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Responding to the global coronavirus pandemic

How your company can remain resilient to manage health, liquidity and third-party risks

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1 Why resilience to COVID-19 is important

> The novel coronavirus is spreading quickly across the globe. Are you prepared to respond swiftly to protect your workforce and minimise disruption to your operations? Strengthening your resilience allows your business to maintain its critical processes and products in times of global change.

The coronavirus outbreak

The outbreak and accelerating spread of coronavirus (COVID-19) across the globe is above all a human tragedy affecting the lives of thousands of people and disrupting families and communities alike. The previously unknown COVID-19 is an infectious and highly transmissible disease that was first discovered in December 2019 in Wuhan, China, with more than 152,428 confirmed cases in 141 countries as of early March 2020.[1] Current research suggests that COVID-19 is highly transmissible and can potentially affect anybody who is exposed to someone with the infection. As the proliferation of COVID-19 has reached a global scale and is affecting more and more countries, companies need to be ready to execute swift and effective response measures to protect the health of their workforce and limit the economic impact.

Impact on global economy and businesses

Today's highly interconnected economy facilitates not only the global mobility of goods, people and information – but also of infectious diseases, as demonstrated by the current coronavirus outbreak. As the international response continues to develop on an unprecedented scale – ranging from a ban on events to the lockdown of entire cities – the economic impact of COVID-19 is starting to unfold. While bulk purchases of durable food and hygiene products may spike short-term demand in certain areas, the global economic prospects remain uncertain at best.

Travel and mobility restrictions in China, as well as to and from major Asian hubs and selected European destinations (e.g. northern Italy), are not only adversely affecting tourism and the hospitality industry but also disrupting the workforce and pointing to a decline in overall Chinese output. Acknowledging China's pivotal role in global supply chains, an extended delay in restoring full production in affected regions could represent an additional burden for manufacturing industries worldwide.[2] Simultaneously, preventive measures like event bans are a strain for the event and service industry and its suppliers. In the event of a prolonged coronavirus pandemic, decreasing consumer confidence might have a more severe impact on global economic growth. The fear of a COVID-19-induced recession already manifested itself in early March 2020 in the form of the largest sell-off in global financial markets since the 2008 financial crisis.[3]

Key risks affecting your business

Adopting a risk perspective, companies need to closely monitor the following key risks that arise from the current COVID-19 pandemic. First and foremost, the coronavirus disease represents a threat for the workforce. If the number of infected people continues to rise, this could lead to a significant number of employees being unable to work. In combination with strict government instructions such as restricting mobility or quarantining entire regions, companies are facing the imminent risk of key locations being unavailable or a critical supplier being (temporary) unavailable.

I.	Significant number of key employees unavailable
II.	Key location unavailable
III.	Critical supplier unavailable

If these risks materialise, they could have far-reaching consequences for non-resilient companies and lead to critical management and business processes being disrupted. As a consequence, companies might not be able to maintain their operations and meet their clients' needs.

1 WHO (15.03.20). COVID-19 situation dashboard
2 OECD (2020). OECD Interim Economic Assessment – Coronavirus: The world economy at risk
3 Bloomberg (2020). Four charts that show how erratic the stock market has become

2 Understanding the impact of COVID-19 on your resilience

Resilience is about being able to maintain operations even in stress situations, like the current coronavirus pandemic. Ideally, an organisation should be able to maintain its business-as-usual activities, but at least its critical business processes at any point in time, while protecting the health of its employees and minimising the further spread of COVID-19.

Identifying and prioritising critical business processes: start with the client
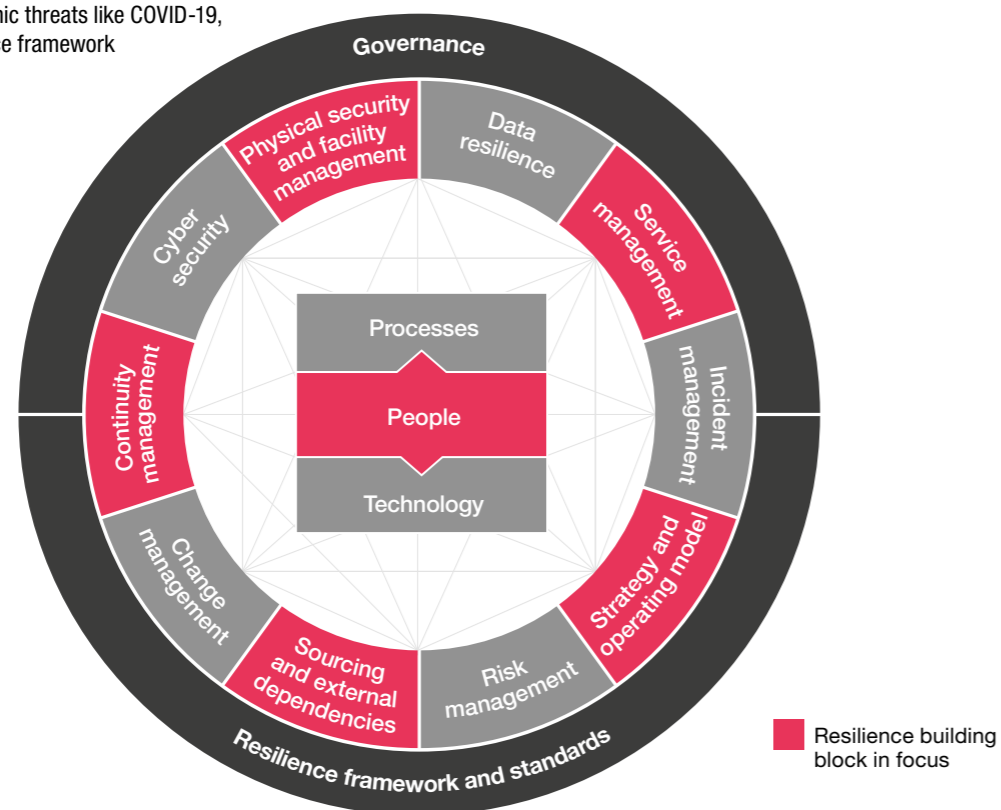
A crucial step in building up resilience is to identify the products and services that are key to your clients. Once you have identified the key products and services, focus on the value chain that creates them and identify key processes contributing to that output. In face of a pandemic threat, it is essential to determine which people and third-party services are critical to ensuring key business and management processes continue. Along with this, it is necessary to analyse the vulnerability of key IT systems.

Navigating resilience in the face of COVID-19: the PwC resilience framework

PwC's comprehensive resilience framework represents a field-tested methodology for building up resilience in your organisation. Resilience materialises when you make good use of the capabilities already in your hands, and when you start following a holistic approach to the value chain related to products and services that are key to your clients.

The figure below highlights the building blocks in focus in times of pandemic threats. The next table introduces the purpose of these building blocks[4] in more detail.

People are at the core of every organisation. In times of pandemic threats, the biggest impact is on the people element as employees are exposed to and affected by health risks and might be required to adhere to behavioural instructions such as travel bans or home-office requirements. Being vital for the economic success of every organisation, a resilience shock such as COVID-19 on the people dimension should be expected to result in far-reaching consequences across a range of different building blocks of the PwC resilience framework.

Figure 1: Impact of pandemic threats like COVID-19, based on the PwC resilience framework

Resilience building block in focus

| Affected building block	Purpose of the building block
(IT) Service management	Aligned to the corporate strategy and based on the (IT) service catalogue as well as associated service model, service management is performed through an appropriate mix of people, processes and information technology to implement, manage and deliver (IT) services to meet the needs of the organisation.
Strategy and operating model	Business (and corporate) strategy defines the commercial objectives and social license to operate – in other words, it identifies what matters the most to your business. It drives strategic decisions on operational resilience investments and risk appetite levels.
Sourcing and external dependencies	Sourcing and external dependencies (including third-party risk management) ensure that key services to the clients are maintained. This is important to understand which services depend on which third parties, and to managing the respective risks adequately.
Continuity management	Continuity management requires having a structured and formal plan in place to ensure that business continues in case of stress events (including contingency plans).
Physical security and facility management	An organisation should ensure that its key locations and facilities are protected from external events and that actionable measures are in place in the event of the security, availability or usability of any of those locations or facilities being compromised.

3 Navigating the current COVID-19 crisis

Managing stress situations caused by a crisis like the current spread of coronavirus requires companies to prepare and execute a set of coordinated and proportionate response measures to minimise disruption and ensure continuous business operations.

In order to avoid conflicting recommendations and prevent compliance breaches, the organisation must constantly monitor the instructions and recommendations of local governments and international health organisations and align their response measures accordingly. This is the basis for communicating to affected stakeholders in a timely manner.

In view of the advanced stage of the COVID-19 outbreak and the immediate threat to people and organisations, the "prevent" and "recover and mitigate" stages are not the primary focus of this paper.

For a comprehensive checklist of key considerations when managing risks emerging from the COVID-19 outbreak, please refer to our related publication "Succeeding in Uncertainty: Responding to COVID-19".

Figure 2: Current focus of action for companies in the face of COVID-19
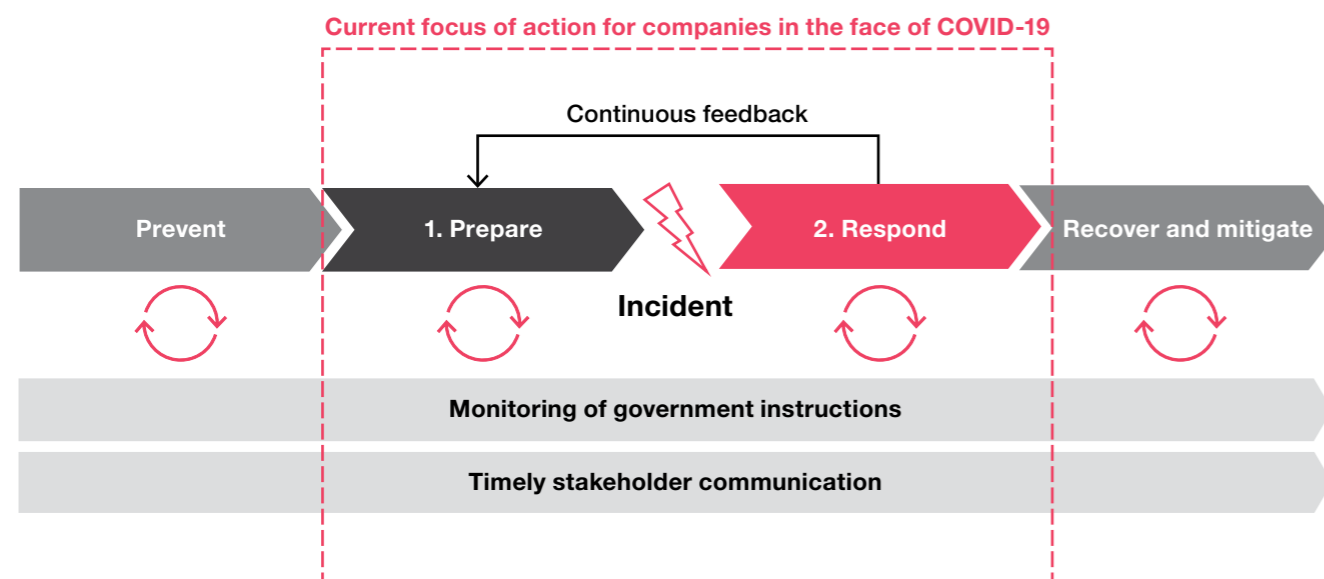
3.1 Prepare: building readiness to respond

The effective management of pandemic threats, such as the current COVID-19 outbreak, requires an organisation to comprehensively and continuously prepare by building the required resilience capabilities to respond appropriately in case of need.

I. Planning for the unexpected

Based on the resilience framework and aligned with existing business continuity management plans, a designated Disease Outbreak Management Plan with the following elements should be developed:

- **Indicators:** A set of measurable (early-warning) indicators and clearly defined thresholds as triggers to invoke the Disease Outbreak Management Plan.

- **Monitoring and escalation process:** A framework encompassing responsibilities, monitoring frequency, reporting procedure and addressees.

- **Stress scenarios:** A set of stress scenarios based on the organisation's key risk inventory incorporating both sudden and gradually developing shocks with a market-wide and idiosyncratic impact.

- **Response measures:** A catalogue of actionable measures to respond adequately depending on the severity of the pandemic threat.

- **Governance:** Roles and responsibilities including reporting lines and competencies for managing a disease outbreak.

II. Adjusting the operating model and ramping up infrastructure and equipment

Building on the approved Disease Outbreak Management Plan, companies need to take the necessary steps to build the capabilities required for potential execution:

- **Operating model:** Revisit and adjust the operating model to create the prerequisites and flexibility to implement the defined measures (e.g. split operations, duplication of critical processes or locations)

- **Infrastructure:** Develop and roll out the required infrastructure, e.g. remote desktop and online collaboration tools, to operationalise measures such as home office or restriction on physical meetings.

- **Equipment:** Procure the necessary equipment and secure a diversified supply chain to ensure sufficient availability of key equipment such as disinfectant or disease protection equipment like protective masks and suits.

Preparation is not only required at the pre-incident stage but is equally important during the response phase, as companies need to continuously adjust their plans on the basis of recent developments and to prepare for an increasing severity of the pandemic threat.

III. Developing and testing runbooks

Developing robust and effective runbooks and testing them[5] is the final stage in operationalising your Disease Outbreak Management Plan in order to identify and improve any weak spots.

3.2 Respond: immediate actions for the current crisis

Committed to the long-term success of your company, it is essential to limit the negative impact of the current coronavirus outbreak on your operations. Given the rapid speed and increasingly global scale of the pandemic, it is becoming more and more likely that your company will be affected in one or another. Therefore, it is essential to be prepared to take swift, proportionate and yet effective measures.

I. Protecting your workforce

The implementation of proportionate yet effective response measures to protect your workforce in the face of pandemic threats requires your company to assess the effectiveness as well as the operational impact of any a measure considered. An indicative evaluation of selected response measures to pandemic threats is provided in Figure 3 (on next page).
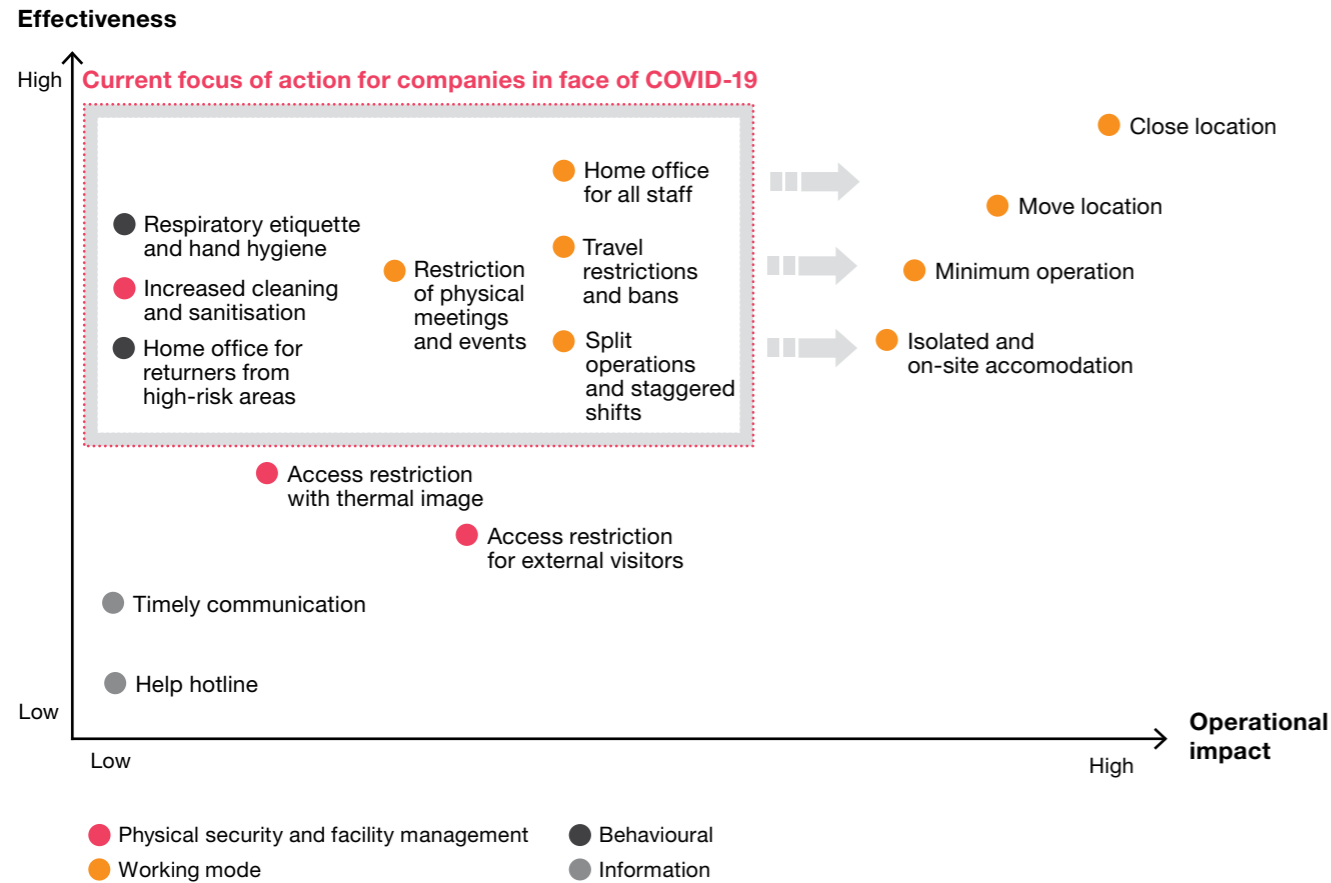
Please note, determining the effectiveness of any measure is dependent on the nature of your business, the characteristics of the disease and the stage of the pandemic outbreak and should be assessed and imposed only in close alignment with local government instructions.

II. Maintaining your operations and strengthening your supply-chain

Enabling remote operation where possible
Having identified the critical products and services and the associated processes and technology, it is essential to understand how you can ensure their resilience in times of increased stress. Thanks to digital collaboration tools, many processes in the (financial) services industry can be operated remotely. However, due to regulatory or infrastructure requirements as well as market and client needs, this might not be possible for all aspects of your business. For example, on the trading floor where latency equals competitive advantage, the necessary infrastructure and connectivity cannot be provided remotely. Similarly, especially in such a crisis, customers are dependent on the availability of bank counters and ATMs.

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5 Possible testing approaches for runbooks include desktop review and benchmarking, stakeholder walkthrough, fire drill and management simulations.

Figure 3: Assessment of selected response measures to pandemic threats

Effectiveness

High — **Current focus of action for companies in face of COVID-19**

- Close location
- Home office for all staff
- Move location
- Respiratory etiquette and hand hygiene
- Travel restrictions and bans
- Increased cleaning and sanitisation
- Restriction of physical meetings and events
- Minimum operation
- Home office for returners from high-risk areas
- Split operations and staggered shifts
- Isolated and on-site accomodation
- Access restriction with thermal image
- Access restriction for external visitors
- Timely communication
- Help hotline

Low

Low — High **Operational impact**

- Physical security and facility management
- Working mode
- Behavioural
- Information

Warranting of critical on-site operations

To ensure the continuous operation of critical and especially systemically important processes that cannot be operated remotely, companies may need to consider increasingly exceptional measures such as:

- **Split operations:** Split the required workforce into two independent operational teams and assign them to physically separated locations.

- **Staggered shifts:** Split the required workforce into two independent operational teams and assign them to alternating working timeslots (e.g. day and night or alternating workdays or weeks).

- **Isolated accommodation:** Split the required workforce into two independent operational teams and provide them with accommodation in a hotel, restricting contact with third parties for a predefined period. Alternate the teams on a weekly or monthly basis.

- **On-site accommodation:** Split the required workforce into two independent operational teams and provide them with accommodation on-site, restricting contact with third parties for a predefined period. Alternate the teams on a weekly or monthly basis.

In case of such exceptional measures, it is essential to discuss them well in advance the staff likely to be affected and agree on an adequate compensation package.

Securing the supply chain

In a globally interconnected economy, COVID-19 is expected to cause further disruption to supply chains, ranging from short-term unavailability of certain goods to bankruptcy of suppliers. Hence, companies need to analyse their dependency on third parties. This includes not only the supply of physical goods but also reliance on outsourced services and external service providers. The analysis should emphasise exposure to current and emerging high-risk areas, such as Southeast Asia or Italy, as well as local government instructions, such as the quarantining of entire regions or countries as well as mobility and trade restrictions. Following the assessment of points of failure, companies need to develop strategies to cope with short-term shortages and diversify their supply chain in the medium term.

III. Securing liquidity

As it is becoming increasingly clear that the novel coronavirus will not only have serious health implications but also far-reaching economic consequences, liquidity is expected to be a key concern for companies. For companies to be ready to respond to a liquidity stress, they first need to accurately evaluate their (short-term and long-term) liquidity profile, during and after a pandemic crisis. For that purpose, methodical and robust liquidity stress-testing scenarios, tailored to the specifications of each company's clients, operations, portfolio and geographical reach, are the right medicine to overcome financial stress resulting from COVID-19.

As research on the novel coronavirus is still at an early stage, liquidity stress-testing scenarios need to take into consideration different crisis scenarios. The model parameters should reflect various spread levels of the virus, several spread paces, as well as more granular specifications about different groups of people and customers.

Once the different scenario narratives and parameters are defined, your company needs to start with the cash flows. In this first step, the goal is to link the scenario parameters to your customer segments, products and services portfolio evolution from a liquidity point of view. For that purpose, extensive data analyses, historical benchmarking and a review of the regulatory framework is of utmost importance. The next step is to understand what contingent stress items may appear in the different scenarios. For example, an extreme spread of the virus may lead to broken supply chains in some geographical areas, or full disruption of services to some of your key client segments. Furthermore, firms that lose revenues will still face tax, wage and interest bills, while at the same time access to credit may be disrupted or become more expensive. Finally, your liquidity stress scenarios should also include management actions. In the event of a crisis, your management will be the ones to decide how to respond, including but not limited to rolling over certain assets, or handling challenges to portfolio segments and parts of the business.

IV. Ensuring compliance

As your company is required to implement a set of measures and respond quickly to new developments, ambiguities and conflicts with regulatory requirements and internal policies might arise. Therefore, it is important to proactively assess your compliance framework to identify areas with a high risk of a breach and to define an efficient mechanism to enact and communicate temporary deviations from the business-as-usual compliance framework.
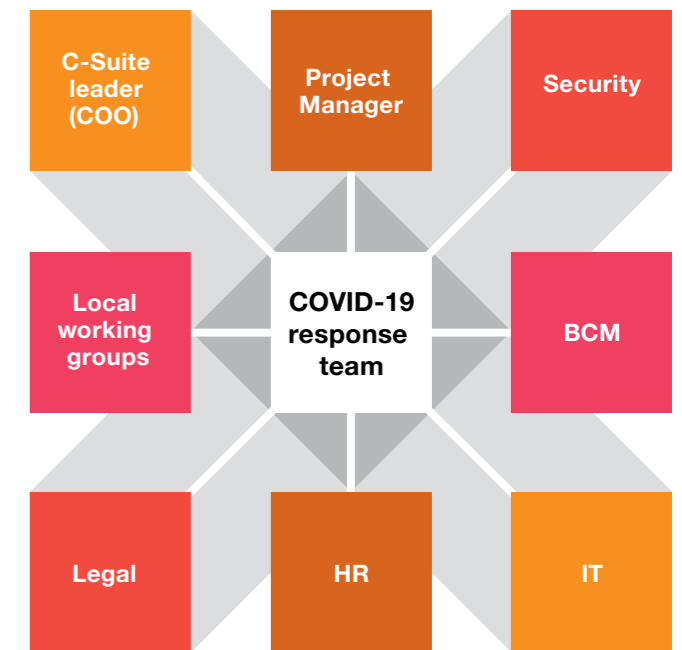
Given the increased amount of remote work, there is a higher risk of data protection breaches as the required technical infrastructure is not always in place for all critical functions. The transfer of (large amounts of) data between different locations and a distributed workforce, or to thirdparties, has proven to be a vulnerability for many companies. Relying on their business-as-usual operations regarding access to the company network, firms often lack the required technical infrastructure to facilitate secure data transfer. As a result, employees might be tempted to adopt non-compliant ways of working, such as sending screenshots via mobile messaging apps. In response to such threats, it is essential to raise awareness regarding the data protection risks related to the adjusted operating model resulting from COVID-19 and to closely monitor potential violations.

V. Mobilising your cross-functional response team

In the event of an pandemic outbreak, it is essential to quickly mobilise your interdisciplinary response team to respond adequately, protect your workforce and limit the negative impact on your business operations.

Typical functions of a response team include:

- C-Suite leader (COO)
- Project Manager
- Security
- Local working groups
- **COVID-19 response team**
- BCM
- Legal
- HR
- IT

VI. Timely stakeholder communication

Confronted with uncertainty in a rapidly evolving situation, timely and tailored stakeholder communication is key. Starting with an internal and external stakeholder list, your company can develop a clear communications strategy to ensure a consistent messaging across all channels to maintain the trust of your stakeholders.

4 Thinking ahead: how can you build resilience for future crises?

Although crises represent a threat to your company and your employees, they also provide an opportunity to revise your resilience framework. Even in the midst of a crisis, companies need to look ahead and start expanding and refining their resilience capabilities to make sure they are better prepared for similar incidents in the future.

Based on our experience, we have identified the following catalysts to accelerate your resilience journey.

Resilience by design

Empowered by a board-level mandate, resilience needs to be proactively embedded into the design, operation and management of critical business processes and the underlying IT infrastructure. Integrated into the corporate strategy, resilience by design avoids a silo approach to the management of resilience risks within the firm by developing an integrated, firm-wide IT risk and resilience framework.

Continuous learning

In today's interdependent and dynamic world, your company needs to adopt an agile approach and embrace a mindset of continuous learning to remain resilient in the face of novel crises. The goal is to continuously improve your company's resilience framework to make it robust and sustainable.
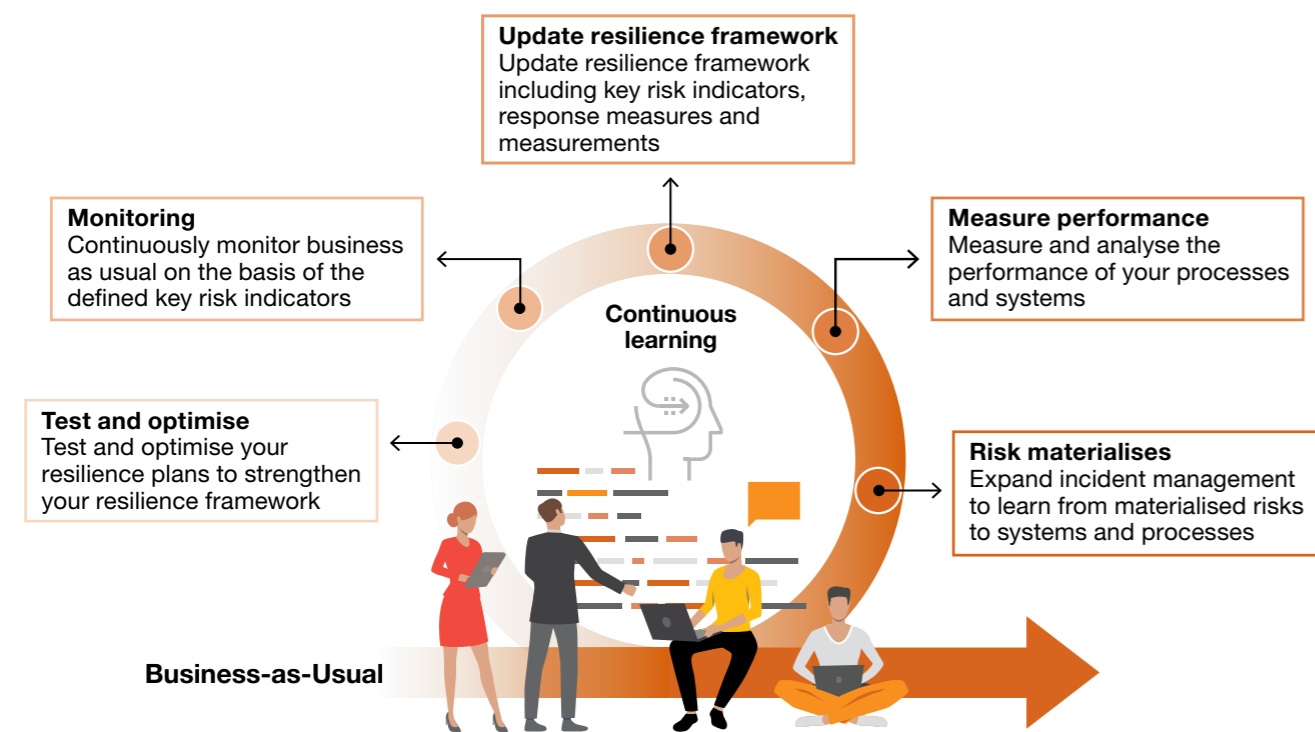
Resilience-by-default culture

Ultimately, only a resilience-by-default culture can ensure that resilience is sustainably integrated into a company's DNA. Key questions to consider include:

- Is resilience reflected in the vision, mission and values of the organisation?
- Does your culture reward people for highlighting and mitigating risks?
- Is the corporate risk appetite transparently communicated throughout the organisation?
- How can the implementation of a resilience culture be measured?

Continuous learning

Update resilience framework
Update resilience framework including key risk indicators, response measures and measurements

Monitoring
Continuously monitor business as usual on the basis of the defined key risk indicators

Measure performance
Measure and analyse the performance of your processes and systems

Test and optimise
Test and optimise your resilience plans to strengthen your resilience framework

Risk materialises
Expand incident management to learn from materialised risks to systems and processes

Business-as-Usual

5   How can PwC help you?

We are a global team of experienced professionals combining deep industry and functional expertise ranging from crisis management to operational and IT resilience.
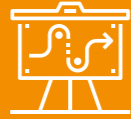
Crisis management

We have supported our clients to prepare for, respond to and emerge stronger from a wide range of different crises:

1. **Crisis response planning:** Develop a comprehensive Disease Outbreak Management Plan to build the required resilience capabilities to be able to respond appropriately to current and future crises.

2. **Liquidity planning and stress-testing:** Develop and adjust liquidity stress-testing scenarios to understand future liquidity risks and define tailored response measures.

3. **Third-party risk management:** Assess your relationships with third parties in light of recent developments to identify high-risk areas and implement mitigation measures.

4. **Adjustment of compliance framework:** Analyse, monitor and adjust your current compliance framework to prevent compliance violations, raise awareness for recent changes and act swiftly in case of violations.

Resilience

We have supported our clients in their journey to resilience, and we can help you achieve the resilience maturity level you are aiming for, following our field-tested methodology:

1. **Maturity assessment and methodology:** Provide an understanding of your current resilience maturity by reviewing your resilience capabilities against our key building blocks and market best practice to define your resilience ambition and develop a tailored methodology that suits your needs.

2. **Resilience service catalogue:** Identify what matters most to your customers to determine and prioritise your critical business and IT services.

3. **Resilience risk and measures framework:** Understand the risks and set your company's risk appetite to establish a comprehensive resilience risk framework, including detailed risk descriptions and mitigating measures.

4. **Resilience by design and by default:** Integrate resilience into your IT and business strategy and cultural framework and define a corresponding governance system to achieve sustainable resilience.

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