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Organizational resilience factors in Bogotá-based businesses during the Covid-19 pandemic

Factores de resiliencia organizacional en emprendimientos en Bogotá durante la pandemia de Covid-19

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Abstract

This article reports on descriptive case studies, and researched the factors of improvisation in organizational resilience in the context of the Covid-19 health emergency. A total of 23 businesses in the city of Bogotá, from different economic activities, participated in this study. Participants were managers, owners, legal representatives, or executives from those businesses. The research type is descriptive with a qualitative approach, aimed at identifying qualitative attributes based on responses or ratings using the Likert scale. A Likert-type questionnaire was used, rating seven resilience factors, whose indicators were

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defined by reviewing the literature on the subject. It was found that among the resilience factors, those with the lowest performance were the components of sustainability, corporate culture, and innovative ecosystem; the determinants of coping skills and leadership were the best performing; meanwhile, human talent and the elements of flexibility and adaptation played an intermediate role in sustaining the business amid the health emergency. The study corroborates the previously existing theory and shows the possible variation in the influence of improvisation factors depending on the size of the company, its structure and organization. This study may serve as an input for future research related to the determining factors in organizational resilience and the behavior of companies in the face of different types of crises.

Keywords: Small Business; Resilience; Improvisation factors; Covid-19; Bogotá.

Resumen

Este artículo da cuenta de estudios de caso descriptivos en el que se investigaron los factores de improvisación en la resiliencia organizacional en el contexto de la emergencia sanitaria del Covid-19. En el estudio participaron 23 empresas de la ciudad de Bogotá de diferentes actividades económicas. Los participantes fueron gerentes, propietarios, representantes legales o ejecutivos de dichas empresas. El tipo de investigación es descriptiva con enfoque cualitativo, orientada a identificar atributos cualitativos a partir de respuestas o calificaciones mediante la escala Likert. Se utilizó un cuestionario tipo Likert, calificando siete factores de resiliencia, cuyos indicadores se definieron a partir de la revisión de la literatura sobre el tema. Se encontró que, entre los factores de resiliencia, los de menor desempeño fueron los componentes de sostenibilidad, cultura corporativa y ecosistema innovador; los determinantes de habilidades de afrontamiento y liderazgo fueron los de mejor desempeño; mientras tanto, el talento humano y los elementos de flexibilidad y adaptación jugaron un papel intermedio en el sostenimiento del negocio en medio de la emergencia sanitaria. El estudio corrobora la teoría previamente existente y muestra la posible variación en la influencia de los factores de improvisación según el tamaño de la empresa, su estructura y organización. Esta investigación puede ser un insumo para futuras investigaciones relacionadas con los factores determinantes en la resiliencia organizacional y el comportamiento de las empresas ante diferentes tipos de crisis.

Palabras Clave: Pequeña Empresa; Resiliencia; Factores de improvisación; Covid-19, Bogotá.

1. Introduction

The crisis generated by the Covid-19

pandemic had a global impact on business activities. Government-mandated business closures and quarantines forced companies to adapt to new circumstances to survive in the market. Bogotá's companies were no exception; many could not continue their operations, while others managed to remain in the market. Consequently, there is a need to examine the factors that influence organizational resilience, to foresee how these factors can be addressed by organizations in crisis management.

Resilience is seen as the coping skills in a disruptive, threatening, and destructive scenario in the business sector. Thus, when referring to resilience factors in organizations, the sources nurturing them must be considered and mainly include the following: psychological, biological, ecological, and ultimately sociocultural perspectives; the high-stress context, the need for adaptability, the need to fit into a resilient ecosystem, but dependent on the interaction of stakeholders.

The results of this article answer the question: What were the prevailing resilience factors in businesses located in the city of Bogotá during the Covid-19 health emergency? It is worth noting that researchers were only concerned with those factors associated with improvisation, which were arranged in seven (7) categories of analysis with their respective indicators, whose aspects are described in the method.

The article is organized as follows: the description of some background information, theoretical elements, methodology, results, discussion, and conclusions.

1.1. Background

There is no doubt that as a result of the health emergency caused by Covid-19, the subject of organizational resilience has gained great interest, in particular the research on coping skills and survival of organizations in times of crisis. Table 1 identifies some perspectives, situates trends and categorical emergencies within the inventory of the state of the literature on the subject.

The psychological perspective is inclined to contemplate elements to face conjunctural situations, experiences, or situations that

Table 1. Research perspectives on organizational resilience

Perspective	Emerging Categories	Author
Psychological perspective	Experience and learning	Rittichainuwat <i>et al.</i> (2020); Malik & Garg (2018), Li, Zhang Xiu-e & Zhang (2023).
Ecological perspective	Flexible systems, sustainability, regeneration, and proactivity	(Kativhu <i>et al.</i> , 2018); Evans & Bahrami (2020); Dentoni <i>et al.</i> (2020); Rittichainuwat <i>et al.</i> (2020) and Loannides y Gyimóthy (2020).
Biological perspective	Servitization, spontaneous adaptation, punctuated equilibrium, compartmentalization, social trust	Rapaccini <i>et al.</i> 2020; Hughes <i>et al.</i> (2020); Ramdani, <i>et al.</i> (2020); Levine <i>et al.</i> (2018); Cowling <i>et al.</i> (2020); Sincorá <i>et al.</i> (2018); Yu <i>et al.</i> (2016); Pettit <i>et al.</i> 2019); Lafuente <i>et al.</i> (2017), Mokline & Abdallah (2021), Vakilzadeh, & Haase, (2021), Gao <i>et al.</i> (2022). Su <i>et al.</i> (2023).
Socio-cultural perspective	Identity and resilience, cultural value, social ties, cultural factors, social capital and community relationships, institutional factors	Dentoni <i>et al.</i> (2020); (Rittichainuwat, <i>et al.</i> , 2020); (Zafari <i>et al.</i> (2020), (Canevari-Luzardo <i>et al.</i> (2020) Zehrer & Leiß, 2019); Torres <i>et al.</i> (2019); Manab & Aziz (2019); Cherneski (2020); Ganga <i>et al.</i> (2017) and Sin <i>et al.</i> (2017), Zahari <i>et al.</i> (2022).

Source: Authors' own elaboration adapted from Scopus (2020).

stress the dynamics of organizations and their capacity to remain and survive in a scenario of threat and vulnerability. In principle, this perspective comes from the individual condition of resilience, which shapes the capacity for taking action and decision-making in the positive elements of the experience and the capacity to learn in situations of stress or trauma. Such elements are transferred to the organizational dynamics, resulting in decision-making, leadership, teamwork, assertive communication, among other aspects.

For its part, the ecological perspective is inclined to consider the organization as part of a large ecosystem, which allows it to adopt a mechanism of resilience and flexibility to achieve sustainability, or the capacity to regenerate derived from the negative impact of the crisis or unforeseen event, under a criterion of systemic capacity and flexibility. This means that the capacity for adaptation and proactive recovery in the face of disturbances depends on how the organizational ecosystem enables it to sustain itself and effectively face the crisis. This perspective integrates the synergy between social and environmental values, in terms of the transfer that reduces the vulnerability of organizations under a resilient and globally interdependent ecosystem. Within such ecosystem, capacities and innovative

and adaptive processes are shared, under a collaborative perspective, among the agents that make up the ecosystem, as opposed to a radical perspective of competitiveness and individual action of the organizations.

Both the biological and ecological perspectives have significantly contributed to the notion of organizational resilience. One of the conditions that are transferred to organizations is adaptive equilibrium. The survival of the organization is supported by adaptive forms of value creation, trust-building, access to scarce resources, diversification of sources of financing and sustainability, and governmental leverage, among others, to adapt and constitute disruptive scenarios amid crisis, improving its competitive position, maximizing benefits and new opportunities for the fulfillment of the organization's strategic objectives.

Socio-cultural resilience, on the other hand, focuses on the types of associations and interactions among organizations to ensure that they can positively cope with the crisis. Of course, cultural values (beliefs, customs, norms, rituals, etc.) play an important role, along with identity, relevance, and stakeholder participation. These aspects converge with strategic crisis management, developing collective adjustment skills, reinforcement, comprehensiveness, and

Table 2. Organizational resilience approach

Approach	Emerging Categories	Author
Improvisational approach	Resilience, ingenuity, and optimism	Abdul <i>et al.</i> (2019); Pratono (2022).
Resource optimization approach	Adaptability and flexibility in the use of resources	Das (2019), Zahari <i>et al.</i> (2022).
Employee well-being approach	Recognition, increased autonomy, the flexibility of processes	Malinen <i>et al.</i> (2019), Wut <i>et al.</i> (2022).
Exogenous risks approach	Threat and vulnerability management	Littlewood & Holt (2018).
Risk management approach	Stress management, critical and adverse situations.	Alvarenga <i>et al.</i> , 2018); Ahmić (2022).
Source: Authors' own elaboration.		

connectivity. The socio-cultural gearing of organizations leads to more flexible cultural systems, greater experience, and learning capacity to face adverse and traumatic situations for the organization. In addition, the institutional and governmental system, as well as the relational social capital play an important role among the resilience aspects based on cultural factors. The legitimation, forms of leadership, and the participation of human talent are all incentives to consolidate or generate a collective conscience to enhance innovation and creativity during times of crisis.

Then, from these perspectives, organizations acquire elements of resilience through new skills, reinvention, innovation, and flexibility in the face of new situations, dynamics, and phenomena that alter the trajectory of the organization (Kativhu, *et al.*, 2018; Tian and Hong, 2022). These also include governance mechanisms to enhance organization resilience processes (Yang, 2020; Gao *et al.*, 2022). Innovation and creation in the resilience processes are recurrently mentioned (Naldi *et al.*, 2020; Huber *et al.*, 2023). As organizations adapt and persist in the face of crises such as pandemics, the strategic objective, the strategic focus turns to a Minimum Business Continuity Objective (MBCO) within the Maximum Tolerable Period of Disruption (MTPD) in a disruptive situation (Sahebjamnia *et al.*, 2018; Zahari *et al.*, 2022; Heredia *et al.*, 2022). This is compatible with the so-called management to reduce vulnerability and consolidate collaborative ecosystems to respond to disruptive events (Bhaskara *et al.*, 2020).

Littlewood and Holt (2018) identified the following aspects to address organizational resilience. a. Organizational response to external threats, b. Organizational reliability c. Human and relational capital strengths. d. The adaptability of business models e. Reduction of vulnerabilities and disruptions.

From the above, it is possible to consider some approaches and categories, which establish a relationship between resilience and organization (Table 2).

The state of perspectives and approaches related to organizational resilience is broad and diverse. This study dealt with seven (7) variables (described in Section 3, Methodology), which nurture a relationship between resilience and organization, especially based on the improvisation capacity of organizations to respond to disruptive events such as the consequences of Covid-19. These categories cannot be considered as isolated and independently elaborated.

2. Theoretical framework

2.1. Improvisational theory

Improvisation is either a learned capacity that can be managed by organizations (Cunha *et al.*, 2015; Xiaofeng *et al.*, 2022), an adaptive response (Trotter *et al.*, 2013), or coping processes in the face of crisis and disruption. Improvisation can be seen as a guide to intuitive action, spontaneous action, and versatility to consider paths

of anticipation and the adaptation for organizations in the face of crisis (Carvalho, 2023). Experience and learning turn out to be decisive factors for the improvisation system to respond resiliently to a crisis. Ideas about improvisation in the organizations are embedded in individual, interpersonal and organizational ideas (Hadida *et al.*, 2015; Zhang & Mendonça, 2020; Falcão *et al.*, 2022). However, resilience and improvisation are a function of an interactive process, therefore they are socially established.

The improvisation scenarios in resilient organizations are:

- In relation to the past (reactive action), or in turn, coping strategies. It is essentially a crisis management issue that involves the use of skills for understanding the problem, formulating, and implementing solutions.
- In present circumstances (concurrent action), or adaptation. Adaptation involves a process of reflection and learning as well as developing skills for organizational change.
- In prospective dynamics (proactive action), mediated by the internal and environmental observation capacity, the identification of critical situations and potential threats, and the preparation for unexpected events (Duchek 2020).
- Regarding the learning process, two aspects emerge:
- Trial and error learning: the ability to evaluate and give feedback for actions to create new action scenarios to anticipate the consequences of such actions.
- Experiential learning: based on the design of controlled situations to generate new knowledge based on systematic experience (Carvalho, 2023).

When aspects such as technological mediation are introduced, experience and learning are not the only factors that play in favor of the power of improvisation. The creation of an uncertain and chaotic scenario and the capacity is essential to constitute a dynamic and favorable process for the organization in response to unanticipated contingencies, through timely changes

and the adequate coordination through improvisation using cognitive and normative processes of adaptation that allow for greater flexibility, self-organization, and learning (Barbosa and Davel 2021).

Decision-making and action in organizational resilience processes through improvisation occur in three scenarios:

- It is purpose-driven.
- It is based on spontaneous acts.
- It is materialized through action (Cunha *et al.*, 1999; Thillai *et al.*, 2023).

In addition, Trotter *et al.* (2013) suggest three characteristics for adequate improvisation dynamics.

- Development of a behavioral or cognitive activity within a non-normal scenario.
- Ability to manage time to plan and execute an action with limited resources.
- Ability to assertively deviate or adjust existing practices or knowledge.

The roles framed in the processes of organizational resilience are evidenced at the individual level, considering the capacities, knowledge and skills of people and groups integrated into communication processes and collaborative work, and the organization through leadership and flexible organizational culture. These, as a whole, are not only integrated to the improvisation scenarios but also achieve an effective recovery of the organization in the face of adverse events such as those caused by Covid-19. The roles of actors within the organizations can be affected by factors such as those described by Zhang and Mendonça (2020):

- The environmental turmoil generated by the phenomenon or crisis.
- The flow of real-time organizational information on which decisions are made and which give feedback to the strategic processes of organizations.
- Organizational memory that has an impact and effectiveness in organizational improvisation.

Table 3. Category description

Categories	Description
Sustainability components	It assessed relevant criteria to address the pandemic crisis. This category is assessed based on the following indicators: the financial resources possessed by the company; the company's human talent; the company's reputation; the company's level of organization; the technological resources; the company's infrastructure and the leverage of the public sector.
Coping determinants	It considers factors associated with organizational culture in terms of decision-making in a crisis environment. It considers indicators such as the company's operating time; the company's experience; reputation; brand; company networks and value chain; suppliers and customers.
Leadership and decision-making skills	It rates the perception of leadership and strategic decision-making within the organization. It also considers proactivity, communication, coordination, and coming up with new ideas.
Human talent	The perception of human talent is considered in terms of skills, attitudes, creativity, improvisation, and spontaneity, degree of relaxation of command and control, and assertive communication.
Corporate governance	Aspects related to the corporate governance culture are considered, such as decision-making, flexible learning, the existence of multipurpose projects, transparency, participation, collaboration.
Resilient mechanisms	Indicate the role of resilient elements derived from improvisation, such as flexibility, adaptability, coping, relational networks, strategic planning, and status in their industry or economic activity.
Innovative ecosystem	Measures the perception of the role of innovation, rating innovative environments, the creation of new products, processes, initiative, creativity, and the connection to the client.
Source: Authors' own elaboration.	

In short, this leads to interactive and proactive work organization processes, which tighten the planning and execution of tasks. Zhang and Mendonça (2020) and Barbosa and Davel (2021) have insisted on how collaborative networking enhances the resilience capacity of the organization in times of crisis, demonstrating that with adequate adjustments of ideas and decision-making, it is possible to improvise assertively.

3. Methodology

This descriptive study took 23 cases of businesses in the city of Bogotá, in different economic activities. The participants were managers, owners, legal representatives, or executives of these businesses. This sample was part of a pilot study in which the participants were invited to complete the questionnaire using the ArcGIS Survey123 tool.

This is a descriptive research with a qualitative approach, aimed at identifying qualitative attributes based on responses or ratings using the Likert scale, which is used as a methodological technique for data collection in quantitative or mixed methods

in the field, such as organizational resilience (Pescaroli *et al.*, 2020). In this regard, the qualitative study seeks to investigate "significant innovations" (Carpio and Miralles, 2019). around items described in the category Table 3.

Data collection was carried out through a structured questionnaire based on the categories. It included 23 startup cases in the city of Bogotá, involving various economic activities. The participants were managers, owners, legal representatives, or executives of these entrepreneurial ventures. This sample was part of a pilot study in which participants were invited to complete the questionnaire using the ArcGIS Survey123 tool.

The analysis of the information was based on the responses on the scale, using the technique of summing the scores of each participant. This is similar to anchor methods where composite scores derived from participants' responses are summed (Alabi and Jelili, 2020). This study used this approach from a qualitative perspective and involved the use of multiple items instead of a single question to enhance the analysis of the results.

Table 4. Population descriptors

Business Purpose	Area of performance within the company	Education	Age	Gender
Services	Manager	Professional	31-40	Female
Food	Legal representative	Professional	41-50	Male
Services	Manager	Technician	18-30	Female
Textile manufacturing	Manager	Professional	31-40	Female
Production	Manager	Master	More than 50	Male
Transportation	Owner	PhD	31-40	Male
Community radio	Executive	Professional	31-40	Female
Food	Owner	Professional	31-40	Female
Food	CEO	Professional	41-50	Male
Consulting	Manager	Specialist	41-50	Male
Food	General manager	Technician	31-40	Female
Trade and logistics	Executive	Professional	18-30	Female
Pet products	General manager	Technician	41-50	Male
Commerce	Executive	Professional	18-30	Female
Food	President	Specialist	More than 50	Male
Food	Owner	Professional	More than 50	Female
Flower production	Legal representative	Master's degree	31-40	Female
Wholesale trade of food products	CEO	Technician	18-30	Male
Dental laboratory	Manager	Technician	31-40	Female
Communications	Project manager	Specialist	31-40	Male
Horizontal property management	Financial manager	Master's degree	31-40	Male
Commerce	Manager	Professional	More than 50	Male
Insurance	Manager	Master's degree	31-40	Male

Source: Authors' own elaboration.

4. Results

Participants of the 23 businesses were owners, legal representatives, or managers. Such businesses were distributed by size as follows: small companies (82%); medium-sized companies (9%), and large companies (9%). The majority were female (52%). The level of qualification is concentrated in the professional level around 48%. However, about 40% have postgraduate studies. The most significant segment by age ranges 31-40 years with approximately 48%, as described in Table 4.

The participants belong to a typology of traditional businesses. Commerce, services, and food were the most important, and to a lesser degree, the manufacturing sector. Most of them work in the Capital District and only two are located outside the urban center.

The first aspect that was considered was the company's sustainability factors during the Covid-19 health emergency. The indicators rated by the participants were those associated with the company's resources, human talent, reputation, infrastructure, company organization, and public sector.

Human talent, according to the participants' perception, was the factor that contributed the most to the sustainability of businesses, followed by the company's reputation and its level of organization. The financial and technological resources played an intermediate role. Infrastructure played an acceptable role. The leverage of the public sector was rated much lower than the other factors. This indicated a weakness in public policies taken in response to the emergency and constitutes a weakness of the institutions in effectively preventing the recovery of both companies and the general economy.

As can be seen, the most important determinant is the relationship with clients. Its top position shows how participants focused their crisis coping strategy on consolidating their relationship with clients. Company experience and suppliers were key determinants of resilience. The other determinants play an important role and are rated on a similar scale. In sum, these aspects converge with the role played by the companies within the business ecosystem and the interactions inherent to the economic activity of each one of these businesses, that are determinants for adaptability in non-normal circumstances, like lockdowns, quarantines, restrictions to productive and commercial activities, etc.

In scenarios that demand improvisation due to a crisis, leadership plays a fundamental role, which has a positive impact on the incubation of new ideas and improves the company's ability for decision-making. This hypothesis is consistent with the assessment of the participants, who reinforce this with an outstanding level of proactivity by their collaborators; they lag in this perception concerning assertive communication and coordination processes.

As noted in the sustainability factors, the role of human talent was the indicator with the best perception by participants. In this aspect, improvisation itself, together with communication, were the most outstanding elements. Capacities, attitudes, creativity, and spontaneity had a favorable perception, constituting categories that feed a resilient ecosystem linked with adaptive improvisation as a coping mechanism in disruptive situations. On the other hand, the low score in the command-and-control factor indicates

a rigid and centralized structure in line with the nature of traditional businesses.

Among the elements analyzed presenting improvisation as a criterion for organizational resilience, the lowest performing one was corporate governance. Organizational rigidity is once again evident, affecting decision-making indicators, the existence of a flexible learning framework, as well as the existence of multipurpose projects. In any case, elements associated with good corporate governance practices show favorable rating, such as transparency, participation, and collaboration, which help materialize a resilient ecosystem that stimulates positive improvisation conditions for these businesses to face crises.

Improvisation is linked with the ability to develop flexible and adaptive mechanisms to respond effectively to disruptive situations. The adaptability and flexibility per se are perceived as superior to other indicators. Undoubtedly, relational networks and strategic planning play an important role, making improvisation a subjective element of trajectory, survival, and permanence of these businesses, also reinforced by objective elements to act in an uncertain and high-risk situation, such as the pandemic scenario in which these businesses are still immersed. This is consistent with the outstanding rating on coping under pessimistic present and future economic conditions, as they consider that they are not in an intermediate or similar position as companies in their same sector or economic activity.

In conclusion, improvisation is linked to innovative environments. The rating of participants is modest concerning the creation of new products; the processes associated with innovation have an acceptable perception. The assessment of innovation for these businesses is acceptable, which is consistent with the traditional nature of their economic activities. Innovation indicators stand out as motivation for the initiative and the creative environment and, substantially, the active involvement of clients to face the crisis.

In general, the sustainability, innovative ecosystem, and corporate governance criteria, from the theoretical and methodological perspective of this study, were well

rated among the seven categories observed. The category associated with human talent is at an intermediate level, but it is undoubtedly one of the aspects that identify a resilient organization. Participants gave an outstanding rating to the leadership and decision-making indicators, coping determinants, and flexibility and adaptation.

5. Discussion

Organizational resilience derived from improvisation, understood as the spontaneous and creative activity to find solutions in a disruptive scenario (Lloyd-Smith 2020), is undoubtedly an emerging element among the coping factors during the Covid-19 crisis. Coincidences with the state of the literature on the subject were evidenced in the cases studied.

Summing up, Păunescu and Argatu (2020), considered that resilience is linked to the way processes are maintained within the organization, at the minimum degree of its business continuity objectives during a maximum period of tolerable disruption. Improvisation can also be linked to the ability to adapt to disturbances (Dentoni *et al.*, 2020).

Considering the government's function to create resilient ecosystems as one of the components of sustainability, Cowling *et al.* (2020) highlighted the vital importance of state activism in economic recovery, pointing out the experience of the United Kingdom in dealing with the health emergency, in which measures such as grants and loans for innovation, business interruption loans, and working capital recovery programs predominated. On the other hand, participants' assessment of the technological aspect of business sustainability is unique, modestly rated compared to the other indicators. Bertschek *et al.* (2019) considered ICTs as a driving force for business resilience in times of crisis. These findings will undoubtedly have to be further explored to find out where the results of this research and the literature diverge.

Among the health emergency coping determinants, there was an agreement with the literature, for example, the relationship with clients, which has played a

fundamental role for structuring a resilient ecosystem. Namely, Rapaccini *et al.* (2020) pointed out that the servitization strategy makes customers increase their degree of satisfaction, improves sales, and creates new service opportunities, especially because it generates an environment of optimism, collaboration, and more availability. Furthermore, Pettit *et al.* (2018) stated that the company's resilience is significantly affected by the ability of clients and suppliers to anticipate and respond to disruptions. Additionally, Sincorá (2018) described three coping and resilience mechanisms: anticipation, adaptability, and recovery. For Sahebjamnia *et al.* (2018), the key elements of resilience are based on flexibility, redundancy, adaptability, and dependence. For Kativhu *et al.* (2018) business resilience emerges from a continuum that includes planning, response, and adaptability.

Regarding the aspects mentioned about leadership and decision-making, Evans and Bahrami (2020) stated that when the mindset and behavioral model of proactive leadership are in place, a conducive and flexible environment is created to take advantage of different capabilities and change the uncertainty state created by a crisis. When comparing the results of this study, they are consistent with the resilience presented by Rittichainuwat *et al.* (2020), inferring a psychological perspective that can predict and respond adaptively to crisis events. In addition, Hughes *et al.* (2020) considered improvisation a resilience factor linked to leadership, and strategic decision-making is a vital crisis coping mechanism to survive, adapt, or potentially thrive in challenging circumstances. For Malik and Garg (2018), leadership as an element of resilience involves personality traits and coping strategies which imprint a psychological perspective on this aspect. In addition, Ganga *et al.* (2017) alluded to authentic leadership, stating that a leader in disruptive circumstances plays an outstanding role in the construction of a resilient ecosystem, through attitudes related to the ability to communicate, give confidence, hope, optimism, and positivism through a true, ethical, and morally acceptable performance.

On human capital, Malinen *et al.* (2019) have considered the importance of

improving employee well-being, improving their performance and includes aspects such as recognition, greater autonomy, process flexibility, and focus on well-being. The aspects contributing to skill improvement lead to proactive attitudes; stimulate creativity and spontaneity, which undoubtedly contribute to improvisation and its functionality in becoming a key element of resilience.

Regarding corporate governance aspects, Liu *et al.* (2020) found that two key elements to efficiently face crises are strategic agility and organizational capacity. This is not only regarding the management of the availability and allocation of resources, but also the activation of a set of coordination mechanisms for the strategic processes of the organization in which the effects and transfers derived from the crisis occur globally. Ultimately, organizational capacity is fundamental to adjust routines to overcome challenges in adverse situations faced by the organization (Ramdani *et al.*, 2020). Furthermore, Cherneski (2020) stated that the creation of meaning—both individual and social—shapes interpretations and helps explain the behavioral patterns that occur within an organization, which consolidates resilient systems through organizational culture, especially by establishing rules that adjust and consolidate resilient ecosystems.

Regarding resilient mechanisms, the results indicate certain similarity to those of Zafari *et al.* (2020) for whom social ties, communication, experience, and suspicion improve the conscious management of relationships, strengthening mechanisms such as trust, doubt, and control. For their part, Canevari-Luzardor *et al.* (2020) stated that the ties established by the organization in times of crisis influence the access to critical resources and the exchange of information between different communities of practice. For Hillmann and Guenther (2020), resilient mechanisms are based on the capacity for renewal, learning, and adaptation. It should also be noted that social capital is a key asset for the long-term resilience of small businesses. Business owners with ties to the community and institutions—with more social capital—will be better off in the face of adverse situations (Torres *et al.* 2019).

Regarding the formation of innovative ecosystems, the results are convergent with the creative and proactive processes, especially because of their impact on anticipation and action (Naldi *et al.* 2020) in events such as those faced by the businesses studied. Innovation has been an element that has allowed those resilient businesses to adapt.

The above is consistent with the report of Confecámaras (2021), which states that the companies most affected by the Covid-19 health emergency crisis are those with 1-10 workers, 29% of which have seen their sales decrease by more than 30%, and because of the crisis have reduced their staff by 38%. Companies in specific sectors experienced a decrease in activity and income: hospitality, and tourism (95%), real estate and construction (87%), catering (78%), and professional services (77%) were the most affected.

SMEs have withstood the effects of the crisis, particularly in Latin America, by continuing with their activity, adapting to conditions set by governments. They have attempted to keep their human resources and have also resorted to their financial capacity to sustain themselves during periods when their revenues were significantly reduced (García *et al.*, 2021). Companies that can sustain themselves are those with a better level of adaptation to the environment, i.e. willingness and resilience (Sanchis and Poler 2019), so it is necessary to take actions that can be implemented in moments of crisis.

The results revealed a certain balance in perceptions related to aspects regarding how companies communicate, coordinate, and develop survival strategies during times of crisis or stress. This includes proactivity, communication, coordination, incubation of new ideas, as well as their relationship with stakeholders, the ability to build networks, and leverage their experience and reputation in their respective sectors. This also encompasses the utilization of human talent, the attitudes, and aptitudes of employees as sensitive adaptation mechanisms for these disruptive scenarios. In summary, a resilient ecosystem ensures greater flexibility and adaptability for organizations.

It's noteworthy that aspects such as external leverage, including the public sector and the financial system, are given less importance in the participants' perceptions. Similarly, aspects related to corporate governance culture, organizational culture, and employee participation within the company are also downplayed. Additionally, factors related to the environment and innovation capacity were less emphasized. These findings raise questions that warrant further analysis, possibly due to the prevalence of traditional, low-innovation activities and the size of the companies involved, prompting further exploration within this research.

In Colombia, a relevant factor has been the government aid for the continuity of businesses, particularly for loans and jobs (CEPAL, 2021). Nevertheless, these measures have limited scope since they are conditioned by several requirements that limit access to them.

The results of the study corroborate the previously existing theory in relation to the factors that determine business resilience. This is shown by evidence, that suggests that factors such as successful communication, capacity and creativity in human resources promote adaptive improvisation in crises, which is fundamental to the continuity of the business activity.

Likewise, factors such as corporate governance and sustainability may be less considered or are poorly developed in small enterprises, but they are factors that should be given greater attention to promote their consolidation as they can generate greater support for business activity and sustainability.

According to the study, the influence of improvisation factors on business resilience can vary depending on the size of the company, its structure and organization. The more organized and consolidated the various elements of the company are, the greater the possibility of having tools that enable resilience in times of crisis.

6. Conclusions

When examining resilience factors, in particular the criteria of improvisation as

a mechanism of organizational resilience for 23 businesses in the covid-19 scenario, significant elements were found that allowed these companies to survive, adapt, and continue their business goal.

Organizational resilience factors were identified, among which leadership and coping elements based on improvisation stand out. An evident weakness for strengthening a resilient ecosystem was the weak government intervention and low innovation. In any case, improvisation is linked to the capacity for change, spontaneity, and flexibility, that is, adaptive processes that allow them to quickly adapt to adverse conditions and crises.

The government sector can be more effective in decision-making, strengthening policies for the consolidation of resilient ecosystems that guarantee the long-term continuity of business operations. This study revealed learning conditions that are transferable to small and medium-sized businesses for their recovery and continuity of business operations, consistent with the elements that have emerged in the literature on the subject.

This study may serve as an input for future research related to the determining factors in organizational resilience and the behavior of companies in the face of different types of crises.

Limitations: the results of this descriptive study can only be extrapolated to the context of the cases observed. In the second stage, the aim is to have a larger sample to corroborate the conclusive elements of the research. The context of the health emergency still leaves questions about the future of the businesses. Hopefully, as the economy is reactivated and the vaccination rollout moves forward, the possibility of survival of these businesses will increase.

7. Ethics Approvals

In ordinary session on February 23, 2021, Resolution No. 003-2021, The Institutional Research Ethics Committee of Universidad El Bosque approved the informed consent that research participants had to sign, guaranteeing that the information collected was treated with due diligence, guaranteeing

anonymity, confidentiality, non-vulnerability, protection of human dignity, and other aspects related to Habeas Data.

8. Conflict of interest

The authors declare no conflict of interest.

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