eraneos

Report by CRITICAL FUTURE for Eraneos

Brilliance in resilience

A guide for European companies to survive and thrive in a sea of crises

Introduction

Dear colleagues,

We are delighted to sponsor this independent research by Critical Future on the importance of building organisational resilience to survive and thrive in these times of crisis.

There has never been a more important time to consider organisational resilience. We are confronted with a multitude of crises, including energy, talent and inflation following a pandemic and the outbreak of a major war in Europe. The threat of greater challenges looms with macro shocks such as a financial crisis.

This research collaboration between Eraneos and Critical Future presents an original model of organisational resilience which takes into account best-in-class practices. It enables companies to not only make the right defensive moves but also seize the opportunities that are presented with every crisis.

We hope you find this research an interesting and useful aid for your organisational resilience journey.

Kirsten Buffo de Jong, Partner

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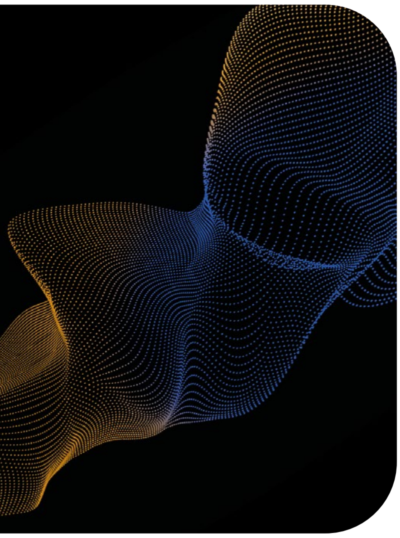

Eraneos: THE RESEARCH SPONSOR

Eraneos Group continues its growth strategy within the framework of an international network organisation. The merger with Ginkgo Management Consulting and Quint Group, which took place in 2021, has reached an important milestone with the launch of the joint brand Eraneos. The partner companies will continue to operate under their former brand names and with the name complement "Eraneos". From 2023 onwards, Eraneos will become the sole brand image.

We are also proud to have been awarded the "Great Place to Work" distinction again in 2021. In the same year, the number of employees increased by 25 per cent, from around 400 to almost 500. We want to meet their need for hybrid forms of work, such as those promoted by Corona, and have therefore invested in new premises. In 2022, the headquarters moved from Leutschenbachstrasse in Zürich Oerlikon to Andreasstrasse, right next to the train station in Zürich Oerlikon, into larger, sustainably designed offices that will help us continue to write our success story.

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Chapter 1

Turbulent times

In the most turbulent of times, European companies face a myriad of challenges and crises, especially in specific industries. The world has never appeared more fraught with uncertainty, risk and crises. How can businesses overcome uncertainty, adapt, evolve and thrive in these turbulent times? What is the optimal model of organisational resilience to adopt? This is the question we answer in this paper. Not only have European businesses faced the strains of a global pandemic with unprecedented lockdowns, but they also now contend with a war in Europe, and are managing a host of crises from energy and inflation to the cost of living.

There are even greater risks on the horizon: macro shocks that could up-end businesses, including the potential for China to invade Taiwan, an escalation of the war in Ukraine, and another financial crisis. All of this comes in the context of global digital disruption, rapid technological change, economic interdependence and a counterforce of emerging economic nationalism.

The world changed in 2020, but it was already so volatile that researchers devised models such as VUCA (volatility, uncertainty, complexity and ambiguity) and TUNA (turbulent, uncertain, novel, and ambiguous). The 2008 financial crisis caused chaos in financial markets, and after this event, CEOs described their operating environment as unlike anything they had seen before. Strategic frameworks based on an analysis of a market are rendered obsolete in the VUCA world when the paradigm changes. New business models emerge to meet needs created by megatrends such as urbanisation, digitisation, demographics changes and innovation. People are changing their attitudes, and consumer sentiment is becoming unpredictable.

Combining forces lead companies to consider how to survive challenges and how to seize opportunities, for there are winners and losers in every crisis. The world is moving faster than ever before, and paradigms are changing more quickly, so what should your company do to outperform the competition?

A growing range of sectors are struggling with volatility, turbulence and complex changes. Twenty-first-century industries such as healthcare, retail, automotive and the financial services sector have been transformed by technological and societal changes. Supply chains are strained by technological developments, pressurising costs and prices. Regulation is increasing, and consumers want greater transparency. In this report, we pay particular attention to the utility, financial, pharmaceutical and life science, and retail industries.

The life and death of companies

Geoffrey West demonstrates in his book "Scale" that companies live and die like organisms. Of the 28,853 companies that traded on the US stock market in 1950, 22,469, or 78 per cent, were defunct by 2009. Of these, 45 per cent were acquired or had merged with other companies, while 9 per cent were liquidated or went bankrupt, 3 per cent had been privatised, 0.5 per cent had undergone a leveraged buyout and 0.5 per cent reversed acquisitions.[1] The remainder disappeared for other reasons. He suggests a universal dynamic of business life cycles:

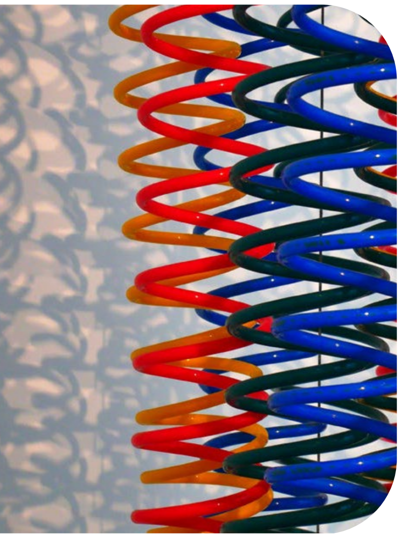
**In other words, the general dynamics and overall life of companies are effectively independent of the business sector they operate in. This strongly suggests there is a universal dynamic at play. ...
This really is quite amazing.**

West explains that the reason companies die is that in their youth, new ideas and enthusiasm flourish, but as old age kicks in, they narrow product space and become more specialised. Market forces encourage tried-and-tested products over new products, which are more risky but better longterm. They become more unidimensional, without diversity, which makes them less resilient so that configuring and reinventing becomes increasingly more expensive. So when a large enough unanticipated shock comes along, they are at risk of a buyout, takeover or bankruptcy, and die. Human beings and companies are finely balanced between metabolism and maintenance costs. In human beings, this is known as homeostasis: the gradual build-up of unrepaired damage makes us less resilient and increasingly vulnerable to fluctuations and perturbations as we age. A case of flu or pneumonia, which we can fight off in our youth, can kill us in old age. West explains:

Just as organisms must die in order that new may blossom, so it is that all companies must disappear or morph into new, innovative variations to flourish: better to have the excitement and innovation of a Google or Tesla than the stagnation of a geriatric IBM or General Motors. … This also means Google and Tesla, which now seem invincible, will themselves eventually fade and disappear. From this point of view, we should not lament the passing of any company—it's an essential component of economic life.

Research has shown that lifespans of companies are shortening. Deloitte Center for the Edge found that over the last 55 years, the average company tenure on the S&P 500 has declined from 61 years to only 18 years.

Importance of organisational resilience



There are lessons to be learned from resilient companies. We used them and our own research and analysis to develop an original resilience model. What do companies that consistently outperform the market have in common? How did a company like Amazon reinvent itself from a book seller to the biggest ecommerce merchant in the world and the cloud computing leader it has become? Research by the Center for Effective Organizations (CEO) has found that a few large companies in every industry consistently outperform their peers over extended periods. These companies have the capability to anticipate and respond to events, solve problems and implement change better. And they maintain this performance edge despite significant business change in their competitive environments.

Harvard Business Review researchers studied corporate performance of 4,700 companies across recessions. Based on their financial performance, four groups of companies were identified:[2] prevention-focused companies, which had cut back further than their competitors, promotion-focused companies, which had increased expenditure relative to rivals; pragmatic companies, which had adopted a prevention focus by reducing COGS or employees more than their peers had; and progressive companies, which had reduced COGS but hadn't cut employees more than their peers and had also allocated more resources, relative to their competitors:

Companies that master the delicate balance between cutting costs to survive today and investing to grow tomorrow do well after a recession. Within this group, a subset that deploys a specific combination of defensive and offensive moves has the highest probability—37 percent—of breaking away from the pack. These companies reduce costs selectively by focusing more on operational efficiency than their rivals do, even as they invest relatively comprehensively in the future by spending on marketing, R&D and new assets. Their multipronged strategy is the best antidote to a recession.

This adaptive model of defensive and offensive strategies is at the heart of our Model for Organisational Resilience.

Chapter 2

Crises are everywhere

We navigate a new business environment of large crises occurring back to back and overlapping. Faced with industrial shifts, digital disruption, micro and macro shocks, many industries are now operating in vulnerable markets. In fact, one of the CEOs we interviewed for this paper summarised the present situation as:

It's one crisis after another. I don't think anyone can set a traditional five-year strategy any more because there are a lot of unexpected events happening, it becomes more of a 12-month strategy planning.

In this section, we will look into some of the biggest shocks that are currently affecting European businesses, from supply chain disruptions to the energy crisis, as well as spotlights from sector- specific disturbances.

Spotlight: Supply Chain disruptions

Following the crisis of the Covid-19 pandemic, the global supply chain space was still in a recovery stage when the Ukraine war broke out and worsened the situation across Europe. From logistics breakdowns to material shortages and a tight talent market, the supply chain space is now facing several disturbances, one aggravating the other.

Transportation and logistics shocks

The five biggest disruptions faced within the transportation and logistics sector currently are:

- Port congestion
- Container shortages
- Fuel prices
- Labour market shortages
- Routing constraints

Port congestion: leads to full terminals where container ships cannot load or unload their cargo, necessitating queues and additional wait times which results in delays. In fact, data from Statista reveals that the average container ship delay, which was four days in 2018, has reached eight days in 2022.[3] In addition, China's recent lockdowns, as well as Russia-bound stranded containers, have compounded the issue and led global port congestion to near peak levels in 2022. This is causing new record wait times, leading to severe import and export bottlenecks and delays.

Container shortages: sea cargo stuck in ports or in storage, unable to move. An uneven distribution happened in the last couple of years, resulting in increased container prices. Combined with port congestion, this caused major price increases in ocean freight, as the HARPEX index confirms: shipping rates this year have almost reached 10 times their level of two years ago[4].

Soaring fuel prices: add more complications to the supply chain space. The recent geopolitical developments in Europe have resulted in an abrupt cut-off of energy from Russia, which drove fuel prices to new peaks and affected the workforce. In fact, the International Chamber of Shipping reported earlier this year that 14.5 per cent of the global shipping workforce was composed of Russian and Ukrainian seafarers alone.[5]

Labour shortages: aside from the implications of the recent Russo-Ukrainian war on seafarer positions, this sector has also been struggling with increased workforce shortages that predate the war. The International Road Transport Union, IRU, revealed last year that Europe had a shortage of nearly half a million truck drivers, equating to 10 per cent of the total driver positions in the region.[6] The IRU predicts that 14 per cent of the total positions will remain unfilled by the end of 2022. This shortage applies to drivers, warehouse operators and dock workers as well.

Routing constraints: this is due to several external factors affecting commercial transportation and delivery, from poor weather conditions to traffic, as well as receiver availability. One of the CEOs we interviewed confirmed this:

In the early months of 2022, we started to move cargo from ship to train. In February, the trains that go through Russia got stuck for four weeks and our cargo got stranded. It is important to think about the extreme possibilities of what would happen and how we can live with that as a company.

This requires more accurate forecasting for disruptive conditions and planning for alternative solutions. As a result of all these disruptions, the transportation and logistics sector is currently facing soaring prices for both ocean and road freight.

Manufacturing disruptions

According to data from the UN and World Bank, the manufacturing industry has been declining globally across the last four decades. In Germany, the sector's contribution to GDP went from 33 per cent in 1980 to 19.4 per cent in 2019.[7] Recently, the pandemic, the Russo-Ukrainian war and the energy crisis in Europe have each triggered severe disruptions, from supply bottlenecks to procurement issues for raw materials. The six most critical disruptions within this sector are:

- Labour shortages
- Material shortages
- Demand surges
- Offshoring disruptions
- Cybersecurity threats
- Increased costs

Labour shortages: have made it increasingly hard to retain talent within this sector. In 2021, Parsable surveyed 1,400 frontline manufacturing workers from Germany, France, the US, Spain and the UK and revealed that 45 per cent of the participants were ready to move to another job if it was more modern or digital. This percentage was even higher among participants aged 18–24 (55 per cent).[8] Furthermore, the introduction of new tasks and technologies to this industry requires top tech skills that the ageing, current workforce does not have and this is aggravating the situation.

Material shortages: and lack of resources caused by Russian bottlenecks have been disrupting operations across different industries in Europe this year. As a result, companies are struggling with procurement of raw materials and intermediate products needed. The German Research Institute of IFO revealed in June 2022 that shortages of intermediate products in manufacturing are expected to last another 10 months on average for each sector. An influencing factor of this is the concentration of supplies. This is due to both Russia and Ukraine being major suppliers of critical raw materials. Similar heavy reliance on concentrated suppliers leaves this industry vulnerable. Last year, the EU's imports from China were the highest in recent years (worth €472 billion),[9] leaving the region open to more shortages amid any potential Chinese conflict, which is possible considering the recent tension between China and Taiwan. In Switzerland, a survey by Economiesuisse revealed that 80 per cent of the interviewed companies faced difficulties purchasing intermediate products in 2021, with the majority naming transportation problems as the leading cause of their supply bottlenecks.[10]

Demand surges: have also been responsible for supply chain disturbances, as the lifting of Covid-related restrictions led to an unexpected rise in demand across different sectors. This has aggravated the supply/demand imbalance problem.

Offshoring disruptions: Another source of disruption that was exposed by the recent pandemic is offshoring strategies. This popular manufacturing practice is now being reconsidered by large corporations as it became a vulnerability during recent events. From the implications of lockdowns in several countries to the devastating natural disasters in others (Japan, India and, most recently, Pakistan), as well as the impacts on Russian partnerships because of the recent war, offshored operations have been severely disrupted, resulting in manufacturers reconsidering their strategies and adopting reshoring. One of the CEOs we interviewed stated that:

Earlier this year, our factory in China was shut down completely for two weeks because of a total Covid-lockdown of the city Suzhou. They shut it down and we couldn't manufacture or do anything. We didn't get any early warning. It happened overnight.

Cyberattacks: a somewhat new disruption that has become common. The increasing use of technology in manufacturing operations is requiring stronger cybersecurity from companies in order to protect the customers, employees and suppliers from data breaches and cyberattacks. Earlier this year, Check Point, the world's leading cybersecurity employer, released a report on global weekly cyberattacks across all sectors, and manufacturing was ranked eighth within the top ten most targeted sectors, with an average of 969 attacks per week as at Q2 of 2022.[11]

Increased costs: are the result of these issues. From increased utility and energy costs, which have risen owing to both geopolitical events and climate change impacts, to the challenge of adequately balancing resources and cost controls, manufacturers across Europe are facing significantly high bills that are forcing labour and operation cuts. The CEO of a leading French glass tableware company, Arc International, stated that:

> **It's the most dramatic situation we have ever encountered. We don't want to stop operations completely but we are not going to produce if we lose money.**

Talent market challenges:

The challenges faced in the talent market make it one of the most complex and enduring supply chain disruptors, from monumental shifts within the talent market to the new challenges of not only attracting talent but also maintaining it. Challenges include:

- Shifts in talent and skills
- Labour market tightness
- War for talent

Shifts within the talent market: the skills that the world needs are changing, along with demographics and employee expectations. This is causing a long-lasting shift in practices. With new technologies transforming several sectors, companies are required to keep up by attracting young talent that possesses advanced skills, as well as upskilling and reskilling the workforce. Moreover, the recent pandemic triggered a labour reallocation shock and is now serving as a catalyst for improved work-life balance for employees, reflecting a cultural change within workers that employers cannot ignore. Also, several countries including the US and UK are seeing the "great resignation" trend grow this year, as more and more employees are choosing to resign and move jobs. The world's largest recruitment agency, Randstad, estimated that one in four people had planned to quit their jobs by the first half of 2022.[12] In France, news sources reported that nearly half a million workers had resigned in the first quarter of 2022, by far the highest rate of resignations in the country since the financial crash of 2008.[13]

Labour market tightness: the gap between vacant jobs and available workers to fill them is growing. European countries are currently experiencing a tight labour market for several reasons. First, several European countries have decreasing working-age populations. For example, in Germany, the labour force is expected to drop by 7.2 million by 2035 despite increased efforts to raise employment rates of women and older people.[14] In Switzerland, based on data from the Swiss Federal Statistical Office, the country's labour market tightness index reached an unprecedented level in the second quarter of 2022. Furthermore, in a survey by Credit Suisse and procure.ch, 70 per cent of companies reported greater difficulty recruiting now than before. Lastly, and based on data from the KOF Swiss Economic Institute, staff shortages in Switzerland are broadly distributed across all sectors in 2022, with IT, transport and storage, and healthcare and social services having the most significant shortages.[15]

War for talent: the competition between businesses when it comes to attracting and recruiting talent is increasing. Currently, the war for talent is as intense as it can be because of the global labour shortages seen across all sectors, the tightening labour markets caused by new work-life balance values and the new shifts in needed employee skills. The new competitive and scarce labour market is costing companies extra money, disrupting operations and forcing businesses to miss out on business opportunities. Worsening economic conditions will cause lay- offs, as highlighted by Elon Musk, whose arrival at Twitter marked a 50 per cent reduction in staff. So worsening economics will make some talent available as companies go under or staff cuts are made, but won't provide enough to fill the gap of structural talent shortages.

Spotlight: The energy crisis of Europe

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The recent energy crisis first started globally in 2021 following the shortages caused by the pandemic and climate change factors. However, the 2022 Russian invasion of Ukraine compounded the problem, as one of Russia's responses to the sanctions imposed on it by Western countries came in the form of an abrupt cut-off of gas to Europe. Up to that point, and according to Eurostat, over 40 per cent of EU gas imports came from Russia alone. After the cut- off, Europe found itself facing energy shortages and record-high price increases. For reference, Eurostat reported this year that energy's annual inflation rate reached 41.1 per cent in 2022. The biggest contribution comes from gas, with a European average inflation of over 51 per cent.[17] Furthermore, there are new concerns that this situation will get worse after this winter, as the filled gas storage tanks will be emptied and European countries will need more domestic solutions to lessen the crisis in 2023 and 2024.

Russia's invasion of Ukraine and sharp reductions in natural gas supplies to Europe are causing significant harm to consumers, businesses and entire economies. – Keisuke Sadamori, the IEA's Director of Energy Markets and Security

The cut-off has also affected European households, cities and new governmental policies. For the first time, Paris decided to turn off the lights of the Eiffel Tower at 11:45 pm both to cut down its consumption and to raise awareness about the energy shortage in France. Multiple cities in Germany scrapped nightly light displays on their public buildings. Several European countries such as Spain and Belgium set a ceiling on heating temperatures. Others prepared relief packages to help households during the crisis, and reduced the taxes on natural gas. France, according to its prime minister, imposed limits and caps on electricity price increases (4 per cent until the end of the year; 15 per cent in 2023).

In Switzerland, the government formed a new energy crisis unit this September and has proposed building power reserve plants. In fact, Swiss media reports that the president of the Federal Electricity Commission, Werner Luginbühl, has expressed concern about the current situation in the country, stating that it remains critical and relies on good weather conditions. As a result, the country decided to build emergency reserve power plants that can be operational by as early as February 2023. The construction process of one of these plants has already started in Birr. The objective is to increase the country's ability to produce energy domestically and become more self-reliant. Swiss news platforms have also reported that the government has suggested speeding up the construction process by facilitating the approval of planning regulations and reducing noise and air pollution restrictions.[18,19]

Indeed, shortly after the cut-off, and as expected, industries that rely on energy to transform raw materials began struggling to continue their operations and this has put a domino effect in motion, affecting their entire supply chains. For example, the world's largest glass tableware company, Arc International, which is located in France and relies heavily on gas to keep its furnaces running, had to a) cut down its operations this year, b) shut down half of its furnaces, which destroys the equipment, c) switch to diesel power instead of natural gas, which raises their carbon footprint by 30 per cent, d) put a third of its employees on furlough and e) readjust its production plans, all while dealing with a drop in demand owing to concerned customers prioritising essential items. While this company reports having around 6,000 workers, it is estimated to be indirectly responsible for over 15,000 jobs in the region it operates in owing to its large supply chain.[20] Consequently, the effects of the crisis started impacting its partners as well, including transport companies, cardboard factories and retail shops. This is only one example among thousands across Europe, but it explains how the crisis no longer only impacts industries that heavily rely on energy, but instead affects their entire chains, making it a problem across most sectors.

After pushing international energy prices to new highs this year, the crisis is expected to continue causing market turbulence during 2023 and even 2024. In fact, despite several countries lowering their gas consumption by 15 per cent and taking immediate measures to help fill their gas storage tanks, for which several countries have exceeded the target of 80 per cent, there are new concerns that these gas storage reservoirs might be empty after winter and it will be harder to refill them next summer. One of the CEOs interviewed expressed that:

One thing that the energy crisis has shown us is that we [Europe] are not self-sufficient and lack a unified voice. Energy is a fundamental driving force of economic development so it'll cause a structural gap in Europe compared to the US and China.

Spotlight: Inflation in Europe

Inflation rates in Europe reached an all-time high this year, impacted mainly by the energy crisis and inflation in the food sector.

Between 2000 and 2022, inflation in the EU averaged 2.09 per cent. In September 2022, it reached an all-time high of 10.9 per cent, with countries like Belgium, the Netherlands and Spain having inflation rates higher than this average. In Germany, the inflation rate now equals the European average. According to Eurostat's October report, the main contributing sectors to this high inflation rate, in order, are: energy (with +4.19 percentage points); food, alcohol and tobacco (+2.47pp); services (+1.8pp); and non-energy industrial goods (+1.47pp). The contribution of each of these sectors has been increasing on a monthly basis.[21]

Moreover, the impact of the war in Ukraine on energy prices and supply shortages in Europe made the euro depreciate against the US dollar, as the currency traded at its two-decade lowest rate against USD this past August, affecting the dynamics of export price competitiveness and giving the USA an advantage.

> **In the face of inflation that is extremely high, that is of a magnitude and persistence across sectors of that nature, obviously determined action has to be taken.**

Christine Lagarde, President of the European Central Bank

Following the recent developments in Europe, the European Central Bank, ECB, made GDP projections for 2022 and 2023. The first projections, reported in June, had to be readjusted in September and reduced further to better account for the implications of the energy crisis and high inflation rates across the continent. According to the ECB's report, annual average real GDP growth is predicted to reach 3.1 per cent in 2022, drop to 0.9 per cent in 2023 and rebound to 1.9 per cent in 2024. The bank expects GDP to recover in the course of 2023; however, it does warn against a "worst case scenario" where it assumes a complete cut-off of Russian gas as well as oil flows into the euro area with little scope for accessing alternative gas suppliers. For this scenario, the predicted annual GDP growth of 2022 becomes 2.8 per cent and −0.9 per cent (a loss) for 2023.[22]

Because of the current state of several European economies, multiple industry experts are describing the crises as recessions. While doing research for this report, we came across two indices that could be indicators of the health and direction of an economy. The first is the Market Eurozone Composite PMI index. This index tracks business trends within the manufacturing and service sectors based on data collected from 5,000 companies. It tracks variables like sales, employment, inventories and prices. Any score below 50 indicates a decline. In October 2022, this index dropped to 46.4 for the euro area,[23] reflecting the biggest fall in private sector activity since February 2021 in this region.

The PMI surveys signal that the euro area is entering recession earlier than we previously thought, led by its largest economy, Germany – Macro Strategist Peter Schaffrik from RBC bank

The second index is the Sentix Index. It represents market expectations of investors for the following month. The overall index for the euro area for October 2022 was −38.3 points (the lowest value since May 2020).[24] This means that the majority of investors polled for this index think the market is uninvestable right now.

Spotlight: Selected sectors

Utility

Cyberattacks

- Growing challenge of ensuring infrastructures are resilient.
- The sector is a huge target: many attacks targeted European oil terminals in 2022, such as SEA-Tank in Belgium, Mabanaft in Germany and Evos in the Netherlands.
- The attacks disrupted operations of fuel and oil distributors, forced gas stations to switch to alternative suppliers and cost extra expenses.

Labour shortage

- According to the 2022 Global Energy Talent Index report, 75 per cent reported they are considering moving to another energy sector within the next three years, while 77 per cent reported they are considering leaving the entire energy industry within the next three years.[16]
- The majority of participants listed these as motives: career progression, ESG and innovation.

Financial shocks

Increased costs for transmission and distribution lines, decreased revenue, unexpected costs of shutdowns due to severe weather events and natural disasters, the impacts of cyberattacks (additional damage costs, loss of customers, etc.), increases in prices due to lack of resources and the recent energy crisis are all further restraining the utility sector.

Other disruptions

- Weather/natural disasters: the challenging nature of supply demand forecasting for this Sector requires considering impacts of unpredictable events on power generation, transmission and distribution.
- Not meeting the forecasts may cause outages and price spikes. Both can disrupt industrial activities, increase business expenses, affect consumer spending habits and raise uncertainty levels.

Financial Services

Cyberattacks

- Major concern due to the sensitive nature of financial data.

- According to the global FS-ISAC (Financial Services Information Sharing and Analysis Center), 24 per cent of member-reported incidents are phishing campaigns.

- Cybersecurity software company UpGuard revealed last year that the most-targeted industry was the financial industry, with nearly 25 per cent of the total attacks.[25]

Labour shortage

- Worsened by the pandemic and fintech competition over talent.

- The UK's Financial Services Skills Commission (FSSC) reports that 92 per cent of its member firms had hard-to-fill vacancies in 2021.[26]

- The giant Deutsche Bank revealed it increased its payroll costs by 30 per cent last year to retain talent.[27]

Financial shocks & Other disruptions

The recent geopolitical events have triggered inflation across several industries, caused increases in interest rates and driven a rise in costs, leading to recessions. In Switzerland, for example, inflation has been constant for more than 25 years, with an annual average rate of 2.4 per cent for at least the last five decades. This year, however, it crossed 3.3 per cent in September, mainly because of an inflation in energy of +24.1 per cent.[28]

Retail

Labour market shocks

- Workforce attrition: The Bureau of Labor Statistics reports this sector has an employee turnover rate of 60 per cent in the US,[31] and this applies to frontline retail workers and managers. The Food Industry Association reported that 80 per cent of 38,000 surveyed retailers expressed difficulties in hiring and retaining employees in 2021.[32] This is justified by poor working conditions, dated technologies, pandemic shifts, supply chain challenges and employees' new work-life balance priorities and values.

- Quiet quitting: A new trend where employees do "the bare minimum" owing to being burnt out. A recent European survey by LifeWorks reveals 41 per cent of participants are at high risk of having a mental health disorder because of low morale caused by the pandemic, the war and the cost of living crisis happening back to back.[33]

Financial shocks

- Inflation and soaring electricity/fuel prices are driving up production and utility costs.

- Inventory overhead costs are forcing budget increases.

- A new challenge for retailers is finding prices that are high enough to ensure profit (against newly increased costs) but low enough to not lose customers.

- Consumer spendings have dropped accordingly, affecting retail sales.

Macroeconomic

The results of political and natural events, such as climate/war impacts on agriculture and food (insufficient materials and transportation issues) have affected the procurement of necessary raw materials and the production, product development, distribution and delivery of products throughout the sector.

Pharma

Financial shocks

- The Russian invasion drove energy prices to new peaks, forcing lobby group Medicines for Europe to write an open letter to European ministers about the prices of required materials rising between 50 and 160 per cent, and the fact that the members are considering halting production of cheaper generic drugs.

- Rising tension between Western countries and China, the world's leading exporter of active pharma ingredients, may lead to increased costs and more material shortages, and trigger more production disruptions.

Other disruptions

- Transportation: Pharma carriers increased their rates and deal with delays and cancellations owing to demand surges vs limited supply caused by the war and energy crisis.

- Shortages: Recent examples of shortages include baby formula (US), Tamoxifen drug (Germany), Paracetamol, Ozempic for diabetes, Metalyse for heart attacks (Europe), etc.[29] In Switzerland, the number of unavailable essential drugs went from 57 in 2020 to 82 in 2022 Q1.[30]

- Damages: Active pharmaceutical ingredients and drugs are sensitive to temperature and other conditions, which creates a high risk of product damage during transportation, especially in a time where shipping delay averages have doubled. These damages cost a lot to manage and to avoid.

Spotlight: Macro shocks

As the risks of macro shocks that could up-end the global economy in the near future looms large, this paper discusses five potential macro shocks that could heavily affect businesses in Europe. These are a Chinese invasion of Taiwan, another pandemic or financial crisis, natural disasters caused by climate change, and a further escalation of the Russo-Ukrainian war.

1. China invades Taiwan

This could happen because China has made it clear that its reunification with Taiwan has become an unalienable national objective while Taiwan has so far displayed no democratic will to reunite with China. This makes the possibility of military conflict quite high, especially since China has already staged drills recently, flying over Taiwan airspace. Furthermore, the US has committed by law in Congress to defend Taiwan, and President Joe Biden has said several times that the US would intervene if China were to invade Taiwan.

What would be the implications of this invasion? First of all, China is the world's leading exporter while Taiwan's economy is also export-oriented. This means there are many countries that rely heavily on both China and Taiwan for materials and resources. For example, semiconductors, which are mainly produced in Taiwan and are essential for many industries, could be cut off in this scenario, which would drive up the prices rapidly. Moreover, the war could easily escalate into World War III considering that if the US defends Taiwan, the whole West would back the US against China, while China's allies include North Korea and Russia.

2. Another pandemic

Pandemics always happen. It is not a question of if, but a question of when another one will hit. Historically, pandemics happen once every 100 years, but now because of the risk of bioterrorism and the easy and highly frequent nature of modern international mobility (the main catalyst behind Covid's international spread across borders), another pandemic could happen much earlier than expected. And considering that industries are in the middle of crises (energy crisis, cost of living crisis, food shortage crisis, etc.) while still recovering from the Covid-19 crisis, the impacts of another pandemic would be more significant and severe than those of Covid as the business environment is already vulnerable and unstable.

What would be the implications of this? As displayed by the last global pandemic, such an event triggers other social and economic crises. Another large-scale lockdown would crash Western economies again, negatively impact incomes and consumer behaviour and trigger a drop in employment. Among social implications, mortality rates would increase, the global food crisis would get worse, healthcare spending would soar and domestic violence rates could go up again (which happened during Covid lockdowns). Lastly, this would also have an impact on education policies, governmental regulations and authoritarian restrictions affecting all industries.

3. Another financial crisis

Financial crises happen often, with the last major one in 2008. Many commentators have claimed that we now have the tell-tale signs of a financial crisis, especially with the way the global economy has slowed down. China has a significant property crisis right now, the US and the UK are dealing with a cost of living crisis, and macro strategists in Europe are calling recessions in different countries, owing to the high inflation rates and the shaky business environment. If these factors were to lead to a big financial crash, we would witness significant lay-offs (this has already started, with both Twitter and Meta laying off tens of thousands of employees), severe cuts, global drops in employment rates and consequently, a drop in mood and motivation, an increase in depression and mental health disorders (this is already happening in Western countries), a decrease in consumption and investments, etc.

4. Natural disasters from climate change

Climate change is real and its recent developments have demonstrated the potential severity of this issue in the world. From sea level rise rates doubling and exceeding projections to the increase in global temperature, the world is currently facing more natural disasters at a faster pace, more severe heat-waves, severe droughts, more animal extinctions and more insect outbreaks. This is causing a decline in global water supply (which then affects food production and energy generation), and has triggered heat- related impacts in countries. For example, this year, Pakistan experienced one of the most devastating natural disasters in recent history, as a flood put a third of the entire country under water, resulting in thousands of deaths and tens of USD billions worth of damages.

The implications of such a crisis would range from major losses of life, mental and physical health issues (injuries, handicaps, depression, trauma, anxiety, etc.), destruction of capital assets and infrastructure (schools, factories, houses, roads, ships, etc.) costing billions of dollars, to the disruption of economic activity.

Supply chain's key factor used to be the cost; now it is resilience. If all plants close (example of Pakistan floods), then where do you get your supplies from? We need to become visionary.

Lecturer and business expert Jeremy Baker

5. Escalation of the Ukraine war

Russian President Putin has already threatened the use of nuclear bombs. British analysts believe the potential of Putin using "tactical nuclear bombs" is in fact very real, especially as the war has turned against Russia. The US has intelligence of Russia preparing nuclear weapons in a potential false flag operation. If things were to escalate, the West could not leave the use of nuclear bombs without reply. This could trigger a full-scale war in Europe, World War III. Naturally, this would lead to a disruption of operations, a drop in investments, high inflation (which might cause aggressively high interest rates in response), a decrease in workforce and an increase in defence spending.

Conclusion Building resilience and finding opportunities

It is clear that these macro shocks would subsequently trigger other social and economic shocks. On a supply chain space level, this would mean unexpected disruptions of production, unexpected changes in demand (surges for a few lines and drops in others, depending on the nature of the crisis), workforce shortages and a shift in skills needed. In order to prepare for the different disruptions discussed in this report, as well as the five macro shocks and their implications, companies must build organisational resilience, solidifying their supply chain models and crisis management plans as soon as possible. This implies that businesses should prepare response plans, put them to the test, self-assess their performance and then refine the plans accordingly in order to root out any vulnerabilities and identify new opportunities to explore. Indeed, during times of crises and looming threats, there are always new opportunities to seize. For example, the looming threat of climate change disasters creates room to explore new cleantech, renewable energy and sustainable consumption business opportunities.

Chapter 3

Six elements of organisational resilience

Crisis management is more relevant than ever. It is necessary and can no longer take a backseat as it plays a key role in building organisational resilience. The main idea is to prepare a company to be able to absorb shocks, recover core functionality and thrive in the new conditions. To achieve resilience, crisis preparedness is a key tool. It offsets the impacts of these shocks and helps businesses not only survive but both gain a competitive advantage and seize new opportunities to emerge stronger. For this paper, we designed a new optimal model that combines preventive measures, adaptive practices, defensive tools and offensive strategies to build organisational resilience as shown in Figure 1. Our model suggests six main components: vigilant realism, multidimensionality, continuous reinvention, meaningful purpose, entrepreneurial leadership and strategic foresight.

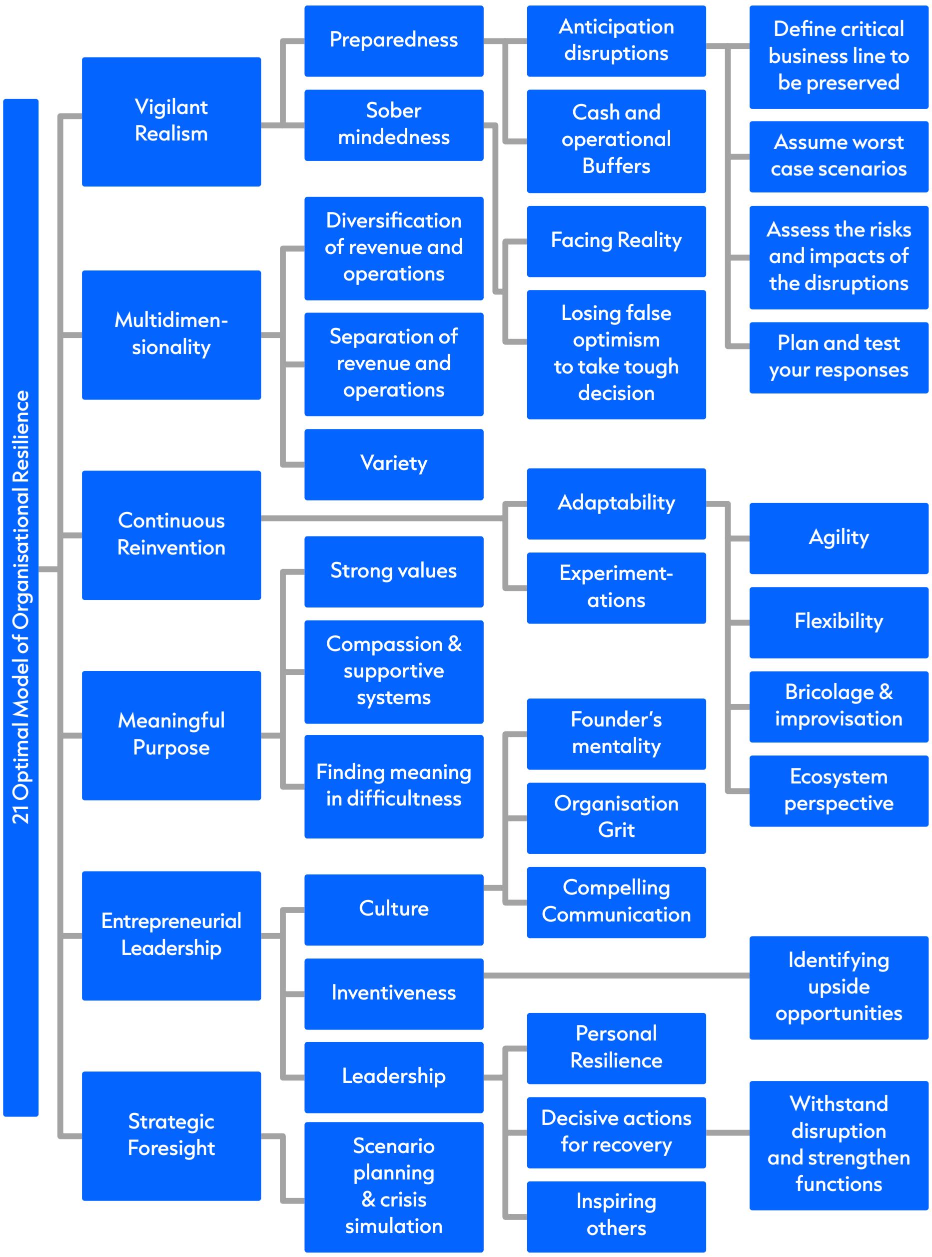
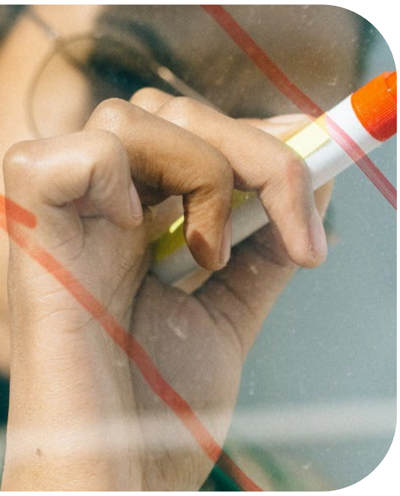


Figure 1: Resilience Model. Our innovative model combines preventive measures, adaptive practices, defensive tools and offensive strategies to deliver the Optimal Model for Organisational Resilience.

1 Vigilant realism



The first component suggests organisations must be vigilant and realistic. It covers preparedness and sober-mindedness.

Preparedness. This refers to anticipating disruptions and planning for them using a continuous approach of planning, testing, evaluating and then repeating.

First, you need to identify your business-critical functions in order to determine which business lines will be preserved and prioritised.

Second, you must identify any potential disruptive scenarios that can affect your company while accounting for worst-case scenarios.

After that, you assess the identified risks and analyse their impacts on your business, while considering both your risk appetite and impact tolerances.

The next step is to develop and test your response plans. This is done through crisis simulations and scenario planning exercises, after which you update your plans based on the newly identified weaknesses, false assumptions, hidden implications and lessons learned. Nowadays, technology can enhance your crisis simulation exercises – for example, through solutions that run realistic virtual simulations.

In addition to anticipatory planning, we recommend implementing buffer strategies. These can be both financial and operational. Developing cash buffers is done by considering the big picture instead of just short-term solutions and not overextending in terms of fixed cost (hiring, contracts, etc.) in order to have cash capacity to sustain operations during deep and long revenue shocks. Meanwhile, operational buffer strategies include reviewing and revising terms of time, capacity and inventory, such as building a safety stock for emergencies.

Sober-mindedness. Our model suggests two practices for this. The first is acceptance of reality. As much as staying optimistic during crises is important, it shouldn't distort your sense of reality. It is important not only to understand the new reality but also to accept it in order to enter the survival stage and take the needed tough decisions (cuts, layoffs, etc.). The second is conquering denial. Research reveals that denial, which is a coping mechanism, is also present in the business environment as some managers deny potential threats or ignore clear warning signs, to avoid dealing with their unpleasant implications. This also applies to accepting industrial shifts and changes. One of the CEOs we interviewed discussed a denial display from his Ukraine team earlier this year:

There is also an interesting psychological aspect to this. We saw the Ukraine war coming but our teams in Ukraine didn't believe it. We asked them multiple times to move before the first hit but they refused to see the risk until the last hours, so there is that psychological aspect of people not believing crises would actually happen.

2 Multidimensionality

Diversification and separation within financial and operational processes can help build resilience to ensure you emerge stronger from a disruption. Our model suggests five practices to achieve this: revenue diversification, portfolio variety, financial separation, operational diversity and separation.

First, we have revenue diversification. It is important to rely on multiple sources of income by diversifying your offerings, sales channels, customers and locations. This minimises risk as it helps your organisation withstand economic disruptions when one sector experiences a crisis, so that you can fall back on the other sources.

Second, we recommend adopting portfolio variety. Following the principle of "multiple small lower-risk investments over one big-risk investment", encourage exploration of new strategic options to become a multidimensional proactive organisation. This enhances your ability to respond to changes, including in times of crisis.

Third, there is financial separation. By separating high-risk business lines from regular ones, for example using subsidiaries, you protect your organisation from being affected by the bad performance of the high-risk lines.

The fourth recommended practice is operational diversity. To limit the impacts of supply chain disruptions, it is important to diversify your supply chain processes, options and tools. Have alternative product development designs using alternative ingredients/materials; plan backup routes and alternative suppliers.

Finally, apply operational separation. Implement decentralised supply chains or local-for-local manufacturing strategies in the different markets you operate in. This way, when one market is affected, only its supply chain is disrupted while the rest remain functional.

3 Continuous re-invention

A key component of resilience is continuous reinvention, which your business can achieve through experimentation and adaptability.

Experimentation refers to your ability to experiment with different actions in order to select the ones that prove to be most effective for your business, and consequently can adapt the fastest to a crisis. You can use technology for experimentation. There are software solutions that can run digital business experiments for you, such as cash flow forecasting platforms where you can see the implications of some actions/ scenarios: the closing or opening a new store, the hiring or firing of an employee, etc.

Adaptability by definition means your ability to adjust to new conditions. Our model recommends four practices for this:

- Strategic agility: this specifically refers to quickly responding to changes and adapting. It is important for securing scarce resources and capitalising on new opportunities.

- Bricolage and improvisation: this refers to your ability to improvise a solution to a problem with the resources you have. Improvisational skills can be learned through workshops. Certain businesses, such as UPS, rely heavily on this approach.

- Ecosystem perspective: in the current business environment, where companies operate in a dynamic collaborative manner, it has become important to identify your dependencies and interconnected operations, understand their risks and prioritise them based on how critical they are for your business continuity. After all, a supply chain is as strong as its weakest link. Because of this, companies should learn to think in systems and consider the entire ecosystem when anticipating and preparing for disruptions. This way, you can avoid falling victim to a domino effect set in motion by one of your partners.

- Building operational flexibility: companies should build flexible operations to enable easier change of processes when needed, and thus have more ability to adapt to adverse events. Examples of this include using standardised factories, interchangeable parts and processes, cross-training your employees, postponement strategies and adopting simultaneous processes.

4 Meaningful purpose

Maintaining strong values and finding a meaningful purpose amid chaos can both shape and guide your responses, as well as strengthen your interdependencies for a stronger crisis- performance. For this element, we recommend three practices.

First, you need to learn to find meaning in difficulties. Finding meaning amid chaos and communicating to your employees that something better can come out of it will make them feel comfortable after the initial shock – and, as a result, get them to refocus on work faster and remain motivated to help you get out of it.

Second, build strong values. Having strong values will give your environment meaning which can help interpret the new conditions from your company culture's point of view and help shape and guide the new actions you will take to respond.

Finally, have compassion and give supportive responses. This aims to ease the collective anguish and confusion caused by a crisis by expressing the company's compassion, aligning its values with the new societal/affected community values and communicating the company's larger purposes, which enhances your recovery. Supporting all your stakeholders will strengthen your interdependencies and maintain their loyalty, allowing you to adapt to the new reality and excel during difficult times. Organisational compassion can be expressed through providing resources to your employees and community such as flexible work hours, financial support, physical aid, employee counselling and gestures of comfort.

5 Entrepreneurial leadership

Entrepreneurialism can build a solid corporate culture and turn a crisis into an opportunity through strong leadership. Our model defines it through three elements: culture, leadership and inventiveness.

The first element is having a strong culture. We suggest three practices for this. First, having a founder's mentality. This means you should instill an owner's mindset within your employees. It aligns your purposes, empowers your employees and speeds implementation of strategies. In addition to that, build organisational grit. Grit here refers to always striving to improve. Building a gritty culture can start by first attracting gritty employees who are passionate and persevering in the face of adversity. These qualities will help you achieve challenging goals and exceed expectations. Lastly, practise compelling communication. Communication has a direct impact on employee engagement and motivation. In times of crisis, it reassures employees and keeps them focused.

The second element of entrepreneurialism is strong leadership. Our model recommends three practices for this too, starting with building personal resilience. Resilience can be learned. Research has revealed that personal resilience has three defining characteristics: accepting reality, believing that life is meaningful and having the ability to improvise. There are courses and training for it that teach people life skills and attitudes required for resilience and hardiness (for example, a course at a university like the University of California).

The next element is taking decisive actions for **recovery**, which means your organisation's ability to return to an acceptable level of operation and production. It starts with withstanding disruption. This depends on the extent of your preparedness and response execution (see Figure 3). By closely monitoring the situation and adapting your responses as the crisis evolves, you gain insights to improve your processes and solidify them based on the new conditions.

Strong leadership should also be capable of inspiring others. This is needed most during difficult times. It can be facilitated by showing empathy, being honest (taking accountability when needed), listening to your stakeholders, showing appreciation, involving all your stakeholders and promoting working together.

One of the CEOs we interviewed emphasised the importance of strong leadership in times of crisis, stating that:

Europe's sanctions on Russia and the Middle East accepting Russian money are different leadership decisions to the same crisis. What matters is being able to act fast, have strong leaders and strong governance. In times of crisis, weak leadership, unclarity, lack of decision making and of courage are detrimental.

The third and last element of our model's entrepreneurialism is inventiveness: identifying upside opportunities. Opportunity goes hand in hand with risk. Resilience not only aims to minimise downside impacts but it also aims to shape the new circumstances to your advantage by identifying newly created opportunities for you to leverage.

6 Strategic foresight

Strategic foresight is a pillar of building resilience and should follow a continuous approach. It refers to the practice of exploring different futures for your organisation. In crisis management, the objective of strategic foresight is to avoid negative futures. It starts by identifying potential situations that might affect your business in order to reduce uncertainties surrounding them and help you make better decisions.

The most widely used tools for this in business are:

- Scenario planning: Think of plausible disruptions and prepare your responses for each one. Start by defining the main objective(s) of the exercise, local factors and global driving forces of the situation, its critical uncertainties and the different alternative scenarios for each considered situation.

- Crisis simulation and tabletop exercises: In a controlled setting, your teams respond to a specific situation, allowing you to evaluate their response. This helps you root out vulnerabilities within your strategies, rectify false assumptions made about how your organisation would measure against a certain situation, identify hidden aftershocks you did not foresee and, lastly, learn from the experience, update your plans accordingly and then start over, as summarised in Figure 2.

- In this paper, we also suggest a new innovative practice for this: **reinforcement learning**. It was recently cited by Google in their paper Reward is Enough as the AI technology that can get us to artificial general intelligence. For example, companies can build a digital twin of their supply chain and logistics, and use novel reinforcement learning algorithms to optimise in a virtual environment.

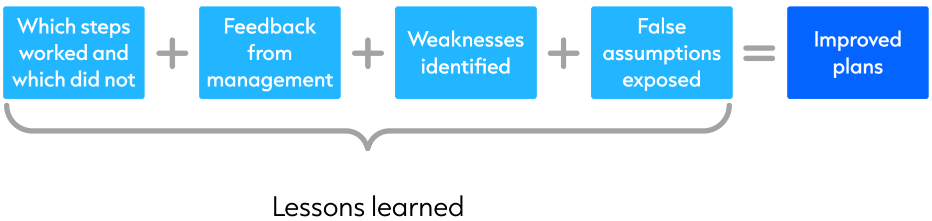
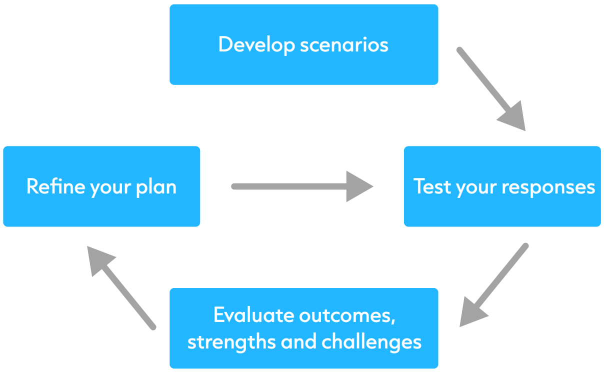


Figure 2: Benefits of crisis simulation exercises



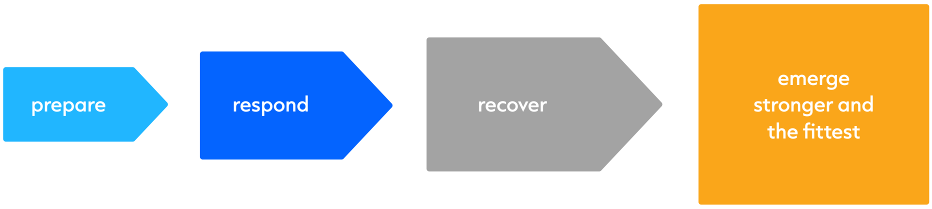


Figure 3: Scenario planning cycle

Figure 4: crisis management stages

Chapter 4

Helpful tools and learnings

Crisis simulation software

There is a range of software tools available, such as Prevency, Conducttr and Crisis & Solutions, that offer virtual crisis simulation and training. This software covers different use cases of crises: cyberattacks, social media threats, natural disasters, reputation crisis, black swan events and outbreaks. Following these simulations, you get an evaluation of your performance highlighting areas of improvement; for example, Prevency gives crisis response scores that you can monitor to track your progress. In addition to the simulations, most of these solutions also offer digital training programmes for crisis management.

The difference between these and traditional crisis simulation practices is that they use technology to make the experience as realistic as possible. This is done by hosting different scenarios on a virtual platform that simulates media (in order to replicate stakeholders and customers), with fabricated content that matches the crisis (content of social media, websites, news, multimedia libraries and blogs, etc.), an interface through which teams can communicate and take actions online and an automated simulation of communication traffic and buzz through AI.

Crisis simulation in supply chain and logistics

In order to anticipate more leading-edge crisis simulation techniques, our team conducted a literature review of upcoming methods. We were able to assess a very large body of work across disruptions, application domains, risk management, and optimisation objectives. We were able to group the different models into:

1 Qualitative

2 Quantitative/quali-quantitative

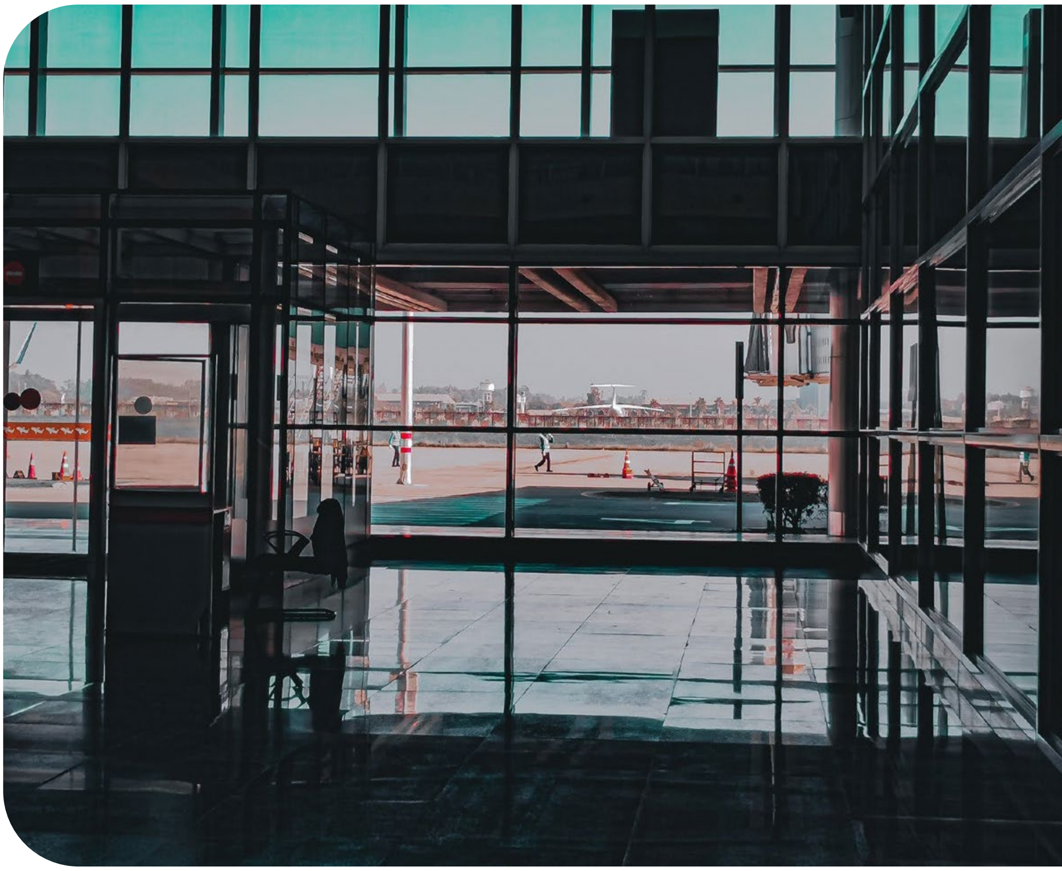
With two main macro-themes:

1 Resilience

2 Risk (identification, mitigation)

And two subtypes of risk modelling:

- Proactive – pre-disruption models: mostly quali-quantitative models
- Reactive – post-disruption model: mostly quantitative models



Reinforcement learning example

A reinforcement-learning-based framework for risk identification of disruptions in supply chain calls for the automation of risk identification operations for risk management. This framework uses AI to increase the efficiency and efficacy of assisting a risk manager in proactive risk modelling.
The reinforcement-learning-based approach in proactive risk identification has three steps:

1 Consider the external risks impacting its operations apart from only the internal risk events

2 Identify new risk events negatively impacting its operations apart from the known ones

3 Process a high volume of operational data in a timely manner and flag it to the risk manager's attention if it is of further interest[34]

The method followed for this reinforcement learning model has four steps:

Step 1

Data preparation: risk manager identifies the potential risk events.
Potential disruption events that can impact the company's supply chain

Step 2

Data collection: collection of various new sources for those events.
BBC, Google News, CNN, Bloomberg...

Step 3

Entity recognition module: identify the details of each new item.
Contextual description of each news articles

Step 4

RL-based recommender module: RL model scores each news items and selects most relevant news. Chance of an article to be relevant, trained by maximising a reward based on risk manager's feedback

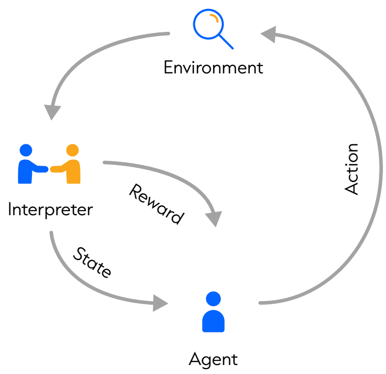


Figure 5: Reinforcement learning method

Examples of companies showing resilience during the pandemic

AMAZON

Quick response Prioritisation of offerings

Quick decisive response that prioritised lockdown-specific essential items: stock went up by 63 per cent in 2020. One of the reasons for it: early product prioritisation to lessen supply chain strains (shipment delays, demand surges and labour shortages).

- Focused on high-demand lockdown-essential products only (baby products, health, household staples, grocery, pet supplies), to be able to meet new demand; announced it wouldn't accept shipments from sellers in other product categories.
- Extended delivery windows for vendors.

BCDVideo

Sober-mindedness Agility Operational buffers

The vice president of BCD's supply chain global operations expects China to shut itself down whenever something is amiss. So in January 2020, when news leaked that the WHO was sniffing around Wuhan, China, the very next day he ordered four times their regular monthly parts from Dell OEM. Three days later, China shut down. The company was able to use ready-to-build stock from Dell in Mexico, as any Chinese components were already at that site. Because of this quick action, they were on top of it early and never lagged (as reported by BCD's CEO, Jeff Burgess).

INTEL

Preparedness Crisis simulation – drills Flexible operations

After the 2002 SARS crisis, Intel established a crisis management program designed to enable critical business functions like managing the supply chain to continue or recover quickly. Some of Intel's planned measures for crisis management include relocating impacted businesses to designated recovery locations, deploying redundant processing capacity at other locations, testing emergency and recovery procedures on a regular basis and conducting annual assessments of the programme. They have a "playbook" for emergencies.

AIRBNB

Cash buffers Adaptability Diversification

- Cost cuts: lay- offs, reduction in discretionary and capital expenditures, a slashing of executive salaries for six months, etc.
- While the travel and hotel industries suffered deep shocks during the pandemic, Airbnb recovered faster by taking advantage of accurately interpreting new customer pandemic- specific preferences: the company launched a "Go Near" campaign that advertises locations within driving distance from large cities to offer safer options – an offering made possible thanks to the company's diverse options, as opposed to the traditional concentration of hotels in large touristic areas.

Chapter 5

Conclusions and recommendations

The world has never appeared more fraught with crises. From energy costs, to inflation, recession and falling living standards, to digital disruption, work-force shifts and changing consumer attitudes, European companies face an uncertain terrain. Greater threats loom large on the horizon: potential macro shocks which could up-end the global economy, such as financial crisis and escalation in the Ukraine war.

Organisational resilience is a matter of life and death for companies. There is no issue of greater importance for business leaders. It means, on the one hand, being able to act defensively to withstand shocks and, on the other, proactively seizing attacking opportunities. It requires the versatility to shift gears like a speed boat, snared by stormy waters, but manoeuvring out in a blue ocean of opportunities.

Organisational resilience needs to be embedded in the very DNA of the firm. It is not a nice-to- have or extra competency but is formed in the nucleus of the company and branches out across every aspect of the organisation. Organisational resilience is also not something a firm is born with or without: it is entirely learnable and developable.

Decisive leadership is required in times of crisis. As Carl von Clausevitz explained 190 years ago in his genius work on strategy, On War, leaders can have overwhelming possibilities in times of uncertainty. But the leader needs to view uncertainty as a source of opportunities. Leaders should think in "polarities", considering different contradictory courses of action. Through this process, the leader gains a greater understanding of reality as polarities develop a "skill in discerning, from a mass of countless objects and relations, what is most important and decisive." The leader must then act decisively; in-action is not an option, as in crisis "the fear of hesitation and delay overrides all other human fears".

The best-in-class organisational resilience model presented in this report encompasses all the key areas your firm needs to develop. These can be understood in work packages for your firm to undertake:

Preparedness: analysis to determine critical business lines, and appropriate cash and operational buffers. Firms must prepare for crises and be vigilant by accurately reading present situations, anticipating potential shocks and taking action instead of hiding one's head in the sand like an ostrich. The adoption of operational practices that promote flexibility and adaptability, as well as the implementation of financial buffers, reduces the implications of disruptions on your business and increases your odds of coming out of shocks the fittest among your peers, with long- term competitive advantages.

Multidimensionality: reviewing the organisation and supply chain to ensure variety, diversification and compartmentalisation. This variety and diversity must be permeated throughout the organisation and supply chain.

Continuous reinvention: analysis to determine new innovation areas across the company and strategic planning to identify new entrepreneurial ventures to invest in rapidly.

Leadership: training program for compelling communication, decisive leadership and solid corporate culture. A key factor in achieving resilience is strong leadership and culture. This grants you the loyalty and trust of your stakeholders during stressful times, and thus lowers their chances of abandoning you. It ensures the personal resilience to withstand crises in staff, and embeds meaningful purpose in the culture.

Strategic foresight: using technology and AI tools to run controlled experiments and virtual crisis simulations; use digital twins and innovative software solutions to test your strategies and improve them. Technology plays a large role in organisational transformation and resilience. It can be used in all three stages of crisis management: preparedness, response and recovery. This ranges from designing virtual replicas of your systems and using digital twins for experimentation to software solutions that simulate crisis scenarios and digital tools that maximise visibility across the supply chain dependencies, such as relational frameworks and digital control towers. Lastly, AI tools can analyse crisis-affected demand patterns and interpret the new situation accurately to reveal new opportunities that you can seize.

Strength in partnership

Firms should not be afraid to partner with experts who can support them through this transition.

Consider your value chain as a collaborative ecosystem. No man is an island, and success in the modern age often requires orchestrating ecosystems. Ecosystems power seven of the twelve largest companies by market cap; by 2025, they could account for more than $60 trillion in revenue, according to McKinsey. Working together is essential in tackling common European challenges.

HIGH ACTION IN ORGANISATIONAL RESILIENCE

1

Crisis Industry Leaders
Thanks to a combination of defensive and offensive strategies, these firms turn crisis into opportunities. Sober minded, they take tough decisions but they also launch new entrepreneurial ventures and grow their market shares. Thriving during times of crisis enables them to influence their industry dynamics for the post-crisis environment and redefine its standards. Continuous reinvention enables ongoing success.

2

Crisis Maintainers
Resilient-enough to have an anticipatory advantage that allows them to prepare in advance for disruptions and reduce their impacts. These companies can withstand the initial shocks and maintain business-critical operations to still make a profit during the crisis. With streamlined operations, they reduce risks and can grow again with macro condition changes.

3

Crisis survivors
These organisations did act but did too little too late, suffering significant losses but not enough to be terminal. With bodies bruised and bloody, they soldier on but are now even more vulnerable to further crises and shocks. While they survive the coming 1-3 years, their position is not tenable without change and they may be acquired at cut prices by competitors in the future.

4

Crisis losers
Due to being unprepared for disruptions and lacking qualities that enable agile adaptability (operational flexibility, financial diversity, grit, strong leadership, etc), they fail to adapt to the altered conditions and struggle in maintaining business. Suffering immense losses that lead to bankruptcy and are forever gone. They belong to the pantheon of companies who seemed like they would always be there, until they weren't.

LOW ACTION IN ORGANISATIONAL RESILIENCE

References

1 West, G., 2017, Scale: The Universal Laws of Growth, Innovation, Sustainability, and the Pace of Life in Organisms, Cities, Economies, and Companies, New York, Penguin Press, p. 479

2 Gulati, Ranjay, Nohria, Nitin and Wohlgezogen, Franz, 2010, "Roaring out of recession", Harvard Business Review, 88, 62–69

3 Statista, "Average monthly delays for late container vessel arrivals worldwide from January 2019 to July 2022". Available at: https://www.statista.com/statistics/1303383/average-delays-for-late-ship-arrivals- worldwide/

4 Harper Petersen & Co., "The Harpex". Available at: https://www.harper-petersen.com/harpex

5 International Chamber of Shipping, 2022, "Russian and Ukrainian seafarers make up 14.5% of global shipping workforce, according to ICS". Available at: https://www.ics-shipping.org/press-release/russian-and- ukrainian-seafarers-make-up-14-5-of-global-shipping-workforce-according-to-ics/

6 IRU, 2022, "One in ten European truck drivers missing as shortage escalates". Available at: https://www.iru. org/news-resources/newsroom/one-ten-european-truck-drivers-missing-shortage-escalates

7 Buchholz, Katharina, 2020, "The global decline of manufacturing", Statista. Available at: https://www. statista.com/chart/20148/manufacturing-value-added-as-percent-of-gdp-in-major-economies/

8 Parsable, 2021, "New Parsable survey: Frontline manufacturing workers may leave current company for a more digitally enabled workplace". Available at: https://parsable.com/news/new-parsable-survey-frontline- manufacturing-workers-may-leave-current-company-for-a-more-digitally-enabled-workplace/

9 Eurostat, 2022, "Significant increase in EU imports from China". Available at: https://ec.europa.eu/eurostat/ web/products-eurostat-news/-/edn-20220401-1

10 Minsch, Rudolf, 2021, "Supply chain bottlenecks are becoming an economic risk", Economiesuisse. Available at: https://www.economiesuisse.ch/en/articles/supply-chain-bottlenecks-are-becoming-economic-risk

11 Check Point, "Weekly cyber attacks increased by 32% year-over-year; 1 out of 40 organizations impacted by ransomware". Available at: https://blog.checkpoint.com/2022/07/26/check-point-research-weekly-cyber- attacks-increased-by-32-year-over-year-1-out-of-40-organizations-impacted-by-ransomware-2/

12 Staunton, James, 2021, "The great resignation: 69% of UK workers ready to move job", Randstad. Available at: https://www.randstad.co.uk/about-us/industry-insight/great-resignation/

13 France24, 2022, "'Great Resignation' hits France as employees search for more meaningful jobs". Available at: https://www.france24.com/en/tv-shows/focus/20221006-great-resignation-hits-france-as-employees-search-for-more-meaningful-jobs

14 Koenen, Sophia et al., 2021, "Only with an annual net immigration of 400,000 people will the labor supply remain constant in the long term", IDW. Available at: https://idw-online.de/de/news781283

15 Gachet, Emilie, 2022, "The shortage of skilled workers in Switzerland is worsening", Credit Suisse. Available at: https://www.credit-suisse.com/ch/en/corporate-clients/products/escher/the-shortage-of-skilled-workers-in-switzerland-is-worsening.html

16 GETI, 2022, 2022 GETI report. Available at: https://www.getireport.com/reports/2022/

17 Fleck, Anne, 2022, "Energy prices keep climbing in the EU", Statista. Available at: https://www.statista.com/ chart/28004/eu-energy-inflation-rates/

18 SWI, 2022, "Switzerland sets out power contingency plans for winter". Available at: https://www.swissinfo. ch/eng/switzerland-finalises-power-contingency-plans-for-winter/47991698

19 SWI, 2022, "Work to begin on Swiss backup power plant". Available at: https://www.swissinfo.ch/eng/work- to-begin-on-swiss-backup-power-plant/47923978

20 Alderman, Liz, 2022, "'Crippling' energy bills force Europe's factories to go dark", New York Times. Available at: https://www.nytimes.com/2022/09/19/business/europe-energy-crisis-factories.html

21 Eurostat, 2022, "Annual inflation up to 9.9% in the euro area". Available at: https://ec.europa.eu/eurostat/ documents/2995521/15131946/2-19102022-AP-EN.pdf

22 European Central Bank, 2022, "ECB staff macroeconomic projections for the euro area". Available at: https:// www.ecb.europa.eu/pub/projections/html/ecb.projections202209_ecbstaff~3eafaaee1a.en.html

23 S&P Global, 2022, "Eurozone manufacturing output falls at sharpest pace since initial COVID-19 wave as demand for goods plummets", PMI, Available at: https://www.pmi.spglobal.com/Public/Home/PressRelease/7b5b-97f63e024d348d8cf899776aa64f

24 Sentix Sentiment Index. Available at: https://www.sentix.de/index.php/en/item/sntm.html

25 Kost, Edward, 2022, "The 6 biggest cyber threats for financial services in 2022", UpGuard. Available at: https://www.upguard.com/blog/biggest-cyber-threats-for-financial-services

26 FS-ISAC, 2022, Navigating Cyber. Available at: https://www.fsisac.com/ hubfs/NavigatingCyber-2022/ NavigatingCyber2022-TLPWHITE-FIN.pdf

27 Storbeck, Olaf, 2022, "Deutsche Bank chief 'very concerned' over war for talent", Financial Times. Available at: https://www.ft.com/content/186a4e6f-f400-47e4-bf2f-2900bfae3927

28 WorldData.info, 2022, "Inflation rates in Switzerland". Available at: https:// www.worlddata.info/europe/ switzerland/inflation-rates.php

29 European Medicines Agency, list of medicines. Available at: https://www. ema.europa.eu/en/medicines/ ema_group_types/ema_document-supply_shortage/field_ema_shortage_status/0/field_ema_web_ categories%253Aname_field/Human?sort=field_ema_computed_date_ field&order=desc

30 drugshortage.ch, "Supply bottlenecks of medicines". Available at: https:// www.drugshortage.ch/

31 US Bureau of Labor Statistics, 2022, "Job openings and labor turnover – September 2022". Available at: https://www.bls.gov/news.release/pdf/jolts.pdf

32 The Food Industry Association, 2022, The Food Retailing Industry Speaks. Available at: https://www.fmi.org/ our-research/research-reports/food-retailing-industry-speaks

33 LifeWorks, 2022. The Mental Health Index. Available at: https://lifeworks. com/en/media/1418/download

34 Aboutorab, Hamed et al., 2022, "A reinforcement learning-based framework for disruption risk identification in supply chains", Future Generation Computer Systems, 126, 110–122. Available at: https://www. researchgate. net/publication/353784872_A_reinforcement_learning-based_framework_for_disruption_ risk_identification_in_supply_chains

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