosystems mean for strategy, innovation, and sustainability. *Academy of Management Perspectives* 20(2), 88-90
- Bertalanffy, L. V. (1968). *General system theory: Foundations, development, applications*. G. Braziller.
- Bigley, G. A., & Roberts, K. H. (2001). The incident command system: High-reliability organizing for complex and volatile task environments. *Academy of Management Journal*, 44(6), 1281-1299.
- Boulding, K. E. (1956). General systems theory—the skeleton of science. *Management science*, 2(3), 197-208.
- Bourgeois III, L. J., McAllister, D. W., & Mitchell, T. R. (1978). The Effects of Different Organizational Environments upon Decision about Organizational Structure. *Academy of Management Journal*, 21(3), 508–514. <https://doi.org/10.2307/255732>
- Bowman, E. H., & Singh, H. (1993). Corporate restructuring: Reconfiguring the firm. *Strategic Management Journal*, 14(S1), 5-14.

- Bunderson, J. S., & Sutcliffe, K. M. (2002). Comparing alternative conceptualizations of functional diversity in management teams: Process and performance effects. *Academy of Management Journal*, 45(5), 875-893.
- Cannella Jr, A. A., Park, J. H., & Lee, H. U. (2008). Top management team functional background diversity and firm performance: Examining the roles of team member colocation and environmental uncertainty. *Academy of Management Journal*, 51(4), 768-784.
- Child, J. (1972). Organization structure and strategies of control: A replication of the Aston study. *Administrative Science Quarterly*, 163-177.
- Clement, J. (2023). Missing the Forest for the Trees: Modular Search and Systemic Inertia as a Response to Environmental Change. *Administrative Science Quarterly*, 68(1), 186–227. <https://doi.org/10.1177/00018392221136267>
- Corvellec, H., Stowell, A. F., & Johansson, N. (2022). Critiques of the circular economy. *Journal of Industrial Ecology*, 26(2), 421-432.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative Science Quarterly*, 54(3), 413-452.
- Delgado-Ceballos, J., Ortiz-De-Mandojana, N., Antolín-López, R., & Montiel, I. (2023). Connecting the Sustainable Development Goals to firm-level sustainability and ESG factors: The need for double materiality. *BRQ Business Research Quarterly*, 26(1), 2-10.
- DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: building resiliency through social and environmental practices in the context of the 2008 Global financial crisis. *Journal of Management*, 45(4), 1434–1460.
- Demastus, J., & Landrum, N. E. (2023). Organizational sustainability schemes align with weak sustainability. *Business Strategy and the Environment*, 1-19.
- Duchek, S. (2020). Organizational resiliency: a capability-based conceptualization. *Business Research*, 13(1), 215-246.
- Durand, R., & Vargas, V. (2003). Ownership, organization, and private organizations' efficient use of resources. *Strategic Management Journal*, 24(7), 667-675.
- Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, 32(3), 543-576.
- Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). CROSSROADS—Microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization Science*, 21(6), 1263-1273.
- Faraj, S., & Xiao, Y. (2006). Coordination in fast-response organizations. *Management Science*, 52(8), 1155-1169.
- Furlan, A., Galeazzo, A., & Paggiaro, A. (2019). Organizational and perceived learning in the workplace: a multilevel perspective on employees' problem solving. *Organization Science*, 30(2), 280-297.

Galeazzo, A., & Furlan, A. (2021). Developing operational problem solvers: the role of job design decisions. *Total Quality Management & Business Excellence*, 32(15-16), 1768-1785.

Galeazzo, A., Furlan, A., & Vinelli, A. (2021). The role of employees' participation and managers' authority on continuous improvement and performance. *International Journal of Operations & Production Management*, 41(13), 34-64.

Gittell, J. H., Cameron, K., Lim, S., & Rivas, V. (2006). Relationships, layoffs, and organizational resiliency: Airline industry responses to September 11. *The Journal of Applied Behavioral Science*, 42(3), 300-329

Glisson, C. A., & Martin, P. Y. (1980). Productivity and efficiency in human service organizations as related to structure, size, and age. *Academy of Management Journal*, 23(1), 21-37.

Greenpeace, (2017). *Clicking Clean: Who Is Winning the Race to Build a Green Internet?*
<http://www.clickclean.org/downloads/ClickClean2016%20HiRes.pdf>

Greer, R., von Wirth, T., & Loorbach, D. (2021). The Waste-Resource Paradox: Practical dilemmas and societal implications in the transition to a circular economy. *Journal of Cleaner Production*, 303, 126831.

Gunderson, L. H., Holling, C. S., & Light, S. S. (Eds.). (1995). *Barriers and bridges to the renewal of regional ecosystems*. Columbia University Press.

Harris, M., & Raviv, A. (2002). Organization design. *Management science*, 48(7), 852-865.

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, 32(4), 1199-1228.

Herrero, I. (2011). Agency costs, family ties, and organization efficiency. *Journal of Management*, 37(3), 887-904

Hinings, C. R., & Lee, G. L. (1971). Dimensions of organization structure and their context: a replication. *Sociology*, 5(1), 83-93.

Holling, C. S. (2001). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4, 390-405.

Holling, C. S. (1973). Resiliency and stability of ecological systems. *Annual review of ecology and systematics*, 4(1), 1-23.

Holling, C. S. (1996). Engineering resiliency versus ecological resiliency. *Engineering within ecological constraints*, 31(1996), 32.

Jia, X., Chowdhury, M., Prayag, G., & Chowdhury, M. M. H. (2020). The role of social capital on proactive and reactive resiliency of organizations post-disaster. *International Journal of Disaster Risk Reduction*, 48, 101614

Karim, S. (2006). Modularity in organizational structure: The reconfiguration of internally developed and acquired business units. *Strategic Management Journal*, 27(9), 799-823.

- Kennedy, P. W. (1994). Information processing and organization design. *Journal of Economic Behavior & Organization*, 25(1), 37-51.
- Kikulis, L. M., Slack, T., & Hinings, C. R. (1995). Sector-specific patterns of organizational design change. *Journal of Management Studies*, 32(1), 67-100.
- Klein, K. J., & Kozlowski, S. W. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational Research Methods*, 3(3), 211-236.
- Lengnick-Hall, C. A., & Beck, T. E. (2005). Adaptive fit versus robust transformation: How organizations respond to environmental change. *Journal of Management*, 31(5), 738-757.
- Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resiliency through strategic human resource management. *Human Resource Management Review*, 21(3), 243-255.
- Linnenluecke, M., & Griffiths, A. (2010). Beyond adaptation: resiliency for business in light of climate change and weather extremes. *Business & Society*, 49(3), 477-511.
- Linnenluecke, M. K., Griffiths, A., & Winn, M. (2012). Extreme weather events and the critical importance of anticipatory adaptation and organizational resilience in responding to impacts. *Business Strategy and the Environment*, 21(1), 17-32.
- Liu, Y., & Yin, J. (2020). Stakeholder relationships and organizational resiliency. *Management and Organization Review*, 16(5), 986-990.
- Marginson, D., & McAulay, L. (2008). Exploring the debate on short-termism: A theoretical and empirical analysis. *Strategic Management Journal*, 29(3), 273-292.
- Matusik, J. G., Mitchell, R. L., Hays, N. A., Fath, S., & Hollenbeck, J. R. (2022). The highs and lows of hierarchy in multiteam systems. *Academy of Management Journal*, 65(5), 1571-1592.
- McBride, N. (2016). The application of an extended hierarchy theory in understanding complex organizational situations: The case of FIREControl. *Systems Research and Behavioral Science*, 33(3), 413-436.
- Merton, R. K. (1963). Bureaucratic Structure and Personality. In N. J. Smelser & W. T. Smelser (Eds.), *Personality and social systems* (pp. 255-264). John Wiley & Sons, Inc.
- Minztberg, H., (1984). *The Structuring of Organizations (A Synthesis of Research)*. Prentice-Hall Inc.
- Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review*, 24(2), 249-265.
- Mouzas, S. (2006). Efficiency versus effectiveness in business networks. *Journal of business research*, 59(10-11), 1124-1132.
- Murray, A., Skene, K., & Haynes, K. (2017). The circular economy: an interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics*, 140, 369-380.

Musters, C. J. M., De Graaf, H. J., & Ter Keurs, W. J. (1998). Defining socio-environmental systems for sustainable development. *Ecological Economics*, 26(3), 243-258.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.

Nelson, D. R., Adger, W. N., & Brown, K. (2007). Adaptation to environmental change: contributions of a resilience framework. *Annual Review of Environment and Resources*, 32, 395-419.

O'Neill, E. G., O'Neill, R. V., & Norby, R. J. (1991). Hierarchy theory as a guide to mycorrhizal research on large-scale problems. *Environmental Pollution*, 73(3-4), 271-284.

Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resiliency through sustainable business practices. *Strategic Management Journal*, 37(8), 1615-1631.

Ostroff, C., & Schmitt, N. (1993). Configurations of organizational effectiveness and efficiency. *Academy of Management Journal*, 36(6), 1345-1361.

Pailwar, V. K., (2020). *Amazon: Customers and Climate Change*. W n° 20800. London, CA: Ivey Publishing.

Pal, R., Torstensson, H., & Mattila, H. (2014). Antecedents of organizational resiliency in economic crises: An empirical study of Swedish textile and clothing SMEs. *International Journal of Production Economics*, 147(Part B), 410-428.

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of Management Review*, 23(1), 59-76.

Perrow, C. (1999a). *Normal accidents: Living with high risk technologies*. Princeton university press.

Perrow, C. (1999b). Organizing to reduce the vulnerabilities of complexity. *Journal of Contingencies and Crisis Management*, 7(3), 150-155.

Pugh, D. S., Hickson, D. J., Hinings, C. R., & Turner, C. (1968). Dimensions of organization structure. *Administrative Science Quarterly*, 65-105.

Risi, D., Wickert, C., & Ramus, T. (2023). Coordinated enactment: How organizational departments work together to implement CSR. *Business & Society*, 62(4), 745-786.

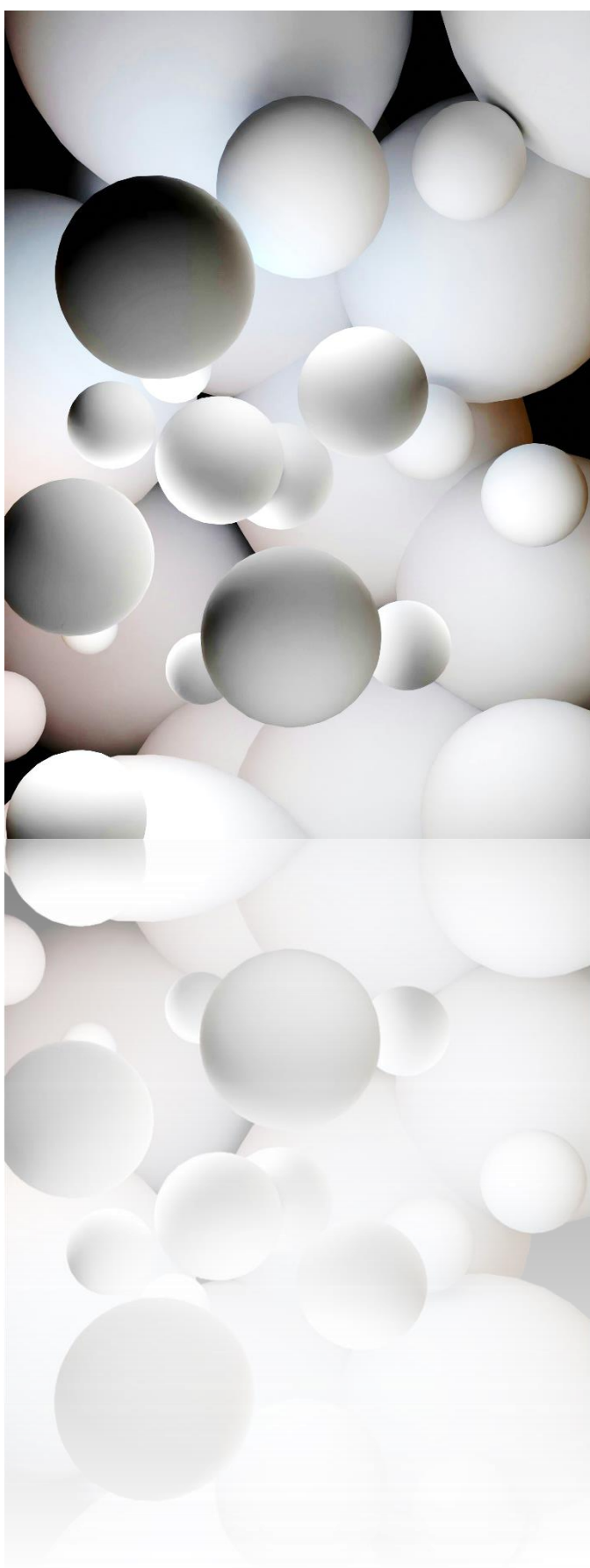
Sartal, A., Llach, J., Vázquez, X. H., & de Castro, R. (2017). How much does Lean Manufacturing need environmental and information technologies?. *Journal of Manufacturing Systems*, 45, 260-272.

Sartal, A., & Vázquez, X. H. (2017). Implementing information technologies and operational excellence: planning, emergence and randomness in the survival of adaptive manufacturing systems. *Journal of Manufacturing Systems*, 45, 1-16.

Schaefer, S., & Wickert, C. (2015). The efficiency paradox in organization and management theory. *Academy of Management Proceedings 2015*(1), 10958.

- Sharfman, M. P., & Dean Jr, J. W. (1991). Conceptualizing and measuring the organizational environment: A multidimensional approach. *Journal of Management*, 17(4), 681-700.
- Simon, H. A. (1962). The architecture of complexity. *Proceedings of the American philosophical society*, 106(6), 467-482.
- Simon, H.A., (1977). The organization of complex systems. In Cohen, R.S., & Wartofsky, M.W. (Eds.), *Models of Discovery and Other Topics in the Methods of Science* (245-261). D. Reidel Publishing Company.
- Slawinski, N., & Bansal, P. (2015). Short on time: Intertemporal tensions in business sustainability. *Organization Science*, 26(2), 531-549.
- Smith, W. K., & Besharov, M. L. (2019). Bowing before dual gods: How structured flexibility sustains organizational hybridity. *Administrative Science Quarterly*, 64(1), 1-44.
- Smith, W. K., & Lewis, M. W. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review*, 36(2), 381-403.
- Sutcliffe, K. M., & Vogus, T. (2003). *Organizing for resiliency*. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 94-110). San Francisco: Berrett-Koehler
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Tuazon, G. F., Wolfgramm, R., & Whyte, K. P. (2021). Can you drink money? Integrating organizational perspective-taking and organizational resilience in a multi-level systems framework for sustainability leadership. *Journal of Business Ethics*, 168(3), 469-490.
- United Nations, (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. <https://sdgs.un.org/2030agenda>
- Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resiliency. *Academy of Management Journal*, 58(4), 971-980.
- Vogus, T. J., & Sutcliffe, K. M. (2007, October). *Organizational resiliency: towards a theory and research agenda*. In 2007 IEEE international conference on systems, man and cybernetics (pp. 3418-3422). IEEE.
- Von Bertalanffy, L. (1972). The History and Status of General Systems Theory. *Academy of Management Journal*, 15(4), 407-426. <https://doi.org/10.2307/255139>
- Von Zedtwitz, M. (2003). A four-layer model for studying organizational structure. *Academy of Management Proceedings*, 2003(1), 1-6.
- Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resiliency, adaptability and transformability in social-ecological systems. *Ecology and Society*, 9(2).
- Walsh, J. P., & Seward, J. K. (1990). On the efficiency of internal and external corporate control mechanisms. *Academy of management review*, 15(3), 421-458.
- WCED. (1987). *Our Common Future*. Oxford University Press: Oxford

- Weber, M. (1947). *The theory of social and economic organization*. Henderson, M.A., & Parsons, T., (trans). The Free Press: New York Williams, K. Y., & O'Reilly III, C. A. (1998).
- Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 1-19.
- Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, 357-381.
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733-769.
- Williams, T. A., & Shepherd, D. A. (2016). Building resiliency or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal*, 59(6), 2069-2102.
- Wu, J. (2013). Hierarchy theory: an overview. In R. Rozzi, S. T. Pickett, C. Palmer, J. J. Armesto, & J. B. Callicott (Eds.), *Linking ecology and ethics for a changing world: Values, philosophy, and action*, (pp. 281-301). Springer Science+Business Media Dordrecht.
- Wu, J., & David, J. L. (2002). A spatially explicit hierarchical approach to modeling complex ecological systems: theory and applications. *Ecological modelling*, 153(1-2), 7-26.
- Wu, J., & Sekiguchi, T. (2023). Understanding Organizational Performance in Dynamic Environments: An Integrative Framework of Activity-System Maps and the NK Model. *Academy of Management Learning & Education*, 22(2), 239-256.
- Yang, C. H., & Chen, K. H. (2009). Are small organizations less efficient?. *Small Business Economics*, 32(4), 375-395.



CHAPTER 5.

CONCLUDING REFLECTIONS

5.1. Introduction

This final chapter of the doctoral thesis is dedicated to presenting, in a summarized manner, the main conclusions and contributions of the papers that are part of this thesis. We begin by outlining the key findings obtained from the thesis as a whole and from the research conducted throughout the previous three chapters. Next, we emphasize the implications that this work may have for the academic community, business managers, and public regulators. Finally, we address the limitations encountered during the thesis work and provide suggestions for future research directions.

5.2. Research final conclusions

In this thesis, a literature review has been conducted on a wide range of relevant articles regarding the importance of investor commitment in organizational resilience, as well as the characteristics of organizational designs that differentiate them from each other and the impact they can have on global sustainability. We believe that both the literature knowledge and the study of the three works shed light on the topic we have addressed.

In this section, we highlight the most important conclusions of this research work. Overall, we contribute to studies on organizational resilience and sustainability from the perspective of investor engagement and organizational designs, using different theories, including Resource Dependency Theory (Drees & Heugens, 2013, Hillman et al., 2009; Pfeffer & Salancik, 1978), Legitimacy Theory (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995), and Hierarchy Theory (Bertalanffy, 1968; Boulding, 1956). Our results show that various factors, such as dependence on external resources from investors or the sustainable commitment of the organization during crises, have significant consequences on the capabilities that enable the organization to be more resilient in times of crisis and beyond. Additionally, we observe how the economic context or situation of the country where the organization is located has a moderating effect between the sustainable commitment of organizations and investor engagement, as well as between investor commitment and the recovery time after a crisis. Finally, we examine how organizational designs, depending on whether they are

oriented towards efficiency or resilience, have implications for sustainability at a macro-system level.

The main objective of Chapter 2, "***Avoiding Relapses after Crises: Exploring the Influence of Firm Investors' Characteristics on Organizational Resilience***", was to examine how certain investor characteristics (geographic diversity, capital concentration, and patience) foster organizational resilience during a crisis by preventing relapse after recovery. The findings of this research indicate that investors are crucial in providing support and extra resources (Cordeiro, et al., 2018), besides these characteristics can significantly prevent rapid relapse after the recovery of an organizational crisis. After conducting a logistic regression model, the findings suggest that investor diversity is negatively correlated with the relapse probability, highlighting that diverse investors contribute to organizational resilience by providing innovative information exchanges (Chang & Hong, 2002; Lien et al., 2021), heterogeneous resources (Gedajlovic & Shapiro, 2002), and diverse perspectives (Gao & Hafsi, 2019; Santoro et al., 2020), influencing the organization's capacity for adaptive and flexible decision-making (Choi et al., 2012; DesJardine et al., 2019; Groenendaal & Helsloot, 2020). Additionally, the results show that investors characterized by low portfolio turnover, i.e., a high commitment to the long-term performance of the organization (patient investors), play a relevant role in executive decisions that contribute to relapse prevention. The patience of these investors contributes to establishing the commitment necessary to cultivate organizational resilience capabilities, demonstrating consistency and constancy in their behaviors (Dean Jr. & Sharfman, 1996; Dupuy et al., 2010; Farjoun, 2010; Khatri & Ng, 2000; Thürmer et al., 2020). However, we found an interesting result regarding investors with high capital concentration. There was a positive correlation between highly concentrated investors and the relapse probability, contrary to expectations. This suggests that, in crisis situations, concentrated investors may have more negative than positive consequences, as suggested by previous authors (Zhang, 2006; Desender et al., 2013). Concentrated investors may be more focused on their short-term interests and personal stability (Lo, et al., 2016), which could limit the organization's ability to develop resilience and adapt effectively.

The objective pursued in Chapter 3, ***"Does Reinforcing Sustainability in Times of Organizational Crisis Help? The Mediating Effect of Investor Commitment"***, aimed to increase understanding of the impact of reinforcing sustainable practices during crises on organizational resilience and how this initiative contributes to enhancing investor commitment. Our work concludes by affirming that reinforcing an organization's sustainable practices during a financial restriction period reduces the recovery time, confirming previous research linking legitimacy and sustainability to lower internal risks (Bansal & Clelland, 2004) and better access to resources (Pfeffer & Salancik, 1978; Xia et al., 2023). The results demonstrate that sustainable performance during crisis moments impacts recovery time through the mediating effect of investor commitment (Barnett, 2007; Barnett, et al., 2022; Cordeiro, et al., 2018). Major investors show high commitment to organizations demonstrating sustained ESG practices, perceiving them as secure, legitimate, and with access to resources even in challenging financial times (Cardoni et al., 2022). As a result, committed investors exert greater influence on decision-making processes, reinforced by their power during these vulnerable periods, accelerating the organization's recovery. Additionally, this work analyzes the moderating effect of the economic context of the country where the organization operates. In hostile economic conditions, the relationship between reinforcing sustainable performance in times of financial crisis and investor commitment is amplified. This highlights the crucial role of organizations' sustainable commitment in strengthening investor commitment even in challenging financial situations. On the other hand, in an economically favorable context (munificent) for organizations, investor commitment accelerates recovery due to increased collaboration with other economic agents, who also perceive organizations as legitimate by seeing that investors do not abandon them in difficult times. Interesting findings from this study indicate that in a hostile economic context, investor commitment slightly increases the recovery time, possibly because uncertainty leads investors to make more conservative decisions focused on self-protection rather than supporting the organization.

In Chapter 4, ***"Cheaper and Faster, But Not Better: The Relationship between Efficiency, Resiliency, and Sustainability"***, the main objective was to provide a theoretical foundation and a clear literature review on systemic thinking in the field of

business management. Additionally, it sought to shed light on the essential characteristics of organizational designs, their interactions at different hierarchical levels, and their contributions to achieving sustainability at a macro level within a hierarchical structure. An organizational design focused on efficiency is compared with another organizational design that prioritizes resilient practices. It was concluded that extreme efficiency can become unsustainable in the long term, especially when based on the maximization of finite resources (Davis, et al., 2009). However, achieving sustainability at a macro level requires the adoption of organizational designs oriented towards resilience, characterized by loose coupling structures, independent and flexible operations of components and processes, greater adaptability and resistance to the dynamism of the environment (Demastus, & Landrum, 2023). This work recognizes that achieving sustainability at a macro-system level requires a delicate balance between efficient and resilient organizational designs at lower levels within a hierarchical systems structure, recognizing the importance of using resources without waste as well as the capability to adapt to dynamic environments to address challenges in the search for global sustainability. Organizations must expand their perspective beyond their immediate boundaries and embrace a more all-encompassing and holistic approach to their strategic endeavors (Barnett, 2006).

Overall, this doctoral thesis expands on existing work by highlighting the significant role of organizational resilience, factors, and agents that enable its achievement and implementation in crisis situations, as well as in subsequent periods to prevent future relapses into crises. Additionally, this thesis delves into the perspective of systemic thinking (Wu, & Sekiguchi, 2023), essential for achieving sustainability at a global level in the current dynamic and ever-evolving world.

5.3. Implications of the research

We believe that this work may have certain academic, business management, and public regulatory implications.

5.3.1. Implications for the academic community

In Chapter 1, the introduction of this work emphasizes the growing importance of the topic of organizational resilience, given the dynamism and evolution of the environment that involves frequent challenging situations that can lead organizations to critical moments (Bansal & Clelland, 2004; Sutcliffe & Vogus, 2003). Although the concept of resilience originated in the ecological field (Holling, 1973; Walker et al., 2004), its study in the field of business management is gaining increasing prominence. The compilation of the three-research works, which focus on the influence of investor commitment and sustainable performance on the implementation of resilient capabilities in organizations, aims to contribute new insights to the presented theme.

In relation to the Resource-Dependency Theory (Drees & Heugens, 2013; Hillman et al., 2009; Pfeffer & Salancik, 1978), traditionally, the literature has sought to mitigate organizations' dependence on external resources, explaining the need for organizations to be self-sufficient. However, Chapter 2 highlights that resource dependence can be inevitable in certain crisis contexts and circumstances, countering this traditional idea. In contrast to previous works that focus on dependence on stakeholders (Bass & Chakrabarty, 2014; Morrow Jr. et al., 2007), this work underscores the reliability of investors as sources of support during crises (Van den Broek et al., 2017), compared to other economic agents that disappear or abandon the organization when they perceive risky moments (López-Gutiérrez et al., 2015). This has academic implications by recognizing how resource dependence can be beneficial by acknowledging the relative reliability of different external resource sources. This chapter expands the literature on the Resource-Dependency Theory by finding that investor characteristics also influence how organizations can depend on them in times of crisis, and how certain characteristics in investors contribute to making them sources of financial and social resources in difficult times for organizations. This enriches this theory by offering perspectives on the implications of unavoidable dependence and how it can be more effectively managed in crisis situations.

Chapter 3 of this thesis presents academic implications for the Legitimacy Theory (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995) by

contributing to the discourse on how the legitimacy of organizations impacts the perception and commitment of external agents (Bansal & Roth, 2000; Suchman, 1995). Moreover, the work significantly expands existing literature by establishing specific connections between legitimacy and sustainable performance (Suchman, 1995) in times of crisis. In particular, this study addresses a gap in the literature by examining how the perception of legitimacy by a key group of external agents, investors, is influenced by sustainable performance during organizational crises, a topic that has received limited attention in previous research. By arguing that maintaining legitimacy in adverse situations reinforces investor commitment, considering it not only desirable but also appropriate, this work provides a deeper understanding of how sustainable practices can directly influence the relationship between organizations and their investors, thus contributing to a more comprehensive and applied view of legitimacy theory.

The theoretical approach of Chapter 4, based on the Hierarchy Theory and the perspective of systemic thinking, represents a valuable academic implication in the field of organizational management, especially as these theories have been more traditionally studied in the context of ecology and natural systems (Bertalanffy, 1968; Boulding, 1956; Walker, et al., 2004; Wu, & Sekiguchi, 2023). By applying these perspectives to organizational management, novel contributions and insights are provided. Firstly, the application of the Hierarchy Theory provides a solid conceptual foundation for understanding and analyzing organizational designs from the dichotomy of efficiency versus resilience. The importance of rigidity and standardization (organizational designs focused on efficiency) is highlighted compared to flexibility and collaboration (organizational designs focused on resilience), providing a deeper understanding of how these design choices differ in behaviors.

The systems thinking perspective is innovatively translated into the business environment (e.g., Ackoff, 1971; Matusik, et al., 2022; Tuazon, et al., 2021), providing a holistic understanding of how organizational designs impact not only internal efficiency and resilience but also the global sustainability of a system. Therefore, this chapter broadens the research horizon in organizational management by integrating theories

and concepts from seemingly disparate disciplines, such as ecology and business management.

5.3.2. Implications for business management

Our findings also hold significance from a business management perspective. The key management implications offered by this thesis are summarized in the following points.

Firstly, beyond the mere provision of resources, our findings in Chapter 2 of this thesis reveal that investors exert a more prominent influence on executive decisions due to the heightened vulnerability of organizations during crises (Dufour et al., 2019). Therefore, managers must be aware of the impact investors can have on the organization's position and strategic orientation, especially because executives tend to be particularly attuned to investor preferences during crises. The work also provides managers with valuable insight into how to manage investor relations and tailor business strategies to address challenges and preserve the long-term health of the organization. Managers should recognize the importance of establishing reliable relationships with investors possessing characteristics that promote resilient capabilities within the organization, such as geographical diversity and patience. According to the results of this work, by considering investors with these traits, organizations will be better equipped to navigate and prevent crises.

Secondly, in an environment where investors increasingly value the ethical and legitimate dimensions of organizations (Aich et al., 2021), prioritizing legitimacy becomes a crucial business strategy. Chapter 3 reinforces the idea that investors tend to engage more solidly with those organizations that emphasize ethical and legitimate practices (Bansal & Roth, 2000). Therefore, to be a resilient and successful organization, managers must seriously consider the integration and active promotion of ethical and legitimate practices in their operations and decision-making. This involves not only complying with ethical standards but also effectively communicating these practices to investors and other stakeholders. Furthermore, establishing a conducive ground for a strong commitment from investors involves cultivating long-term relationships based on trust and transparency (Adomako & Tran, 2023). In summary, managers should

recognize that legitimacy is not only a matter of social responsibility but also an essential component for building and maintaining strong investor relationships, contributing to the long-term resilience and success of the organization.

Thirdly, given the increasing interest of investors in sustainability issues, managers are advised to focus their communication efforts and sustainable practices more specifically and prominently in relation to investors. Instead of addressing all stakeholders in a general and broad manner, the recommendation is to strategically direct sustainability initiatives to meet the specific expectations and interests of investors. In this way, managers can strengthen the positive perception of investors towards the organization, increasing the likelihood of deeper engagement and long-term support for the organization.

Fourthly, by emphasizing the importance of flexibility and collaboration in the pursuit of sustainability (David, et al., 2009; Teece, et al., 1997; Vogus & Sutcliffe, 2007), Chapter 4 provides specific recommendations for organizations to enhance their resilience and contribute to achieving sustainability on a broader scale. Because of the probably inefficiency of efficiency-based organizing in some contexts (Schaefer, & Wickert, 2015), for instance, they could consider adopting a loose coupled organizational design, allowing different parts of an organization to operate independently but collaboratively. Additionally, fostering functional diversity and promoting collaboration among various parts of the organization becomes a key strategy for enhancing resilience and, consequently, the organization's ability to face and recover from challenges. These implications suggest that managers should go beyond pure efficiency and consider resilience as a key element of their organizational design (Sartal, & Vázquez, 2017). Flexibility to adapt to changes, whether disruptive or evolutionary, and effective collaboration among different parts of the organization can be crucial in building an organization that not only endures over time but also positively contributes to global sustainability.

5.3.3. Implications for public regulators

The implications of the results of this work are also relevant for governments and regulators, especially those involved in substantial investments to rescue organizations

facing severe financial difficulties. Regulators can use the specific characteristics of investors identified in Chapter 2 as valuable information when developing rescue initiatives. Understanding how certain investor characteristics influence the long-term effectiveness of financial support provides a basis for designing more effective rescue programs tailored to the specific needs of each situation. Furthermore, by acknowledging that investor characteristics can impact the long-term effectiveness of financial assistance, regulators should incorporate ongoing assessment mechanisms to measure the impact over time. This would allow adjusting strategies and policies based on actual outcomes and enhance the effectiveness of government interventions.

The collaboration among regulators to standardize sustainability reporting can have significant implications for both business managers and the global landscape. Currently, each country has established its own regulations related to sustainability scores, such as the Toxic Release Inventory (TRI) in the United States, European regulations, the Institute of Public and Environmental Affairs (IPE) in China, or the National Pollutant Release Inventory (NPRI) in Canada. Collaboration among regulators to harmonize global sustainability reporting standards would allow organizations, even operating in multiple different regulatory environments, to follow a common set of norms and guidelines. This would simplify the reporting process, facilitate the comparison and evaluation of sustainable practices in different regions, leading to increased transparency and accuracy. Additionally, this could promote sustainable investment, as investors could make more informed decisions by having access to standardized and comparable sustainability reports across different organizations and sectors. At the same time, organizations might feel more motivated to implement sustainable performance initiatives knowing that their efforts are measured and evaluated uniformly compared to other organizations globally.

Finally, and related to the previous implications regarding the standardization of reports to motivate organizations to adopt more sustainable practices, regulators could consider reviewing and adjusting regulatory frameworks to encourage and reward organizational designs that promote global sustainability. By enhancing transparency in corporate reporting, organizations are required to disclose detailed information about their organizational designs and sustainability-related practices. This would

allow for a clearer assessment of organizations' contributions and efforts towards sustainability. Additionally, regulators could encourage collaboration among organizations, especially those sharing supply chains or involved in similar sectors. Establishing policies that facilitate collaboration can enhance the effectiveness of collective efforts toward sustainability and reduce resources and processes that may have a negative impact on sustainability.

5.4. Limitations of the research

Like any research, this thesis is not without certain limitations. Below, we proceed to list the limitations we have encountered during the execution of the research work that comprises the preceding chapters:

- The statistical analyses conducted in chapters 2 and 3 are cross-sectional, preventing the examination of the time effect on the analyzed variables. This limitation may impact the assumption of causality in the proposed relationships.
- In chapters 2 and 3, there is a lack of detailed information about the origin and specific nature of the organizational crises experienced by the sample organizations. This absence of information limits the ability to contextualize findings and understand variations in investor contributions based on the specific nature of the crisis.
- In chapters 2 and 3, the characteristics of other stakeholders are not taken into account in organizational resilience during the crisis period. These other stakeholders can influence an organization's ability to prevent future crises and recover quickly from them.
- In chapter 3, ESG scores are used as a measure of legitimacy. This may be a limited measure that does not cover a comprehensive view of an organization's legitimacy.
- Chapter 4 is based on a theoretical and conceptual approach that integrates Hierarchy Theory and the systemic thinking perspective in the field of business management. However, no practical application or empirical validation is developed, which could lead to different conclusions in the business context.

- In the same chapter, the study primarily focuses on extreme organizational designs, oriented towards efficiency and resilience, without considering other organizational designs that may have mixed combinations and their implications.
- Sustainability is a multidimensional and dynamic concept that encompasses various environmental, social, and economic aspects. Chapter 4 focuses on sustainability in general but does not delve into the specific interactions between different components of sustainability.

5.5. Future research directions

We consider this work to be just the beginning of potential further studies that delve into the themes and concepts addressed, as detailed below.

Firstly, we believe it is relevant to conduct research that addresses some of the limitations encountered in this thesis. Specifically, it would be interesting to develop longitudinal studies to measure the impact of investor commitment on the organizational resilience of an organization over time. Also, determining exactly how long it takes for an organization to recover with the support of investors. Additionally, the use of other variables and the application of different statistical techniques than those used in this thesis could provide greater robustness to the results presented in this thesis.

Secondly, we have focused on researching certain characteristics of investors, but future investigations can explore how certain institutional conditions, such as specific regulatory frameworks, influence investor involvement in an organization's recovery during a crisis and future avoidance strategies. A better understanding of the normative and regulatory environment could provide valuable insights into enhancing organizational resilience in crisis situations. On the other hand, by focusing our study only on investors, the analysis of the behavior and/or characteristics of other stakeholders and their impact on organizational resilience and sustainability remains open. Exploring more deeply how the engagement of different stakeholders affects an organization's recovery capacity can provide a more comprehensive insight into the factors influencing organizational resilience.

Thirdly, Chapter 3 opens up broader opportunities for future research on corporate legitimacy. Subsequent studies could employ broader measures of corporate legitimacy to examine both the relationship between legitimacy and investor commitment and the relationship between legitimacy and organizational resilience. For example, analyzing how different dimensions of legitimacy, such as ethical, legal, or social dimensions, affect investors' decisions to engage with an organization.

Fourthly, Chapter 4 presents a valuable opportunity for case studies or empirical research to verify and validate the applicability of organizational design approaches in various organizations and environments, and their impact on global sustainability. This type of research would not only validate the applicability of organizational design approaches in different scenarios but also identify patterns and best practices that could be shared among organizations. Furthermore, it could provide practical and specific insights for managers and business leaders seeking to enhance the sustainability of their organizations globally.

Fifthly, future research could explore in detail how organizational designs impact specific aspects of sustainability and how these interactions translate into tangible impacts in the business domain. In other words, analyzing how different organizational designs (efficiency-oriented, resilience-oriented, or hybrid) influence each dimension of sustainability (economic, social, and environmental) and identifying specific practices and strategies that organizations can adopt to enhance their sustainability performance.

REFERENCES

- Ackoff, R. L. (1971). Towards a system of systems concepts. *Management science*, 17(11), 661-671.
- Adomako, S., & Tran, M. D. (2023). Doing well and being responsible: The impact of corporate social responsibility legitimacy on responsible entrepreneurship. *Corporate Social Responsibility & Environmental Management*, 1.
- Aich, S., Thakur, A., Nanda, D., Tripathy, S., & Kim, H. C. (2021). Factors Affecting ESG towards Impact on Investment: A Structural Approach. *Sustainability*, 13(19), 10868.
- Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management journal*, 47(1), 93-103.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4), 717-736.
- Barnett, M. L. (2006). The keystone advantage: what the new dynamics of business ecosystems mean for strategy, innovation, and sustainability. *Academy of Management Perspectives* 20 (2), 88-90
- Barnett, M. L. (2007). Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review*, 32(3), 794-816.
- Barnett, M. L., Dimitrov, V., & Gao, F. (2022). The nail that sticks out: corporate social responsibility and shareholder proposals. *Review of Accounting Studies*, 1-44.
- Bass, A. E., & Chakrabarty, S. (2014). Resource security: Competition for global resources, strategic intent, and governments as owners. *Journal of International Business Studies*, 45(8), 961-979.
- Bertalanffy, L. V. (1968). *General system theory: Foundations, development, applications*. G. Braziller.
- Boulding, K. E. (1956). General systems theory—the skeleton of science. *Management science*, 2(3), 197-208.
- Cardoni, A., Kiseleva, E., & Bellucci, A. (2022). The quality of SMEs stakeholder communication during strategic crises: The case of Italian unlisted SMEs. *Business Strategy and the Environment*, 1-17.
- Chang, S. J., & Hong, J. (2002). How much does the business group matter in Korea? *Strategic Management Journal*, 23(3), 265-274.
- Choi, S. B., Park, B. I., & Hong, P. (2012). Does ownership structure matter for firm technological innovation performance? The case of Korean firms. *Corporate Governance: An International Review*, 20(3), 267-288.
- Cordeiro, J. J., Galeazzo, A., Shaw, T. S., Veliyath, R., & Nandakumar, M. K. (2018). Ownership influences on corporate social responsibility in the Indian context. *Asia Pacific Journal of Management*, 35, 1107-1136.

- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative Science Quarterly*, 54(3), 413-452.
- Dean Jr, J. W., & Sharfman, M. P. (1996). Does decision process matter? A study of strategic decision-making effectiveness. *Academy of Management Journal*, 39(2), 368-392.
- Demastus, J., & Landrum, N. E. (2023). Organizational sustainability schemes align with weak sustainability. *Business Strategy and the Environment*, 1-19.
- Desender, K. A., Aguilera, R. V., Crespi, R., & García-Cestona, M. (2013). When does ownership matter? Board characteristics and behavior. *Strategic Management Journal*, 34(7), 823-842.
- DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management*, 45(4), 1434-1460.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122-136.
- Drees, J. M. and Heugens, P. P, 2013, "Synthesizing and extending resource dependence theory: A meta-analysis". *Journal of Management*, 39(6): 1666-1698.
- Dufour, L., Andiappan, M., & Banoun, A. (2019). The impact of emotions on stakeholder reactions to organizational wrongdoing. *European Management Review*, 16(3), 761-779.
- Dupuy, C., Lavigne, S., & Nicet-Chenaf, D. (2010). Does geography still matter? Evidence on the portfolio turnover of large equity investors and varieties of capitalism. *Economic Geography*, 86(1), 75-98.
- Farjoun, M. (2010). Beyond Dualism: Stability and Change as a Duality. *Academy of Management Review*, 35(2), 202-225.
- Gao, Y., & Hafsi, T. (2019). How Owners Matter? An Examination of Ownership Type in Corporate Disaster Relief Giving. *Canadian Journal of Administrative Sciences*, 36(1), 70-83.
- Gedajlovic, E., & Shapiro, D. M. (2002). Ownership structure and firm profitability in Japan. *Academy of Management Journal*, 45(3), 565-575.
- Groenendaal, J., & Helsloot, I. (2020). Organisational resilience: Shifting from planning-driven business continuity management to anticipated improvisation. *Journal of Business Continuity & Emergency Planning*, 14(2), 102-109.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404-1427.
- Holling, C. S. (1973). Resiliency and stability of ecological systems. *Annual review of ecology and systematics*, 4(1), 1-23.
- Khatri, N., & Ng, H. A. (2000). The role of intuition in strategic decision making. *Human Relations*, 53(1), 57-86.

- Lien, D., Hung, P. H., & Chen, H. J. (2021). Who knows more and makes more? A perspective of order submission decisions across investor types. *The Quarterly Review of Economics and Finance*, 79, 381–398.
- Lo, H. C., Ting, I. W. K., Kweh, Q. L., & Yang, M. J. (2016). Nonlinear association between ownership concentration and leverage: The role of family control. *International Review of Financial Analysis*, 46, 113–123.
- López-Gutiérrez, C., Sanfilippo-Azofra, S., & Torre-Olmo, B. (2015). Investment decisions of companies in financial distress. *BRQ Business Research Quarterly*, 18(3), 174–187.
- Matusik, J. G., Mitchell, R. L., Hays, N. A., Fath, S., & Hollenbeck, J. R. (2022). The highs and lows of hierarchy in multiteam systems. *Academy of Management Journal*, 65(5), 1571–1592.
- Meyer, J., & Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology* 83(2), 340–363.
- Morrow Jr, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007). Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic Management Journal*, 28(3), 271–283.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence approach*. New York: Harper and Row Publishers.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.
- Santoro, G., Bertoldi, B., Giachino, C., & Candelo, E. (2020). Exploring the relationship between entrepreneurial resilience and success: The moderating role of stakeholders' engagement. *Journal of Business Research*, 119, 142–150.
- Sartal, A., & Vázquez, X. H. (2017). Implementing information technologies and operational excellence: planning, emergence and randomness in the survival of adaptive manufacturing systems. *Journal of Manufacturing Systems*, 45, 1–16.
- Schaefer, S., & Wickert, C. (2015). The efficiency paradox in organization and management theory. *Academy of Management Proceedings* 2015(1), 10958.
- Scott, W. R. (1995). *Institutions and organizations: Ideas, interests, and identities*. Sage publications: London
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610.
- Sutcliffe, K. M., & Vogus, T. J. (2003). *Organizing for resilience*. In Cameron, K. S., Dutton, J. E., & Quinn, R. E. (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 94–110). San Francisco, CA: Berrett-Koehler.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.
- Thürmer, J. L., Wieber, F., & Gollwitzer, P. M. (2020). Management in times of crisis: Can collective plans prepare teams to make and implement good decisions? *Management Decision*, 58(10), 2155–2176.

Tuazon, G. F., Wolfgramm, R., & Whyte, K. P. (2021). Can you drink money? Integrating organizational perspective-taking and organizational resilience in a multi-level systems framework for sustainability leadership. *Journal of Business Ethics*, 168(3), 469-490.

Van den Broek, T., Langley, D., & Hornig, T. (2017). The effect of online protests and firm responses on shareholder and consumer evaluation. *Journal of Business Ethics*, 146(2), 279–294.

Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resiliency, adaptability and transformability in social–ecological systems. *Ecology and Society*, 9(2).

Wu, J., & Sekiguchi, T. (2023). Understanding Organizational Performance in Dynamic Environments: An Integrative Framework of Activity-System Maps and the NK Model. *Academy of Management Learning & Education*, 22(2), 239-256.

Xia, F., Chen, J., Yang, X., Li, X., & Zhang, B. (2023). Financial constraints and corporate greenwashing strategies in China. *Corporate Social Responsibility and Environmental Management*, 1-12.

Zhang, W. (2006). China's SOE reform: A corporate governance perspective. *Corporate Ownership and Control*, 3(4), 132–150.

RESUMEN AMPLIADO DE LA TESIS EN ESPAÑOL

Las organizaciones operan en un entorno cada vez más complejo y lleno de desafíos, a veces inesperados, por lo que la capacidad para hacer frente a las crisis y recuperarse de ellas se convierte en un diferenciador clave entre el éxito y el fracaso (Davis et al., 2009; Demastus & Landrum, 2023). El creciente interés en comprender cómo las organizaciones no solo pueden sobrevivir, sino también prosperar en tiempos de crisis, ha dado lugar a un cuerpo significativo de investigación sobre la resiliencia organizacional y definición de las prácticas que la fomentan (Bansal & Clelland, 2004; Sutcliffe & Vogus, 2003). Sin embargo, aún persisten brechas en la comprensión de cómo se desarrollan e implementan efectivamente estas capacidades de resiliencia organizacional.

La resiliencia organizacional se define como la capacidad de una organización para resistir, adaptarse y recuperarse de las crisis, considerándose un proceso continuo y dinámico que implica múltiples factores, capacidades y agentes (Kahn et al., 2018; Linnenluecke & Griffiths, 2010; Ortiz-de-Mandojana & Bansal, 2016; Williams & Shepherd, 2016). Con la teoría de la Dependencia de Recursos (*Resource-Dependence theory*) (Drees & Heugens, 2013; Hillman et al., 2009; Pfeffer & Salancik, 1978) y la teoría de la legitimidad (*Legitimacy theory*) (Dowling & Pfeffer, 1975; Meyer & Rowan, 1977; Scott, 1995; Suchman, 1995) como base, esta tesis doctoral hace un riguroso estudio de cómo los inversores de las empresas contribuyen al desarrollo de capacidades resilientes y su implementación en tiempos de crisis. Más específicamente, durante el desarrollo de esta tesis se analiza empíricamente cómo los inversores, según sus diferentes características y comportamientos, aportan los recursos necesarios y capacidades adicionales a una organización en crisis y sin recursos en momentos después de una crisis, con el objetivo de recuperarse lo antes posible de una crisis y evitar recaídas en futuras crisis.

Además, las organizaciones no solo buscan desarrollar capacidades resilientes que les permitan superar crisis sin comprometer su funcionamiento y diseños organizacionales, sino que también tratan de buscar la sostenibilidad, tanto a nivel organizacional como a nivel global. De hecho, la relación entre la resiliencia organizacional y la sostenibilidad se posiciona como un aspecto crítico en el entorno organizacional actual (por ejemplo, DesJardine et al., 2019; Ortiz-de-Mandojana y Bansal, 2016; Tuazon, et al., 2021). Por tanto, la presente tesis da un paso más en profundidad en la investigación sobre la resiliencia organizacional, el comportamiento de los inversores y los diseños organizacionales al estudiar estos tres conceptos en relación con la sostenibilidad.

La sostenibilidad se entiende como un concepto integral que abarca el progreso económico, la equidad social y la preservación ambiental, satisfaciendo las necesidades actuales sin comprometer la capacidad de las generaciones futuras para satisfacer las suyas (WCED, 1987). Por consiguiente, en esta tesis se estudia que lograr la sostenibilidad global requiere de una perspectiva holística, que comprenda esas tres dimensiones en sistemas a diferentes niveles dentro de una estructura jerárquica de sistemas interconectados y anidados en diferentes niveles de análisis (Demastus & Landrum, 2023; Eisenhardt, et al., 2010; Slawinski & Bansal, 2012), de acuerdo con la Teoría de la Jerarquía (*Hierarchy theory*) (Simon, 1962; Wu y David, 2002). Esta visión holística comprende la interconexión entre sistemas a niveles más bajos, como las organizaciones a niveles organizacionales, y sistemas a niveles más altos, como el entorno organizacional. Por tanto, las decisiones y diseños organizacionales que las organizaciones implantan e implementan en sus procesos tiene una repercusión directa en los sistemas a niveles superiores, esto es, en la sostenibilidad a un nivel global.

Los argumentos anteriores llevan a formular una **pregunta de investigación general (PG)** que se trata de responder en esta tesis doctoral: ***¿Qué factores contribuyen e influyen en la capacidad de resiliencia de las organizaciones?***

Esta pregunta de investigación general se desglosa en preguntas más específicas y directas (PE), como:

- (PE1): ¿Por qué los inversores son un factor crucial en el desarrollo e implementación de la resiliencia en las organizaciones?

- (PE2): ¿Cómo afecta el compromiso sostenible creciente durante una crisis al compromiso de los inversores y reduce el tiempo de recuperación de una organización después de una crisis?
- (PE3): ¿Qué distinciones existen entre los diseños organizacionales que enfatizan la eficiencia y aquellos que priorizan la resiliencia?
- (PE4): ¿Cómo afectan las diferencias entre los diseños organizacionales en sistemas de nivel inferior dentro de una estructura jerárquica a la resiliencia y sostenibilidad en los sistemas de nivel superior en la misma jerarquía?
- (PE5): ¿Por qué un equilibrio entre eficiencia y resiliencia contribuye a alcanzar la sostenibilidad en el nivel más alto en una estructura jerárquica?

Por consiguiente, estas preguntas de investigación llevan a establecer una serie de **objetivos generales y específicos** en cada capítulo de esta tesis (ver Tabla 6.1).

PRIMERO. Los objetivos generales (OG) de nuestro trabajo son:

- (OG1): Realizar una revisión teórica de la literatura en gestión empresarial sobre los principales conceptos estudiados a lo largo de los capítulos de este trabajo: resiliencia organizacional, comportamiento y características de los inversores, diseños organizacionales y sostenibilidad.
- (OG2): Proporcionar evidencia sobre cómo diferentes factores influyen y/o promueven la resiliencia organizacional.
- (OG3): Consolidar todos los hallazgos de la investigación, enfatizando las implicaciones académicas para los directivos empresariales y gobiernos.

SEGUNDO. Los objetivos específicos (OE) son los siguientes:

- (OE1): Realizar un análisis detallado del impacto de ciertas características específicas de los inversores en la capacidad de una organización para evitar recaídas en futuras crisis [Capítulo 2].
- (OE2): Explorar el impacto de reforzar el compromiso sostenible durante tiempos de crisis en la capacidad de resiliencia organizacional [Capítulo 3].
- (OE3): Proporcionar evidencia sobre cómo el compromiso sostenible y la legitimidad de las organizaciones influyen en el nivel de compromiso de los inversores en tiempos de crisis [Capítulo 3].

- (OE4): Analizar cómo el compromiso de los inversores reduce el tiempo de recuperación después de un período de crisis [Capítulo 3].
- (OE5): Ampliar el conocimiento teórico sobre las distinciones entre un diseño organizacional convencional orientado hacia la eficiencia y uno orientado hacia la resiliencia [Capítulo 4].
- (OE6): Ofrecer perspectivas y un marco conceptual que clarifique cómo los diseños organizacionales en sistemas de nivel inferior pueden influir en los resultados de resiliencia y sostenibilidad en sistemas de nivel superior dentro de una estructura jerárquica [Capítulo 4].
- (OE7): Explicar la necesidad de una perspectiva holística que abarque un equilibrio entre las ganancias de eficiencia y las propiedades resilientes para lograr la sostenibilidad a nivel de macrosistema [Capítulo 4].

TABLE 6.1. Conexión entre las preguntas de investigación y los objetivos de esta tesis

Pregunta de investigación	Objetivos	Capítulo
PG: <i>¿Qué factores contribuyen e influyen en la capacidad de resiliencia de las organizaciones?</i>	OG1; OG 2; OG 3	Capítulos 2, 3, 4 y 5
PE1: <i>¿Por qué los inversores son un factor crucial en el desarrollo e implementación de la resiliencia en las organizaciones?</i>	OE1; OE4	Capítulos 2 y 3
PE2: <i>¿Cómo afecta el compromiso sostenible creciente durante una crisis al compromiso de los inversores y reduce el tiempo de recuperación de una organización después de una crisis?</i>	OE2; OE3	Capítulo 3
PE3: <i>¿Qué distinciones existen entre los diseños organizacionales que enfatizan la eficiencia y aquellos que priorizan la resiliencia?</i>	OE5	Capítulo 4
PE4: <i>¿Cómo afectan las diferencias entre los diseños organizacionales en sistemas de nivel inferior dentro de una estructura jerárquica a la resiliencia y sostenibilidad en los sistemas de nivel superior en la misma jerarquía?</i>	OE6	Capítulo 4
PE5: <i>¿Por qué un equilibrio entre eficiencia y resiliencia contribuye a alcanzar la sostenibilidad en el nivel más alto en una estructura jerárquica?</i>	OE7	Capítulo 4

Fuente: Elaboración propia

Esta tesis doctoral, además de un capítulo introductorio (**Capítulo 1**), comprende tres capítulos adicionales correspondientes a tres trabajos de investigación, y un capítulo

final con conclusiones, implicaciones y observaciones finales que concluyen la tesis doctoral (**Capítulo 5**).

El **Capítulo 2** de esta tesis presenta el trabajo titulado "Evitando Recaídas Después de las Crisis: Explorando la Influencia de las Características de los Inversores de la Empresa en la Resiliencia Organizacional" (en inglés "*Avoiding Relapses after Crises: Exploring the Influence of Firm Investors' Characteristics on Organizational Resilience*"). Desde la perspectiva de la Teoría de la Dependencia de Recursos, este capítulo analiza empíricamente la influencia de los inversores como proveedores de recursos cruciales en situaciones de crisis para contribuir a la prevención de recaídas tras una recuperación exitosa de una crisis, a través de un estudio empírico de 359 organizaciones y empleando un modelo de regresión logística. El estudio sugiere que ciertas características de los inversores, como su diversidad geográfica, concentración de capital y paciencia, influyen en la resiliencia organizacional al reducir el riesgo de recaída rápida después de una crisis. Los resultados de esta investigación amplían la perspectiva de dependencia de recursos, mostrando que la dependencia de los inversores no solo afecta la adquisición de recursos externos, sino también el desarrollo de competencias internas, como la resiliencia organizacional.

El **Capítulo 3** de esta tesis abarca el trabajo de investigación titulado "¿Ayuda Reforzar la Sostenibilidad en Tiempos de Crisis Organizacional? El Efecto Mediador del Compromiso de los Inversores" (en inglés, "*Does Reinforcing Sustainability in Times of Organizational Crisis Help? The Mediating Effect of Investor Commitment*"). Con la teoría de la legitimidad como base teórica, este trabajo aborda un vacío en la literatura respecto a la influencia de las iniciativas sostenibles durante momentos de crisis financieras y cómo esto afecta el compromiso de los inversores y la velocidad de recuperación después de una crisis. Según la literatura previa, las crisis organizacionales, al amenazar la supervivencia de las organizaciones, a menudo conducen a un desplazamiento de la atención desde las iniciativas sostenibles (Aich, et al., 2021; Bansal & Clelland, 2004; Roloff, 2023; Shaikh, 2022) hacia la priorización de las preocupaciones financieras y las relaciones con los inversores (Broadstock, et al., 2021). Sin embargo, este trabajo destaca la importancia de mantener un compromiso con la sostenibilidad durante las crisis financieras por parte de la organización para

fortalecer el compromiso de los inversores y acelerar la recuperación. Por tanto, se examina la relación entre el compromiso sostenible, el compromiso de los inversores y la velocidad de recuperación en 190 organizaciones que experimentaron una crisis financiera en 2015, a través de análisis de regresión, efectos de mediación del compromiso de los inversores, y análisis de moderación del contexto económico del país donde opera la organización. Los resultados demuestran que el desempeño sostenible durante momentos de crisis reduce el tiempo de recuperación a través del efecto mediador del compromiso de los inversores. En cuanto a los resultados de las moderaciones, en condiciones económicas hostiles, la relación entre el refuerzo del desempeño sostenible en tiempos de crisis financiera y el compromiso de los inversores se amplifica, mientras que en un contexto económico favorable (munificente) para las organizaciones, el compromiso de los inversores acelera la recuperación debido al aumento de la colaboración con otros agentes económicos, quienes también perciben a las organizaciones como legítimas al ver que los inversores no las abandonan en tiempos difíciles.

En el **Capítulo 4**, "Más Barato y Más Rápido, Pero No Mejor: La Relación entre Eficiencia, Resiliencia y Sostenibilidad" (en inglés, "***Cheaper and Faster, but not Better: The Relationship between Efficiency, Resiliency and Sustainability***"), el objetivo principal es proporcionar una base teórica y una revisión clara de la literatura sobre el pensamiento sistémico (*Systems Thinking*) en el campo de la gestión empresarial. Además, busca arrojar luz sobre las características esenciales de los diseños organizacionales, sus interacciones en diferentes niveles jerárquicos y sus contribuciones para alcanzar la sostenibilidad a nivel macro dentro de una estructura jerárquica. Se comparan un diseño organizacional enfocado hacia la eficiencia con otro diseño organizacional que prioriza las prácticas resilientes. Se concluyó que un diseño organizacional puramente enfocado a ser eficiente puede volverse insostenible a largo plazo, especialmente cuando se basa en la maximización de recursos finitos (Davis, et al., 2009). Sin embargo, alcanzar la sostenibilidad a un nivel macro requiere de la adopción de diseños organizacionales orientados hacia la resiliencia, caracterizados por un acoplamiento flexible (*loose coupling structures*), operaciones independientes y flexibles de componentes y procesos, mayor adaptabilidad y resistencia al dinamismo

del entorno (Demastus y Landrum, 2023). Este trabajo reconoce que la sostenibilidad global o a nivel macro requiere un equilibrio delicado entre diseños organizacionales eficientes y resilientes en niveles inferiores dentro de una estructura jerárquica de sistemas, reconociendo la importancia de utilizar los recursos sin desperdicio además de adaptarse a entornos cambiantes y abordar desafíos en la búsqueda de la sostenibilidad global. Las organizaciones deben expandir su perspectiva más allá de sus límites inmediatos y adoptar un enfoque más abarcador y holístico en sus esfuerzos estratégicos (Barnett, 2006).

Esta tesis doctoral contribuye significativamente al campo de la gestión empresarial, especialmente en lo que respecta a la resiliencia organizacional y la sostenibilidad. A continuación, se detallan las **principales contribuciones** de esta investigación:

1. Ampliación de la comprensión teórica: La tesis profundiza en la Teoría de la Dependencia de Recursos, la Teoría de la Legitimidad y la Teoría de la Jerarquía y pensamiento sistémico para explorar cómo el compromiso de los inversores y los diseños organizacionales influyen en la resiliencia organizacional y la sostenibilidad. Esto proporciona una base sólida para futuras investigaciones y prácticas de gestión que buscan integrar estos elementos clave de manera más efectiva.
2. Relación entre resiliencia y características de los inversores: A través de un análisis empírico completo y detallado, empleando diversas y sofisticadas metodologías de análisis, esta tesis demuestra cómo el apoyo y compromiso de los inversores es crucial para evitar futuras recaídas, además de que el compromiso sostenible de una organización durante las crisis influye positivamente en ese compromiso de los inversores, lo que a su vez acelera la recuperación de la organización después de una crisis.
3. Evaluación del impacto de los diseños organizacionales: Dentro de una estructura jerárquica de sistemas conectados unos con otros a diferentes niveles, se estudia cómo los sistemas en los niveles inferiores, estos son, las organizaciones con diseños organizacionales orientados a la eficiencia o que priorizan la resiliencia, pueden influir en la sostenibilidad en un nivel macro dentro de la estructura jerárquica. Un enfoque exclusivo en la eficiencia en los

niveles inferiores genera desventajas para adaptarse al dinamismo actual del entorno, mientras que los diseños resilientes ofrecen una mejor adaptabilidad y, por tanto, está más relacionado con el logro de la sostenibilidad a nivel global o macro.

4. Perspectiva global sobre sostenibilidad y resiliencia: En relación a la contribución anterior, esta tesis proporciona una perspectiva holística y global, reconociendo que la sostenibilidad a nivel macro-sistémico requiere un equilibrio delicado entre diseños organizacionales eficientes y resilientes en los sistemas en niveles inferiores, lo cual es esencial para abordar los desafíos actuales en un entorno dinámico y en constante evolución (énfasis en diseños organizacionales basados en la resiliencia), pero también para tener éxito en entornos estables (énfasis en diseños organizacionales basados en la eficiencia)

Estas contribuciones no solo avanzan en la literatura académica, sino que también ofrecen orientaciones e implicaciones prácticas para los líderes empresariales y reguladores interesados en fortalecer la resiliencia y la sostenibilidad organizacional en un entorno globalizado. Se detallan a continuación las implicaciones de esta tesis:

- **Implicaciones para la comunidad académica:**

En primer lugar, aunque el concepto de resiliencia se originó en el campo ecológico (Holling, 1973; Walker et al., 2004), su estudio en el campo de la gestión empresarial está ganando cada vez más prominencia. Esta tesis enfatiza la creciente importancia del tema de la resiliencia organizacional, dado el dinamismo y evolución del entorno que involucra situaciones desafiantes frecuentes que pueden llevar a las organizaciones a momentos críticos (Bansal & Clelland, 2004; Sutcliffe & Vogus, 2003). Los tres trabajos de investigación que componen esta tesis tienen como objetivo aportar nuevas perspectivas al tema presentado.

En segundo lugar, estudios anteriores se centran en la dependencia de los grupos de interés (*stakeholders*) (Bass & Chakrabarty, 2014; Morrow Jr. et al., 2007), pero este trabajo subraya la fiabilidad de los inversores como fuentes de apoyo durante las crisis (Van den Broek et al., 2017), en comparación con otros agentes económicos que desaparecen o abandonan la organización cuando perciben momentos de riesgo (López-Gutiérrez et al., 2015). Esto tiene implicaciones académicas al reconocer cómo

la dependencia de recursos puede ser beneficiosa al reconocer la fiabilidad relativa de diferentes fuentes de recursos externos, especialmente de inversores con ciertas características (diversidad geográfica y paciencia).

En tercer lugar, al argumentar que mantener la legitimidad en situaciones adversas refuerza el compromiso de los inversores, considerándolo no solo deseable sino también apropiado, este trabajo proporciona implicaciones a la comunidad académica a través de una comprensión más profunda de cómo las prácticas sostenibles pueden influir directamente en la relación entre las organizaciones y sus inversores, contribuyendo así a una visión más completa y aplicada de la teoría de la legitimidad.

En cuarto lugar, el enfoque teórico basado en la Teoría de la Jerarquía y la perspectiva del pensamiento sistémico, representa una valiosa implicación académica en el campo de la gestión organizacional, especialmente porque estas teorías han sido más tradicionalmente estudiadas en el contexto de la ecología y los sistemas naturales (Bertalanffy, 1968; Boulding, 1956; Walker, et al., 2004; Wu, & Sekiguchi, 2023). Al aplicar estas perspectivas a la gestión organizacional, se proporcionan contribuciones y perspectivas novedosas. Por un lado, la aplicación de la Teoría de la Jerarquía proporciona una base conceptual sólida para entender y analizar los diseños organizacionales desde la dicotomía de eficiencia (rigidez y estandarización) frente a la resiliencia (flexibilidad y colaboración), proporcionando una comprensión más profunda de cómo estas elecciones de diseño difieren en comportamientos. Por otro lado, la perspectiva del pensamiento sistémico se traduce de manera innovadora al entorno empresarial (por ejemplo, Ackoff, 1971; Matusik, et al., 2022; Tuazon, et al., 2021), proporcionando una comprensión holística de cómo los diseños organizacionales impactan la sostenibilidad global de un sistema.

- **Implicaciones para ejecutivos, directivos y líderes empresariales:**

Más allá de la mera provisión de recursos, los hallazgos del Capítulo 2 de esta tesis revelan que los inversores ejercen una influencia más prominente en las decisiones ejecutivas debido a la vulnerabilidad aumentada de las organizaciones durante las crisis (Dufour et al., 2019). Por lo tanto, los líderes empresariales deben ser conscientes del impacto que los inversores pueden tener en la posición de la organización y su orientación estratégica, especialmente porque los directivos tienden a estar

particularmente sintonizados con las preferencias de los inversores durante las crisis. El trabajo también proporciona a los directivos y líderes empresariales una visión valiosa sobre cómo gestionar las relaciones con los inversores y adaptar las estrategias empresariales para enfrentar desafíos y preservar el éxito a largo plazo de la organización. Deben reconocer la importancia de establecer relaciones confiables con inversores que posean características que promuevan capacidades resilientes dentro de la organización, como la diversidad geográfica y la paciencia.

El Capítulo 3 refuerza la idea de que los inversores tienden a comprometerse más sólidamente con aquellas organizaciones que enfatizan las prácticas éticas y legítimas (Bansal & Roth, 2000). Por lo tanto, para ser una organización resiliente y exitosa, los directivos deben considerar seriamente la integración y promoción activa de prácticas éticas y legítimas en sus operaciones y toma de decisiones. Además, establecer un terreno propicio para un fuerte compromiso de los inversores implica cultivar relaciones a largo plazo basadas en la confianza y la transparencia (Adomako & Tran, 2023). En consecuencia, los directivos y líderes en las organizaciones deben reconocer que la legitimidad no es solo una cuestión de responsabilidad social, sino también un componente esencial para construir y mantener relaciones sólidas con los inversores.

Además, dado el creciente interés de los inversores en temas de sostenibilidad, se aconseja a los directivos que enfoquen sus esfuerzos de comunicación y prácticas sostenibles de manera más específica y prominente en relación a las expectativas e intereses de los inversores. De esta manera, las organizaciones pueden fortalecer la percepción positiva de los inversores, aumentando la probabilidad de un compromiso más profundo y apoyo a largo plazo.

Por último, debido a la probable ineficiencia de un diseño organizacional basado en la eficiencia en algunos contextos (Schaefer, & Wickert, 2015), por ejemplo, los líderes empresariales podrían considerar adoptar un diseño organizacional más flexible (*loose coupling design*), permitiendo que diferentes partes de la organización operen de manera independiente pero colaborativa, además de fomentar la diversidad funcional y promover la colaboración entre varias partes de la organización para mejorar la resiliencia. Estas implicaciones sugieren que los directivos deberían ir más allá de la pura eficiencia y considerar la resiliencia como un elemento clave de su diseño

organizacional (Sartal, & Vázquez, 2017), no solo para enfrentar y recuperarse de los desafíos, sino también para contribuir a la sostenibilidad global.

▪ **Implicaciones para gobiernos y reguladores:**

Las implicaciones de los resultados de este trabajo también son relevantes para gobiernos y reguladores, especialmente aquellos involucrados en inversiones sustanciales para rescatar organizaciones que enfrentan dificultades financieras severas. Los reguladores pueden utilizar las características específicas de los inversores identificadas en el Capítulo 2 como información valiosa al desarrollar iniciativas de rescate. Entender cómo ciertas características de los inversores influyen en la efectividad a largo plazo del apoyo financiero proporciona una base para diseñar programas de rescate más efectivos, adaptados a las necesidades específicas de cada situación. Además, al reconocer que las características de los inversores pueden impactar la efectividad a largo plazo de la asistencia financiera, los reguladores deberían incorporar mecanismos de evaluación continua para medir el impacto a lo largo del tiempo. Esto permitiría ajustar estrategias y políticas basadas en los resultados reales y mejorar la efectividad de las intervenciones gubernamentales.

En temas de sostenibilidad, actualmente cada país ha establecido sus propias regulaciones relacionadas con los puntajes de sostenibilidad, como el Inventario de Emisiones Tóxicas (en inglés, *Toxic Release Inventory TRI*) en los Estados Unidos, las regulaciones europeas, el Instituto de Asuntos Públicos y Ambientales (en inglés, *Institute of Public and Environmental Affairs IPE*) en China o el Inventario Nacional de Liberación de Contaminantes (en inglés, *National Pollutant Release Inventory NPRI*) en Canadá. La colaboración entre reguladores para armonizar los estándares globales de informes de sostenibilidad permitiría a las organizaciones, incluso operando en múltiples entornos regulatorios diferentes, seguir un conjunto común de normas y directrices. Esto simplificaría el proceso de informes, facilitaría la comparación y evaluación de prácticas sostenibles en diferentes regiones, llevando a una mayor transparencia y precisión. Esto podría promover la inversión sostenible, ya que los inversores podrían tomar decisiones más informadas al tener acceso a informes de sostenibilidad estandarizados y comparables en diferentes organizaciones y sectores. Además, los reguladores podrían considerar revisar y ajustar los marcos regulatorios

para incentivar y recompensar los diseños organizacionales que promuevan la sostenibilidad global. Al mejorar la transparencia en los informes corporativos, se requiere que las organizaciones divulguen información detallada sobre sus diseños organizacionales y prácticas sostenibles. Esto permitiría una evaluación más clara de las contribuciones y esfuerzos de las organizaciones hacia la sostenibilidad.

Consideramos que este trabajo es solo el comienzo de **posibles futuras líneas de investigación** que profundicen en los temas y conceptos abordados, como se detalla a continuación:

En primer lugar, sería interesante desarrollar estudios longitudinales para medir el impacto del compromiso de los inversores en la resiliencia organizacional de una organización a lo largo del tiempo. También, determinar exactamente cuánto tiempo tarda una organización en recuperarse con el apoyo de los inversores. Además, el uso de otras variables y la aplicación de técnicas estadísticas diferentes a las utilizadas en esta tesis podrían proporcionar una mayor robustez a los resultados presentados en esta tesis.

En segundo lugar, esta tesis se ha centrado en investigar ciertas características de los inversores, pero futuras investigaciones pueden explorar cómo ciertas condiciones institucionales, como marcos regulatorios específicos, influyen en la participación de los inversores en la recuperación de una organización durante una crisis y estrategias de evitación futuras. Una mejor comprensión del entorno normativo y regulatorio podría proporcionar información valiosa para mejorar la resiliencia organizacional en situaciones de crisis. Por otro lado, al focalizar esta tesis solo en el estudio de los inversores, el análisis del comportamiento y/o características de otros grupos de interés y su impacto en la resiliencia organizacional y la sostenibilidad sigue abierto. Explorar más profundamente cómo el compromiso de diferentes grupos de interés afecta la capacidad de recuperación de una organización puede proporcionar una visión más completa de los factores que influyen en la resiliencia organizacional.

En tercer lugar, el Capítulo 3 abre mayores oportunidades para investigaciones futuras sobre la legitimidad corporativa. Los estudios siguientes podrían emplear medidas más amplias de legitimidad corporativa para examinar tanto la relación entre legitimidad y compromiso de los inversores y resiliencia organizacional.

En cuarto lugar, el Capítulo 4 presenta una valiosa oportunidad para estudios de caso o investigaciones empíricas para verificar y validar la aplicabilidad de los enfoques de diseño organizacional en diversas organizaciones y entornos, y su impacto en la sostenibilidad global. Este tipo de investigación no solo validaría la aplicabilidad de los enfoques de diseño organizacional en diferentes escenarios, sino que también identificaría patrones y mejores prácticas que podrían ser compartidos entre organizaciones. Además, podría proporcionar perspectivas prácticas y específicas para gerentes y líderes empresariales que buscan mejorar la sostenibilidad de sus organizaciones a nivel global.

En último lugar, futuras investigaciones podrían explorar en detalle cómo los diseños organizacionales impactan aspectos específicos de la sostenibilidad y cómo estas interacciones se traducen en impactos tangibles en el ámbito empresarial. En otras palabras, analizar cómo diferentes diseños organizacionales (orientados a la eficiencia, a la resiliencia o híbridos) influyen en cada dimensión de la sostenibilidad (económica, social y ambiental) e identificar prácticas y estrategias específicas que las organizaciones pueden adoptar para mejorar su desempeño en sostenibilidad.

REFERENCIAS

- Ackoff, R. L. (1971). Towards a system of systems concepts. *Management science*, 17(11), 661-671.
- Adomako, S., & Tran, M. D. (2023). Doing well and being responsible: The impact of corporate social responsibility legitimacy on responsible entrepreneurship. *Corporate Social Responsibility & Environmental Management*, 1.
- Aich, S., Thakur, A., Nanda, D., Tripathy, S., & Kim, H. C. (2021). Factors Affecting ESG towards Impact on Investment: A Structural Approach. *Sustainability*, 13(19), 10868.
- Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management journal*, 47(1), 93-103.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4), 717-736.
- Barnett, M. L. (2006). The keystone advantage: what the new dynamics of business ecosystems mean for strategy, innovation, and sustainability. *Academy of Management Perspectives* 20 (2), 88-90
- Bass, A. E., & Chakrabarty, S. (2014). Resource security: Competition for global resources, strategic intent, and governments as owners. *Journal of International Business Studies*, 45(8), 961-979.
- Bertalanffy, L. V. (1968). *General system theory: Foundations, development, applications*. G. Braziller.
- Boulding, K. E. (1956). General systems theory—the skeleton of science. *Management science*, 2(3), 197-208.
- Broadstock, D. C., Chan, K., Cheng, L. T., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, 38, 101716.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative Science Quarterly*, 54(3), 413-452.
- Demastus, J., & Landrum, N. E. (2023). Organizational sustainability schemes align with weak sustainability. *Business Strategy and the Environment*, 1-19.
- DesJardine, M., Bansal, P., & Yang, Y. (2019). Bouncing back: Building resilience through social and environmental practices in the context of the 2008 global financial crisis. *Journal of Management*, 45(4), 1434-1460.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific Sociological Review*, 18(1), 122-136.
- Drees, J. M. and Heugens, P. P, 2013, "Synthesizing and extending resource dependence theory: A meta-analysis". *Journal of Management*, 39(6): 1666-1698.
- Dufour, L., Andiappan, M., & Banoun, A. (2019). The impact of emotions on stakeholder reactions to organizational wrongdoing. *European Management Review*, 16(3), 761-779.

- Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). CROSSROADS—Microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization Science*, 21(6), 1263-1273.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404-1427.
- Holling, C. S. (1973). Resiliency and stability of ecological systems. *Annual review of ecology and systematics*, 4(1), 1-23.
- Kahn, W. A., Barton, M. A., Fisher, C. M., Heaphy, E. D., Reid, E. M., & Rouse, E. D. (2018). The geography of strain: Organizational resilience as a function of intergroup relations. *Academy of Management Review*, 43(3), 509-529.
- Linnenluecke, M. K. (2017). Resilience in business and management research: A review of influential publications and a research agenda. *International Journal of Management Reviews*, 19(1), 4-30.
- López-Gutiérrez, C., Sanfilippo-Azofra, S., & Torre-Olmo, B. (2015). Investment decisions of companies in financial distress. *BRQ Business Research Quarterly*, 18(3), 174-187.
- Matusik, J. G., Mitchell, R. L., Hays, N. A., Fath, S., & Hollenbeck, J. R. (2022). The highs and lows of hierarchy in multiteam systems. *Academy of Management Journal*, 65(5), 1571-1592.
- Meyer, J., & Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology* 83(2), 340-363.
- Morrow Jr, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007). Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic management journal*, 28(3), 271-283.
- Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, 37(8), 1615-1631.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence approach*. New York: Harper and Row Publishers.
- Roloff, J. (2023). Surviving or solidarity? Crisis responses of small and medium-sized enterprises during the Covid-19 pandemic. *Business Ethics, the Environment & Responsibility*, 32, p. 243-256
- Sartal, A., & Vázquez, X. H. (2017). Implementing information technologies and operational excellence: planning, emergence and randomness in the survival of adaptive manufacturing systems. *Journal of Manufacturing Systems*, 45, 1-16.
- Schaefer, S., & Wickert, C. (2015). The efficiency paradox in organization and management theory. *Academy of Management Proceedings* 2015(1), 10958.
- Scott, W. R. (1995). *Institutions and organizations: Ideas, interests, and identities*. Sage publications: London

- Shaikh, I. (2022). Environmental, social, and governance (ESG) practice and firm performance: an international evidence. *Journal of Business Economics and Management*, 23(1), 218-237.
- Simon, H. A. (1962). The architecture of complexity. *Proceedings of the American philosophical society*, 106(6), 467-482.
- Slawinski, N., & Bansal, P. (2015). Short on time: Intertemporal tensions in business sustainability. *Organization Science*, 26(2), 531-549.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571-610.
- Sutcliffe, K. M., & Vogus, T. J. (2003). *Organizing for resilience*. In K. S. Cameron, J. E. Dutton & R. E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline* (pp. 94-110). San Francisco, CA: Berrett-Koehler.
- Tuazon, G. F., Wolfgramm, R., & Whyte, K. P. (2021). Can you drink money? Integrating organizational perspective-taking and organizational resilience in a multi-level systems framework for sustainability leadership. *Journal of Business Ethics*, 168(3), 469-490.
- Van den Broek, T., Langley, D., & Hornig, T. (2017). The effect of online protests and firm responses on shareholder and consumer evaluation. *Journal of Business Ethics*, 146(2), 279-294.
- Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resiliency, adaptability and transformability in social-ecological systems. *Ecology and Society*, 9(2).
- WCED. (1987). *Our Common Future*. Oxford University Press: Oxford
- Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. *Academy of Management Journal*, 59(6), 2069-2102.
- Wu, J., & David, J. L. (2002). A spatially explicit hierarchical approach to modeling complex ecological systems: theory and applications. *Ecological modelling*, 153(1-2), 7-26.
- Wu, J., & Sekiguchi, T. (2023). Understanding Organizational Performance in Dynamic Environments: An Integrative Framework of Activity-System Maps and the NK Model. *Academy of Management Learning & Education*, 22(2), 239-256.

