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Definition

An epidemic occurs when a disease affects a greater number of people than is usual for the locality or one that spreads to areas not usually associated with the disease. A pandemic is an epidemic of world-wide proportions.

Spreading Contagion - Coronavirus Effects on the Working World

The rapidly evolving threat around 2019-nCoV virus spread, commonly referred to as Coronavirus, is raising concerns amongst the business and investor community across the world. The global and interconnected nature of today’s business environment poses serious risks of disruption of global supply chains that can result in significant loss of revenue, force companies to fail, and adversely impact global economies. Analysts around the world have already downgraded China’s GDP growth forecasts for 2020 in the light of these recent developments and have cautioned that given China’s importance as a leading global economy, Coronavirus can have serious long-lasting implications for enterprises and people around the world.

Response from the Epicenter - Insights from Wuhan, China

Wuhan, the capital of Hubei and the epicentre of the outbreak, is home to 11 million residents, is commonly referred to “the Chicago of China” and serves as a major transportation and industrial hub in central China and is centre for a number of automotive, high-tech manufacturing industries and Original Equipment Manufacturers (OEMs). The outbreak has forced suppliers and manufacturers to extend the Chinese New Year break to contain the spread of the disease. This change in the holiday period has impacted original production plans and may result in companies missing their original output targets with impacts to the entire global supply chain.

Enterprise Response

As the event and uncertainty persist, we see companies take measured approaches to safeguard employees and mitigate financial and operational exposure: many multinational businesses have reduced facilities and operations in Wuhan, China (the epicenter of the crisis). Businesses have imposed travel restrictions and mandatory social distancing has been invoked in many parts of China. Companies and governments around the world continue to closely monitor the situation.

As a matter of general practice, enterprises maintain various types of traditional resilience plans for business continuity, disaster recovery, cyber risk management, crisis management etc. These traditional plans, while effective for a range of business disruptions, may fall short when dealing with a crisis such as a Coronavirus or other pandemic events. Moreover, companies typically have less incentive to invest in distinct pandemic management capabilities - pandemics are lower probability events. Given the high severity, potential human impacts and greater contagion effect that these events can pose on the ongoing viability of operations, companies must think through the nuances and develop a tailored approach to respond distinctly to these events.
People First Mindset

People safety is a priority. During a pandemic, it is important for companies to be able to monitor the situation, provide a safe workplace and offer its personnel with the support that they need. Companies should consider establishing pandemic-specific policies and procedures around employee communications, telecommuting and personal/family leave to minimize disruptions. Examples of employee support may include:

- Providing access to internal and external resources (e.g., WHO, ISOS, CDC) and communicating timely updates to raise awareness.
- Defining guidance to protect the health and well-being of personnel by containing and preventing the spread of the illness (i.e., personal protective equipment, quarantine protocols, travel restrictions, etc.).
- Establishing employee standard of care services to provide support to sick personnel or those that are caring for sick household members.

Staffing Shortage

With respect to business continuity planning, the most apparent impact of a pandemic will likely be staffing shortage, which can take many forms, including:

- Personnel unavailable to work for an extended period of time.
- Personnel not onsite (working remotely).
- Reduced in-person interaction with other personnel, third-parties/vendors, business partners and customers/clients.
- Impacted availability of third-party resources or personnel and services. Larger supply chain such as outsourced vendors, cloud service providers, data processors, aggregators, payment processors, suppliers for delivery of products and services are also vulnerable to the pandemic event.

Each of these scenarios present its own set of challenges and potential impacts to organizations. Pandemic mitigation measures should be developed and specifically tailored as part of the overall business continuity planning for critical business processes. Measures may include, but are not limited to:

- Extensive out-of-region cross-training strategies to offload work to personnel at other sites (as applicable);
• Tools to enable personnel to work remotely and to collaborate virtually; and
• Identification of alternate 3rd parties or agencies with locations and resources available outside the impacted area.

A pandemic requires people to stay home to limit exposure and to prevent or slow down the spread of the disease. Unlike an occasional weather event which may prompt some employees to work remotely, a pandemic may lead to a complete shutdown of multiple facilities for extended periods of time. This scenario results in unusually large number of employees connecting remotely which can increase the risk around network access, traffic, and capacity. In addition to providing employee with laptops with secure endpoint and connectivity and remote access tools, organizations should consider the bandwidth, licenses and criticality of personnel when invoking a remote work strategy.

Additionally, Crisis Management teams should be involved in pandemic planning. The crisis management plan should contain tasks for each of a company’s key supporting departments (e.g., human resources, finance, facilities, IT, etc.) to address pandemic-related issues, such as insurance policies for workforce illness, additional expenses from remote functionality, and potentially facility restoration. Leveraging the existing crisis management plan decision-making process, protocols, roles and procedures is a helpful starting point to incorporate and address various threats and risks presented by a pandemic.

3 Community Outreach Support

In times of crises, organizations have an opportunity to support their local communities, which helps people in need while building brand awareness. During a pandemic, organizations should consider how they can expand the scope of their employee support to include those affected within the community. For example, organizations may opt to:

• Distribute resources and educational materials for pandemic prevention, detection and mitigation
• Set up mobile clinics to provide care and sanitary supplies
• Distribute hand sanitizers, masks, gloves, water and other critical suppliers not always readily available in a pandemic situation

4 Business Impact Analysis and Risk

In today’s environment, the continuation of critical business processes relies on a variety of factors, including: client/customer interaction, business travel, processing using onsite equipment, third-party inputs/outputs, and more. These factors may all be impacted during a pandemic. To reduce the effects on a company, pandemic planning needs to identify the key elements supporting the critical business processes and then develop strategies and workarounds focusing on those factors.

The business impact analysis (BIA) and risk assessment enable a company to identify and prioritize its critical business processes, recovery objectives, and minimum operating requirements including the key dependencies (e.g. workforce, technology, vendors, locations, etc.) in the process flow. The BIA assesses the level of severity of the impacts of a disruptive event. Companies should conduct BIAs to consistently evaluate impacts and have holistic view of the prioritization of its business processes. This will enable the company to plan for the continued operations of critical business process in a manner that minimizes the financial and operational impacts as well as impacts to customers, stakeholders, regulators and its own brand image. Conversely, this also implies the de-prioritization of less important processes, but with justification of less severe impacts identified in the BIA. Risk assessments identify the inherent risks associated which locations, facilities or third-parties on which critical business processes depend. Risk assessments in conjunction with the BIA, set the foundation of pandemic planning.
The following are relevant components of BIAs and risk assessments:

- Roles critical for the continuous operation of the business process
- Minimum number of personnel required to perform the process sustainable are reduced work-force models?
- Business process which can be supported remotely including tools
- Locations/facilities critical for the continuous operation of the business process as well as alternate locations for workload balancing.
- Third party dependencies for critical business processes and geographic impacts.

Additionally, some functions within a company (e.g., housekeeping and physical security) may not directly impact a business process but can impact multiple business operations if not considered in pandemic planning. A majority of companies rely on external vendors to supply these critical roles and without them the facilities may be impacted.

### Third-party dependency inventory

It is conceivable that critical business processes can be disrupted if it is outsourced to or receives input from a third-party. Organizations today have so many of its processes either outsourced or supported by external third-parties that perform services and/or supply goods. These third-parties are as much vulnerable to the pandemic event as the company itself. Understanding the inventories of the critical third-party dependencies is important so that the service level agreements and risks associated in a pandemic event impacting the third party can be mitigated. Loss of a third-party must be part of the pandemic planning.

Similarly, companies should also identify instances where there might be opportunities to rely on certain third-parties with geographically disperse operations to assist with critical activities performed internally, or to serve as alternative suppliers.

### Business Continuity and Crisis Management

Business continuity plans should be leveraged and enhanced to include pandemic business continuity strategies and contingencies. Examples of high-level strategies to address an extended staffing shortage may include:

- Work transfer - relocation of work processes to alternate geographies or facilities
- Shift or Share workload - to distribute work between shifts or share the work between various resources (e.g. cross-trained employees or vendors)
- Work remote - to work from an alternate location where the work is normally not performed
- Reduced workload / Postpone work - to reduce the ‘normal’ workload to a lower quantity or halt/pause work to a specified time

These strategies, while applicable to other kinds business disruptions, should be re-evaluated to ensure effectiveness and sustainability during a pandemic event. Work transfer to alternate sites, relocation of workforce, and/or staff augmentation may not be viable options as other personnel and alternate locations are as much impacted by the pandemic. Pandemic-related contraints beyond the company’s controls such as cross-border travel restrictions, degraded mass transit, quarantines, etc. can also pose challenges to some strategies to be effective. Companies must carefully design strategies to overcome these barriers, and especially plan around areas of high concentration risks, including single points of failure.

Once strategies have been identified, the corresponding
Detailed procedures to execute these strategies should be developed within the plan. Pandemic events illustrate the importance of articulation of key day-to-day roles and responsibilities and processes to enable the teams and alternate teams to perform effectively during a pandemic event. Employee communications and contact information protocols should also be available within the plans.

Since pandemic events can result in increased workload coupled with personnel performing functions outside of their normal responsibilities, there is a greater risk of errors. Business continuity plans should include quality control procedures that will prevent, detect and/or correct errors as they occur.

These strategies, workarounds and procedures in the business continuity and crisis management plans should be tested through tabletop exercises, simulation tests, etc. This will help determine their feasibility and train personnel on performing their roles during an extended pandemic event. Organizations should also elevate the complexity of testing and simulations to assess preparedness for pandemic events. This includes scenarios that present extended periods of disruption (e.g., more than 30 days), total shutdown of a major operational facility, city or region, increased absenteeism (more than 40%), loss of a critical third-party, etc. Senior leadership should also be involved in these testing activities to rehearse the communications flows, communications channels, governance and decision-making process, escalation paths, command and control centers, and key executive responsibilities.

7 Communication Strategy

Effective communication, both internal and external, is crucial during any business disruption, and especially during a pandemic event. Crisis management teams responsible for monitoring the event and for facilitating the ongoing communication become critically important.

Traditional modes of communication like emails, bulletins and emergency notification tools (ENS) should be used hand-in-hand with social media in communicating with employees, customers, media, regulators, business partners, third-parties, and the general public. Additionally, local intranet sites, company portals, informational posters, message maps and other awareness campaigns that are simple, easy to understand and tailored to the demographic (i.e., in local languages) will help eliminate false information, reduce rumors and lessen panic. The goal is to provide resources for personnel to educate themselves and be more prepared.

8 Integration with World Health Organization (WHO), national, government agencies, hospitals, etc.

Companies do not face a pandemic alone. Partnering of public and private sectors before, during and after a pandemic event is important as this increases efficiency and effectiveness of the emergency response. This partnership fosters relationships within the community through information and resource sharing. Effective communication enables partners to collaborate and coordinate their responses.

World Health Organization (WHO) provides advice to countries and individuals on measures to protect health and prevent the spread of this outbreak. Companies should leverage WHO to find the latest information and guidance to make the decisions relevant to their organization’s resiliency. The Center for Disease Control (CDC) in the US is another resource that promotes health security and nurtures public health. Also available to companies is the Private Sector Integration Programs (PSIP) within various US state governments to provide preparedness resources, up to date emergency alerts, training and exercise opportunities, etc.
9 Establish Crisis Management Exception Approval Process:

In the event of an extreme disaster there is a need to provide clarification on the established criteria, processes and procedures for submitting, managing and determining crisis and exception requests and to ensure access to the waiver program services that best meet the assessed needs of the individual during such event. There are multiple forms of these approval processes that expand upon HR, Financial, Business operations, communications and others. For example, company policy may not support ordering supplies, working overtime, working from home, family travel expenses, etc.; however, these may be admissible during this type of disaster.

10 Technical Strategies

Although it may not be immediately apparent, technology can be impacted in many ways in a pandemic. The three key pillars for designing a resilient infrastructure are:

- **Demand-triggered Scalability** - Most often during a pandemic, given the shift in workforce needs and demands, there is an increased pressure on network bandwidth and server compute capacities. It is critical that the infrastructure is built to scale to cater to these increased spikes in demands.

- **Business-driven Agility** - During a crisis situation, organizations are required to be agile in solving competing priorities and ensuring that optimal service levels are provided to the customers. This necessitates the enabling infrastructure is nimble and capable to change as the business’ needs changes. Leveraging software-defined and overlay orchestration technologies allows the infrastructure to be reshaped based on the organization’s business priorities.

- **Process Automation** - By minimizing manual intervention in infrastructure provisioning and operations, organizations are better equipped to handle disruptions in workforce that are commonly seen during a pandemic. Automating repetitive tasks will not only improve operational efficiency but also complement the workforce to make the infrastructure’s behavior more resilient and predictable during a crisis.

**Conclusion**

Pandemic events pose unique threats that affect people, process and technology at a global scale. Organizations should leverage and tailor existing business continuity and crisis management capabilities to address the unique pandemic considerations outlined above. Organizations that lack existing capabilities should quickly implement response and recovery capabilities to address the recent coronavirus, and to also use this effort to plan for other potentially disruptive events.
**Immediate Priorities**

1. Communicate with employees to raise awareness, enforce policies (e.g., travel restrictions), and familiarize them with available tools and resources

2. Identify areas of high vulnerability, for instance those requiring high manual intervention for delivery of critical business products and services, with the potential to result in single points of failure

3. Confirm employees have the requisite capabilities, including access to requisite share drives, documents and other critical tools, to perform critical tasks remotely

4. Review relevant standard operating procedures and manuals and update them, as necessary

5. Monitor the situation and provide regular briefing leaders on any emerging threats and issues

6. Ask employees to confirm and update contact information (primary and secondary) in company records, as necessary

7. Conduct brief pandemic training with employees to enhance employee and organizational preparedness to respond effectively

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**Contact information**

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