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**THE SEARCH FOR UNDERSTANDING ORGANIZATIONAL
RESILIENCE**

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Abstract

Organizations' ability to cope with environmental uncertainties, threats, crises, and unexpected events depends on their resilience capacity. Resilience is to survive after a hard and distressful event. The concept, which is a research topic in a wide range of disciplines, has begun to be scrutinized recently in organizational science and the literature in this area is still in the developmental stage. This also indicates the need for studies on organizational resilience. The studies to be done in this area will provide important contributions to the literature and will be the basis for the future empirical studies. In this context, this study is aimed to provide a contribution to meet this need and tried to clarify i) what organizational resilience is, ii) the dimensions of organizational resilience, iii) the actions and reflexes of the resilient organizations in the event of any disruptive event or crisis, which affect the performance and business continuity, and iv) the features and abilities of the resilient organizations in terms of some other organizational concepts such as strategic planning, knowledge management and innovation.

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Keywords: Resilience, Organizational resilience, Adaptation.

1. Introduction

Today's competitive conditions are becoming more and more challenging, environmental uncertainties and threats are increasing and this leads organizations to become more fragile. Such conditions and extreme events can negatively affect the business continuity of the organizations and even cause them to end their lives. These events, which emerged in very different forms, can be exemplified by global financial crises, economic stagnation, natural disasters, human errors, terrorism and so on (Linnenluecke and Griffiths, 2010). For example, in a study on textile and clothing companies operating

in Sweden, Pal, Torstensson and Mattila (2014) reported that the number of firms that went bankrupt due to the global economic crisis in 2008 doubled from the 2000-2010 period.

When organizations are required to maintain their abilities, competencies and capacities in a changing environment, challenging competition and crisis situations, the concept of resilience arises, which has a broad literature in different disciplines, but is still new in organizational science (Robb, 2000; Bhamra, Dani and Burnard, 2011; Burnard and Bhamra, 2011). For example, the concept of resilience attracts a lot of interest in different disciplines such as ecological systems (McDaniels, et al. 2008), crisis management (Somers, 2009), engineering (Madni and Jackson, 2009), emergency management (Stephenson, Vargo and Seville, 2010), supply chain management (Ponomarov and Holcomb, 2009), and public management (Boin and Van Eeten, 2013). By its most general definition, resilience is the capacity to continually renew, reconstruct and sustain itself after an unusual or destructive event (Holling, 1973, Hamel and Valikangas, 2003). Despite the various definitions in different disciplines, it has been stated in the literature that resilience is related to adaptability, responsiveness, recovery, sustainability, flexibility and competitiveness (Fiksel, 2003; Westrum, 2006; Madni and Jackson, 2009; Erol, Sauser and Mansouri, 2010; Bhamra et al., 2011; Gunasekaran, Rai and Griffin, 2011; Mafabi, Munene and Ntayi, 2012; Pal et al., 2014).

Although resilience has a great interest in different fields of science, it is a new concept of organizational science and studies conducted in this area are scarce. However, the literature on resilience at this level has begun to develop, some studies on conceptualization have been carried out and conceptual models have been opened to debate. For example, (Mallak, 1998) identified organizational resilience as the ability to rapidly design and implement appropriate positive adaptive behaviors to cope with the stresses caused by changing situations. On the other hand, resilience, a multidimensional concept, focuses on how to manage uncertainty and provides organizations a competitive advantage (Lee, Vargo and Seville, 2013). According to Vogus and Sutcliffe (2007), resilient organizations maintain themselves more effectively than others from damaging conditions, constantly monitor the opportunities in the environment, strive to be ready for possible situations and thus can achieve successful results. According to this approach, which emphasizes the proactive direction of the concept, resilience involves not only survival but also proactive steps to identify the potential risks and to ensure organizational development in the face of adversities. For example, contrary to the adverse effects of the 2008 global economic crisis on firms, more than 50% of today's largest and fastest growing companies was established during economically troubled periods (Bullough and Renko, 2013 - Reported from the Kauffman Foundation, one of the world's leading think tanks for entrepreneurship). Organizations should therefore constantly monitor everything happening in their environment, be always ready for risks and threats and utilize the opportunities that occur in damaging situations.

In the following sections of this study, firstly, the methodology is explained. Definitions, dimensions, characteristics, elements, principles, etc. of the concept have been compiled from different studies in the literature and presented in the following titles. Then, in the event of any devastating event or crisis, the actions and reflexes of the organizations are tried to be explained with the help of schemas in the context of organizational resilience. In the title of "Resilient Organizations in the Context of Organizational Concepts", some of the characteristics, abilities and competencies of the resilient

organizations have been discussed in terms of organizational concepts such as strategic planning, knowledge management and innovation. The final sections include conclusion and further researches.

2. Methodology

The aim of this study is to explain the definition, characteristics, dimensions, elements and principles of organizational resilience in the context of studies carried out in different disciplines, to emphasize the necessity, to explain the actions and reflexes of the resilient organizations and thus to contribute to the academic literature. The definition of the concept is compiled from different disciplines and presented in a table (Table 1). In order to better understand the content (e.g., dimensions, characteristics, elements, etc.) of organizational resilience, the table (Table 2) compiled from studies conducted in different scientific fields is divided into 3 sections:

Discipline / Area: It includes the discipline (or scientific area) in which the study was conducted.

Focus: It means what the focus is on the concept. (Such as dimensions, elements)

Content of Focus: It contains details on the focal aspects of organizational resilience.

The actions and reflexes of the resilient organizations have been scrutinized in the context of organizational resilience in the event of a disruptive event, crisis or shock. Here, schematic representations have been preferred to show the difference between resilient and other organizations in a more comprehensible way. Finally, the features and abilities of the resilient organizations in the context of organizational concepts such as strategic planning, knowledge management and innovation are presented in table form (Table 3).

3. Organizational Resilience

3.1. Definition of Organizational Resilience

The concept of resilience is expressed different meanings in terms of outputs in other disciplines, but it is basically referred as a capacity and ability to resume stable state after a disruption (Bhamra et al., 2011). For example, in engineering science, resilience is regarded as the ability to perceive, feel, adapt and assimilate disturbances, changes, complex situations, distortions, and surprises (Hollnagel, Woods and Leveson, 2006). Walker et al. (2006) describe the concept of resilience in terms of ecological systems as the capacity to assimilate deterioration and fragmentation and to reorganize when a system has to change while maintaining similar functions, structures and feedbacks. When we try to adapt the resilience concept to organizational science, the definition is almost unchanged, and the interest is oriented towards having features and abilities that enable organizations to adapt to the many needs and demands that the business world requires (Aleksić et al. 2013). Definitions of what organizational resilience means are presented in Table 1. When this table was created, definitions containing different aspects of the concept were searched and the contextual richness was tried to be revealed.

Table 01. Definitions of organizational resilience

Author(s)	Definition
Starr, Newfrock and Delurey (2003)	Organizational resilience is the ability to withstand systemic discontinuities and adapt to new risky environmental conditions.
Sutcliffe and Vogus (2003)	Organizational resilience is the capability of adjustment and adaptation to challenging, increasingly complex and incomprehensible conditions, rapid change and hyper competition.
Lengnick-Hall and Beck (2005)	Organizational resilience is the capacity of the organization to confront and overcome major challenges.
Fiksel (2006)	Organizational resilience is survival, adaptation and growth capacity under turbulent changing conditions.
McDonald (2006)	Organizational resilience is the ability to manage the variability and uncertainty in the environment and to adapt to the needs of the environment.
Seville, Brunson, Dantas, Le Masurier, Wilkinson and Vargo (2008)	Organizational resilience is the ability to survive and potentially grow in times of crisis.
Comfort, Boin and Demchak (2010)	Organizational resilience is the "bounce back" capacity in the event of a disturbance.
Lengnick-Hall, Beck and Lengnick-Hall (2011)	Organizational resilience is the capacity to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive events that threaten an organization.
Gilbert, Eyring and Foster (2012)	Organizational resilience is the ability to survive in the face of threats, transform the organization into changing conditions properly and grow even in change.
Mafabi et al. (2012)	Organizational resilience is the ability of an organization to be proactive and/or reactive to cope with environmental demands and threats.

Although the studies in the literature are addressed with different aspects of organizational resilience, it is often emphasized that it is a capacity and is closely related to "adaptation". Taking into account the definitions given in Table 1, we can summarize the following. Resilient organizations can:

- cope with environmental change, threats and challenges.
- effectively manage change, adapt quickly to changing circumstances.
- maintain and sustain business continuity in unusual circumstances.
- respond effectively to emergent destructive events.
- return to equilibrium in a short time after being exposed to a destructive event.

Following the definition of organizational resilience, we focus on the elements that constitute the content of the concept. In the next section, a more detailed analysis of the dimensions of organizational resilience is presented.

3.2. Dimensions of Organizational Resilience

In addition to what organizational resilience means, what features or components constitute organizational resilience have also become a research topic for researchers. In the literature, there is no clear consensus on the dimensions of the concept (Aleksić et al., 2013). The lack of consensus on what the dimensions / components of resilience (and organizational resilience) in the literature has led us to investigate various aspects of the concept which have been focused by researchers in different disciplines. For example, while some authors like Robb (2000) and Fiksel (2003) focus on the *characteristics* of

organizational resilience, Lengnick-Hall et al. (2011) and De Oliveira Teixeira and Werther (2013) have focused on its *dimensions*. In order to elucidate these different aspects in the literature and to determine the dimensions, characteristics, elements, etc. of organizational resilience, the information we have compiled from the literature is presented in Table 2.

Table 02. Dimensions, elements and components of organizational resilience

Author	Discipline/Area	Focus	Content of Focus	
Robb (2000)	Business Management	<i>Subsystems</i> (integrated by resilient organizations)	▪ Performance System	▪ Adaptation System
Fiksel (2003)	Environmental Science & System Theory	<i>Major system characteristics</i> (contributing to resilience)	▪ Diversity ▪ Efficiency	▪ Adaptability ▪ Cohesion
Westrum (2006)	System Theory	<i>Concepts</i> (included by resilience)	▪ Avoidance ▪ Survival	▪ Recovery
McManus, Seville, Brunsdan and Vargo (2007)	Risk & Emergency & Crisis Management	<i>Attributes</i> of organizational resilience	▪ Situation Awareness ▪ Adaptive Capacity	▪ Management of Keystone Vulnerability
Madni and Jackson (2009)	System Theory	<i>Faces</i> of resilience	▪ Avoid ▪ Adapt	▪ Withstand ▪ Recover
Ponomarov and Holcomb (2009)	Supply Chain Management	<i>Elements</i> of resilience	▪ Readiness and preparedness ▪ Response and adaptation	▪ Recovery or adjustment
Somers (2009)	Crisis Management	<i>Factors</i> (that effectively measure organizational resilience)	▪ Goal-directed solution seeking ▪ Risk avoidance ▪ Critical situational understanding	▪ Ability of team members to fill multiple roles ▪ Degree of reliance on information sources ▪ Access to resources
Erol et al. (2010)	Business Management	<i>Key characteristics and attributes</i> of enterprise resilience	▪ Agility ▪ Flexibility	▪ Adaptability ▪ Connectivity
Lengnick-Hall et al. (2011)	Human Resource Management	<i>Dimensions</i> of organizational resilience	▪ Cognitive Dimension • Conceptual orientation • Constructive sense-making ▪ Contextual Dimension • Psychological safety • Diffused power and accountability • Deep social capital • Broad resource networks	▪ Behavioural Dimension • Learned resourcefulness • Original/unscripted agility • Practical habits • Behavioural preparedness
Mafabi et al. (2012)	Business & Strategic Management	<i>Elements</i> of organizational resilience	▪ Organisational adaptation ▪ Organisational value	▪ Organisational competitiveness

Author	Discipline/Area	Focus	Content of Focus	
Boin and Van Eeten (2013)	Public & Business Management	Characteristics of a resilient organization	<ul style="list-style-type: none"> ▪ High technical competence ▪ A clear awareness of core events ▪ An elaborate set of procedures and practices 	<ul style="list-style-type: none"> ▪ A formal structure (that can be transformed into a decentralized, team-based approach to problem-solving) ▪ A ‘culture of reliability’
De Oliveira Teixeira and Werther (2013)	Strategic & Business Management	Key dimensions of resilience	<ul style="list-style-type: none"> ▪ Leadership and followership interplay ▪ Open organizational culture 	<ul style="list-style-type: none"> ▪ Strategic planning ▪ Making innovation a way of life
Pal et al. (2014)	Business & Finance Management	Enablers of resilience	<ul style="list-style-type: none"> ▪ Assets & Resourcefulness <ul style="list-style-type: none"> • Material • Financial • Social • Network • Intangible ▪ Dynamic Competitiveness <ul style="list-style-type: none"> • Flexibility • Redundancy • Robustness • Networking 	<ul style="list-style-type: none"> ▪ Learning and Culture <ul style="list-style-type: none"> • Leadership-Top Management Decision-Making • Collectiveness and sense-making • Employee well-being
Seville, Opstal and Vargo (2015)	Business Management	Principles of a resilient organization	<ul style="list-style-type: none"> ▪ Adaptive Capacity ▪ Leaders people want to follow ▪ Learning organization ▪ Building social capital 	<ul style="list-style-type: none"> ▪ Resilience as a team sport ▪ Operational excellence ▪ See the Opportunities

4. Disruptive Events: Actions and Reflexes of the Resilient Organizations

The business world is full of surprises. These surprises can be caused by economic, technological, social, human-related events. In order to cope with these surprises, organizations need to respond and take various actions. In this context, we used schemas to show the actions and reflexes of the resilient organizations for abrupt events (surprises). Figure 1, adapted from McDaniels et al. (2008), represents the actions and reflexes (planning and preparation, sensemaking, response and recovery, rapidity) taken before and after a sudden event (or destructive shock). In this schematic context, we want to highlight four critical elements:

- *Planning and Preparation (1)*: Planning means having various competitive action alternatives in order to act in accordance with a common purpose and vision and to respond (or adapt) to situations that may lead to deviation from this direction. Preparation are actions and investments

carried out without any necessity to enable the organization to take advantage of emergent situations and uncertainties (Lengnick-Hall et al., 2011). The more effective the planning and preparation actions are, the more successful the response and recovery after a disruptive event.

- *Sensemaking (2)*: It is the ability to give meaning and interpret unprecedented events and situations (Lengnick-Hall et al., 2011). As in planning and preparation activities, efforts to make sense also affect the success of response and recovery activities. Better understanding and interpreting the events correctly are very precious to decide to the correct response and appropriate recovery program.
- *Response and Recovery (3)*: The response includes activities to control the situation, reduce losses and prevent further damage (Sheffi and Rice, 2005), while repairs involve activities to return to pre-event status despite a lower level of performance (Madni and Jackson, 2009). If response and recovery activities are effective and sufficient, the organization is expected to return to normal status in a short period of time.
- *Rapidity (4)*: It is the capability to make quick decisions when the organization meets a threat and to implement these decisions quickly (Sullivan-Taylor and Branicki, 2011) and to prevent loss and damages (Tierney and Bruneau, 2007). Rapidity refers to being fast in all processes (e.g., understanding the environment, conditions and disruptive events; decision making; response and recovery).

In the schemes (Figure 2.a/b/c) we derived from Figure 1, we tried to show the actions and reflexes of organizations changing from high-resilient organizations to non-resilient. We have noted that all schemes are the same size so that they can be compared. In Figure 2.a, high-resilient organizations are represented. In these organizations, when there is a devastating event, there is a low level of destruction and collapse (p_2-p_1); the duration of sensemaking (t_2-t_1), response and recovery (t_3-t_2) are shorter. In other words, these organizations have a strong sense of meaning and can react quickly and take the necessary steps to return to normal state. Figure 2.b represents resilient organizations. These organizations perform the necessary actions and reflexes within a normal duration and return to their previous state. Figure 2.c represents the opposite organization of Figure 2.a. This figure represents non-resilient organizations. These organizations are severely affected by crises and devastating events and damaged (p_2-p_1 ; the difference is quite high). These organizations remain vulnerable in response and recovery because they cannot fully and timely understand their environment and the events that affect them (t_2-t_1 and t_3-t_2 ; the difference in duration is quite long). It is difficult for these organizations to reach the previous performance level.

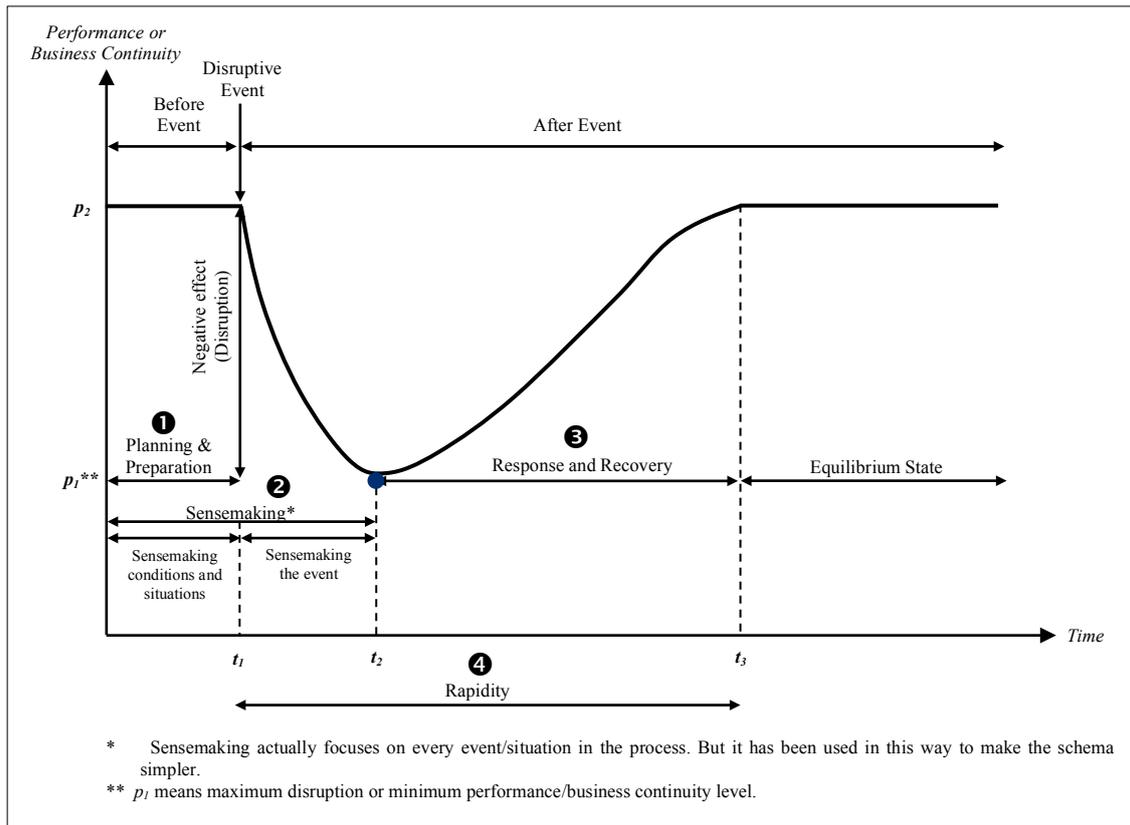
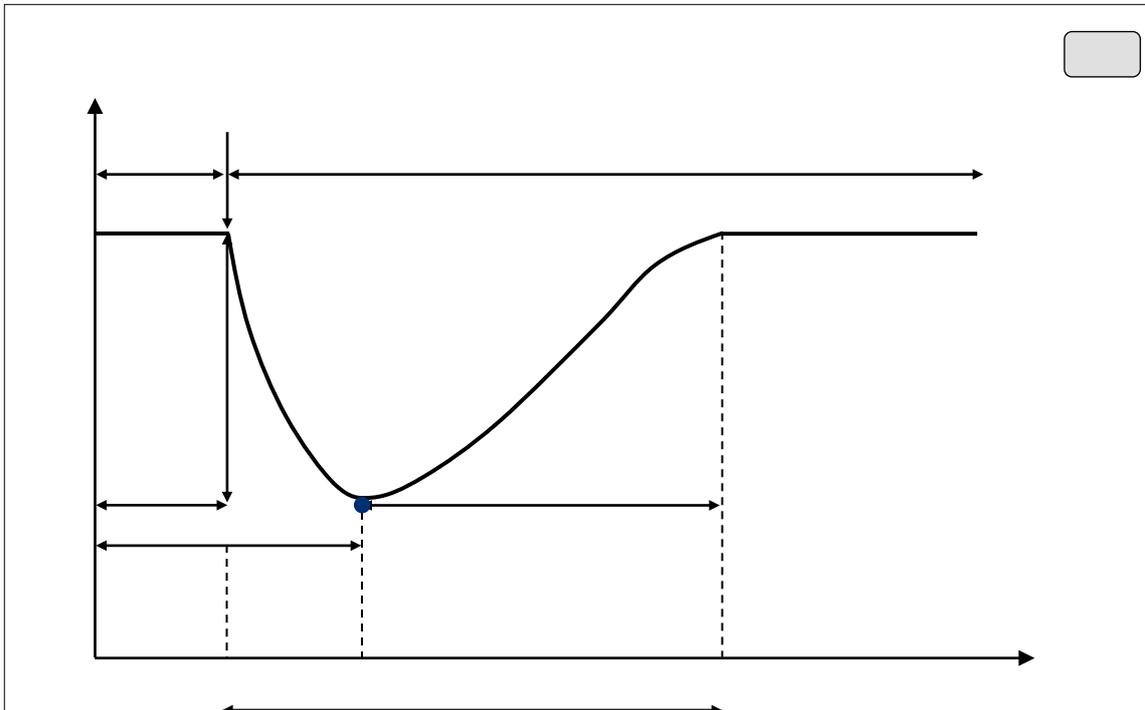
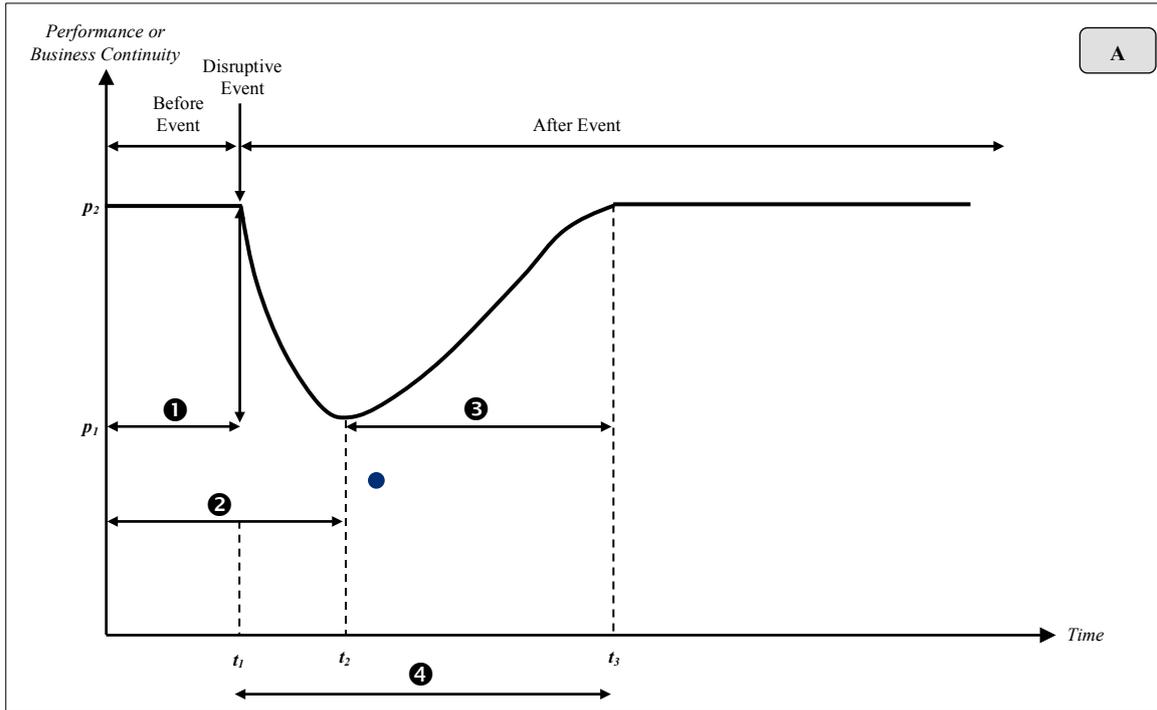


Figure 01. Actions and reflexes of the resilient organizations in the event of disruption



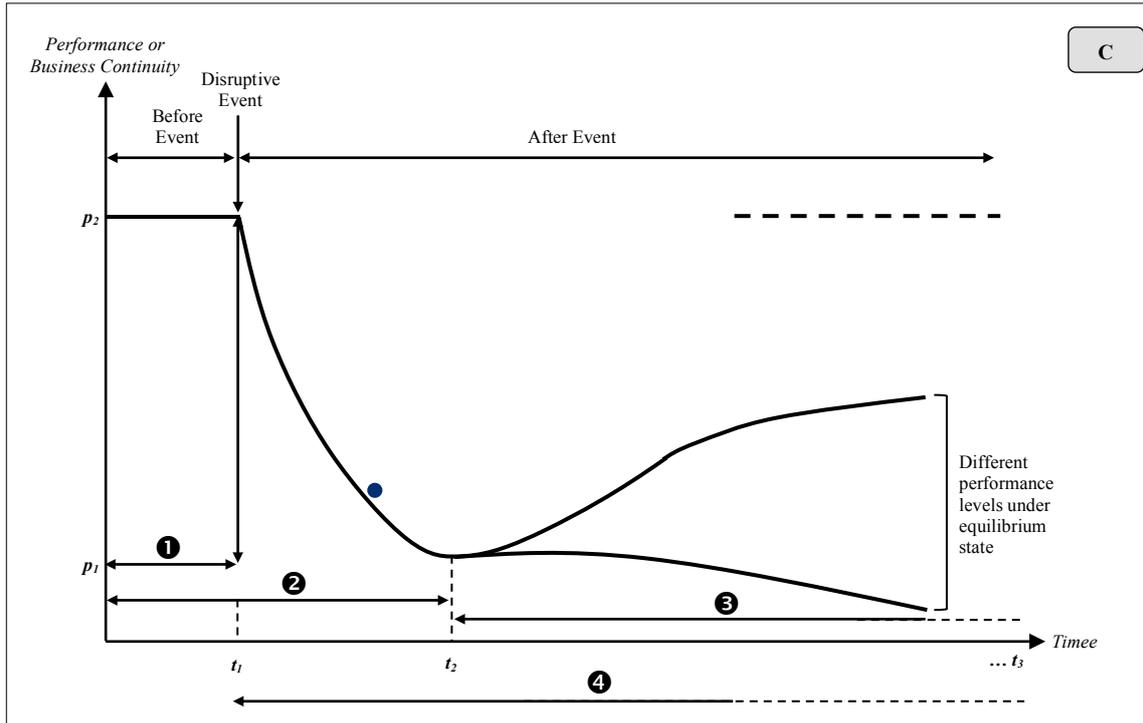


Figure 02. Actions and reflexes of organizations (From the high-resilient to the non-resilient)

Here, we want to remind that what we are trying to explain in the frame of Figure 1 can be considered as a chain of events or a process. In other words, this figure represents the action and reflexes of the resilient organization when a destructive event occurs. These four elements (planning and preparation, sensemaking, response and recovery, rapidity), may not be enough to give an idea of how to build a resilient organization. The ability, competencies and characteristics of the resilient organizations should also be examined for this. We believe that the classification we provide in Table 2 will be an important contribution to answer this question.

5. Resilient Organizations in the Context of Organizational Concepts

Organizational resilience is defined as the ability to quickly return to equilibrium state in the event of a destructive event. On the other hand, this capacity is a multidimensional organizational characteristic resulting from the interaction of organizational attributions (Lengnick-Hall and Beck, 2005). For this reason, organizational resilience is closely related to many organizational concepts and resilient organizations have many features and abilities in terms of these concepts. In this context, we have grouped the characteristics and abilities of the resilient organizations in terms of knowledge management, innovation and innovative approach, learning, strategic planning and organizational awareness in Table 3.

Table 03. The characteristics of the resilient organizations in terms of organizational concepts

Concept	Relationship between organizational resilience and other organizational concepts
Strategic Planning	Resilient organizations, <ul style="list-style-type: none"> ▪ focus strategic planning processes. For these organizations, strategic planning is an adaptive mechanism for meeting the environmental requirements, gaining competitive advantage and developing and directing the organization (De Olivera Teixeira and Werther, 2013). ▪ have a strong sense of purpose, basic values and a unique vision (Lengnick-Hall et al., 2011). ▪ make business continuity planning to ensure that core business processes are robust and reliable (McAslan, 2010). ▪ have a wide range of competitive action plans to respond to changes timely in the market and adapt to unexpected situations (Lengnick-Hall and Beck, 2005).
Knowledge management	Resilient organizations, <ul style="list-style-type: none"> ▪ have knowledge sources that provide adaptability and gain competitive advantage (Mafabi et al., 2012). ▪ encourage the sharing of internal knowledge between organizational members and units (Demmer, Vickery and Calantone, 2011); ensure internal and external knowledge management (Seville et al., 2015). ▪ use the necessary mechanisms to gather knowledge from various sources to identify opportunities (to benefit from the advantages of change) and cope with challenges (Richtnér and Löfsten, 2014).
Innovation and innovative approach	Resilient organizations, <ul style="list-style-type: none"> ▪ change the way they do business (Chaharbaghi, Adcroft and Willis, 2005) and encourage continuous innovation and innovative approaches (Seville et al., 2015) to meet environmental demands and changing needs. ▪ refine, combine and transform existing knowledge into new practices (e.g., products) (Akgün and Keskin, 2014). ▪ encourage creativity far beyond ordinary and try to find opportunities that allow to develop new skills (Lengnick-Hall and Beck, 2005).
Learning	Resilient organizations, <ul style="list-style-type: none"> ▪ create a safe (high-trust) learning environments (Seville et al., 2015). ▪ focus on excellent performance in the direction of current goals and support learning and development (Robb, 2000). ▪ build structures and mechanisms that enable learning and development of different behaviors (Lengnick-Hall et al., 2011).
Organizational awareness	Resilient organizations, <ul style="list-style-type: none"> ▪ have a great awareness of themselves, their stakeholders and the environment (Robb, 2000). ▪ create and implement the processes to identify, analyze, assess and react risks and threats (McAslan, 2010). ▪ define problems, prioritize them and mobilize their resources for solution (Sullivan-Taylor and Branicki, 2011). ▪ question the current basic assumptions and constantly search for a full understanding of the truth (Lengnick-Hall and Beck, 2009).

According to Table 3, organizations must be competent in many aspects in order to be resilient. Accordingly, resilient organizations are organizations in which knowledge is effectively managed, innovation opportunities are explored, and continuous learning is experienced. However, in the literature, organizational resilience is found to be related to concepts other than the concepts in the table. For example, some conceptual studies discuss the relationship between organizational resilience and other concepts such as leadership, communication, human resource applications, decision processes, etc. (e.g., Horne III and Orr, 1998; McDaniels et al., 2008; White, 2013).

6. Conclusion and Further Researches

6.1. Conclusion

Although the concept of resilience is defined differently in various disciplines, it mainly refers to the capacity to return to the original state after a destructive event or a deterioration (Bhamra et al., 2011). This concept is new to organizational science, although it has a broad literature in different fields of science. Organizational resilience, which offers important contributions to the survival of organizations, business continuity and a certain level of performance, has begun to become the focus of researchers' attention. In other words, the literature has started to develop and some conceptual models have been created. In addition, some authors have conducted empirical studies (Mafabi et al., 2012; Akgün and Keskin, 2014; Richtnér and Löfsten (2014)). However, it is obvious that there is a significant gap in this area. Based on this gap, this study was prepared in order to better understand of resilience in terms of organizational science. Within the scope of the study, we focused on:

- *Definition.* In this context, different definitions about organizational resilience are given and the content richness of the concept is tried to be explained.
- *Dimensions, Characteristics, Elements etc.* Within the framework of different disciplines, sub-dimensions, characteristics, elements, enablers, etc. of organizational resilience are presented.
- *Actions and reflexes.* Before and after a disastrous event, the actions and reflexes of the resilient organizations have been explained and interpreted by the schematic display.
- *Relations with organizational concepts.* The features and capabilities of the resilient organizations are explained in terms of concepts such as knowledge management, innovation, learning, strategic planning and awareness.

We want to repeat the fact that there is a need for similar and new studies on organizational resilience. Because events happening in the business world filled with surprises negatively affect the performance and business continuity of the organizations, thus cause the loss of competitive advantage and leading to failure. Scientific studies will enable the development of arguments that will make organizations more resilient to such surprises and will contribute to the business world in this regard.

6.2. Further Researches

We believe that this study will contribute to understanding resilience and, in particular, the concept of organizational resilience and its content. On the other hand, we think that it will be a guide for future studies. For example, researchers can give their attention to the different and common aspects of organizational resilience with concepts such as risk management, crisis management, and emergency management. However, a more detailed study on the dimensions of the concept can be conducted. In addition to conceptual studies, a scale development study on organizational resilience will serve as a basis for empirical studies. Thus, it will be possible to empirically investigate the impact of organizational resilience on other organizational concepts.

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