Revista de Administração de Empresas
ISSN: 0034-7590
ISSN: 2178-938X
Fundação Getulio Vargas, Escola de Administração de Empresas de S.Paulo

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ATUAÇÃO EMPRESARIAL PARA SUSTENTABILIDADE E RESILIÊNCIA NO CONTEXTO DA COVID-19

Revista de Administração de Empresas, vol. 60, núm. 6, 2020, Novembro-Dezembro, pp. 413-425
Fundação Getulio Vargas, Escola de Administração de Empresas de S.Paulo

DOI: 10.1590/S0034-759020200605

Disponível em: http://www.redalyc.org/articulo.oa?id=155165539005

FORUM

Submitted 14.07.2020. Approved 11.18.2020
Evaluated by double blind review process. Scientific editors: Alessandra de Sá Mello da Costa, Ely Laureano Paiva, Marcus Vinícius Peinado Gomes and Vinicius Brei
Translated Version:
DOI: http://dx.doi.org/10.1590/S0034-759020200605

BUSINESS ACTION ON SUSTAINABILITY AND RESILIENCE IN THE CONTEXT OF COVID-19

Atuação empresarial para sustentabilidade e resiliência no contexto da Covid-19

Acción empresarial para sostenibilidad y resiliencia en el contexto de la COVID-19

ABSTRACT

Facing up to the COVID-19 crisis has emphasized the importance of taking a critical and systemic look at business action for sustainability. The aims of this article are: to discuss sustainability, through the theoretical lenses of 'strong' and 'weak' sustainability and its relationship with economic paradigms; to present the theory of resilience as an alternative to the current challenges; and, based on the concepts presented, to analyze the indications of how organizations are reacting to the crisis. To this end, semi-structured interviews were conducted with companies operating in Brazil. As a result it was found that signs of the realignment of the companies' initial purpose of creating value for society coexist alongside signs of continued investment in market-based solutions and the search for infinite growth on a planet with limited resources.

KEYWORDS | Resilience, sustainability, ecological economics, COVID-19, business management.

RESUMO

O enfrentamento da crise da Covid-19 ressaltou a importância do olhar crítico e sistêmico para a atuação empresarial para sustentabilidade. Este artigo tem como objetivo discutir a sustentabilidade, através das lentes teóricas de sustentabilidade "forte" e "fraca" e suas relações com os paradigmas econômicos; apresentar a teoria da resiliência como alternativa frente aos atuais desafios; e analisar, com base nos conceitos apresentados, indícios de como as organizações estão reagindo inicialmente, em suas atuações com sustentabilidade, à crise da Covid-19. Para tanto, foram realizadas entrevistas semiestruturadas com empresas que atuam no Brasil. Como resultado, indícios de realinhamento ao propósito inicial da empresa de criar valor para a sociedade coexistem com indícios de continuidade da aposta em soluções via mercado e da busca por crescimento infinito em um planeta com recursos limitados.

***PALAVRAS-CHAVE** | Resiliência, sustentabilidade, economia ecológica, Covid-19, gestão empresarial.*

RESUMEN

El enfrentamiento de la crisis de COVID-19 enfatizó la importancia de una visión crítica y sistémica sobre la acción empresarial para la sostenibilidad. Este artículo tiene como objetivo discutir la sostenibilidad, a través de las lentes teóricas de la sostenibilidad 'fuerte' y 'débil' y sus relaciones con los paradigmas económicos, presentando la teoría de la resiliencia como una alternativa a los desafíos actuales y analizar, a partir de los conceptos presentados, los indicios de cómo las organizaciones están reaccionando a la crisis. Para ello, se realizaron entrevistas semiestructuradas con empresas que operan en Brasil. Como resultado, los signos de realineación con el propósito inicial de la empresa de crear valor para la sociedad coexisten con signos de inversión continua en soluciones basadas en el mercado y de búsqueda de un crecimiento infinito en un planeta con recursos limitados.

***PALABRAS CLAVE** | Resiliencia, sostenibilidad, economía ecológica, COVID-19, gestión empresarial.*

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INTRODUCTION

The history of corporate sustainability shows that the behaviors of organizations adapt to the pressures of the context and what worked in a situation is no longer useful (Belinky, 2017). Humanity lives today in a context of extreme uncertainty and instability, in which forces of maintenance, adaptation and transformation occur simultaneously and pressure companies to deal with them, whether they perceive them or not, whether in an integrated and simultaneous or fragmented and punctual manner. One of the few certainties in the current crisis is that reconstruction for the better (building back better) rules out returning to the state from which it started and, therefore, the maintenance force; not only because it is impossible to reconstruct it, but also because there reside the causes of the collapse (Monzoni & Carvalho, 2020).

If the COVID-19 pandemic was able to suspend the automated *modus operandi*, the illusion about the immutability of the institutions and the social agreements, and even the neoliberal precept of fiscal austerity (Santos, 2020; Harvey, 2020), may also be driving a deep critical reflection on the premises, beliefs and values that govern businesses. This reflection is central for alternatives to the modes of production and consumption created by rentier financial capitalism (Bresser-Pereira, 2018) to return to the political arena before new sanitary crisis and calamities arise from the structural crises caused by the inversion of the relationship between nature, society and economy (Liu, Rohr & Li, 2013).

The effects of this inversion became acute with the Great Acceleration, starting in 1950, with the population explosion and economic growth anchored in the intensive exploration of the natural environment (Zalasiewicz, 2015). The pandemic reiterated that there is no balance and equality between the environmental, social and economic dimensions, as corporate sustainability narrated for years in its representations. And more: it demonstrated the clear restrictions imposed by the environmental dimension, which support life, economic production and social reproduction, and reveals the dehumanization of the economic system. The "geopolitical turmoil", envisioned by 750 experts and decision makers who participated in the World Economic Forum in Davos, adds to the environmental risks and the ever-announced economic downturn in the configuration of a world that is essentially unstable and ruled by uncertainties (World Economic Forum, 2020).

That said, the present article is dedicated to discuss corporate sustainability, based on the concepts of "strong" and "weak" sustainability and in light of the economic paradigms; to present the theory of the resiliency as a reference for business management in the face of uncertainty and instability; and to analyze, through these lenses and based on a qualitative research with 13 companies, evidence of how they have accommodated, adapted or transformed their sustainability agendas at the beginning of the COVID-19 crisis.

THEORETICAL APPROACH

From "weak" sustainability to "strong" sustainability

The theoretical discussion and the applications of the concept of sustainability present variety, multidimensionality and ambiguity in the literature (Redman, 2014). Therefore, the term can be considered in a continuous formulation process. According to Lélé (1991), the most widespread definition of sustainability refers to its ecological connotation, its meaning dealing with the necessary biophysical conditions and standards to support human life, assuming a specified level of well-being across future generations. Therefore, this definition considers not only the use of natural resources to achieve well-being, but also limitations determined by nature; in addition, the same author includes social conditions in the relationship between people and nature as determinant and complementary to the concept of ecological sustainability.

Applied to business management, sustainability is commonly understood as "a business model that aims to return (profit) to shareholders, involving economic development, social promotion and protection of the natural resources of the planet" (Elkington, 1999, p. 397).

Neoclassical economics submits society and environment, in that order, to the economic system. Such a paradigm believes in technology for efficient use, or even replacement of natural resources in the medium or long term. As an evolution of this model, the environmental economy emerges, represented by the equilibrium of the social, environmental and economic dimensions. Known for the triple bottom line of sustainability (Elkington, 1994), this paradigm does not challenge dogmas on which the global economic order and business management rest. Among them, are highlighted the dogmas of unlimited economic growth in a planet of finite resources; the rationality of the system and economic agents; and the direct relationship between productivity and increased wealth and social well-being (Veiga, 2005; Bursztyn & Bursztyn, 2012; Martinez-Alier, 2015).

Thus, the environmental economy still leaves, in practice, society and nature at the mercy of the economic system and

   ISSN 0034-7590; eISSN 2178-938X

gives voice to the so-called "weak sustainability", which is anchored in the arguments that biodiversity, social well-being and knowledge may be converted and measured in terms of "capital", forming the natural, social and human capital (Victor, Susan, & Kuburski, 1998).

The ecological economy proposes the reorganization of the three dimensions based on the understanding that the economy is a subsystem of society, which, in turn, is a subsystem of the environment. The precepts presented by this paradigm for the functioning and regulation of the economy and organizations are based on subservience to social well-being and the limit imposed by the natural system (Romeiro, 2012). The "strong" sustainability transitions to the ecological economy when it assumes that the economy is an open subsystem of the finite global ecosystem, governed by the laws of thermodynamics and with irreversible properties (Costanza, Daly, & Bartholomey, 1991; Cechin, 2010), and recognizing that capital is not fully interchangeable or replaceable (Jackson, 2013). Once manufactured and human capital are growing and natural capital is decreasing, this perspective identifies a problem for the panacea of sustainable development, since the first two depend on the last (Victor et al., 1998; Veiga, 2007).

The "very strong" sustainability implies, at the limit, steady state and/or degrowth, considering that the natural system has inflection points that, when exceeded, lead to the loss of essential biophysical characteristics of ecosystems (Turner, Doktor, & Adger, 1994; Latouche, 2009; Georgescu-Roegen, 2013), thus reinforcing the notion of irreversibility and limits for the economic system, based on the capacity of the planet (Bismarchi, 2011). Conceiving inflection points means recognizing a complex dynamic beyond the trade-off between types of capital and the entry into the scene of systemic thinking that, from this perspective, should gain space in business management.

The different paradigms have repercussions on the assignment of different objectives and scopes to sustainability (Hediger, 1999), in divergent apprehensions about the purpose and role of organizations and dissonant business ethics governing their performance and relationships with multiple stakeholders (Sólon, 2019).

Purpose recovery and strengthening resilience

There has been much debate about the imminent future in the sense of recovery (Miguel & Paiva, 2020), reconstruction (Monzoni & Carvalho, 2020; Gallagher, 2020), "new normal" (Insper, 2020), or simply post-pandemic (Morin, 2020). In the spectrum between a new stability with the maintenance of the *status quo* and systemic transformations, it is certain that companies have a determining role in the design of this emerging future.

In 2014, the editors of the Academy of Management Journal (AMJ) called on academics to investigate the goals for which companies are created and, later, the trajectories by which they are lost, warning about the urgency to reformulate the collective understanding of the purpose of business based on the revision of what we want as citizens, political actors and consumers (Hollensbe, Wookey, Hickey, George, & Nichols, 2014). Companies are social organizations, authorized by society to operate with the primary purpose of responding to the needs of society itself (Belinky, 2017).

The cry of the AMJ editors gains tragic contours as the sanitary collapse of COVID-19 shows the clash between the economic system, governed by the belief in unlimited growth, and human life, which depends on nature and lacks social organizations of support. In the current situation, this clash unfolds in everyday decisions between "life, death and the economy" (The Economist, 2020), not only by managers and public leaders, but also by private sector executives, reaching the citizens as a survival paradox to be solved.

In recent years, the imperative of the resilience has spread on the public and private agendas, disseminating speeches of business leaders and international organizations such as the World Economic Forum (Howell, 2020) and the World Bank (World Bank, 2013) and gaining strength in the face of the escalation of uncertainties. Resilience, however, can either be anchored in engineering – with the sense of being able to return to the original state or maintaining stability in the face of stress – or in an ecological perspective – where resilient is the system that regains equilibrium after a disturbance - or systemic - related to the system's ability to maintain its development, finding new points of equilibrium (Davoudi et al., 2013; Abdulkareem & Elkadi, 2018). The latter gains an evolutionary sense when it is understood that systems can transform themselves from stresses and threats, or even in a continuous process of transformation, maintaining their essential functions and capacity for perpetuation through adaptive cycles (Davoudi et al., 2013; Loorbach & Wijsman, 2013).

The discussion about resilience, its meaning, implications and relationship with the sustainability agenda has advanced since the 1970s, even before the dissemination of the concept of sustainable development with the 1988 Brundtland Report. Lélé (1998) brings a critical reflection on the concept of resilience from publications from the 1970s to the end of the 1990s and presents resilience (based on Holling, 1973) as the size of the stability domain around a point of equilibrium in the face of constant

oscillations, replacing the search for stability. By emphasizing the importance of non-linearity, intrinsic to the notions of complexity (Morin, 2008) and transition (Loorbach, 2007; 2010), and arguing that situations of stress caused by human action itself require changes in behavior (and regulatory bases), the author proposes the concept of adaptability, in which the equilibrium domain is disrupted and the system must reorganize itself to continue performing its essential functions and fulfilling its purpose.

Resumed by Sucháček (2013) and Matarrita-Cascante et al. (2016), the discussion on adaptability and resilience is important to differentiate the search for the return to a state of equilibrium within the same domain, therefore on the same bases and maintaining the main characteristics of the system (be it related to the global climatic balance, or with regards to the economic matrix of a region or country, its competitive or negotiation dynamics), the idea of change of domain, which implies the transformation of the operating bases of the system, from which it is not possible to return to the previous point of equilibrium as the structural context is no longer the same. The current systemic crisis denotes the complexity in which organizations operate, and their relationships in the face of uncertainties of an ontological character, which, therefore, cannot be 'holistically' managed or reduced (Grau-Solés et al., 2011).

The definition of evolutionary resilience, proposed later by Davoudi et al. (2012) and Davoudi, Brooks, & Mehmood, (2013) incorporates adaptability as a necessary characteristic of systems so that they are able to advance in continuous cycles of innovation, transformation and reorganization in the face of frequent disturbances of structural magnitude. However, it still does not solve the direction of this transformation.

Targeting companies, the inversion of purpose currently in force - in which creating value for shareholders has become an end and not a means to meet social needs - combined with a lack of awareness and responsibility for environmental limits and degradation of "commons" from business operation (Ostrom, 1999), it is necessary to combine the strengthening of resilience, in the evolutionary sense, with the paradigm of ecological economics, erecting not only instruments for management focused on resilience, but also a new ethics for the operation and relations of these social organizations called companies.

In the light of the current systemic crisis, sustainability and resilience must be thought of without losing sight of the broader context of paradigm transition, reflecting on the potential of each approach to awaken and feed questions about the premises and values on which modern managerial logic is anchored. While sustainability establishes objectives, designs paths and indicators, the resilience approach strengthens the adaptive capacity and robustness of systems so that they can withstand inevitable and unpredictable shocks (Redman, 2014). Sustainability takes risks and traces adaptation routes involving incremental changes to maintain well-being, economic gains and a natural support system (Linkov et al., 2014). In turn, resilience assumes that decisions are made based on incomplete knowledge and experimentation, enabling structural changes in the system (Kates, Travis, & Wilbanksand, 2012).

Given the confirmation of global threats - from infectious diseases to extreme climatic events - and the undeniable inconsistencies in the socioeconomic system, non-cyclical transformations are necessary, within the same domain, but structural in the gears of the system, making the evolutionary resilience approach more promising than the search for sustainability (Nelson, Adger, & Brown, 2007). Accepting the complexity and ontological uncertainty as given and irreducible, investing energy in the analysis of the present and in the reflection on what has been learned so far is more productive than conjecturing about the post-pandemic future. More than predicting the future, it is necessary to reflect on what makes some systems resilient.

Furthermore, considering that transitions consist not only of changes in the components and organization of the system, but also in the formation of a system fundamentally different from the previous one and operating in a new trajectory (Boyd & Juhola, 2014), the evolutionary resilience approach appears to be more promising than the search for sustainability by challenging the notion of stability, conceiving the systems as intrinsically complex and permeable to changes in context and adaptable. In this sense, such an approach carries the potential to provoke reflections that go beyond risk analysis and linear models based on cause and consequence. When proposing interconnected systems, from the organizational to the socio-environmental level, in inevitable continuous transformation, the notion of evolutionary resilience provokes the reflection on the direction in which the systems are transformed, not in isolation, but as parts of a complex whole. Therefore, it is time to strengthen the resilience of organizations that are able to recover their contributions to general well-being, in the face of the most pressing demands of society. Thus, it is necessary to rethink corporate management for sustainability.

Business management for resilience

In the vision of business management, resilient organizations comply with the following principles (Reeves, Lang, & Carlsson-Szlezak, 2020; Folke, 2016; Wahl, 2019):

Redundancy: guaranteeing additional production capacity, reversing, to a certain extent, the movement of zero stock and management by flows, sharpened in the current phase of capitalism;

Diversity: multiple approaches and perspectives on the same problem or decision may be less efficient, but they provide flexibility and responsiveness in crises, with more creative solutions that do not replicate the logic in operation (fundamental in the building back better proposal);

Modularity: modular systems - in which factories, organizational units or sources of supply reorganize and connect in different ways - are more resilient;

Adaptive capacity: the ability of a system to transform and evolve in the face of opportunities, problems or external signals, valuing knowledge, with processes of registration and dissemination of learning, comprehensive flows of internal and external communication and availability of opportunities and resources necessary for the agency of areas and employees;

Prudence: in situations of great uncertainty, although they must dedicate themselves to the necessary transformations for a better future, it is prudent for companies to consider the worst scenarios in contingency strategies;

Recognize themselves as a part: recognizing themselves as a part of broader economic and social systems, also under pressure, and supporting customers, partners, suppliers, governments, towards strengthening health and social systems, offer the basis for relationships of cooperation and trust, fundamental for resilient organizations.

Such principles demand that business management create opportunities and conditions for:

- Participation of several actors in consultative and deliberative spaces;
- Multi-stakeholder collaboration; and
- Organizational learning.

Participation is an active social process with mutual engagement of actors in a shared situation and depends on formal and informal instances of interaction and conditions, tangible and intangible, so that these instances can be effectively occupied (Pelling & High, 2005; Wenger, McDermott, & Snyder, 2002). The process of organizational learning requires an opportunity for experimentation without the pressure for short-term results, in addition to recording the learning outcomes in accessible databases, feeding organizational memory and building common understandings about concepts and guidelines (Salter & Kothari, 2016).

METHODOLOGY

The search for evidence on movements and adaptations of the sustainability agendas in 13 large companies was conducted through qualitative research (Corbin & Strauss, 2015; Reinecke, Arnold, & Palazzo, 2016) in order to access elements of a complex social process (Hamilton & Finley, 2019), based on the analysis of narratives applied as an instrument to understand the interrelationships between people, events and perspectives from the organizational context of the narrator (interviewee) (Maingueneau, 2015). This exercise combines the replication of the strategic communication of the organizations, their shared values and meanings (Boje, 2001) with their own interpretation, with the addition and highlight of elements and excerpts to create the narrative (Alves & Blikstein, 2010), making the organization and motivations for telling the story as substantive for the research as what is being narrated (Marvasti, 2019).

Considering that narratives reflect values, shared meanings, interests and relationships, while building or maintaining symbolic social systems (Bryman, 2012), their analysis is appropriate to understand how business practices for sustainability are being thought and implemented in the context of the systemic crisis accentuated by the pandemic. Under construction, especially in the first months of social isolation in Brazil, the narratives are not linear, nor are they totally coherent. They are still emerging, gaining meaning and being transformed. The intentions of this research are limited to the identification of evidence of the movements that conform the sustainability agendas of the organizations, without the intention of confronting them with the objective reality or predicting their consequences.

Research context

The research was conducted within the scope of the Business Initiatives of the Center for Sustainability Studies (FGVces) of Fundação Getulio Vargas, a network that brings together large companies for access and production of knowledge and for the exchange of experiences around business management for sustainability. The network organizes its activities in annual cycles and the group of participating companies varies each year. The 13 companies involved in the research are part of the network in 2020.

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During the first semester of the year, face-to-face meetings were replaced by biweekly virtual meetings, organized between presentation and content discussion, based on research and experience exchange among participants related to business practices and the challenges faced regarding socio-environmental issues. The themes in focus in the 2020 cycle were crossed by the COVID-19 pandemic, which became the lens through which resilience, governance and complexity were worked on in the meetings between the months of March and May.

Data collection

Two procedures were combined for data collection: participant observation in the six online meetings of the Business Initiatives held between March and May of 2020; and semi-structured interviews with representatives of the 13 companies in the chain. The interviews started with specific questions and ended with an open conversation about understandings, experiences and perspectives, allowing respondents to express their subjective understandings about practices and challenges (Thomas, 2020). Thus, the restricted number of interviews, appropriate to shed light on a particular research niche (Reinecke et al., 2016), resulted in a rich material in order to understand how sustainability performance was or was not rethought and reformulated in an escalation of the crisis, and resilience began to emerge or not as a guide for business activities.

The interviewees expressed their interest in participating through an open invitation to the 19 companies participating in the network. The interviewed representatives occupy positions that vary between specialist, analyst, manager and director, mainly in areas related to sustainability, environment and corporate social responsibility, as systematized in Exhibit 1. The interviews were conducted by telephone, lasting between 40 and 60 minutes and were recorded on a spreadsheet.

The script followed to start the interviews covered three questions:

- What are the main actions underway that are a priority in the socio-environmental agendas for the company?
- What challenges stand out for the advancement of corporate actions in these agendas?
- What continues and what changes, regarding strategies and practices, in the context of the COVID-19 pandemic?

The answers to these questions were followed by an open conversation about issues that emerged or about the experience, on a personal and organizational level, of the adjustments imposed by social isolation in work routines and relationships.

Exhibit 1. **Participants of the semi-structured interviews**

	MAIN OPERATING SECTOR	INSTITUTIONAL POSITION
1	Finance	Advisor to Supply, Infrastructure and Patrimony Executive Board
2	Finance	Sustainability Analyst
3	Chemical	Sustainability Corporate Manager
4	Services	Sustainability and Diversity Specialist
5	Energy	Sustainability Specialist
6	Energy	Environmental Engineer
7	Wood panels, crockery and metals	Sustainability Coordinator
8	Cosmetics	Sustainability Senior Analyst
9	Retail	Sustainability Senior Analyst
10	Retail	Sustainability Specialist
11	Telecommunications	Corporate Social Responsibility Specialist
12	Technology	Director of Government Relations and Sustainability

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Participant observation in six virtual meetings, represented in Exhibit 2, contributed to better understand some of the challenges faced, ongoing actions, changes or accommodations in the performance of the companies in socio-environmental issues, providing the triangulation of the collected information (Roller, 2019). The meetings were organized with an exposition of research content by the FGVces team, followed by a group discussion and exchange of experiences in smaller groups. Each meeting lasted two and a half hours.

Exhibit 2. **Virtual meetings and covered topics**

Meeting	1	2	3	4	5	6
Date (2020)	19/03	02/04	23/04	30/04	14/05	28/05
Themes in focus	Sustainability in the context of Anthropocene	Corporate action against the pandemic	Resilience and vulnerability	Governance for resilient systems	Transformative business cases	Business cases of the corporative initiatives

The discussions and experiences reported in the meetings were recorded by the FGVces team and contributed to the analysis of the content of the interviews. At least two researchers participated in the data collection stages and a third researcher was involved in the analysis, guaranteeing an "outside perspective" (Gioia et al., 2013).

Data analysis

The information collected in the interviews was systematized by company considering the three survey questions, the views on the systemic crisis revealed by COVID-19 and the relations with other actors and perspectives for the post-pandemic. The elements gathered from the observation at the meetings were added in each of these initial groupings, when a relationship was observed, be it of reinforcement, complementation or dissonance, or even contributing elements of the organizational, sectorial or social context that support or justify the actions narrated. From there, codes were created (Malterud, 2012) based on units of evidence on the strategies and actions of the 13 companies in the context of the pandemic, actors involved and developments in the medium and long terms.

The codes then became the titles of the lines and the companies became the titles of the columns, forming a matrix in which the collected evidence was reorganized. From this systematization, new codes were identified and adopted, generating a second version of the matrix. From a transversal view of the evidence introduced by the informants of the 13 companies, the codes were grouped into categories (Roller, 2019), or lines of action in an interactive process of repositioning some evidence as the categories emerged in the analysis considering similarity of the contents. The resulting six categories are represented in Figure 1.

It is important to highlight that the categorization is not intended to classify participating companies as operating in a specific form of sustainability, but rather to understand movements, adaptations and accommodations of some of their actions.

DISCUSSION

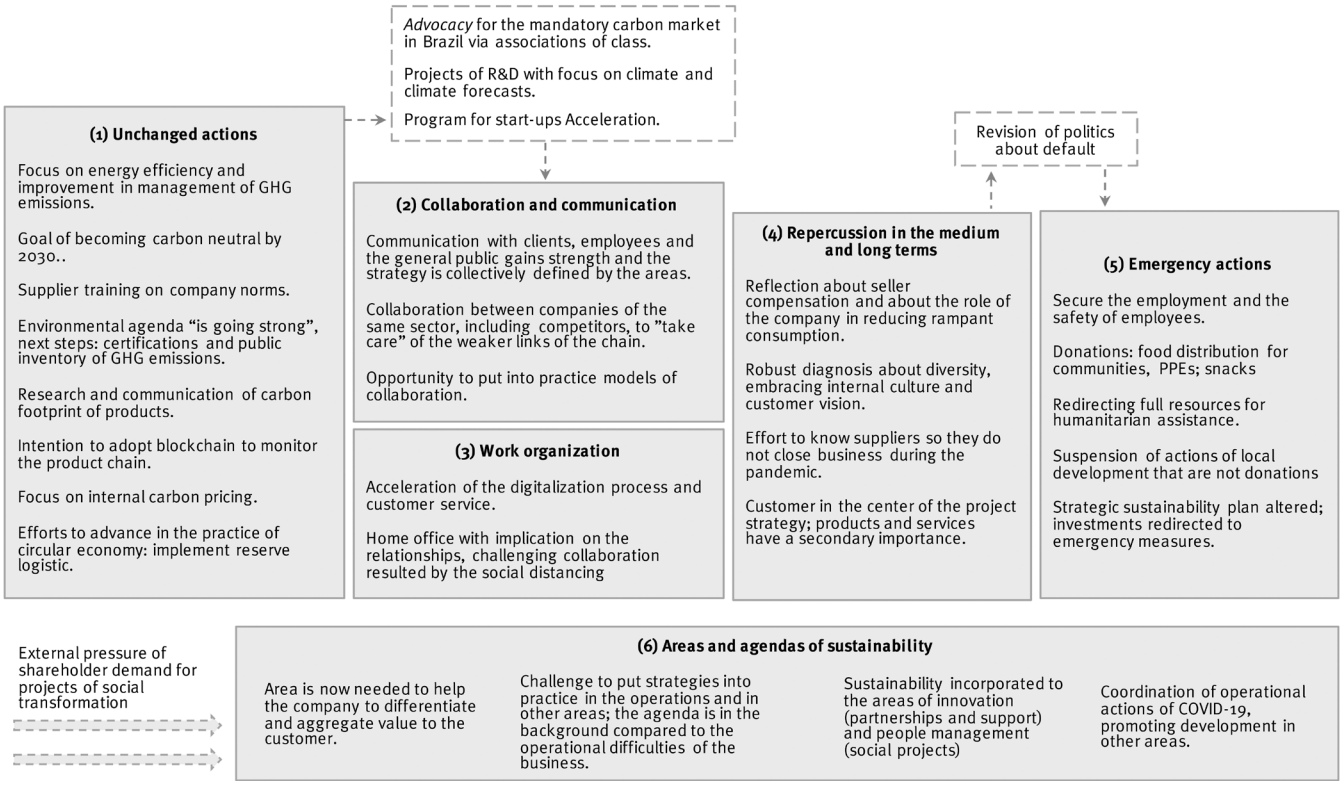
Figure 1 systematizes, in six categories, the lines of action. They are: (1) unchanged actions; (2) collaboration and communication; (3) work organization; (4) repercussions in the medium and long terms; (5) emergency actions and (6) areas and agendas of sustainability.

The six represented categories summarize the information collected in the interviews and through the observation of the participants in which the narratives about the ongoing business actions or planned in the first months of the COVID-19 pandemic were accessed. Figure 1 is the result of the process of information systematization, coding and analyzing, in the light of the consulted theoretical framework.

The narratives of these organizations demonstrate, on the one hand, mature agendas, such as climate change, that bring together the forces of resistance and feed the narratives "business as usual" - of market belief and flexibility in the face of risks - and financial models and instruments as solutions (Wissman-Weber & Levy, 2018), related to the principles of weak sustainability. On the other hand, movements that can be the seeds of structural,

medium and long-term changes, tuned in community imagery, collaboration and in the appreciation of what is essential, related to the concepts of strong sustainability and resilience.

Figure 1. **Lines of action**



In the "unchanged actions", the focus on energy efficiency, the efforts placed on "training suppliers in company rules" 'and the belief in certifications and carbon pricing as salvation routes exemplify the system's strength of maintenance. At the same time, the intention to advance in "circular economy practices", to the detriment of linear logic, although with a single focus on reverse logistics, brings a subtle indication of strong sustainability and resilience when considering environmental limits and seeking raw materials in the post-consumption, that can reshape the power relations between the links in the chain.

Movements and actions related to communication and "collaboration" and "work organization" encompass efforts to strengthen communication with several stakeholders, internal and external; interactions between employees and partners, distanced by virtualization; and even collaboration between competing companies, which previously seemed impossible. These categories point towards strong sustainability and resilience by contributing to the constitution of knowledge and internal (and external) spaces for participation, collaboration, experimentation and learning, that are fundamental for increasing adaptive capacity in the face of socio-environmental issues that are not always amenable to planning, nor of unique answers.

The category "repercussion in the medium and long term", indicates the interest in recognizing who are the stakeholders beyond the contracts and market relations, through a "robust diagnosis" about diversity in the organization and listening to suppliers. A movement towards the actors of the system, without a predetermined purpose, represents an impulse for closer relations and consequent increase in the parties' trust and autonomy, in order to improve the response capacity in any crisis; it may also denote assumptions of control, closer to the weak sustainability, anchored in power and domination. Repositioning "the customer" at the center of the business strategy and reflecting on the company's role related to unrestrained consumption sound like indications of possible and powerful transformations, either by reviewing the company's purpose or by the willingness to rethink, question and change the current consumer culture.

"Emergency actions" represent, in some cases, the suspension of sustainability projects and plans with the total allocation of resources and teams for social and health assistance.

   ISSN 0034-7590; eISSN 2178-938X

Thus, they point to the re-prioritization of life to capital, but they leave in the air what will come next, if the resumption of lines of action tuned to the weak sustainability, or actions that contemplate the lessons of "emergency". The experience of focusing efforts on emergency actions related to human needs can promote reflections on the purposes and values of the company, in addition to generating collective learning that may or may not be institutionalized and favor organizational resilience.

Finally, reflections and changes on the "areas and agendas of sustainability" emerge. In some companies, the pandemic went through a process, previously underway, to review the area and the strategies; in others, it encouraged the cross-cutting of sustainability, incorporated in areas such as innovation and people management. These movements indicate an ongoing crisis regarding the function of sustainability in view of the company's purpose, both because of the understanding that the issues covered must be present in the other business areas, and because of the re-prioritization of investments in projects that generate financial returns in the short term. The spectrum is also wide between the roles attributed to the areas of sustainability: from the contribution to the differentiation of the company, in a sign of weak sustainability, to the mobilization of the organization for a coordinated collective action.

The findings in the six categories indicate points of friction between assumptions and practices that prevailed in the sustainability agendas of the companies, depending on the paradigm of classical economy or environmental economy, and an expanded view on doing business, which includes links in the value chains, from raw material to post-consumption, communities in the territories where companies are present and partners from different sectors. This expansion of sustainability walks in the direction of multi-stakeholder collaboration, one of the pillars for resilience in the evolutionary sense. Still, the review of the roles and actions of the sustainability and related areas in the movement to mainstream socio-environmental issues provoke a rethinking of governance, reflecting the emergence of a new moment on the agenda, less instrumental and closer to the management of key business activities, which indicates an ongoing organizational learning process in some of companies and enhanced by the crisis context.

While the emergency actions reflect a concern with pressing needs of groups in situations of vulnerability, they configure specific actions and a mechanical response to social pressures that coexist with the narrative to also better listen to the needs and visions of the actors with whom the companies have indirect relations. This last movement provokes reflection on instances and channels of participation, which also carries the potential to strengthen the company's resilience, as well as the broader system in which it operates.

Such frictions identified in the narratives about the experiences and actions underway in the companies denote a moment of bifurcation of the sustainability agenda: on the one hand, the search for any remnant of security anchored in sustainability as a source of information for the management of risks that threaten the business as usual - in the sense of weak sustainability. On the other hand, sustainability as a channel for society and the environment to permeate business, translated into objectives and limits for economic activities - in the sense of strong sustainability. Based on this understanding, the following considerations can be made about the progress in strengthening resilience in the business environment:

Implies closer and constant relations with external actors, directly and indirectly related to the company's business;

Resilience cannot be guided only by the application of standard management instruments for sustainability and demand, in addition to perennial instances of participation and collaboration by internal and external actors, the cross-cutting of socio-environmental themes in the business areas;

Aligns itself with strong sustainability in terms of internalizing the notion of intrinsic relationship between the organization's longevity and the ability to perceive and transform from the environmental and social context. However, strengthening resilience, even in the evolutionary sense, does not necessarily mean to consider social and environmental limits for economic activities; and

Due to the lack of systematic tools and experience, although strongly present in the public debate, resilience is a more abstract than practical concept within companies, and even in the context of the pandemic, it was not adopted, in the companies interviewed, as a north to rethink or complement actions of sustainability or even the role of the areas of sustainability; a reflection on what makes organizations resilient systems is not established in these companies.

It is important to emphasize that the narratives accessed did not reveal evidence for all the principles of resilience or of weak or strong sustainability; neither was the objective of the research. However, they point out that learnings from the pandemic can be an important legacy to deal with complex challenges that will not disappear with the control of this disease.

In this scenario, sustainability teams and related areas are called upon to leverage internal transformations; for example, provoking a deeper analysis about the critical situation of the moment, safeguarding and nourishing the existing forums of participation, working for the diversity of effective participation

   ISSN 0034-7590; eISSN 2178-938X

in the crisis committees and, mainly, so that the sustainability projects and actions themselves may emerge from meaningful interactions in multi-stakeholder forums, or at least from active listening to the several involved and interested parties. By placing themselves as agents of change, sustainability professionals may provoke executives, colleagues, partners to see beyond short-term impositions, and to inaugurate a broad process of reformulating the organization's purpose. Not based on conjectures of uncertain futures, but on the present urgency, historical of: direct connection between the organization and the people affected by the business, the translation of strategies and the criteria for deciding production limits imposed by the environmental outline; mechanisms for fairer distribution of economic and financial results derived from the interaction between work, technology and natural resources; and in the exercise of the evolutionary perspective resilience to think about the organization's responsiveness to the pressures and opportunities of the context to transform itself while perpetuating its primary purpose.

CONCLUSION

The research here presented reveals that the agenda and the areas of sustainability are called upon to take over a larger scope of action, inside and outside of companies, in the context of instability and uncertainties accentuated by the pandemic of COVID-19. From the literature review and the collection and analysis of information on how these 13 companies are dealing with the crisis in its initial moment, the research contributes to a critical reflection on the role of sustainability for the construction of a management and business performance based on a paradigm of ecological economics, capable of strengthening the resilience of the organizations and the systems which they are a part of. It is revealed that forces of transformation and maintenance coexist, they compete for narratives and space in organizations, and that it is crucial that they turn to their primary purposes, for which they exist.

Among the indications of the ongoing movements in the companies interviewed, the potential for realignment to the fundamental purpose of meeting the needs of society and promoting general well-being is identified, but there is also a latent risk of continuing to bet on the market - by faith in technology, innovation or financial instruments - as a source of solutions. Efforts to communicate and collaborate and to reconfigure relationships are promising both from the perspective of strong sustainability and resilience. Although the two perspectives are not completely aligned, there are synergies between the transition to strong sustainability and the strengthening of resilience and the two narrate what may be a new, emerging phase of the corporate sustainability agenda. The categories of ongoing actions and movements identified represent axes by which the transition may take place, while making it clear that in all of them, there are elements of resistance and, therefore, forces of maintenance or return.

Although the evidence identified in this research derives from the initial moments of the COVID-19 pandemic and other actions and accommodations also take place, the organizational experience of that period, regardless of what it was, constitutes a fundamental knowledge for companies to deal with other manifestations of structural crisis, and, in particular, with the crisis itself through the transformation of the organizations and systems in which they operate in favor of the transition to a new domain. In this sense, incorporating adaptability in management and increasing the companies' capacities to perceive disturbances, in all their complexity, and transform themselves and their relationships through organizational learning processes, emerge as measures so that they can achieve their primary objective in a permanent way.

As relevant issues, emerges an opportunity for future studies to investigate how strong sustainability and resilience can qualify mutually when they complement and deal with similar issues with different intentions and biases; the influence of the economic sector in the actions taken by companies in the face of the crisis, as well as the influence of the headquarters of these corporations, since global guidelines sometimes determine the socio-environmental agendas in Brazil. In addition, the mapping and systematization of business cases related to strengthening resilience, especially in the evolutionary sense, is important for the concept to be translated into business management. As limitations of the research are listed the restricted number of companies covered by the interviews and the number professionals interviewed in each company, creating a photograph that results in the collection of evidence and not in generalizations. Apart from that, the interviews were carried out in the initial period of social isolation measures, and it is necessary to investigate how the movements and actions advanced in the following months, and after the measures were completed.

From the redefinition of relations between companies, citizens and governments, involving new dynamics of work and coexistence guided by cooperation and compassion, another ethic may emerge. For this to be the near future, it is necessary to nurture thoughts not of resumption or reconstruction, but of transformation. For business management, it means a redirection

   ISSN 0034-7590; eISSN 2178-938X

to learning, through investment, in the present, in diversity, participation and effective dialogues. This process for which corporate sustainability is fundamental, while it has never been so outdated.

REFERENCES

Alves, M. A., & Blikstein, I. (2010). Análise de Narrativas. In C. K. Godoi; R. Bandeira de Melo; A. B. Silva. (eds.), *Pesquisa Qualitativa em Estudos Organizacionais: Paradigmas, estratégias e métodos* (pp. 403-428). São Paulo: Saraiva.

Abdulkareem, M., & Elkadi, H. (2018). From engineering to evolutionary, an overarching approach in identifying the resilience of urban design to ood. *International Jornal of Disaster Risk Reduct*, *28*, 176–190. doi:10.1016/j.ijdrr.2018.02.009

Belinky, A. (2017). Da empresa cowboy à astronauta. *GVExecutivo, 16*(5)18-21. doi: doi:10.12660/gvexec.v16n5.2017.72915

Bismarchi, L. F. (2011). *Sustentabilidade e inovação no setor brasileiro da construção civil: Um estudo exploratório sobre a implantação da política pública baseada em desempenho*. (Dissertação de mestrado. Universidade de São Paulo). Recuperado de https://www.teses.usp.br/teses/disponiveis/90/90131/tde-05082011-215056/pt-br.php

Boje, D. M. (2001). *Narrative Methods for Organizational & Communication Research*. Londres: Sage Publications.

Boyd, E., & Juhola, S. (2015). Adaptive climate change governance for urban resilience. *Urban Studies*. 52(7), 1234-1264. doi: 10.1177/0042098014527483.

Bresser-Pereira, L. C. (2018). Capitalismo financeiro-rentista. *Estudos Avançados, 32*(92), 17-29. doi:10.5935/0103-4014.20180003.

Bryman, A., (2012). *Social Research Methods* (4th Edition). Oxford: Oxford University Press.

Bursztyn, M., & Bursztyn, M. (2012). *Fundamentos de política e gestão ambiental: Os caminhos do desenvolvimento sustentável*. Rio de Janeiro: Garamond.

Cechin, A. (2010). *A natureza como limite da economia*. São Paulo: SENAC/Edusp.

Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.

Costanza, R., Daly, H., & Bartholomey, J. (1991). Goals, Agenda, and Policy Recommendations for Ecological Economics'. In R. Costanza, *Ecological Economics: The Science and Management of Sustainability* (pp. 1-20). New York, NY: Columbia University Press.

Davoudi, S., Shaw, K., Haider, L., Quinlan, A., Peterson, G., Wilkinson, C.,...Porter, L. (2012). Resilience: A Bridging Concept or a Dead End? "Reframing" Resilience: Challenges for Planning Theory and Practice Interacting Traps: Resilience Assessment of a Pasture Management System in Northern Afghanistan Urban Resilience: What Does it Mean in Planning Practice? Resilience as a Useful Concept for Climate Change Adaptation? The Politics of Resilience for Planning: A Cautionary Note. *Planning Theory & Practice*, *13*, pp. 299-333. doi: 10.1080/14649357.2012.677124

Davoudi, S., Brooks, E., & Mehmood, A. (2013). Evolutionary Resilience and Strategies for Climate Adaptation. *Planning Practice & Research, 28*(3),.307-322. doi: 10.1080/02697459.2013.787695

Elkington, J. (1994). *Triple bottom line revolution: reporting for the third millennium*. Australian CPA, 69.

Elkington, J. (1999). *Cannibals with forks*. Canada: New Society.

Folke, C. 2016. Resilience (Republished). *Ecology and Society 21*(4):44. doi: 10.5751/ES-09088-210444.

Gallagher, B. (2020). *Rebuilding after COVID-19 shouldn't mean going back to how things were*. Recuperado de https://www.weforum.org/agenda/2020/06/covid-19-rebuilding-recovery/

Georgescu-Roegen, N. (2013). *O decrescimento: Entropia, ecologia e economia*. São Paulo: SENAC.

Gioia, D.A., Corley, K.G., Hamilton, A.L. (2012). Seeking qualitative rigor in inductive research: notes on the Gioia *Methodology. Organizational Research Methods*. 16(1),15-31. doi: 10.1177/1094428112452151

Grau-Solés, M., Íñiguez-Rueda, L., & Subirats, J. (2011). ¿Cómo gobernar la complejidad? Invitación a una gobernanza urbana híbrida y relacional. Athenea Digital. *Revista de Pensamiento e Investigación Social, 11*(1), 63-84. doi: 10.5565/rev/athenead/v11n1.827

Harvey, D. (2020). *Política anticapitalista em tempos de coronavírus*. Recuperado de http://agbcampinas.com.br/site/2020/david-harvey-politica-anticapitalista-em-tempos-de-coronavirus/.

Hamilton, A. B., & Finley, E. P. (2019). *Qualitative methods in implementation research: An introduction. Psychiatry research*, 280, 112516. doi: 10.1016/j.psychres.2019.112516

Hediger, W. (1999). Reconciling "weak" and "strong" sustainability. *International Journal of Social Economics, 26*(7/8/9), pp. 1120-1144. Recuperado de https://www.emerald.com/insight/content/doi/10.1108/03068299910245859/full/html

Hollensbe, E., Wookey, C., Hickey, L., George, G., & Nichols, C. V. (2014). Organizations with purpose. *Academy of Management Journal, 57*(5), 1227–1234. doi: 10.5465/amj.2014.4005

Howell, L. (2020). How to boost global resilience to COVID-19. World Economic Forum Global Agenda. Recuperado de https://www.weforum.org/agenda/2020/04/how-to-boost-global-resilience-to-covid-19/

Insper (2020). *Novo Normal: Entenda Melhor esse Conceito e Seu Impacto em Nossas Vidas*. Recuperado de https://www.insper.edu.br/noticias/novo-normal-conceito/

Jackson, T. (2013). *Prosperidade sem crescimento*. São Paulo: Planeta Sustentável.

Kates, R. W., Travis, W. R., & Wilbanksand, T. J. (2012). Transformational adaptation when incremental adaptations to climate change are insufficient. *Proceedings of the National Academy of Sciences of the United States of America, 109*(19), 7156-7161. doi: 10.1073/pnas.1115521109

Latouche, S. (2009). *Pequeno tratado do decrescimento sereno*. São Paulo: WMF Martins Fontes.

Lélé, S. (1991). Sustainable development: A critical review. *World Development, 19*(6),607-621.doi:doi:10.1016/0305-750X(91)90197-P

Lélé, S. (1998). Resilience, sustainability, and environmentalism. *Environment and Development Economics, 3*(2), 249-254. Recuperado de http://www.jstor.org/stable/44379220

Linkov, I., Bridges, T., & Creutzig, F. , Decker, J., Fox-Lent, C., Kröger, W., ... Thiel-Clemen, T. (2014). Changing the resilience paradigm. *Nature Climate Change 4*, 407–409. doi: 10.1038/nclimate2227

Liu, X., Rohr, J. R., & Li, Y. (2013). Climate, vegetation, introduced hosts and trade shape a global wildlife pandemic. *The Royal Society.* doi: 10.1098/rspb.2012.2506

Loorbach, D. (2007). *Transition Management: New Mode of Governance for Sustainable Development*. Utrecht: International Books.

Loorbach, D. (2010). Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework. *Governance: An International Journal of Policy, Administration, and Institutions, 23*(1), 161-183. doi: 10.1111/j.1468-0491.2009.01471.x

Loorbach, D., & Wijsman, K. (2013). Business transition management: Exploring a new role for business in sustainability transitions. *Journal of Cleaner Production, 45*, 20-28. doi: 10.1016/j.jclepro.2012.11.002

Maingueneau, D. (2015). *Discurso e Análise do Discurso*. São Paulo: Parábola.

Martinez-Alier, J. (2015). Economia Ecológica. In J. Wright (Ed.), *International Encyclopedia of the Social and Behavioral Sciences*, 22. Elsevier

Marvasti, A.B. (2019). Qualitative Content Analysis: A Novice's Perspective. *Forum: Qualitative Social Research*, *20*(3). doi: 10.17169/fqs-20.3.3387

Matarrita-Cascante, D., Trejos, B., Qin, H., Joo, D., & Debner, S. (2016). Conceptualizing community resilience: Revisiting conceptual distinctions. *Community Development, 48,* 105-123. doi: https://doi.org/10.1080/15575330.2016.1248458

Miguel, P. L. de S., & Paiva, E. L. (2020). O rearranjo das cadeias globais de suprimentos. *GVExecutivo, 19*(3). Recuperado de https://rae.fgv.br/gv-executivo/vol19-num3-2020/rearranjo-cadeias-globais-suprimentos

Monzoni, M., & Carvalho, A. (2020). Pós-COVID-19: Reconstruir para melhor. *GVExecutivo, 19*(3). Recuperado de https://rae.fgv.br/gv-executivo/vol19-num3-2020/pos-covid-19-reconstruir-para-melhor

Morin, E. (2008). *Introdução ao Pensamento Complexo*. Lisboa: Instituto Piaget.

Morin, E. (2020). *Um festival de incerteza*. Recuperado de http://www.ihu.unisinos.br/78-noticias/599773-um-festival-de-incerteza-artigo-de-edgar-morin

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. doi: https://doi.org/10.1146/annurev.energy.32.051807.090348

Ostrom, E. (1999). Coping with *tragedies of the commons*. *Annual Review of Political Science, 2*, 493–535. doi: https://doi.org/10.1146/annurev.polisci.2.1.493

Pelling, M., & High, C. (2005). Social learning and adaptation to climate change. *Benfield Hazard Research Centre*. *Disaster Studies Working Paper, 11*, 1-19. Recuperado de https://www.researchgate.net/publication/228375537_Social_learning_and_adaptation_to_climate_change

Redman, C. L. (2014). Should sustainability and resilience be combined or remain distinct pursuits? *Ecology and Society, 19*(2), 37. doi: http://dx.doi.org/10.5751/ES-06390-190237

Reeves, M., Lang, N., & Carlsson-Szlezak, P. (2020). *Lead Your Business Through the Coronavirus Crisis.* Recuperado de https://hbr.org/2020/02/lead-your-business-through-the-coronavirus-crisis

Reinecke, J., Arnold, D. G, & Palazzo, G. (2016). *Qualitative methods in business ethics, corporate responsibility, and sustainability research*. Business Ethics Quarterly, *26* (4), 12-22. doi: https://doi.org/10.1017/beq.2016.67

Roller, M. (2019). A quality approach to qualitative content analysis: Similarities and differences compared to other qualitative methods. *Forum: Qualitative Social Research, 20*(3). doi: http://dx.doi.org/10.17169/fqs-19.3.3385

Romeiro, A. (2012). Desenvolvimento sustentável: Uma perspectiva econômico-ecológica. *Estudos Avançados, 26*(74). doi: http://dx.doi.org/10.1590/S0103-40142012000100006.

Salter, K. L., & Kothari, A. (2016). Knowledge 'Translation' as social learning: Negotiating the uptake of research-based knowledge in practice. *BMC Medical Education, 16*(76), 1-10. doi: https://doi.org/10.1186/s12909-016-0585-5

Santos, B. S. (2020). *Vírus: Tudo o que é sólido se desfaz no ar.* Recuperado de https://www.sul21.com.br/opiniaopublica/2020/03/virus-tudo-o-que-e-solido-se-desfaz-no-ar-por-boaventura-de-sousa-santos/

Sólon, P. (2019). *Alternativas Sistêmicas*. São Paulo: Elefante.

Sucháček, J. (2013). On the emergence of resilience and adaptability: An evolutionary perspective. *Journal of Economics and Management, 10,* 21-30. Recuperado de https://www.ue.katowice.pl/fileadmin/_migrated/content_uploads/2_Suchacek_On_The_Emergence_of_Resilience_and_Adaptability....pdf

The Economist (2020). Covid-19 presents stark choices between life, death and the economy. The trade-offs required by the pandemic will get even harder. Recuperado de https://www.economist.com/leaders/2020/04/02/covid-19-presents-stark-choices-between-life-death-and-the-economy.

Thomas, K. (2020). Cultures of Sustainability in the Fashion Industry, Fashion Theory, 24:5, 715-742. doi: https://doi.org/10.1080/1362704X.2018.1532737

Turner, R. K., Doktor, P. and Adger, N. (1994). *Sea-level rise and coastal wetlands in the UK: mitigation strategies for sustainable management.* In: C. Folke, M. Hammer, R. Costanza and A. Jansson (Editors), Investing in Natural Capital. The Ecological Economics Approach to Sustainability, pp. 266–290. Washington: Island Pres

Veiga, J. (2005). *Desenvolvimento Sustentável: O desafio do século XXI. Rio.* Rio de Janeiro: Garamond.

Veiga, J. (2007). *A emergência socioambiental*. São Paulo: SENAC.

Victor, P., Susan, H., & Kuburski, A. (1998). How Strong is Weak Sustainability? O. M. Faucheux S., *Sustainable Development: Concepts, Rationalities and Strategies. Economy & Environment* (Vol. 13). Springer: Dordrecht.

Wahl, D. (2019). *Nurturing Vital Diversity & Resilience: Scaling Out, Rather than Scaling-Up!* Recuperado de https://www.resilience.org/stories/2019-11-15/nurturing-vital-diversity-resilience-scaling-out-rather-than-scaling-up/.

Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge.* Massachusetts: Harvard Business Press.

Wissman-Weber, N., & Levy, D. (2018). Climate adaptation in the Anthropocene: Constructing and contesting urban risk regimes. *Organization (25)* 4, 491-516 doi: https://doi.org/10.1177/1350508418775812.

World Bank (2013). Building Resilience: Integrating Climate and Disaster Risk into Development. Washington, DC. Recuperado de https://openknowledge.worldbank.org/handle/10986/16639.

World Economic Forum (2020). The Global Risks Report 2020. Insight Report (15th Edition). In partnership with Marsh & McLennan and Zurich Insurance Group. Recuperado de http://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf.

Zalasiewicz, J. (2015). Disputed start dates for Anthropocene. *Nature, 520,* 436. doi: https://doi.org/10.1038/520436b

AUTHORS' CONTRIBUTIONS

Mariana Nicolletti, Gabriela Alem, Marta Blazek e Paola Fillippi worked on the conceptualization and theoretical-methodological approach. The theoretical review was conducted by Luis Felipe Bismarchi. Data collection was coordinated by Mariana Nicolletti with the contribution of Gabriela Alem and Marta Blazek. Data analysis was conducted by Mariana Nicolletti e Gabriela Alem. All authors worked together in the writing and final revision of the manuscript.

ISSN 0034-7590; eISSN 2178-938X