Out of the Ashes: Business Continuity Management Lessons From Iceland's Volcanic Eruption

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Every organization must protect itself from a crisis caused by the shutdown of air travel. Use our continuity of operations advice to mitigate the impact of the next large-scale transportation disruption.

Key Findings

- The Icelandic April 2010 volcanic eruption involved physical destruction that was limited to Iceland, but it significantly disrupted air travel, requiring remote work capabilities and modifications to supply chain logistics.
- Few, if any, businesses plan for a volcanic ash disruption scenario, but many prepare for the broader risk of transportation service disruptions.
- Recovery planning is expanding to include risks that have low probability but large impact, largely as a result of the financial crisis.
- Telepresence, with its current level of availability, would not have made a significant difference in the April 2010 event. Workers would have already been planning to use it instead of travel, or they'd need to travel to their nearest telepresence room, making it no more feasible than making the face-to-face meeting in the first place.

Recommendations

- Cater first to the safety and well-being of stranded business travelers.
- Identify critical supply chain logistics and service-level and contractual commitments to determine contingencies and liabilities for disruptions in product or service delivery, especially for force majeure events and continuity-of-operations provisions.
- Review and expand/upgrade remote working and collaboration capabilities.
- Review the effectiveness of your organization's response in this crisis, and update your crisis management plans.
- If critical staff members go on vacation, then require them to take their hardware with them (even if they leave it turned off), in case they are delayed.
- Review your use of social media — it can help foster goodwill and generate business during a crisis.
- Review your business interruption insurance policy to ensure that it covers an adequate limit of liability and duration time frame.
WHAT YOU NEED TO KNOW

Typically, 20 or more volcanoes are active globally at any one time, and the Eyjafjallajokull volcano eruption is a comparatively minor event by vulcanological standards. Although the frequency of volcanic eruptions is not predicted to increase in the future, steadily increasing globalization and interconnectedness means that business operations will likely be affected by volcanic and other similar hazards on a more frequent basis.

The ongoing duration and impact of a volcanic ash cloud are highly unpredictable. The circumstances surrounding the April 2010 Icelandic event are a complex combination of vulcanology, geographic location, the presence of a glacier above the volcano and the prevailing winds. While the ash column should subside as the glacial waters melt away, there are scenarios in which air traffic could be shut down for a period of time, and an even worse scenario that this eruption could foreshadow the eruption of an associated nearby volcano. During the past 2000 years, when the smaller Eyjafjallajokull volcano erupted, the larger Katla volcano followed shortly after.

Since communication was not disrupted, it should have allowed businesses to respond constructively; however, in many cases, the care of the workforce was not adequate.

U.S.-based organizations are at a particular disadvantage for a transportation failure. The U.S. doesn’t have the extensive ground transportation network that Europe has — at least for passenger travel.

One change Gartner is seeing for business continuity management is that scenario and recovery planning is expanding to include risks that have low probability but large impact. For example, this shift is especially true in the energy industry. Historically, most of the risk mitigation solutions (market and credit exposures) in the energy industry were based on 95% to 99% probabilities. However, Gartner is witnessing a change to assess the risk of low-probability events being realized, largely as a result of the financial crisis.

Technology clearly has a critical role to play, but it does not solve many of the issues, such as those that relate to how people interact, rather than the tools they use. Business priorities may take precedence over standard risk management concerns. As they explore new working environments, people need to exercise patience and understand how best to use these environments in these trying circumstances.

As the dust settles, take this opportunity to review how effectively your organization responded to this emergency and the broader loss-of-transportation business interruption event, and revisit your recovery plans. (Many circumstances could result in a similar transportation outage, such as other forms of natural disasters, pandemics, terrorism, technology failures and so forth). As a best practice, exercise your recovery plans at least once a year. Take advantage of the publicity and awareness surrounding this event — especially the risk that the larger Katla volcano has always erupted after the Eyjafjallajokull volcano for the past 2000 years — to raise internal awareness of your organization’s vulnerability to transportation outages. For a (short) period of time, managers will be receptive to the need for higher levels of contingency planning.

EVENT

Event Facts

On 14 April 2010, Iceland’s glacier-covered Eyjafjallajokull volcano erupted, spewing volcanic ash into the atmosphere. The local response was urgent and frightening. People in the area had 20 minutes to evacuate their homes. Immediately after the eruption, air travel across Scandinavia,
the U.K. and Western Europe was halted for days, representing the largest-ever interruption to
global air travel — even longer than 9/11. The volcano had been dormant since 1821.

Analysis

We all knew Iceland’s economy had gone up in smoke, but nobody expected one of its volcanoes
to do likewise. Global business and personal travel was disrupted, with meetings and
conferences of all kinds put on hold or canceled. Gartner postponed one conference in Prague
and had numerous colleagues stranded across the globe. Huge numbers of people were unable
to get home from business or holiday travel. Modern life was disrupted. The impact on the airline
industry alone was estimated to be $1.7 billion as of 20 April 2010, although this loss is offset by
the cost of fuel savings, which was estimated at $100 million per day as of 20 April 2010, as well
as compensation savings for crews that did not have to be paid because they were not working.
Food service firms also experienced large losses — $12 million as of 20 April 2010. However,
alternate transportation firms, as well as lodging facilities, had increased income.

The following advice should be considered by every organization — for profit and not-for-profit
organizations — so that the impact of the next large-scale transportation disruption can be
mitigated, and businesses can continue in a more normal way in light of the circumstances.

Crisis Management

The first action — after emergency response — to take in every crisis is to convene a meeting of
an organization’s crisis/incident management team. Does your organization even have one? Do
you have a set of criteria that dictates what a crisis event is for your organization and when the
team is triggered? For this April 2010 volcanic event, it did not become clear that there was a
large-scale business crisis for a day or two — while government air traffic control authorities were
assessing the growing risk to air travel. Once it was clear that air travel was going to be shut
down for some time, it was time to act. Understanding the potential and real effects of a crisis
enables you to effectively react and respond to the event by leveraging existing recovery plans
and procedures, and to best manage the exceptions — of which, there will be many (see “Toolkit:
Requirements for Crisis Command and Emergency Operations Centers”).

Are you keeping your workforce and other business stakeholders up to date with the impact of the
event? Emergency/mass notification tools can be of value in ensuring that the right message is
distributed to the right people at the right time (see “MarketScope for Emergency and Mass
Notification Services”). Communicating with those not directly involved in the crisis ensures that
the “rumor mill” is not acting to the detriment of the organization. Prepare a frequently asked
questions (FAQ) document so that enterprise communications are consistent.

Workforce Continuity

The first question to ask is, "Do you have a workforce continuity management program in place?"
Managing and communicating to the workforce during a crisis are organizations’ first
responsibilities. The safety and welfare of your workforce are key to ensuring that you will recover
(see "Workforce Continuity Defined" and "Workforce Continuity: Best Practices for Workforce
Management”).

Have you surveyed the location of your critical and traveling staff? You must provide support and
help them find alternate accommodations and travel arrangements. Travel firms will be
overwhelmed with calls, so nonemergency calls should not be placed. And, there is no other way
to say this but — do not alienate your own workforce by not reaching out to each and every
worker. Your human resources department must step in and act as an intermediary in making
alternate travel plans (for example, hiring buses to transport stranded personnel from one location
to another where there might be more resources, such as accommodations, work spaces and so forth). If you use a centralized travel service, then it should have a record of all the people in transit, making your inventory process a bit easier. If not, your job will be more difficult. See Note 1 for a sample of postings regarding the impact of the event on one firm.

Have you identified the critical work affected by the absence of stranded staff? You will need to take steps to delegate work on critical projects, and notify all involved parties — internal and external. A business process management (BPM) solution would be helpful here. It could tell you what work is in progress, what the status is, and who was supposed to do it. You can also take one person’s work queue and move his or her tasks to someone else. You could have an event-triggered notification/workflow to do this (see “Use of Event Processing Increases Success of BPM Projects”). Your crisis management plan should contain the details of chain of command, workforce succession and backup personnel needed to continue business during any unexpected absence. (This could all be housed in a BPM repository, which includes organizational models, roles and so forth.) Recovery plans will also come into play here because critical access information (such as passwords) and key management details should be documented in these plans for use by replacement personnel when primary workers are not available.

Supply Chain and Customer Service

The greatest business impact is in the supply chain. Goods (especially specialty parts) and just-in-time inventory management deliveries made through air transportation may not be able to arrive when needed by customers, due to the cancellation and backlog of flights. Many industry segments have reported shortages, or pending shortages and production line stoppages, due to the weaknesses in the lean supply chain that are in need of constant inventory availability. When even the smallest link in the chain is stressed or snaps, the strength of the whole goes to naught. After only five business days, some automobile manufacturing in Europe ceased due to supply chain disruption. Two manufacturers announced stopping and another announced severely reduced production. And this event is the first time ever that FedEx and UPS said they wouldn’t honor their overnight delivery service-level agreements for Europe. Reports are that it will take up to one month to recover from the supply chain delays. You must assess your supply chain and determine the impact on meeting contractual obligations. You might have to make alternate business operations and supply chain arrangements, or ask others stepping in to take the lead.

During the crisis — but better yet, prior to any crisis and as part of your overall procurement process and supply chain risk management program — review contracts and contact critical vendors to understand potential effects that could cause service disruptions. For example, would vendor resources who are unable to travel still be able to support your business needs? Does your contractual obligation support rely on on-site resources who are now unable to access your facility due to travel challenges? Can work be shifted to other geographic locations? Do you know your vendors’ obligations when dealing with a force majeure event (see Note 2)?

Have you contacted your customers to inform them of any delays in delivering products/services? You might also ask them how you can help them if you are not experiencing any business impact directly from the crisis. Doing so will help to build mutually beneficial relationships.

Can you be creative to take advantage of other opportunities in a situation like this? Millions of dollars of goods, many perishable, sat spoiling in warehouses across the world because they could not be shipped to Europe. Did any companies have the imagination, creativity and ethics to look for alternatives, such as local processing to freeze or juice fruits, or redistributing the goods to earthquake victims?

One of the issues here is that you can’t set up “deterministic/known” processes to handle every event, simply because you can’t predict every event and every combination of events. So, in
some cases, you will need a dynamic business process that happens "on the fly." This is called dynamic BPM (see "Rule Engines and Event Processing" and "The Art and Science of Rules vs. Process Flows"). The complex-event processing engine figures out that an event has occurred, and a dynamic process flow is triggered, where the steps are determined in flight by business rules.

**Remote Access**

Take this opportunity to review your remote work programs. How much of your business operations can be managed remotely? Stranded workers on business travel will likely be in better shape than staff who are stranded while on vacation — they may have only limited access to the tools or connectivity they would need to work remotely ("I have my smartphone, and can remember all my passwords, but I don't have my work PC"). For most people, it is a badge of honor to completely disengage from the work environment while on vacation; however, for critical staff, you might require them to take their hardware with them (even if they leave it turned off) in case they are delayed.

Consider what applications and data that stranded staff may not have access to without a secure/corporate-supplied device, and assess their ability to work remotely. Capturing this data in one place will give a sense of the business impact, and enable organizations to put alternatives in place. The pandemic plan you created in 2009 for the H1N1 crisis should prove invaluable, because it should document your remote-access needs and capabilities. You may also have to think about providing more application access via a Web interface to get around the lack of business-level tools of stranded workers.

At a minimum, traveling executives should be equipped with at least some remote work capability — for example, based on smartphones and wireless Internet access into your corporate VPN ("Gartner's Telework Action Plan Is Key to Successful Implementations" and "Critical Questions to Ask Your VPN Provider About Rapid License Capability").

**Telepresence and Collaboration**

Tools such as videoconferencing can overcome the need to travel in the first place. Even basic videoconferencing can be used to improvise for ad hoc meetings that were scheduled to be face to face. However, high-fidelity rooms, such as telepresence, are not yet sufficiently ubiquitous to provide a significant buffer against ad hoc travel. Organizations that have deployed telepresence between their major locations will be able to use these as before. The Tier 2 locations that make up the ad hoc requirement (and for which travel has yet to be substituted) suffer, because the organization will not have its own telepresence suite, nor is there likely to be a pay-per-hour facility anywhere nearby that could be used for such people. Finally, the normal approach of "hubbing" (that is, bringing people from across a region to join a single telepresence room for a region) won't work in the case where air travel is so heavily disrupted across that region.

Currently, telepresence isn't rolled out enough to make a significant impact to people stuck in places, or to have helped organizations avoid travel. If you have stranded staff, then the chances of them getting to a telepresence room you can use are slim. Therefore, telepresence, with its current level of availability, would not have made a significant difference to users in the affected areas from the April 2010 volcanic eruption. They'd have access to a room and would have already been planning to use it instead of traveling, or they'd need to travel to their nearest telepresence room — making it no more feasible than making the face-to-face meeting in the first place.
Regular videoconferencing, however, is more widely available, can be rented by the hour in most managed office environments (such as Regus and Kinkos) and can — with little effort — be made to talk to most endpoints, although with less-than-perfect quality.

In the future, some organizations will look back in hindsight and say, "If only I'd mandated the use of video, I wouldn't have x of my staff strewn across the globe because aircraft have been grounded." Gartner's recent telepresence poll suggests that about 15% of telepresence meetings directly result in the avoidance of travel for some users in the meeting. With the average room being used for three to four hours a day (approximately two to three meetings per day), the conservative end of this could realistically equate to one person per endpoint avoiding travel per week (that is, 10 to 15 meetings, involving at least two endpoints, and 15% equals two of those meetings, so avoiding travel for people equals approximately one meeting per endpoint). Because these problems have straddled two weeks (so far), an organization would be looking at two people avoiding disruption — either stuck somewhere and unable to get home, or unable to get to their meetings in the first place.

Web conferencing, virtual worlds and remote collaboration vendors are experiencing unprecedented demand and will understandably prioritize existing customers. IT should remind users of the existing services already deployed (for example, Microsoft Office Communications Server or Cisco WebEx) and should extend their availability, if necessary. Otherwise, consumer-based communications systems (such as Skype, ooVoo, Huddle and even Facebook) are almost universally accessible and widely used. These solutions are immediately available for download, scale well and provide workable solutions to an otherwise challenging problem. IT organizations should remind users of the need for caution when downloading sensitive information, and should be vigilant for increased virus/trojan activity within their environments. CIOs should grasp this opportunity to demonstrate real leadership by displaying flexibility and speed to propose and support remote working and collaboration tools, including immersive virtual environments. Do not discount freely available consumer-based solutions, but use the opportunity to investigate various options and craft a more informed, secure, robust and supportable solution after the immediate crisis has passed. The full spectrum of workforce collaboration tools should be reviewed for applicability during transportation failures (see "Degrees of Separation: Strategies for Collaboration," "Emerging Technology Analysis: Unified Communications and Collaboration" and "A Technology Framework for Enterprise Unified Communications").

Social Media Usage

Review your use of social media sites, such as Twitter and Facebook, to communicate updates to your customers. When conventional support and communication channels break down or are overwhelmed, people naturally gravitate toward social media to fill the vacuum. For example, some airlines used Twitter and Facebook effectively to communicate with and help their stranded customers, earning goodwill in a difficult time. Others ignored these channels, depending solely on overloaded and often unreachable phone lines and websites. Employees are likely to use social media as well to seek out colleagues or find a way home. Spontaneous ride shares and lodging clearinghouses appeared on many social media sites. As with anything powerful, there is a potential downside as well. In addition to passing on useful information, social media can amplify rumors and spread wrong information just as quickly. At one point, news of a second volcano erupting spread quickly through Twitter, based on a camera that was turned in the wrong direction. The corrected information spread almost (but not quite) as quickly. When Dutch airline KLM offered to help customers rebook their flights on Facebook, many customers posted too much information, which could give anyone access to their private information and even make changes to bookings. All employees should know and understand the implications and corporate policies regarding the use of social media.
**Business Interruption Insurance**

Given that this is a force majeure event, your business interruption insurance coverage may not apply, because it usually requires some form of property damage to precede the interruption of business. Check with your insurance broker or carrier to understand your policy from the perspective of scenarios covered, but also for outage duration. Most business interruption insurance policies are written with a maximum limit of liability, as well as to cover a particular duration time frame. If you exceed that time frame, then you will not be compensated for expenses incurred for the recovery of the business.

**RECOMMENDED READING**

"Toolkit: Requirements for Crisis Command and Emergency Operations Centers"

"MarketScope for Emergency and Mass Notification Services"

"Workforce Continuity Defined"

"Workforce Continuity: Best Practices for Workforce Management"

"Use of Event Processing Increases Success of BPM Projects"

"Rule Engines and Event Processing"


"Gartner’s Telework Action Plan Is Key to Successful Implementations"

"Critical Questions to Ask Your VPN Provider About Rapid License Capability"

"Degrees of Separation: Strategies for Collaboration"

"Emerging Technology Analysis: Unified Communications and Collaboration"

"A Technology Framework for Enterprise Unified Communications"

"Research Roundup: Business Continuity Management and IT Disaster Recovery Management, 3Q09"

**Note 1**

**Sample Travel Advisories**

Because of travel disruptions due to the spread of volcanic ash in Europe, GetMeOutOfHere Travel advised associates of the following:

- Please only call GetMeOutOfHere Travel centers for urgent support. Due to increased demand, we are seeing limited seat availability on flights.

- Please consult your local airport website or check with the airline you were scheduled to travel with prior to departing for the airport.

- Please continue to be patient as this is an unprecedented event which is impacting virtually all travelers.

The latest updates included:

- 20 April, 6:00 p.m. EST: Current Travel Guidance and the Challenges Ahead
As has been reported on all the news media, a huge ash cloud from an Icelandic volcano continues to cause travel chaos across much of Europe. The cloud has resulted in tens of thousands of canceled flights, stranding hundreds of thousands of passengers, including a number of our associates. Our business travel provider, GetMeOutOfHere Travel, informed us that it is experiencing unprecedented call volumes into its call centers. Associates will experience long wait times and potential busy signals due to the call volumes. GetMeOutOfHere Travel fully understands that some of our associates are stranded and unable to return home, and it is doing everything it can to address each associate’s specific needs. The delays are expected to continue for the next several days, and it may be at least a week before all travel returns to normal.

**Note 2**
**Definition of "Force Majeure"

Force majeure is a legal term that refers to an unexpected and extraordinary event or circumstance beyond the control of the parties involved that prevents one or both parties from fulfilling their obligations in a contract.
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