

Opinion paper

Scientific Community 

# Companies that cannot thrive in a crisis will fail

The journey from resilience to antifragility



**Atos**

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# Abstract

Aiming to survive a crisis is not enough in a time when crises occur frequently. Much has been written about resilience, but considerably less about business antifragility and actionable steps to get there. This opinion paper shares insights and ideas about closing that gap.

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# Management Summary

Crises happen more often and are more disruptive. Old coping strategies and risk management increasingly provide insufficient support for an organization to survive — let alone thrive — in a crisis. Resilience<sup>1</sup> is rarely built into a company's DNA. This amplifies a company's vulnerability in times of crisis, and the costs of doing nothing increase as time passes. In contrast, a company that thrives in a crisis may be able to set itself up as a leader in its field.

We need a new paradigm to help companies move from protection and disaster recovery to **resilience** and **antifragility**. This opinion paper proposes an approach to make this ideal a reality. Knowing where your organization stands in terms of resilience is a helpful first step, so we have defined a model with five progressive levels of resilience maturity.

For each of these levels, there are actionable steps that organizations can take to move up the maturity ladder in five distinct lanes. These lanes are:

1. Strategy and finance
2. People and culture
3. Structure and governance
4. Ways of working
5. KPIs and technology.

Each action adds agility and increases resilience, improving your company's chance of surviving and even thriving in a crisis. We recommend as a first step to understand the status quo. Then leverage the insights and actionable steps of this paper. Providing leadership will be imperative to create the direction, start the dynamic, and start the transformation towards antifragility.

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<sup>1</sup>See the body of the paper for definitions used in this opening chapter

# 1. Introduction

“  
Bad companies are  
destroyed by crisis.  
Good companies survive  
them. Great companies  
are improved by them.  
”

Andy Grove,  
former Intel CEO

## Why this paper

Resiliency has always been necessary. Enterprises have been developing strategies to cope with crises for a long time. However, resilience<sup>2</sup> has grown to be imperative now that digitalization and complexity are increasing, and the world has become more dynamic and unpredictable. It is time to help businesses move from a practice of disaster recovery to one in which they welcome crises as an opportunity to thrive.

There is a noticeable paradox regarding resilience. When we started our research, there was already an array of literature, methodologies and regulatory frameworks on resilience.<sup>3</sup> However, there was also a noticeable unpreparedness of organizations and society for extreme events. At the same time, resilience research seemed to focus more on helping organizations protect and recover than on adapting businesses to a future of unpredictable shocks and to thrive from continuous change. After writing about this phenomenon in *Journey 2026*,<sup>4</sup> we decided to delve deeper into business antifragility and create this opinion paper.

## What (and what not) to expect

This paper shares our vision of an antifragile company, its benefits, and the steps to become one. We have built upon several existing frameworks. This paper, however, does not aim to summarize the status quo in the field. It seeks to bring new understanding by combining the existing and providing new insights. It offers the beginnings of an actionable framework that can be adapted to a variety of sectors and different maturity levels. We strive for antifragility-by-design that can be embedded in a company's DNA. At the same time, we realize that not all organizations can become resilient.

The field of resilience is still developing. Genuine academic research is in its infancy, and Atos participated in one of these early investigations. There is a need for more data and longitudinal studies on current attempts to improve business resilience. We are not hoping to fill that void with this paper. We also realize there is more to be said about many of the subjects we will touch upon. This opinion paper is meant to inspire and to engender an understanding of how a business can mature towards antifragility.

## How this paper is structured

One cannot make a nuclear plant safer by only adding a turnstile at the gate. Likewise, one cannot increase the resilience of companies just by changing one or two aspects. However, by using the actionable levers in the five lanes described below, it is possible to surpass robustness and become resilient — or to surpass resilience and truly start thriving in crises.

To get to the actionable steps, we will first sketch out the problem. Namely, that crises are occurring more often and are becoming more disruptive. We will show why old-school crisis management is no longer sufficient to cope, and discuss the costs of not evolving one's crisis tactics (section 2).

Having outlined the problem, we will introduce a framework that details the five business areas (lanes) that most affect an organization's fragility and antifragility (see sidebar). We elucidate five levels that help to move a company from extreme fragility, via fragility and robustness, to resilience and ultimately to antifragility.

A clear example is given of a level 1 company (extremely fragile) and a level 5 company (antifragile) to make the differences tangible. Finally, the business benefits of becoming more antifragile are enumerated so that it is clear what can be gained by acting (section 3).

Recognizing where your company is on the scale between extremely fragile and antifragile helps one understand where the company is in its development. The paper concludes with actionable steps to move a company across the five business areas (lanes) towards greater antifragility (section 4).

## What is antifragility?

Antifragile systems are more than resilient. They grow stronger from shocks. One can compare it to a child encountering viruses and building up immunity, thus becoming stronger. Antifragility, in other words, is about thriving as a result of disruptive events.

The concept antifragility was developed by Nassim Nicholas Taleb in his 2012 book, *Antifragile: Things That Gain From Disorder*.

<sup>2</sup>Resilience is more than just robustness, i.e. more than preventing shocks from having impact. Resilience considers the adaptations and transformations a company must make to absorb big external stresses.

<sup>3</sup>For instance, the Sendai Framework, see Yokomatsu, M., Hochrainer-Stigler, H. (eds), (2020) Disaster Risk Reduction and Resilience. Springer

<sup>4</sup>Atos Scientific Community, Journey 2026 [Unlocking Virtual Dimensions](#)

## 2. Why new crises require new coping methods

### Why are crises more likely and more disruptive?

Research shows that the frequency and magnitude of crises are increasing. Technological innovation, climate change, economic development, digital transformation, cyberattacks and global interconnectedness are making the world more dynamic and unpredictable. Globalization and increased complexity have made economies more susceptible to sudden disruptions like economic or natural black swan events.<sup>5</sup>

The larger scale of crises has combined with technological advances to increase the speed with which the impacts of such events travel — to and from places we might not expect. Often, a crisis is the last incident in a cascade of several events that were triggered by each other. Events such as the 2004 Boxing Day Tsunami<sup>6</sup> in Southeast Asia, the 2008 subprime housing crisis in the US, or the 2021 Suez Canal blockage<sup>7</sup> are examples of how a local crisis can have a substantial worldwide impact, with consequences on global value chains and economic ecosystems.

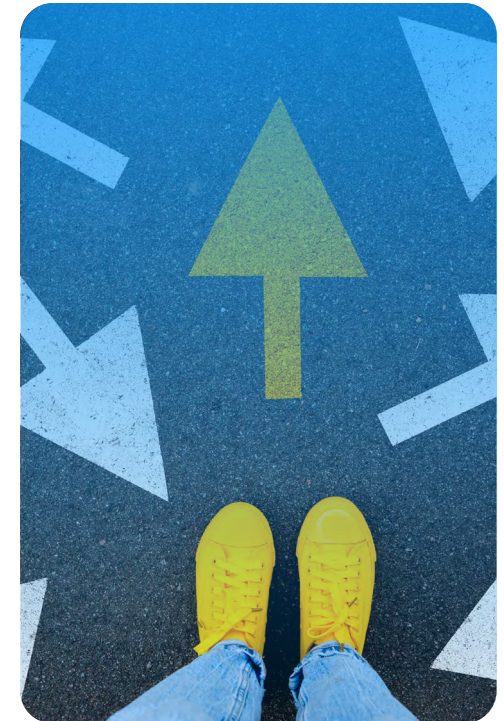
What makes crises more disruptive is that, in recent decades, an acceleration of business innovation has taken place. Previous disruptive innovations such as the telephone or the PC took decades to change the world significantly. The smartphone only took a decade. New technologies will have an even more significant impact in the years to come.

The increased digitalization mean that organizations have a greater dependency on digital technologies. It can provide benefits to businesses but can also increase exposure to risks. The impact can vary from minor disruptions to reputational damage, business discontinuity and occasionally, threatening people's lives when core systems are at stake.

Another aspect is that offshoring and just-in-time logistics have done a great deal to optimize supply chains, reduce costs, and develop mass production to cope with mass consumption. With this growing interconnectedness, the systemic risks also increase. The possibility arises that an event at the company level can trigger the instability or collapse of an industry or an entire economy. One event can lead to a cluster of crises.

Modern management culture and education do little to prepare managers for this growing fragility. With principles inherited from the industrial era, management is incentivized to favor efficiency over resiliency, critical mass over agility, and short-term results over long-term ones.<sup>8</sup> Believing the future is predictable and relatively stable enhances the tendency to maximize control rather than adaptability.<sup>9</sup> In that context, redundancy is easily perceived as waste.

This growing interconnectedness and complexity are making traditional risk management models and strategies dated and less relevant. These methods learn from crises mainly by improving what went wrong after the fact. They tend to assume that the worst thing that has ever happened represents the worst thing that will happen in the future, and they hedge against a recurrence.<sup>10</sup>



<sup>5</sup>Pede, E., (2020) Planning for Resilience; New Paths for Managing Uncertainty. Springer; Pal, I et al (eds), (2020), An Interdisciplinary Approach for Disaster Resilience and Sustainability, Springer; [qz.com/1096237/deutsche-bank-analysis-on-the-frequency-of-financial-crises/](https://qz.com/1096237/deutsche-bank-analysis-on-the-frequency-of-financial-crises/); United Nations, World Economic and Social Survey 2017, chapter 2 [un.org/development/desa/dpad/wp-content/uploads/sites/45/WESS\\_2017\\_ch2.pdf](https://un.org/development/desa/dpad/wp-content/uploads/sites/45/WESS_2017_ch2.pdf); [economicshelp.org/blog/77/economics/problems-of-capitalism/](https://economicshelp.org/blog/77/economics/problems-of-capitalism/); Taleb, N., (2007), The Black Swan: The Impact of the Highly Improbable, Random House. <sup>6</sup>[edubirdie.com/examples/the-causes-and-impacts-of-boxing-day-tsunami/](https://edubirdie.com/examples/the-causes-and-impacts-of-boxing-day-tsunami/)

<sup>7</sup>[bts.gov/data-spotlight/ever-given-suez-canal](https://bts.gov/data-spotlight/ever-given-suez-canal)

<sup>8</sup>Martin, R.L., (2020) 'The High Price of Efficiency' in HBR's 10 Must Reads on Organizational Resilience. in Harvard Business Review; O'Keeffe, D. et al (2021) Getting Business Resilience Right. Five myths stand in the way of allowing a company to hedge against, absorb and recover from the inevitable shocks to its system. Bain & Company

<sup>9</sup>[Adaptability: The New Competitive Advantage \(hbr.org\)](https://adaptability.the-new-competitive-advantage.com/)

<sup>10</sup>Sandholz, S., et al (2020). Costs and benefits of (in)coherence: Disaster Risk Reduction in the Post-2015-Agendas. Synthesis Report. Bonn: United Nations University – Institute for Environment and Human Security (UNU-EHS).

Companies, however, must also be able to deal with unidentified risks and extreme events as they become more frequent.<sup>11</sup> The worst thing that can happen in the future could be orders of magnitude larger than what has occurred before. The 2011 Fukushima nuclear disaster illustrates how overconfidence in one's ability to predict a crisis based on what has happened in the past is a risk in and of itself.<sup>12</sup>

The dramatic impacts of recent global shocks — such as the COVID-19 pandemic, supply chain shortages in the semiconductor industry, and the war in Ukraine — show how urgently this trade-off between efficiency and resiliency now needs to be rethought.

Resilience should be at the heart of modern management strategies.

## What are the costs of doing nothing?

Meeting these new challenges comes with a cost. Not meeting them, however, has its price as well — not only financially but also in other areas.<sup>13</sup> For instance:

**Continuous crisis mode.** As crises come more often, companies that do not improve their ability to deal with them will often

find themselves in a constant crisis mode. Spending their resources on handling crises, they will lack the time to create new services or try out new business models. Therefore, they will be less able to cope with the changing outside world. Other companies that can adapt to crises will create competitive advantages.

**Complexity. Historic inefficiencies are exacerbated.** The more a company is focused on survival, the less time and energy will be available for looking ahead or creating a vision or a strategy to get there. When survival is at stake, only the “now” is important. This can prevent the company from bringing coherence to conflicting agendas or harmonizing the allocation of limited resources, which comes with additional costs.

When a company focuses on the now, less time or money will be available for structural improvements — such as rationalizing its processes and its IT or adopting new technologies. Outside of the primary process, due to the near-continuous crisis, maintenance will be pressed for resources and time cannot be spent on root cause analysis. Temporary solutions will be created with proverbial “duct tape,” because money is in short supply and the next crisis has already started.<sup>14</sup>

**IT becomes a liability.** Essential improvements in applications and information capable of making a company more resilient are not made. IT will be seen as a cost center and will not evolve to the level that modern companies need to cope with changing markets and new digital technologies. In technology-driven competitive landscapes, these companies will lag.

**Customer performance will deteriorate.** For these types of organizations, customer satisfaction will eventually drop. Crisis will draw management attention inwards to the company's problems instead of outward to servicing customers. Meanwhile, customer preferences and consumption patterns continue to evolve. Clients are a moving target, and fragile organizations will miss new trends and lose old customers to competitors that spot these trends and improve their game.

**Risk aversion.** Because risks are avoided in the selection of development projects, real opportunities are also less likely to get the green light, which hampers innovation.

**Relationships with suppliers.** Suppliers are seen as outsiders. Extremely fragile companies don't fully use the innovative ability of suppliers to enhance their own products. There is not yet a sense of sharing

risks and gains. There is a lack of coordination and cooperation with suppliers that can increase inefficiencies in the purchasing process.

**Talents leave.** There has been extensive research into what makes a company attractive to millennials.<sup>15</sup> Graduates will soon discover the low-hanging fruit for change in organizations that are low on the resilience maturity ladder. They may jump at the many opportunities to contribute, but when they discover that prerequisites for improvements are lacking or that the quest for improvements is discouraged, the more entrepreneurial-minded are unlikely to stay. Likewise, established experts who lose much time firefighting the problem-of-the-day may walk away as well.

<sup>11</sup> Taleb, N. (2012) Antifragile: Things That Gain from Disorder. Random House; Close, K. et al (2020) The Digital Path to Business Resilience. BCG

<sup>12</sup> [cdc.gov/nceh/features/fukushima-radiation/](https://www.cdc.gov/nceh/features/fukushima-radiation/)

<sup>13</sup> Sandholz, S., et al (2020). Costs and benefits of (in)coherence: Disaster Risk Reduction in the Post-2015-Agendas. Synthesis Report. Bonn: United Nations University – Institute for Environment and Human Security (UNU-EHS).

<sup>14</sup> Harvard Business Review (2020). ‘The Costs of Complexity Are Hard to See’ A conversation with Jim Hackett, CEO of Ford Motor Company ‘ in HBR’s 10 Must Reads on Organizational Resilience. in Harvard Business Review

<sup>15</sup> [haillo.com/blog/millennials-in-the-workplace-11-ways-to-attract-and-keep-them/](https://haillo.com/blog/millennials-in-the-workplace-11-ways-to-attract-and-keep-them/)

### 3. There is a way to thrive

#### Maturity model overview

It is possible to thrive despite crises and even because of them, but certain measures need to be taken to achieve this.

Below we have grouped these measures into five lanes:

- Strategy and finance
- People and culture
- Structure and governance
- Ways of working
- Technology and KPIs

We believe these lanes are the most important ones within management's circle of control. Actionable plans can be made to remedy the fragility in these five lanes.

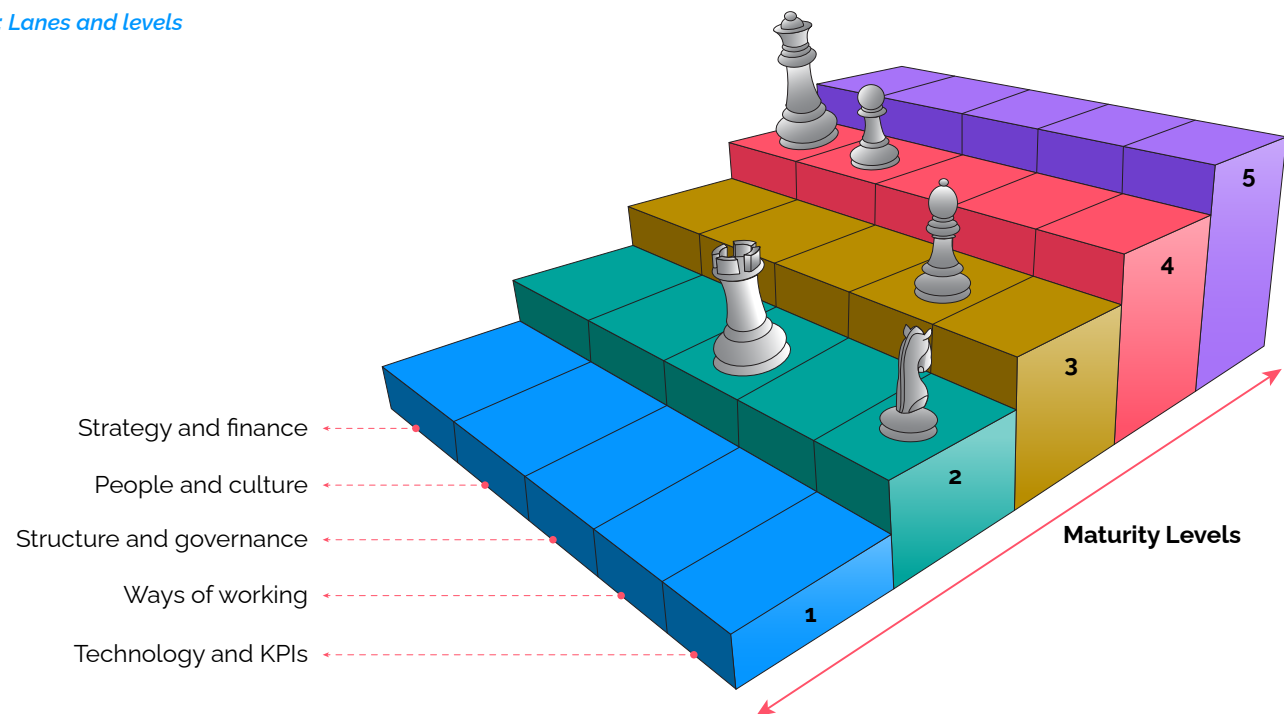
In each of these lanes, a company can be on one of five levels of fragility:

- Level 1: Extremely fragile
- Level 2: Fragile
- Level 3: Robust
- Level 4: Resilient
- Level 5: Antifragile

The levels are described in the next section.

It is worth noting that a company can be at a different maturity level for each lane, as indicated in figure 1 below. However, there is a connection between the lanes. For instance, it is impossible to have a fragile (level 1) corporate structure and, at the same time, an antifragile (level 5) corporate culture — these lanes are interconnected. We will discuss this at greater length later.

Figure 1: Lanes and levels



## Maturity levels

### Level 1: Extreme fragility – Unawareness of risks

In a state of extreme fragility, companies are not prepared to sustain disruptive shocks. They are not even aware of the risks they are facing. The basic foundations of traditional risk management are not in place. They are exposed, do not have the necessary cash reserves and may be unable to sustain future shocks. Their organization is an inflexible monolith. Decision making is pyramidal and based on incongruent data. Human resource practices are mainly geared towards maintaining the status quo and towards risk aversion.

### Level 2: Fragility – Still fragile, but risk aware

The shift in risk management perspective will either come from higher management that adjusts its strategy, or from regulation that requires adaptation of governance. On this level, disruptive shocks are not yet taken into account when setting the strategy and planning cash reserves. The company is in the early stages of decentralization and provides a first level of autonomy to business units, but decision-making down the line is still pyramidal. The company is executing its projects in a waterfall manner, spending energy on achieving project milestones and budgets instead of business outcomes.

### Level 3: Robustness

The notions of constant change and instability are now integrated into the company's strategy and operations, but are approached defensively. Risk culture is emerging, thanks

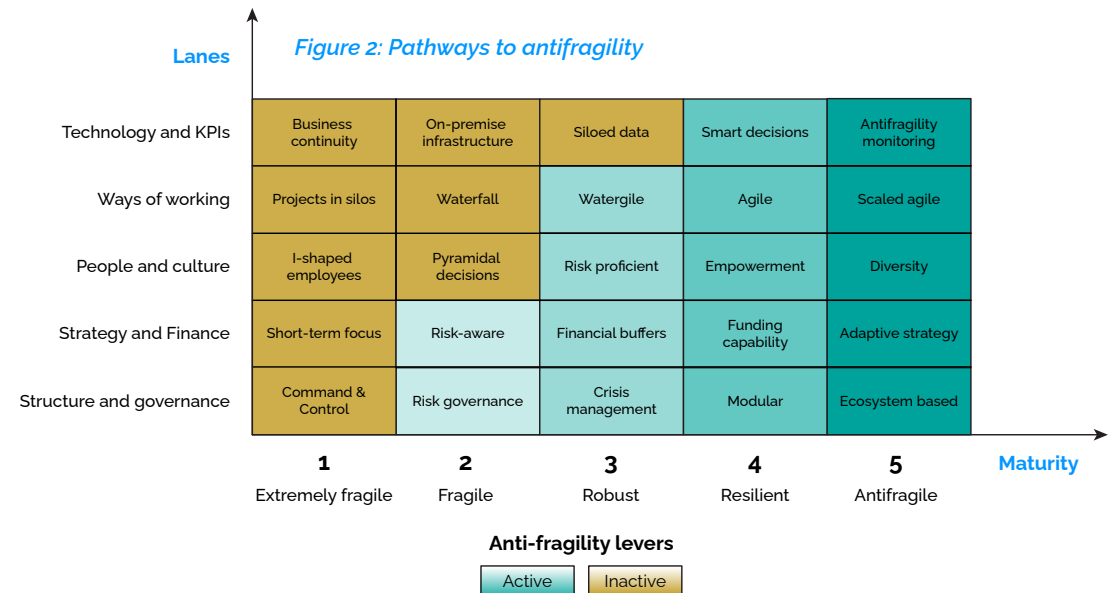
to a combination of a growing community of domain experts and governance maturity. The company has set aside financial buffers to cope with adverse events. The organizational structure is simplified and streamlined, but not yet modular. Crisis management processes are in place, but decision making in times of urgency can still lead to unintended outcomes. Project management practices are gradually integrating agile ways of working, but in a hybrid mode that combines waterfall and agile.

### Level 4: Resilience

Unpredictable events, even high-impact ones, are well managed. The organization can get back on its feet rapidly after a negative impact. The cash reserve and debt situation are sound enough to enable new investments and business model changes. Its modular structure consists of parts that can be easily recomposed when the environment changes. Decentralized decision making has become the norm, enabling speed, flexibility and innovation. A culture of risk-taking and out-of-the-box thinking is paving the way for an offensive mode of responding to crises — supported by smart data flowing across the organization and a fully agile way of working.

### Level 5: Antifragility

When a company reaches the stage of antifragility, it has the ability not only to resist crises but to thrive from them. The company seamlessly adapts its strategy to the environment in a flexible and scenario-based manner. People diversity is at the heart of company values, since creativity is a crucial enabler of transformation. Working in ecosystems increases the ability to innovate quickly and cope with supply chain disruption challenges. Management, business owners and employees are all aligned on a scaled agile model. Business outcomes drive the whole company. The company has developed a set of indicators to manage its antifragility performance to reach a state of continuous transformation.



In each cell in figure 2, we have listed one of the characterizing elements of a certain lane at a particular level of maturity. For example, you will see "Waterfall" listed at maturity level 2 in the *Ways of working* lane. This is an indicator of just one of the many aspects of that phase. It is not the only element of that phase.

In the green-shaded cells, active anti-fragility levers are shown. At these points, steps are being taken to enhance a company's resilience. The text in these green areas describes the main action to be taken at that intersection of lane and level. For each step in this journey, there are certain prerequisites to advancing to the next level of maturity and resilience

This is obviously a simplification, and much more can be said about each level.

Below, we have provided two detailed examples. The first one illustrates a company that is extremely fragile (level 1) in all areas concurrently. The second depicts a company at level 5 (antifragility) in all areas. As you will discover, both companies are outliers. Most companies will find themselves somewhere between these extremes.

#### Level 1: Extreme fragility and risk unaware

In a state of extreme fragility, companies are not prepared to sustain disruptive shocks. They are unaware of the risks they are exposed to, such as economic disruptions or geopolitical threats. The basic foundations of traditional risk management are not in place. The company is exposed and may not be able to sustain the recurring shocks in an age of "permacrisis."

#### Optimism and short-term bias

From the strategy and finance point of view, they focus on the short-term, and there is little anticipation about what the future may hold. The company is optimized from a cost point of view, and the capital allocation does not consider potential adverse scenarios.

There is an assumption that the environment will remain predictable and that there is no need to plan for the long term or anticipate changes. The company is mainly reactive in nature, doing sight navigation and changing strategy depending only on the incoming events.

The company is not financially sound. The activities usually deliver low margins, and the level of cash produced is poor compared to industry standards. The focus is on the short-term and delivering on the quarter's financial KPIs. The company still needs to work on its debt levels to improve financial resilience. Neither is capital set aside to cope with adverse events, nor is R&D investment reserved to prepare for the future.<sup>16</sup>

#### Complex and pyramidal organization

In terms of structure, the company is organized as a monolith. All the activities are deeply amalgamated and interconnected. Regarding governance, the decision making is mainly pyramidal with a command-and-control approach to ensure that there are few defects in the production and that maximum operational efficiency is achieved. This lack of modularity and centralized decision making is reducing adaptability and enhancing resistance to change.

Customers and suppliers are seen as outsiders. They are not part of the design of new business models. The level of transparency in the organization is low. Employees at the shop floor level are unaware of strategy and execute their tasks by following procedures. Because the company is organized in siloes, information does not flow freely across the group, hampering innovation and adaptability.<sup>17</sup>

#### Uniformity and risk aversion

On the people dimension, extremely fragile companies like this prioritize hard skills over soft ones. They recruit similar profiles with comparable academic backgrounds, resulting in a predominantly "I-shaped" workforce (see sidebar). Employee diversity is low, since it is not seen as a strategic asset at the organizational level. The culture is developed around operational performance and quality management; mistakes are not welcome. The objective is ongoing performance and improving the existing, but not challenging the status quo and reinventing. The direct consequence of this culture is that innovation, risk-taking and entrepreneurship are seen as unimportant (and sometimes even undesirable) behaviors. Risks and risk management are seen as the domain of Risk Managers, not of the whole organization.

#### What is an I-shaped employee?

I-shaped employees have deep skills and expertise in one specialty, but little cross-functional experience or ability to work outside their core area

#### Process rather than value-driven

Regarding the ways of working, the company focuses on processes rather than outcomes. The execution is more important than the value delivered. There is no feedback loop to learn from customer interactions; rigidity is predominant. These companies do not work in an agile mode, but deliver their services or products with waterfall-like methodologies, leaving little room for iteration or focus on value creation.

#### On-premises infrastructure and blind decision making

Extremely fragile enterprises rely on IT infrastructures that are not scalable and can be vulnerable in case of a sudden capacity increase. Technology is seen as an operational efficiency enabler, not a business model disruptor. The company is blind, meaning it does not get many insights from its products, operations or supply chain. It can only react to change but cannot leverage key performance indicators (KPIs) to make its operations more resilient and enable continuous improvement.

<sup>16</sup>Christensen, C.M. et al (2008) 'Innovation Killers: How Financial Tools Destroy Your Capacity to Do New Things' in HBR, January 2008

<sup>17</sup>Zook, C. and Allenin, J. (2020) 'Reigniting Growth' in HBR's 10 Must Reads on Organizational Resilience. in Harvard Business Review

## Level 5: Antifragility

When an organization reaches this final stage of maturity, it has developed the culture, the structure, and the skills to prepare for disruptive changes, learn from them and adapt quickly to take a leading position in the newly formed market. It has gained the ability to thrive in crises.

### Long-term planning and third-order thinking

Regarding strategy, the antifragile organization considers all time horizons, including the long-term, recognizing the importance of climate change and inclusive growth. It has developed third-order thinking: planning for complex scenarios with impacts across several timeframes and geographic locations.<sup>18</sup> Even extreme scenarios are taken into account in the decision-making process. In that state, the company expects transformation to be part of its environment and activities. It adapts its strategy accordingly while ignoring the high-frequency and low-significance events. The organization generates new aims, like developing its culture or new business models. It can even adapt its purpose when changes happen.

### Sound financial basis and innovation funding

An antifragile organization is financially sound. It is cash-rich even though it is not necessarily profitable yet. Digital platform-based publicly listed businesses have been able to access a low-cost source of financing thanks to capital markets. For more traditional companies, the level of debt is often limited. Debt can hinder their agility in times of crisis and limit their ability to make new investments. Agile budgeting practices — swift, short budgeting cycles focused on customer value — have replaced yearly planning exercises where budgets are renewed automatically or via lengthy processes. Risk management is not seen as a cost item but as an investment in the future, as it is a prerequisite for the company to be more resilient and adaptable. Financial and operational agility is preferred over setting significant capital aside to absorb a shock.

### Modular and decentralized organization

The most advanced organizations have simplified their structures and introduced further clarity in responsibilities. The decision making is principle-based instead of rule-based, and each employee has the freedom to decide on their own, as long as the choice is aligned with those principles and the

consequences are limited to their domain. It requires a high level of transparency and effective communication across the organization for everyone to understand the strategy and the guiding principles and to report findings back and forth. Employee autonomy is also supported by the organization's overarching purpose, its north star.

Decentralized governance like this enables swift reactions and decisions relevant to the local context. Ecosystem thinking and working is the norm. The antifragile company is open to the outside world and designs its products and operations in collaboration with clients, partners and suppliers. The organization is built with modularity in mind. Each component works autonomously and if required, can be readjusted in the structure to work more efficiently or carve out parts that no longer support the vision. Collaborating with internal or external entities is organized around transparent and clearly-defined output contracts. This maximizes clarity and autonomy while minimizing friction during the company's continuous transformation. The relationship with suppliers in the ecosystem is organized to handle both long-term relationships and immediate wind-ups.<sup>19</sup>



<sup>18</sup>[forbes.com/sites/forbesbusinesscouncil/2022/11/02/third-order-thinking-is-essential-to-organizational-change/](https://forbes.com/sites/forbesbusinesscouncil/2022/11/02/third-order-thinking-is-essential-to-organizational-change/)

<sup>19</sup>Equihua et al. (2020), Ecosystem antifragility: beyond integrity and resilience, PeerJ, DOI 10.7717/peerj.8533

### T-shaped employees and people diversity

Because adaptability and innovation are vital features to becoming antifragile, people's skills and empowerment are critical to the success of organizations. People diversity is at the heart of the company values, since out-of-the-box thinking and creativity are key enablers to transition to new business models. Soft skills are prioritized over hard skills, and T-shaped employees (see sidebar) are the target, as adaptability has become paramount. Cultural fit is preferred over technical savviness. The antifragile company takes care of its employees, realizes the importance of this asset in the knowledge economy, and adopts management practices to attract and retain talent.<sup>20</sup>

#### What is a T-shaped employee?

**T**-shaped employees have broad experience in multiple disciplines (the crossbar), as well as deep experience in their chosen field.

### Self-management and servant leadership

A **culture** of trust between management and employees supports the new decentralized decision-making process. Knowledge workers are trusted for their ability to make decisions that were previously reserved for executives. They are in a safe environment where they can experiment, take bold steps and learn from their mistakes. Servant leadership (see sidebar) is widely developed in the company to help employees achieve their objectives.<sup>21</sup> Examples of this can be found in companies like Patagonia, FAVI, and Buurtzorg.<sup>22</sup>

#### What is servant leadership?

"A servant-leader focuses primarily on the growth and well-being of people and the communities to which they belong. While traditional leadership generally involves the accumulation and exercise of power... the servant-leader shares power, puts the needs of others first and helps people develop and perform as highly as possible."

Source: [greenleaf.org](https://www.greenleaf.org)

### Agility at scale

The company's **way of working** is now fully agile and can deliver products and services within short periods aligned with business needs. The company's management is also working along those principles and steering the business by focusing on business outcomes instead of the delivery of features. The frequent iterations of agile processes allow the antifragile company to swiftly enforce new changes and be responsive to any disruptive event.

### Cloud by default and hyperconnectivity

**Technology** infrastructure is built for speed, flexibility and scale. It supports antifragile companies in pivoting their products or entire business very quickly. Cloud and collaboration virtualization provide resilience and ubiquity — allowing workers to connect from anywhere, anytime, even during a crisis. Factories are fully connected, enabling dynamic and optimized work distribution. Digital twins are now used beyond the manufacturing industry and are allowing what-if simulations and the incorporation of green-software principles to reduce the sustainability impact. The continuous **monitoring** of trends is a way to forestall undesired scenarios, for instance, in case of raw material shortages or shipping lane disruptions. The antifragile company is data-

driven. It can measure its performance in near real time, allowing swift decision making. It has also developed a framework and a set of indicators to manage its level of maturity regarding antifragility, which increases its probability of thriving in the future.

Most likely, you did not recognize your company as either fragile or antifragile, because most companies can be found somewhere in between.

### The business benefits of becoming less fragile

As organizations become less fragile, they enjoy several business benefits:

#### Survival and growth in all situations.

Organizations can increasingly withstand business reversals, economic crises and disruptions. When achieving antifragility, they can profit and thrive in those situations. This stems from their ability to create new products, services and business models in response to changes (like financial conditions, technological breakthroughs and societal drifts).

When antifragile enough, businesses can reinvent themselves if necessary, or create new industries altogether.

<sup>20</sup>Schwartz, J. (2021). *Work Disrupted: Opportunity, Resilience, and Growth in The Accelerated Future of Work*. John Wiley & Sons Inc

<sup>21</sup>Harris, O.L. (2020) *The Servant Leader's Manifesto*. Intent Books; Rosenthal C., Jones N., (2020) *Chaos Engineering: System Resiliency in Practice*. O'Reilly Media Inc.; Hastings, R., Meyer, E. (2020) *No Rules Rules: Netflix and the Culture of Reinvention*. Penguin Press

<sup>22</sup>Laloux, F. (2015) *Reinventing Organizations: Vers des communautés de travail inspirees*. Diateino

**Multiple timeframes.** The less fragile an organization is, the more able it is to holistically handle timeframes (the short-, mid- and long-term). Purpose, mission, strategy and tactics also become better aligned.

**Extreme efficiency.** Efficiency is often managed top-down, focusing on the largest causes of inefficiency. Small sources, however, are just as effective due to their sheer number and pervasiveness. Superfluous meetings and messages, countless non-core requests, etc., are all forms of bad organizational habits. As they become less fragile, organizations waste less time. They avoid reactions to low-priority or low-significance events. They filter the noise and focus on the signal.

**Fluid structure.** Fragile organizations tend to have large, vertical, hierarchical and static structures. Companies increase their flexibility towards antifragility by implementing simpler, flatter, more effective and malleable structures. These enable adaptability to change. They also encourage exploration and experimenting, for instance, with ad-hoc teams or one-off initiatives. They support fulfilling people's ambitions or desires for change and diminish reporting overload, to name a few.

**Mastering risk.** Fragile organizations are risk-averse. Moving away from fragility, companies start mastering investments of growing complexity. Businesses evolve to a more dynamic, proactive, bold mindset that enables continued transformation. Ironically, risk-averse organizations expose themselves to more risks by not taking any than they do from taking measured, conscious risks. As they become antifragile, organizations go from being exposed to risks and unaware of them to being aware; from having few levers to manage or cope with risk to mastering exposure and movements between risk quadrants.<sup>23</sup>

**Surfing disruption.** As organizations become antifragile, they evolve from potential victims of disruption to potential disruptors. As their awareness of risks and the ability to embrace risks grows, the so-called "innovator's dilemma"<sup>24</sup> diminishes: the company manages its R&D adequately and knows when to push successful R&D results to the portfolio, even if its established client base is signaling a lack of interest.

**Ecosystem mindset and behavior.** Less fragile organizations establish or join platforms that create organic collaborating ecosystems (business, legal and technological). This increases their adaptability and resilience, and supports knowledge sharing as well as risk sharing.

**Talent pools.** As organizations become less fragile and enjoy the benefits above, they become less stagnant and provide a more inspiring environment for their people. Because employees are not "owned" by siloes, there are more opportunities to do new things, join other teams, focus on the goal instead of the process, and give and take (experience, training and mentoring).

**The client's perspective.** As companies advance towards antifragility, their clients perceive an organization that is more aware

of trends, more attentive to the client's context, and becomes increasingly proactive — which includes proposing potentially left-field ideas. The company will become more willing and apt at co-creation, co-investment, revenue sharing, cooperation in platform ecosystems and other shared risk approaches.

**Shareholder return performance.** After a crisis, resilient companies recover sooner and score higher on shareholder return performance than their competitors.<sup>25</sup>



<sup>23</sup>[researchgate.net/figure/Talebs-four-quadrants-for-Risk-Classification-Based-on-Taleb143\\_fig4\\_318853336](https://researchgate.net/figure/Talebs-four-quadrants-for-Risk-Classification-Based-on-Taleb143_fig4_318853336)

<sup>24</sup>Christensen, C., (1997) The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Harvard Business Review Press. [en.wikipedia.org/wiki/The\\_Innovator%27s\\_Dilemma](https://en.wikipedia.org/wiki/The_Innovator%27s_Dilemma)

<sup>25</sup>McKinsey & Company (2022, December 9) 2022: The year in charts. See: [mckinsey.com/featured-insights/2022-year-in-review/2022-the-year-in-charts](https://mckinsey.com/featured-insights/2022-year-in-review/2022-the-year-in-charts)

## 4. How to promote antifragility in your organization

### Moving from level to level in all lanes

An organization does not necessarily need to improve its performance across all five lanes in parallel.

As indicated above, a company can be on a different maturity level for each lane. However, within a single company, the maturity levels of each lane will not differentiate widely. It is possible for a company to be culturally at level 3 and financially at level 2 (or vice versa), but it is doubtful that a company can reach level 5 in structure while it is at level 1 for people and culture. These level 1 I-shaped people would not thrive in an antifragile modular organization, nor would the opposite be true. The performance in the lanes is interrelated in the same way the diverse aspects of a company are interrelated.

### Know where you are

Every organization is unique regarding its capabilities, strengths and weaknesses. The unique combination of characteristics is the very soul of the organization, so an organization first needs to know itself and understand its inner workings. This self-awareness will help identify current performance and pave the way for a progression up the resilience ladder.

For an organization to realize where it stands between being extremely fragile and antifragile, it must first identify the driving factors within the five lanes described above that keep the organization from failing. Think of the lanes as the strings of a spider web that keep it aloft. Cut a few, and the web will lose its tension and fall apart. Below we have shared some of the critical questions you must ask to be able to understand where you are:

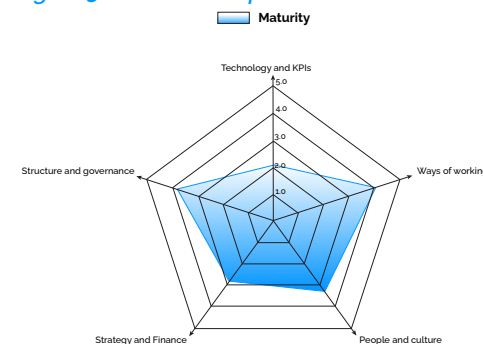
#### Strategy and finance:

- How strong is the financial state of the operations?
- Is the organization ready to withstand a sudden decrease in income?
- How long will the reserves last?
- What is the rate of increase of the funds?

#### Structure and governance:

- How diverse is the supplier network?
- Does the organization have sight of supplier stability?
- How soon can the order load be transferred to alternative suppliers if required?
- How large a buffer is needed to survive a total or partial supply chain disruption?

Figure 3: Assessment spiderweb



#### People and culture:

- Does the organization have mostly "Masters of One" (I-shaped) or "Jack of all trades" (T-shaped) people?
- Does the organization support and encourage self-driven innovation on the part of its employees?
- Are the employees free to carve out some time to try new ideas?
- Does the organization support unsuccessful attempts the same as it does successful ones?

#### Way of working:

- Are agile practices encouraged?
- Are processes centralized, rigid, top-down and bureaucratic?
- Is there an option for bottom-up initiatives and adaptations to local conditions and market changes?

#### Technology and KPIs:

- How far is the organization in its journey of technology modernization? (not just in terms of internal operations, but also external interfaces)
- Is the organization creating new avenues of customer connection?
- Can the organization operate in the new hybrid model of working?

These are just a few of the possible questions. We have created a brief assessment designed to quickly determine your organization's current state and elucidate the possibilities. It can be found here.<sup>26</sup>

<sup>26</sup>The assessment can be found here: [forms.office.com/e/mbVGpQmJxt](https://forms.office.com/e/mbVGpQmJxt)

## Recommended actions and their effects

Below, we have proposed a set of actions that help gradually lead a company to the antifragile level. The individual actions are less crucial than the coherence between the actions as a whole. We will not describe this transition in a level-by-level and lane-by-lane fashion, because industries and companies differ in many ways. There is no “one size fits all” solution. For now, in this opinion paper, we will focus on a more general approach.

### Purpose and strategy

Succeeding in a complex world must start with a simple idea: a clear purpose or *raison d'être*.

Navigating effectively in a fast-changing world requires the ability to adapt and a clear north star: a strategic goal that will drive the mission and the strategy, guide decisions in simple and in complex times, and federate all stakeholders around a common goal. Top management's role is essential in developing this common *raison d'être* and uniting teams at all levels of the company around it.

The *raison d'être* explains the company's role in the world and clarifies its fundamental values. It should be a source of motivation and direction for the people who work for the company, and defines the company's main objectives.

To meet this *raison d'être*, the strategic vision guides the company. The vision will nurture the creation and development of the strategy which — unlike the stable *raison d'être* — must be very agile and adaptive. In past decades, organizations often developed three- to five-year strategic plans, employing drawn-out iterative processes and considering vast long-term investments. This approach remains helpful in some sectors.

However, to bring a company to a more antifragile level, overarching plans can best be limited to the *raison d'être* and a short-term strategy. That provides each unit with the task and the opportunity to continuously align its tactical plans with this vision, with minimal top-down orchestration. More about this alignment will follow below.

This does not mean that strategic foresight is optional. An agile framework for analyzing the future must be implemented. It provides insights into the impact that scenarios will have on the company. These studies consider several time horizons and are explicitly open to examining complex scenarios and unlikely (but highly impactful) events. These impacts will be analyzed at different levels of the company.

Foresight will support continuous adaptive thinking rather than provide a rigid plan.

### People and culture

As mentioned above, the ability to adapt must be at the heart of the company's people management and culture.

Putting a *raison d'être* front and center enables people to unite around a common goal, offering them a wide margin to maneuver and tactical autonomy. A culture of autonomy and responsibility is established for delivering products and services and accomplishing daily tasks. This increases people's motivation and fosters initiative.

To increase people's effectiveness and agility, working with fixed teams will gradually transform into a process of semi-continuous team selection by the people working for the company. This can be implemented in certain units first to experiment, learn, measure results and gain traction. It will require a new set of KPIs indicating the importance of team selection, the collective team buy-in, the enthusiasm aroused by each project, and the team's motivation level.

We believe highly motivated teams will collaborate with more profound engagement, creativity, cohesion and heightened agility.<sup>27</sup> They will thrive close to the field and adapt faster to their changing environment, with better results than in a bureaucratic top-down organization. This engaged project selection process will foster the company's ability to anticipate and rebound with agility.

For a company to succeed in a changing world, its people must constantly refresh and upgrade their competencies. This requires recruiting people for their adaptability and capability to learn fast rather than for purely academic criteria. This change in criteria will also allow the company to overcome the difficulty of hiring talent in a time of scarcity. It will search in larger pools of versatile talent, instead of smaller puddles of hyper-specialists that may be in high demand today but whose knowledge may be outdated shortly. This approach will increase engagement as well.

In an ultimate vision, one could imagine that instead of joining a company, people will join projects. The company of the future could be formed by 30–40% permanent employees and 60–70% external participants and stakeholders.

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<sup>27</sup>Hennessey, B.A. (2019) Motivation and Creativity from Individual Differences in Creativity, in Kaufman et al (eds), *The Cambridge Handbook of Creativity*, pp. 374 - 395

## Ways of working, governance and structure

Putting a *raison d'être* front and center, creating nimble teams and extending stakeholder networks will create traction and drive results beyond the corporate walls into adaptive business ecosystems. This ecosystem approach could be described as **co-innovate, co-work, co-invest, co-win**.

Thus, a "hybrid company" is formed. It includes internal and external people working together on a project for a limited time, sharing a common vision and motivation. Governance will promote devotion to the project, operating autonomy and a self-adaptive strategy.<sup>28</sup>

Driven by the overall vision, the organization and governance must be adapted continuously at each level of the company, with feedback loops throughout. Frequent discussions will be organized between corporate levels to consolidate views, collect risk analysis, identify new opportunities and anticipate future disruptions. This iterative and recursive harmonization of top-down and bottom-up insights in a fractal<sup>29</sup> way will enable adaptive strategic management.

We believe that such a distributed organization, guided by an overarching vision, will give birth to effective collective intelligence. This will enable the company to select the best matches between units and

projects, minimizing overlaps between teams. Simultaneously, a level of organizational redundancy necessary for the resilience of the company and the ecosystem will be assured.

Considering the ecosystem's resilience requirements, specific KPIs must be set up to enable this new approach to governance. They may include not only traditional business KPIs but also indicators such as the level of autonomy of units, the level of involvement of staff, projects and divisions, their level of adhesion in projects, and their contribution to the overall resilience of the ecosystem.

## Finance and business models

In the past, investors have preferred pure players over more complex corporate conglomerates that manage resilience at the overall portfolio level by spreading their portfolios over a diversity of fields. In our opinion, antifragility changes this assessment. This broader portfolio adds the ability to thrive through crisis and detect new sectors and sources of value unchanged by crises and opportunities. The antifragile characteristics of some innovative players – such as Alphabet and others – are beginning to be remarked on by financial analysts.

Self-resilient value creation should contribute to the positive valuation of the company's shares. More insights regarding the impact of a portfolio on resilience can be found in José Esteban's blog entitled *Supply chain and portfolio management for resilience*.<sup>30</sup> Antifragility will become a positive valuation criterion, accelerating how enterprises benefit from their antifragile strategies.

This will require companies to develop new indicators to measure antifragile value creation at the unit level and above. These new KPIs can replace several old indicators that are too focused on budgets and inspire bureaucratic stagnation. Financial communication must be based on them. Business models need to be rethought and adapted to increase the importance of antifragile value creation.

Ultimately, antifragility may decrease risk management costs. Conventional risk management is no longer adequate for the new approach. An antifragile company is more confident in its ability to withstand crises, bounce back and detect new opportunities arising from these crises. Risk management provisions could be reduced and partly used to finance the identified redundancies needed to improve resilience.



<sup>28</sup>Rosenthal C., Jones N., (2020) Chaos Engineering: System Resiliency in Practice. O'Reilly Media Inc.

<sup>29</sup>Gleick, J. (1987) Chaos: Making a New Science. Penguin Group

<sup>30</sup>Esteban Lauzán, J.F. (2023) [atos.net/en/blog/achieving-resilience-through-supply-chain-and-portfolio-management](https://atos.net/en/blog/achieving-resilience-through-supply-chain-and-portfolio-management)

## 5. Conclusion

Five years from now, looking back, it will seem unfathomable that the movement towards increased resilience and antifragility has not always been part of business strategy. Crises are inevitable, but they also create opportunities for those companies prepared to leverage them.

By then, changes emerge so quickly that companies can no longer wait for research-based or data-based best practices to establish themselves. Risk avoidance is no longer possible. The risks of not acting and not progressing toward level 5 grow more prominent as time passes.

How you implement the changes we are proposing will depend on your sector. However, the common denominator is clear: Added agility will improve resilience, thus improving your chances of surviving and even thriving in a crisis. We propose rethinking organizations as organic structures that evolve. We envision that these companies will be constituted of modular, independent internal and external ecosystem elements, cooperating to create a flourishing extended enterprise in which the company employs only part of its empowered collaborators.

We recommend as a first step to understand the status quo, then to leverage the insights and actionable steps of this paper. Implementing these changes will be an extended process that cannot be accomplished with the flip of a switch. It can, however, be done one small step at a time. That way, one can reduce the risk of changes along the way. Choose those steps that substantially impact the sector and the company in the long term.

Providing leadership will be imperative to create the direction, establish the dynamic, and start the transformation towards antifragility.

## Acknowledgments

The authors wish to express their deep gratitude to the people who have been instrumental in creating this opinion paper. Without their invaluable support, this document could not have been created.

First, we want to thank **Sam Dyer**, **Urvashi Pathak** and **Jeff Zarse** for contributing to our understanding of resilience in its many forms.

A big thanks to the [Atos Scientific Community](#) for helping us improve this paper through your collective revisions and comments. First to mention is **Celestino Guemes Seoane** who proposed this research track for the Scientific Community publication [Journey 2026 - Unlocking virtual dimensions](#).

We are especially grateful to the following Scientific Community members for their expert review: **Emma Chambers**, **Jan Hickisch**, **Frederik Kerling**, **Wolfgang Thronicke**, **Celestino Guemes Seoane**, **Jordi Safont**, **Ivo Luijendijk**, **Carrie Chow** and **Jan Krans**.

Thank you, **Manish Saxena**, **Alice Daju**, and **Swapnil Chaudhari** for your contribution for the Scientific Community Research Team and your help in deepening our insights into resilience

And finally, thank you profoundly, **Francisco Pinheiro**, for your untiring support in progressing this paper from a rough draft to the final publication.

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