Lessons Learned From Hurricane Sandy

BY REGINA PHELPS

Credit: Codered_pl/Flickr

Hurricane Sandy (aka "Superstorm Sandy") wasn't destined for the history books as one of the greatest storms ever to hit the Northeast, but that's how it turned out.

It is important to stop for a moment and look at some of the unique aspects of this event – a hurricane filled with superlatives:

- Deadliest and most destructive storm of the 2012 Atlantic hurricane season
- Second costliest hurricane in United States history with preliminary estimates at $75 billion (Katrina, in 2005, $81 billion)
- Largest Atlantic hurricane on record as measured by diameter, with winds spanning 1,100 miles from Florida to Canada
- Affected 24 states: Thousands of homes and businesses destroyed, millions without power
- Killed at least 285 people along the storm path in seven countries, 72 in US
- Caused cancellation of more than 13,000 flights across the U.S. on October 29 and more than 3,500 on October 30
- Public transportation halted throughout the region
- New York Stock Exchange closed for two days

Whew!

"Routine Emergency" versus "Crisis Emergency"

Before digging into the lessons learned, it is important to stop and reflect what set this storm apart from previous storms other than impressive statistics. To understand this, we need to look at the difference between "routine emergencies" and "crisis emergencies." This concept was developed by two Harvard professors, Arnold Howitt and Herman "Dutch" Leonard,[1] and it certainly doesn't mean it's easy to handle.

A "routine emergency" doesn't mean that it isn't challenging, and it certainly doesn't mean it's easy to handle. It is the type of emergency that is in our risk profile; in other words, it is expected, we have plans to accommodate it, and we train and exercise to manage it. Its **familiarity** makes it "routine."

So if hurricanes fit the risk profile of the Northeast, what set this one apart? Sandy was, indeed, the classic definition of a "crisis emergency" – an event defined by significant novelty. This was an emergency not like those previously experienced. Although the forces themselves were not new, it was the combination of forces that were challenging. Parts of it were familiar but occurring at unprecedented speed (flooding). Existing plans were completely inadequate, and training and exercises had not accounted for the magnitude and sheer number of events. Leaders had to improvise new approaches to manage the incident. Sandy was the perfect example of a "crisis emergency."

A crisis emergency requires a different approach. First of all, leaders must diagnose or determine the elements' novelty. What is different about this situation? How does it vary from our current plans and processes? Once clear about the differences of the novelty, leaders must then improvise response measures to cope with the unanticipated aspects of the event. This will often make leaders uncomfortable, as they are deviating from plans and moving into uncharted waters. These actions, however, are born out of necessity, and in some cases, the actions and responses may be quite different than what they have ever done before. For example, the Peer 1 data center in Lower Manhattan kept its data center online after the storm by forming a "bucket brigade" of staff and customers who manually transported diesel fuel up 17 stories from the street to the rooftop generator[2]. That response was creative and the team was extremely adaptable to execute an improvised solution.


Photo Courtesy of FEMA by Jocelyn Augustino

Cognitive Bias

Many businesses that failed to take the threat seriously found themselves playing catch-up in the last hours before the storm hit. Something I heard from several clients and colleagues was, "We got ready for Irene and nothing happened!" and "Our BCPs will be just fine." Those people downplayed the possibility of a direct hit and serious flooding because a storm of this size "had never happened before."

In these cases, a dangerous element was at play: cognitive bias. Cognitive bias is that persistent force that shapes people's thinking and organizational awareness. Some refer to it as "faulty thinking." There are many cognitive biases that appear in crisis situations. Here are just a few to consider:

- Overweighing one's experience. ("Been there, done that.") I have seen this often with clients who have gone through repeated events and think they have seen it all.
- The illusion of experience. A tendency for individuals to think that they have more experience than they actually do. They inflate their self-worth and knowledge.
- Overconfidence, both in one's abilities and in one's ability to predict the future. This results in overconfidence and some belief that one can actually control the future.
- Failure to observe or believe disconfirming evidence. "It's really not happening"...even as the water is rushing into the building.

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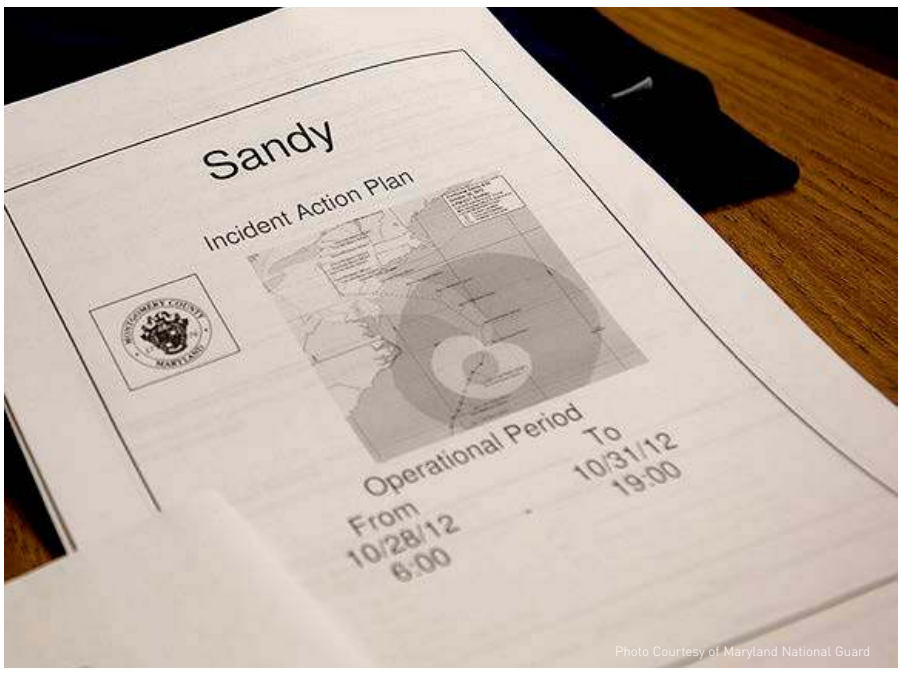
Hoboken Terminal before and After Hurricane Sandy

- Escalation of commitment. Once it has been noticed that the solution is not working, people recommit to that **same** solution, a "doubling down," if you will.
- Migration of objectives. Objectives shift and become personal; they lose focus and meaning.

Storm Approaching

Sandy began her life on October 22 as a tropical wave when the storm first formed. She then began her march through the Caribbean islands: Haiti, Dominican Republic, Cuba, the Bahamas, and Jamaica. By October 25, all eyes were peering south on Sandy and the speculation and hedging began. She was skirting up the Eastern Seaboard and the question was whether she would turn west and move inland. Initially, European computer forecasting models predicted the storm would strike the Northeast, while most others anticipated the storm would move out to sea. These differences created a bit of confusion and perhaps led some business continuity managers to think they would dodge a bullet. There was widespread disbelief and discounting going on among weather pundits.

Many people were asking if this storm would "be like Irene." (You might recall that Hurricane Irene was forecast to hit the Northeast hard, yet the damage turned out to be more modest in the populated areas.) Several clients and colleagues reiterated they had prepared for Irene and nothing happened. They seemed to believe a certain amount of "crying wolf" was going on.



The Storm and Its Aftermath

In order to fully explore the storm and the aftermath, it is helpful to break the discussion areas into five basic categories: People, Facilities, Technology, Incident Management and Business Continuity Plans, and Communication.

PEOPLE

Widespread power and communication outages, road damage, airline and mass transit closures, lack of gasoline, and lack of supplies (food, emergency supplies, water, and first aid) all had a huge impact on people and their ability to respond. We all know that without our staff, we have no business to recover.

So, where do we begin? Personal, family, and home preparedness is essential. If your employees aren't prepared at home, they will not be able to help you restore your business. In the case of Hurricane Sandy, many simply did not have even the most basic supplies, such as flashlights, batteries, food, and first aid supplies at home. It is in your best interest to promote preparedness to all of your staff. The FEMA Ready.gov website has excellent materials to help educate and promote personal readiness. (See the article in this publication: "Personal Family Preparedness by Ted Brown.")

What do you do when employees need assistance? Many East Coast employees lost their homes, had major

damage to their homes, or had no heat or power and needed a place to stay. Many companies had never considered that when their employees need help at the time of a disaster, they will look to the employer for that assistance. Companies were scrambling to develop policies and procedures on employee support, loans, and other forms of assistance. Some even had staff and families spend numerous nights in their facility because it had heat, water, and electricity. What will you do to help your employees? Don't wait until the next disaster – think about those things now and develop a plan.

FACILITIES

Many companies had more than one facility impacted due to the wide swath covered by the storm. When those companies turned to their business continuity plans, they had some immediate problems.

Work from Home. Those who use work-from-home as their primary work area recovery strategy came up short. The widespread power outages created by a 1,110-mile wide storm were unprecedented. Many of these outages lasted multiple days as well. Due to the reach of the storm, it was difficult for employees to travel even a reasonable distance in order to find power to work. This was due to the major loss of power over a wide geographical area, the difficulty in transportation (mass transit, cancelled flights, road damage, lack of gasoline), and in some cases, damage to employee homes. This slowed recovery.

Damage at Multiple Locations. Many large companies in the East have multiple nearby locations. Upon examination of their BCPs, many found their designated back-up site was too close to their primary site. This left many companies scrambling when both their primary **and** back-up facilities were not available.

Untested Recovery Strategies. One common strategy I hear companies wanting to implement is "employee displacement." Simply put, take a "non-critical" employee and "displace" them, sitting a "critical" employee at their desk. Sounds great, right? Save money

Photo Courtesy of Matt Hech

Photo Courtesy of Maryland National Guard

because the space is already there, and equipment is on the desk? Well, yes and no. What happens to those who are displaced? Do they get sent home on a paid vacation while others are toiling away? Most people during an emergency want to work and be a part of the recovery even if they are not in a "critical" position. And what about the equipment? Does the displaced staff's computer have the appropriate applications and capabilities for the critical employee? Are there special phone needs, such as recording ability or VRU? If you have this strategy in your plan and have never tested it, beware! You are likely to have many issues when you try to implement it – it may not be the quick-and-easy solution you might think it is.

"Follow the Sun." Many global companies note in their BCPs that they will "transfer the book of business" to another company location at the time of a disaster. A fabulous idea! However, this requires careful planning, along with well-documented processes and exercises to ensure that it will succeed.

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Battery Park Underpass: After and Before

Some companies were caught flat-footed with untested "follow the sun" plans for recovery.

TECHNOLOGY

Issues with technology occurred on two fronts: (1) Broad infrastructure damage in the region to both utility and communication providers, and (2) Companies that suffered technology damage during the storm and the aftermath. I can't help but think of a company that had both – the Verizon building in Lower Manhattan. The images from a security camera in their 140 West Street main lobby at the height of the storm surge went viral on the Web. The building's five-level basement was submerged and the water was over three feet high in the main lobby.[3] There were numerous other data centers in Lower Manhattan that also suffered outages, some due to flooding and others that ran out of diesel fuel.

This is a great opportunity to look at the risks facing your company's technology centers. Do you have adequate plans based on your risk profile? If flooding is a risk, do you have sandbags and pumps onsite? Do you have at least two diesel fuel providers on contract? If you must "abandon ship," what are your recovery strategies? If you are using a third-party vendor (think cloud computing), what is their disaster recovery plan?

Many employees who lost power at home not only lost their ability to power their devices, they also lost their internet connections. Scenes of employees standing in a charging line at coffee shops were common. This also put a monkey wrench in those work-from-home BCPs. Some helpful solutions to get some power are solar chargers for phones and laptops, and electrical converters that can be plugged into your cigarette lighter in your car – both can provide some immediate power and relief. (After living in earthquake country, I always keep a converter in my car and my gas tank is always at least half full.)

If all else fails, do you have your most critical information on real, live paper? Sounds old-fashioned, I suppose, but many people in the East were hard-pressed to contact people after their phones died. Not only was the device no longer useful, but without power, they also lost access to all of the phone numbers. (Thanks to speed-dial, many people no longer memorize phone numbers – they just press "Mary" and the phone dials the number!) Keeping critical phone numbers, account information, and other important data in a paper format is incredibly helpful.

INCIDENT MANAGEMENT AND BUSINESS CONTINUITY PLANS

Incident Management Teams (IMT) and plans got put to the test. For example, many IMT plans are relatively silent on who should be performing an incident assessment, how and where the team will meet, and what criteria are used to "declare." Furthermore, this process is not often exercised. I witnessed companies who had not really worked this out in advance fall to their knees, trying desperately to make it up on the fly.

Another key tool of an IMT plan is the ability to develop an incident action plan (IAP) and then communicate their plans and actions to all key stakeholders. Again, an IAP is one of those actions that require practice to hone the thinking and the skills. For those that had not exercised the process, they ended up going in many directions simultaneously, like a headless chicken (at least initially), and without a great deal of success.

There was one core flaw in many BCPs we reviewed. There was an overwhelming assumption that companies would be out of their facility for only a short period of time and then everyone could go back to work. This was coupled with the major assumption that employees could work from home. A double whammy!

A case of extreme criticality was the four New York City hospitals that were forced to evacuate patients as water poured in and power failed. Those hospitals (NYU Langone Medical Center, Bellevue, and the Manhattan VA hospitals – all next door to one another along the East River – and Coney Island Hospital in Brooklyn) had to relocate more than 1,200 patients. Many of us watched with bated breath as four newborns in the NYU Neonatal ICU on respirators were carried down nine flights of stairs while a nurse manually squeezed a bag to deliver air to the babies' lungs.[4] The great news in those evacuations is that there was no untoward ill effect regarding any of the evacuated patients.

COMMUNICATION

Twitter was the true spokesperson of the day in Hurricane Sandy. If you wanted to know what was really going on, all you had to do was follow Twitter. The social media service provider really shined in Sandy. It provided people on the street the opportunity to post real-time information, pictures, and video of events happening right at that moment. It allowed those in need to post requests for assistance, like help with evacuation, and it allowed emergency responders and government officials a chance to reach out with critical information to those who needed it most.

There were, of course, some great fake tweets and posts to Facebook pages which were quickly called out. One man was arrested for spreading false rumors about the NYSE using social media.[5] There were also some great images, clearly Photoshopped, that provided a bit of necessary humor, like the image of the Statue of Liberty being bombarded by waves which was taken out of the movie "The Day After Tomorrow."

Sandy clearly pointed out that we need multiple ways to reach our key stakeholders. If you have limited options, your communication performance is poor. It was a great reminder to be diversified in your communication approach.

Going Forward

There are many great lessons that can be learned from Hurricane Sandy, regardless of where you are in the country or the world. This is not so much about hurricane readiness as it is about planning and then improvising when the plans don't fit the disaster at hand. We have a great opportunity to learn from these mistakes and key findings, and to do better next time. At times like this it is good to remember the wise words attributed to Albert Einstein when he said, "Insanity is doing the same thing over and over again and expecting different results." I vote for sanity!

ABOUT THE AUTHOR

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FOOTNOTES

1 Managing Crisis – Responses to Large Scale Emergencies, Edited by Arnold M Howitt and Herman B. Leonard, CQ Press, 2009.

2 New York Data Centers Battle Back from Storm Damage, Data Center Knowledge, 1 November 2012, http://www.datacenterknowledge.com/archives/2012/11/01/ny-data-centers-battle-back-from-storm-damage/

3 Ibid.

4 Hospital helps babies during evacuation, WCYB, October 30, 2012, http://www.wcyb.com/news/health/Hospital-helps-babies-during-evacuation/-/14591070/17188806/-/4j6d10/-/index.html

5 Twitter Troll Who Posted Fake Sandy News Apologizes to Internet, Mashable, http://mashable.com/2012/10/30/sandy-fake-news-apology/