[Journal of International & Interdisciplinary Business Research](https://scholars.fhsu.edu/jiibr)

Volume 3 *Journal of International & Interdisciplinary Business Research*

Article 7

January 2016

# A Post-superstorm Sandy Study Of Small Business Disaster Preparedness And Perspectives On Planning For Future Incidents

Cynthia Scarinci
*The City University of New York*, cynthia.scarinci@csi.cuny.edu

# A POST-SUPERSTORM SANDY STUDY OF SMALL BUSINESS DISASTER PREPAREDNESS AND PERSPECTIVES ON PLANNING FOR FUTURE INCIDENTS

Cynthia Scarinci, The College of Staten Island, CUNY

This paper focuses on small business preparedness for disaster, after Superstorm Sandy, to determine whether the disaster experience encouraged business owners to develop contingency and disaster recovery plans to better prepare for future incidents. The methodology used for this research was a combination survey/interview of small businesses impacted by Superstorm Sandy. The survey results revealed that the majority of respondents did not have plans in place prior to Sandy and that a small percentage developed contingency or disaster recovery plans to better prepare for future incidents, post-Sandy. The interview portion of the research provided valuable insight about how these businesses dealt with the disaster, what they learned from the experience and their perspectives on contingency planning and disaster recovery.

Keywords: Contingency planning, disaster recovery, small business, Superstorm Sandy

## INTRODUCTION

Disasters of different magnitudes occur on a daily basis throughout the world. These disasters can be the result of manmade or natural causes, and depending upon certain risk factors, can cause major devastation to small businesses. Proper planning can minimize the interruption of essential business operations and expedite the recovery process, so that normal business operations can be maintained or quickly resumed after disaster, thereby minimizing the negative impact (Runyan, 2006, p.24).

Previous research in disaster planning has revealed that most businesses are unprepared for disaster, specifically small businesses, since they focus little of their attention and resources on disaster preparedness (Webb, Tierney and Dahlhamer, 2000). A survey of six cities in the Americas, conducted on behalf of the United Nations for their 2013 Global Assessment report on Disaster Risk Reduction, revealed that fewer than 14% of high-risk respondents from small businesses with fewer than 100 employees had a contingency plan in place.

Small businesses in the United States (U.S.) are also extremely unprepared for disaster. According to a 2012 survey of 504 small businesses nationwide conducted by Sage software, more than 60% of the responding small businesses lack emergency-response plans. In 2013, office supply company Staples conducted their second annual online workplace safety survey of 400 organizations across the U.S. The results of this survey revealed that less than half of the small business respondents indicated that they were prepared for disaster, or that they shared safety plans with their employees. Their survey also revealed that there was a difference between perception and reality regarding disaster planning. That is, only half of the survey respondents reported that their organization kept them informed about their preparedness plan, but 75% reported that they believed their company took preparedness seriously. Similarly, a December 2012 survey of 600 U.S. small businesses, conducted by the e-commerce companies Alibaba, Vendio and Auctiva, revealed that nearly 75% of those surveyed did not have disaster plans, yet 70% indicated that they did feel vulnerable to natural disaster.

## DISASTER RISK

Despite the lack of preparedness, the frequency and intensity of disasters are on the rise, globally and nationally. Disaster threats include natural disasters, like hurricanes, tornadoes and earthquakes, as well as manmade threats, like terrorism and cybercrime.

### Natural Disasters

According to the World Meteorological Organization in the Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes, from 1970 to 2012 there were 8,835 disasters totaling the equivalent of $2.4 trillion dollars of economic losses, worldwide. As evidenced by Figure 1, the number of globally reported climate related disasters has increased astronomically, since 1950.

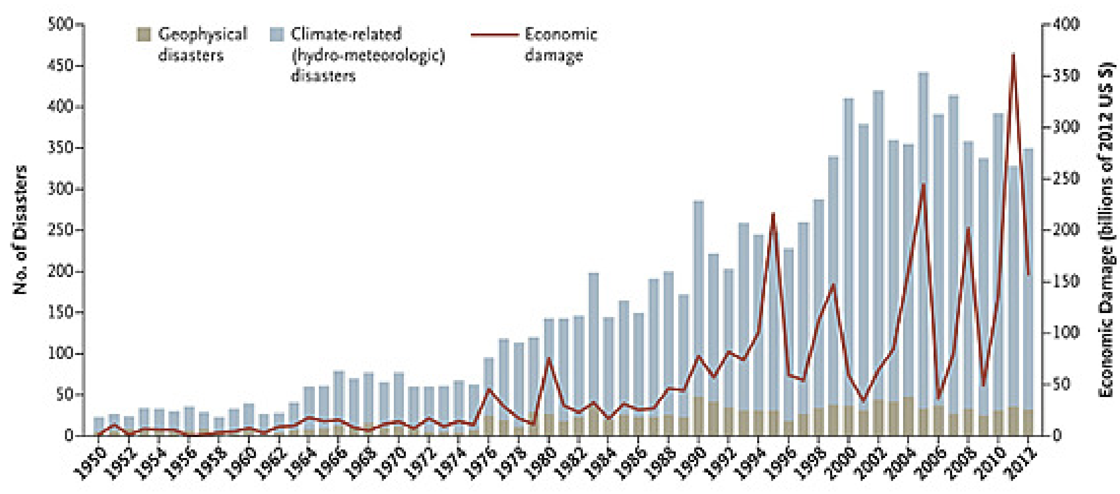


**Figure 1. Globally reported disasters from 1950 to 2012**

From a national perspective, over the last decade, the U.S. was included in the top five countries that are most frequently impacted by natural disasters. More than half of those disasters were the result of meteorological events. Since the turn of the century, the U.S. has seen over 1,800 disasters of various magnitudes and sources, including natural and terrorist activity (Annual Disaster Statistical Review, 2013).

### Manmade Disasters and Terrorist Activity

Although the natural disaster statistics and future outlook are quite daunting, there has been increased risk of manmade disaster and terrorist activity. In 2013, manmade disasters are estimated to have caused more than $9 billion of the total $140 billion of global damages, an increase of $1 billion over those reported in 2012 (Swiss Re, 2013). An analysis of incidents reveals that there were a reported 18,524 worldwide terrorist attacks in 2013, representing a 150% rise in attacks over the past five years (HIS Markit, 2013).

Cyber-security incidents like identity theft, malware and thefts of data and intellectual property are also increasing in frequency. Verizon's 2012 Data Breach Investigations Study reported that more than 70% of the 855 data breaches they examined occurred in businesses with fewer than 100 employees. A global 2014 Information Technology Security Risk Survey conducted by Kapersky Labs, where 46% of the total 3,900 respondents were from small firms, revealed that 94 percent of organizations encountered at least one cyber-security incident in the past 12 months. In their 2015 survey of 5,500 participants from 26 companies worldwide, Kapersky revealed that almost half of the survey participants lost sensitive data through either internal or external threats. For small and medium businesses, the estimated direct cost for expenditures like professional services to recover from a threat was



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955

$38,000, with at least an additional $8,000 to cover indirect costs to cover additional staff, system upgrades, etc. Those dollar amounts do not include the cost of downtime or lost business opportunities, which are estimated at $66,000 and $16,000, respectively for small and medium sized businesses. For a small business, these costs can be crippling, considering that the reported average revenues of a U.S. firm employing one to four employees is approximately $400,000 (U.S. Census Bureau, 2012).

Unfortunately, many businesses are of the impression that planning is only necessary to prepare for large-scale crises, like Superstorm Sandy. Actually, the majority of business interruptions that occur on a daily basis are not catastrophic in nature. The four most common types of business interruption experienced by small to mid-sized businesses are hardware failure, human error, software failure and lastly, natural disaster (Quorum, 2013). Most crises small businesses encounter are actually defined as "smoldering." That is, they are small problems that fester more and more with the passage of time. Since they are not attended to, these smoldering problems eventually turn into major crises (Sapriel, 2003). Therefore, it is extremely important for business owners to focus on those disasters or business interruptions that will impact their individual businesses and their ability to serve their customers, not specifically disasters that could potentially impact an entire geographical region (Brislen, 2005).

Research has proven that disaster events frequently result in dire consequences, which puts a great deal of pressure on business owners to make spur of the moment decisions (Pearson and Clair, 1998). Therefore, preparedness is more of a necessity than ever before. Unfortunately, most small business owners lack the resources, skills and experience needed to address potential risk. One of those resources is employees. As of 2011, there were 28.2 million U.S. small businesses, representing 99.7% of all U.S. employer firms, and over 22 million of those firms were non-employers (SBA Office of Advocacy, Frequently Asked Questions, March 2014). As evidenced in Figure 2, of the estimated one quarter of small businesses with employees, more than 86 percent have less than 20 employees. Traditionally, the smaller the business (fewer or no employees), the greater the likelihood that a disaster experience will be devastating (Alesch, Holly, Mitler, Nagy, 2001). Additionally, it has been reported that the impact of disaster losses encountered by larger businesses were usually substantially less than smaller firms (Kroll, Landis, Shen and Stryker, 1991).

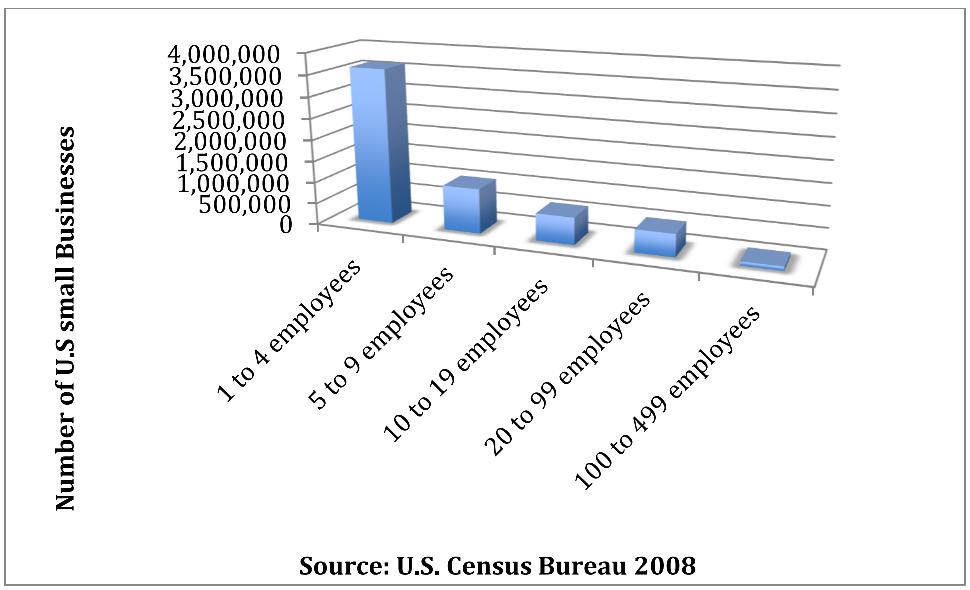


**Figure 2. U.S. employer firms with fewer than 500 employees**

The purpose of this study was to determine if the experience of Superstorm Sandy prompted small business owners to better prepare for future business interruptions. Unfortunately, it has been proven that awareness alone of the risks associated with potential disasters does not encourage planning (Karanci, Aksit & Dirik, 2005, p. 243). Therefore, it was anticipated that small business Sandy victims may learn through disaster. That is, that the "hands on" education obtained (Moynihan, 2008, p. 352) from the disaster experience would provide the catalyst necessary to promote additional learning (Sitikin 1992, p.34) and encourage planning for future incidents.

## METHODOLOGY

A combination survey/interview methodology was utilized to complete this research, about two years after Superstorm Sandy struck. The timing of this survey was very critical. After attending many post-Sandy meetings of small business owners, it was obvious that time was needed for impacted businesses to deal with the trauma of the event and to conduct the necessary assessment, so that they could proceed with their recovery. Attendance at town hall meetings for impacted Staten Island businesses and residents were utilized to determine the appropriate timing for this research. The intention was to allow enough time for the impacted small businesses to at least partially recover, so that the owners would be available to discuss their experience. However, it was also important that too much time hadn't passed, to ensure the accuracy of responses.

### Sample Selection

To develop a sample for this research, a data request was submitted to the Small Business Administration's (SBA) Office of Disaster Assistance. They provided the names and addresses of nearly 9,000 small businesses throughout the U.S. that had received disaster loans approved in the time period October 1, 2010 through November 30, 2013. This data was sorted to extract only Sandy recovery loans, which revealed that the majority of the loan recipients were in New York, New Jersey and Connecticut, respectively. The data was then sorted by loan amount, and a file including the 500 largest loan recipients was created. The selection of larger loan recipients was based upon prior experience with surveys of small business disaster loan recipients. A more successful survey response rate was achieved with businesses that applied for and received larger loans. It was suggested that this result may have been achieved because the larger loan recipients were required to provide a great deal of information to qualify for a loan, and that they were less inhibited about completing the survey and the interview.

Since the SBA only provided business name and address contact information, it was necessary to research phone numbers for the survey/interview process. Although time consuming, this process facilitated the identification of businesses that had not reopened after Sandy. Those businesses were eliminated from the sample. The final sample included 216 small businesses. Of that total, 104 businesses did not respond to three separate phone call attempts and 86 businesses did not wish to participate in the survey. A total of 26 firms completed the survey/interview, yielding a 12% response rate. It should be noted that an 18% response rate was achieved from the Staten Island firms included in the survey and a 14% response rate from the New Jersey firms.

### Survey/Interview

A formal survey of 30 questions was utilized as the foundation for this research, to gather data on demographics, physical and financial impacts of the storm, disaster preparedness and recovery challenges. A telephone survey format was selected to conduct the combination survey/interview. The questions served as a guide, to ensure the collection of specific data. The interview encouraged additional dialogue with participants, where they provided valuable insights about their individual disaster experiences.

## FINDINGS AND DISCUSSION

### Survey/Interview Results

### Demographics

The demographics collected in this survey revealed that approximately 90% of the respondents were in business for six or more years and that nearly 70% of the respondents had fewer than 20 employees. Much like Corey and Deitch (2011, pp. 170-171), the survey results revealed that the number of years a business was in operation did not correlate to recovery speed or business resumption. Several respondents shared that it had taken them years to establish their businesses, including the building site and inventory, and it took a great deal of time and money to recover, after Sandy. Smaller and newer businesses indicated that they had less invested and in some instances reported that they recovered what they could and opened in a new location. Relocation was not an option for most of the larger, more established businesses, since the availability of suitable sites and the cost of relocation was prohibitive.



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955

**Recovery Time and Cost**

Approximately one half of the respondents indicated that they spent between \$101,000 and \$250,000 to recover from Superstorm Sandy. The most costly and time consuming tasks were restoring their computer system and recovering necessary documents and files.

A major difficulty in the rebuilding process involved finding qualified and reliable contractors and obtaining the funds necessary for rebuilding. The businesses with fewer employees revealed that they performed a great deal of the necessary labor for themselves, because they couldn't afford to hire anyone (and they didn't want to take on any more debt) and the availability of recommended contractors was limited because of the great demand for their services.

**Planning**

Despite the fact that 40% of businesses never reopen after a major disaster experience (FEMA), more than half of the survey participants revealed that they still did not have a plan in place after their Sandy experience. In total, only 42% of the respondents to this survey reported that they had some type of contingency and disaster recovery plan in place prior to Sandy, however, only 13% of these were formal, documented plans, which were shared with employees. The remainder had informal, undocumented plans. Just like Perry (2001), we found that the small businesses in this study were not in the practice of planning.

As evidenced by Figure 3 below, there was a definite correlation between small business size (number of employees) and disaster preparedness. Overall, businesses with fewer employees were less prepared. Only 14% of firms with fewer than 10 employees reported that they had a contingency/disaster recovery plan in place prior to Sandy. This number increased to 43% after Sandy, since 29% of the respondents in this category reported that they had developed informal plans after their disaster experience. Conversely, 70% of the firms with 20 or more employees had some type of a plan in place before disaster. This number increased to 86% after their Sandy experience. Again, it must be stressed that the majority of these plans were undocumented and informal in nature.

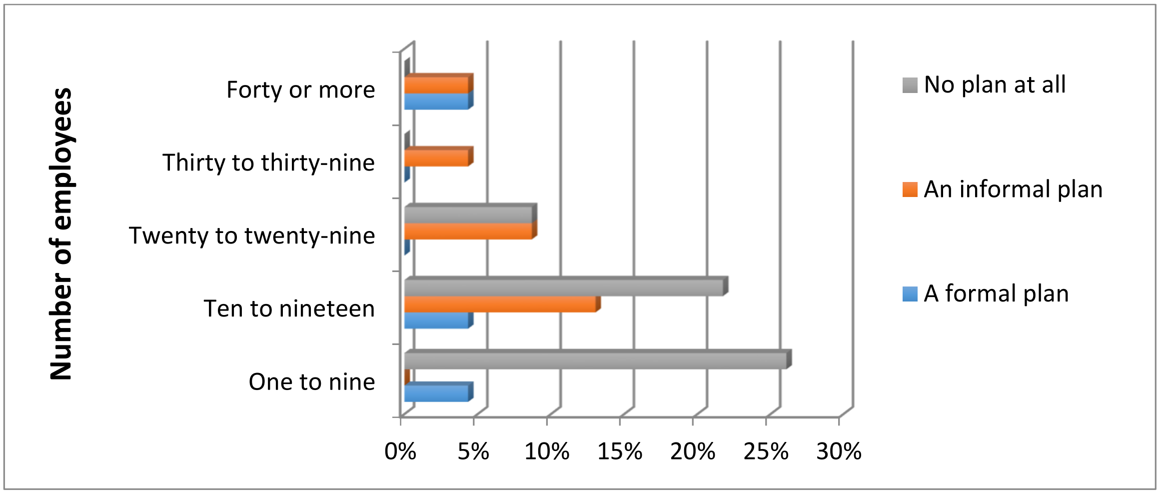


**Figure 3. Type of contingency/disaster recovery plan in place prior to Superstorm Sandy.**

**Plan Testing**

Although planning is critical, testing is just as critical. According to FEMA, once a plan is in place, it is necessary to test it annually, at minimum, to ensure that it is efficient and effective. The testing of a contingency/disaster recovery plan can be as simple as a walk-through of procedures, or as complicated as simulating a disaster scenario, where participants perform their assigned recovery roles. One of the biggest risks is that businesses become complacent with their plan and don't devote time to update it (Scheier, 2004, p.39).

Businesses that are convinced that they have a solid plan in place may be shocked by the fact that it is completely ineffective when needed after a business interruption (Rosso, 2013, p.25).

Many interviewees shared that they were unable to access system backup units and important documents because they were stored in bank safe deposit boxes or in facilities that could not be accessed until electricity was restored or flooding was abated. Plan testing would have highlighted these issues.

In this survey, a total of 36% of all businesses with a plan in place prior to Sandy had never tested it. This percentage decreased to 27% after Sandy. There was a definite correlation between firm size and plan testing. Before Sandy, none of the firms with less than ten employees tested their plans, while all of the firms with more than 20 employees did test their plans After Sandy, one third of the firms with less than ten employees reported that they have now committed to testing their plans regularly.

**Computer/Network Backup Testing**

Despite admitted reliance on their computer systems, 38% of respondents did not have a formal computer/network backup schedule, while 14% did not back up their systems at all. Firm size impacted respondent commitment to computer system backup and testing. Sixty-seven percent of the firms with more than 20 employees reported that they backed up their computer systems daily, with 83% using cloud backup. Eighty percent of that same group indicated that they tested that backup at least once a year. Sixty percent of businesses with less than ten employees confessed that they never backed their computer system up. Of the 40% that did back up their systems, 44% used cloud backup, 44% used disk backup and the remainder used tape backup systems.

As per Rosso (2013, p.25), it is imperative for businesses to focus on data restoration. It is essential to ensure that data exists and to verify that it can be accessed at a different location in the event of disaster. One survey participant shared that he diligently backed up his entire network on a daily basis, but never took the time to test. Unfortunately, when a computer virus necessitated the use of the backup, he found that the backup system was malfunctioning and data was missing and files corrupted. Those that relied on cloud backup realized that they couldn't access their backups without internet access and power.

**Storage of Backup and Vital Documents**

Although respondents reported that physical rebuilding and recovery of their computer systems and important documents were the most difficult aspects of recovery, the majority of the non-cloud users (80%) revealed that they stored their backups in their offices. In addition, nearly half of all respondents reported that they continued to store vital documents in their offices. Many business owners shared that they continued to store additional copies of backup, as well as important documents at home, even though they lived near their businesses. When asked why they would do so after their Sandy experience, several responded that they believed there was no perfect backup scenario. One interviewee stated that he purchased a waterproof safe for both his office and home.

**Flood Insurance**

There is no doubt that insurance policies are an integral part of crisis planning. Spillan and Hough (2003) refer to the fact that small businesses are wise to invest in insurance policies, but to be mindful that they do not guarantee recovery.

Storm surge was a major issue during Superstorm Sandy, resulting in major flooding issues. The National Hurricane Center defines storm surge as the abnormal rise of water generated by a storm, over and above the predicted astronomical tides. For most of the businesses that had policies, flood insurance proved to be a good investment, since it provided coverage for structural damage to the building site. More comprehensive policies included coverage of the building site as well as the contents. Surprisingly, 26% of survey respondents indicated that they did not have flood insurance at all, while 39% of those that had insurance weren't sure what type of a policy they had. Thirty-five percent actually had insurance that only covered structural damage, while only 17% had



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955

policies that included coverage of contents. Businesses that did not have policies that covered contents, experienced substantial losses on equipment, furniture and inventory.

During the interview process, several business owners explained that they were shocked to find out that their insurance did not cover sewage backup. Several others revealed that their bank or mortgage holder did not require them to keep a flood insurance policy once their mortgage was paid off, so they discontinued their policies. In retrospect, many businesses revealed that they placed too much reliance on their insurance agents to determine if they had appropriate insurance. They confessed that they kept a watchful eye on day to day costs, but that they were not fully aware of the coverage their insurance policies offered. They admitted that they should have asked more questions. One interviewee who didn't have flood insurance explained that she learned an expensive and valuable lesson about the importance of obtaining appropriate coverage. She vowed to conduct more research and to take a proactive role in identifying future insurance needs. She also made a point of sharing her experience with fellow business owners.

### Designated Flood Zones

Before Superstorm Sandy reached landfall, residents and businesses in designated flood zones were advised to prepare their businesses for the impending storm and then evacuate. FEMA produces Flood Insurance Rate Maps (FIRMS) that target areas that are at risk of flooding. Zones are designated by the varying flood risk exposure. Special Flood Hazard Areas are defined by FEMA "as the areas that will be inundated by a flood event having a one percent chance of being equaled or exceeded in any given year. The one percent annual chance flood is also referred to as the base flood or 100-year flood." (www.FEMA.gov)

The FIRMs in place during Sandy actually dated back to 2007. FEMA was in the process of updating these maps, but they were not available when the storm struck. Unfortunately, it quickly became apparent that more areas should have been included in designated flood plains. For example, in New York, the floodplain boundaries on the FEMA flood maps indicated that 33 square miles of New York City might be impacted during a 100-year flood. In the aftermath of Sandy, it was revealed that 51 square miles in New York had actually flooded, representing 17 percent of the city's total land mass. Therefore, the floodplain boundaries were actually exceeded by 53 percent, citywide. (City of New York, 2013, pp. 23-25).

Since many of the respondents revealed that their businesses were not identified as being in the designated flood plain before Sandy, they did not have flood insurance. Therefore, the losses resulting from flooding during and after Sandy were not covered. An additional difficulty was that the availability of other sources of recovery funds, like loans and grants, were contingent on business owners providing proof of existing flood insurance policies. Ironically, flood insurance policies for those businesses would have been very reasonable because they supposedly were not located in high risk areas.

## PERSPECTIVE AND PLANNING FOR FUTURE DISASTERS

### Lessons Learned

As reported by Donohue and Tuohy (2006, p.3), there are lessons to be learned from a disaster experience, however, the challenge is to implement what has been learned into a course of action. If there is no commitment to making the change, business owners will revert back to their "old habits." More than 70% of survey participants that did not have a plan responded that they should have been more prepared. Yet, more than 70% of these same respondents still hadn't developed a plan.

When respondents were asked why they did not have a plan in place, 60% reported that they believed it wouldn't help, while 30% revealed that they weren't sure what to do. Others felt that creating a plan would be too costly and time consuming.

### Risk Awareness

Most business owners shared that they were surprised by the storm's impact, despite the fact that meteorologists had predicted the path and strength of Sandy. Runyan (2006, p. 17) reported similar findings. He found that although Katrina's arrival was predicted, interviewees indicated that they were not prepared for the resulting devastation. Another major difficulty in promoting contingency and disaster recovery planning is that most victims doubt that a disaster of such magnitude can reoccur (Kelly and Stark, 2002, p.5). Superstorm Sandy was referred to as the "one hundred year" storm. When interviewed, many of the business owners shared that they believed the probability of another Sandy-type storm occurring in their lifetime was minimal. Like others before them, they believed that the disaster that was encountered was unique and that it was unnecessary to prepare for a similar event in the future (Roux-Dufort, 2000, p.26).

When participants were asked about the risk of being impacted by other kinds of business interruptions, a common response was that if they could survive a storm like Sandy without a plan, they could survive anything. Despite their experience, many respondents continued to underestimate disaster risk exposure. Similar findings are reported in global disaster research. After the 2010 floods, many small Pakistani firms did not fully appreciate their risk exposure, despite their experience (Asgary, Anjum, Azimi, 2012, p.183).

**Reliance on Supplies and Customers**

Business owners also reported that they saw little value in a disaster planning when their recovery was so reliant on supplies like water and gasoline, and services like electricity, natural gas and the internet. In the areas that were severely damaged by Sandy, some business owners reported being without utilities for weeks. Many who had the foresight to obtain gas generators revealed that it was difficult to purchase the gas needed to run the generators, since it was in short supply or because of price gouging.

Reliance on local customer base was also discussed. Many respondents reported that a large percentage of their customer base included residents that lived nearby, many of whom were not permitted to return to their homes for weeks, if at all. Battisti and Deakins (2012, p.39) reported that the negative impact of disaster on the communities served by small businesses impacts disaster recovery, since they are reliant on community recovery for their own recovery. The community not only provides their revenue stream, but their labor source, as well.

Respondents explained that those residents that did return to their homes were so overwhelmed by the physical and financial destruction caused by Sandy, they focused on their own recovery. There was also less financial support for local businesses, since many residents didn't have the financial resources they had before the disaster.

**Lack of Knowledge**

As indicated above, twenty percent of the respondents revealed that they did not know how to prepare a plan. A contingency planning skill set would be extremely valuable for small business owners. However, even though half of all small business owners in the U.S. report having college degrees (U.S. Census Bureau 2012 Survey of Small Business Owners), contingency planning is not a required topic that is addressed in detail in university business curriculums. Therefore, it is necessary to obtain this knowledge "on the job," which can be costly, time consuming and in some cases, unreliable. If disaster and risk education were included in the curriculum of all universities, graduating students would possess at least some skills to help them minimize their vulnerability to disaster (Rivera & Miller, 2009).

**Fear and Frustration**

Many respondents shared that, after Sandy struck, they were contacted by companies offering planning and recovery assistance, for a fee. The fees ranged from hundreds to thousands of dollars. Business owners reported feeling vulnerable. They were skeptical about allowing complete strangers into their intimate environment, and fearful that they would be taken advantage of. They shared that they had no way of knowing which of these firms could be trusted to prepare a plan, what an effective plan looked like or what a reasonable fee should be for such planning. They were also fearful of sharing confidential information.

Most of the respondents expressed frustration with the whole post-Sandy experience. Many interviewees explained that there were scores of people wandering through the neighborhood, including representatives from the



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955

Red Cross, FEMA, local business agencies, contactors, representatives from utilities, news reporters, the police department, the fire department, politicians, etc. Despite the fact that they were overwhelmed and exhausted, business owners were repeatedly asked the same questions by these individuals and provided with conflicting information about available assistance. Since entire areas were without electricity, landline telephones, cell phones and internet service, important information was not directly disseminated to victims. There was a tremendous amount of important information to be distributed, with a minimal number of channels to be utilized. The end result was a great deal of miscommunication and misinformation. Staten Island business owners reported feeling especially closed off from the rest of the world, since the ferry and all of the bridges were closed during the storm and for a period of time after the storm. Businesses in Brooklyn expressed similar frustration, since the Battery Tunnel and sections of the Belt Parkway were also closed.

Based on their post-Sandy experiences, many survey respondents replied that they believed that there wasn't a disaster plan in the world that would have prepared them for what had transpired, or helped them to recover from it. As reported by Brown and Starkey (2000, p.106), these businesses were defensive and rationalized their behavior. They were proud of how hard they worked on successfully recovering their businesses, despite adversity. There was little focus on how they could build upon and improve the survival tactics they utilized during Sandy to develop a plan to help minimize such a struggle in the future. The anger and frustration felt by many respondents prevented them from gaining a better understanding of what had transpired and being open to ideas from others, which would foster a learning process to better prepare for future crises (Jaques, 2008).

**Community Ties**

During the interview process, a number of respondents shared that their homes and businesses were in the same geographical location, so there was a strong tie to the community. One respondent described it as a co-reliance between the businesses and the communities they served, which encouraged them to rebuild, despite adversity. A business owner who had been in his community for many years shared how teens from the community, whose homes were not as severely impacted, helped him clean up his store, which was badly damaged by Sandy. He explained that they did not want payment and that they wanted to help him, since his store was a fixture in the community that he served for years.

Most of the survey participants shared that they were also grateful for their fellow business owners in their community. They talked about the networks that developed after Sandy, where business owners shared any vital information and resources that they became aware of. Many informal neighborhood alliances were established, which were formalized after recovery was underway. Participants elected fellow business owners into leadership positions of these alliances, to represent their communities in communication efforts with local agencies and governmental officials. They established offices where local business owners could meet, fostering communication streams about available assistance programs for disaster loans and grants. Some alliances actually had individuals available to assist business owners in preparing applications for loans and grants.

**Learned Helplessness, Reflection and Amnesia**

Many of the participants of this study revealed that they felt overwhelmed and helpless after Sandy. They indicated that they had no control over when another storm would strike and if or how they would be impacted. These sentiments were especially expressed by those who experienced flooding, even though their businesses were not located in designated flood zones. These findings are consistent with the findings of Hooker (1976) who reported that a crisis experience could have a detrimental effect on an individual. Hooker's research revealed that there is "a critical point-when coping efforts or frantic responding end-that the two processes diverge. Here either the crisis is resolved or learned helplessness occurs." (Hooker, 1976, p.196). One business owner summed up the sentiments of many when he stated, "We cannot control Mother Nature and we won't try to."

Unfortunately, it is that type of perspective that fosters learned helplessness. Business owners must be encouraged to focus on the coping mechanisms that they used to survive the disaster. If they identify the tactics that aided in their recovery, they can use them as a basis to document a recovery plan. This process should also help them implement contingency plans, since they could identify the problem areas and lessen their impact in future disasters or avoid them completely. The focus should be on the positive outcome, the survival process and the skills that were used to achieve that outcome.

The purpose in waiting a period of time to conduct this research was to allow the business owners the physical recovery and business resumption time, but also to allow them time to mentally absorb all that had occurred. It has been theorized that businesses may benefit from learning "in crisis", that is, in the midst of the disaster experience (Antonacopoulou and Sheaffer, 2014). Unfortunately, business owners are oftentimes so busy dealing with the immediate situation at hand, that they do not have the time to fully process their "in crisis" experience into their knowledge database. This was very true of the small business owners interviewed. These disaster victims revealed how they had to deal with the sudden impact of a major disaster and then immediately focus on resuming operations. Honey and Mumford (1986) indicated that one of the most important components of the learning experience is reflection. That is, where the impacted individuals digest what has occurred and determine how to better cope in the future. Most business owners shared that there wasn't any time to truly reflect on their experience, much less how they could better prepare for future disasters. Based on the interviews conducted for this study, this mode was either rushed, or skipped completely, and replaced with the recovery mode, out of necessity. This rush to return to business as usual thwarts the learning process.

Alternatively, Boin and Lagadec (2000, p.188) describe a phenomenon called "amnesia syndrome." That is, where disaster victims rush to get their business operations back to normal, so that they can move forward and quickly forget the horrible experience they had. The result is not productive. The impact of the crisis is not actually considered, so there is the potential that little or nothing is learned from the experience, or even worse, that the lessons learned are inaccurate. A few of the survey participants revealed that they wanted to forget the whole Sandy experience and move on with their lives. Additionally, some of the loan recipients who refused to participate in the survey shared similar feelings. One business owner replied, "It's the last thing I want to talk about with anyone. I want to forget it ever happened."

## RECOMMENDATIONS AND CONCLUSIONS

The findings in this study confirmed that, despite experiencing disaster, preparedness for future disasters is still an issue for small business owners. After Superstorm Sandy, most of the participants in this study were motivated to develop, at minimum, informal plans to facilitate recovery from future incidents. The study also revealed that there is a correlation between preparedness, the size of the small business and the number of employees. That is, the smaller the business and the fewer employees, the less likely planning was a priority.

The interview component of this study provided valuable information about the mindset of small business owners. Respondents stated that they had learned a great deal throughout the disaster recovery process. However, after recovery had begun and some normalcy returned, there was little impetus to devote the time and effort to plan development and testing.

As stated previously, individual small businesses lack the resources, skills and experience to address potential risk. However, respondents shared that they were able to survive Superstorm Sandy because of the support systems they developed. The businesses that joined local alliances believed that this support facilitated their recovery and minimized the trauma of the whole experience. In addition, they felt that there was tremendous value in being part of a larger group when requesting services from governmental agencies and utilities, or when requesting bids for post-disaster services for repairing and rebuilding.

Survey respondents also reported how important their membership in their local Chamber of Commerce was. They assisted members with identifying appropriate funding for recovery, completing applications and locating sites for temporary relocation, when necessary. Small businesses are encouraged to join local business alliances and Chambers of Commerce, since many offer seminars on topics which are extremely helpful to the small business owner. Some Chambers actually vet vendors that offer small business services, so business owners can be more confident that they are dealing with reputable companies. In addition, if agencies like FEMA and the SBA coordinate efforts with the local business alliances and Chambers of Commerce, their combined expertise could be utilized to aid in the development of contingency and disaster recovery plans that are specific to the regions they serve. Businesses can also ask these agencies about sponsoring disaster risk training programs.

The majority of respondents felt that they did not have the knowledge develop an effective contingency/disaster recovery plan. It is recommended that they discuss their needs with their CPA, attorney and information technology professional. If these individuals do not possess the required expertise, many times they can



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955 

refer the business owner to a reputable source of assistance. In addition, colleges are now offering courses on disaster planning, some of which can be taken online. If the business owner does not have the time to take advantage of these courses, a qualified employee can be selected to take on this responsibility.

Although many businesses lacked formal plans, they shared a number of practical disaster recovery recommendations. Several interviewees stressed the importance of retaining a hard copy of contact information for employees, vendors, insurance agents, suppliers, etc., as well as a backup copy, since this information was inaccessible or lost during the disaster. It is recommended that the location selected for the backup storage be remote, but also practical, keeping in mind that access to bridges, subways and tunnels may be limited.

Businesses with employees recommended providing employees with instructions about where to call/report in the event of a disaster. It was also recommended that an employee phone chain be developed, where each employee has the phone number of another employee that they would be responsible to call in the event of a disaster.

Phone service was a major issue after the disaster. One business owner shared that after he recovered his business he changed cell phone carriers, so that he and his partner had different carriers. The thought was that one carrier may resume service faster than another. Many respondents shared that they purchased wired landline phones after Sandy, since they actually worked shortly after the storm, while cell phone and cordless service was unavailable.

Gasoline shortages caused great difficulty after Sandy. Gasoline was sought for vehicles and for backup generators. Those businesses that could afford it reported that they purchased natural gas generators to provide electricity to their businesses during power outages. Although this option is more costly, it provides a more reliable and seamless backup system.

Credit card and cash machine usage was limited after Sandy. Some business owners shared that they now keep more cash on hand for emergencies. Cash should be kept in a secure, but accessible location.

Lastly, it is recommended that business owners keep a journal to document potential business risks. The thought is that the business owner can record identified risks as they are encountered in daily business operations. This journal can be referred to on a scheduled basis, or shared with a professional, to develop procedures to address the identified risks. The goal is to develop customized contingency and recovery procedures on an ongoing basis. This process will facilitate the planning process, since it will enable the business owner to gradually develop a plan by devoting small amounts of time.

Since disaster events are occurring more frequently and nearly half of all businesses that are impacted by a major disaster fail to reopen, it is essential that small businesses better prepare for their occurrence. The ultimate objective is the development of a plan that business owners feel comfortable with. The key is to make the risk assessment and disaster planning process a positive one for the business owner as well as his employees. Lastly, plans should be tested at least annually, if not more frequently, to determine if they are effective or if any modification is necessary.

## REFERENCES

Alesch, D., Holly, J., Mittler, E. & Nagy, R. (2001). Organizations at Risk: What Happens When Small Businesses and Not-for-Profits Encounter Natural Disasters (Small Organizations Natural Hazards Project First Year Technical Report University of Wisconsin-Green Bay). Retrieved from: http://www.ecocalltoaction.com/images/Organizations_at_Risk.pdf.

Antonacopoulou, E. & Sheaffer, Z. (2014). Learning in crisis: Rethinking the relationship between organizational learning and crisis management. Journal of Management Inquiry 23, 5-21.

Asgary, A., Anjum, N. & Azimi, M. (2013) Measuring small businesses disaster resiliency: case of small businesses impacted by the 2010 flood in Pakistan. International Journal of Business Continuity and Risk Management 4,170 – 187.

Boin, A. & Lagadec, P. (2000). Preparing for the future: Critical challenges in crisis management. Journal of Contingencies and Crisis Management 8, 185-191.

Brislen, P. (2005). It's the smaller disasters that matter. Computerworld.

Brown, A. & Starkey, K. (2000). Organizational identity and learning: A psychodynamic perspective. Academy of Management Review 25, 102-120.

City of New York (2013) A stronger, more resilient, New York, http://www.nyc.gov/html/sirr/html/report/report.shtml

Corey, C. & Deitch, E. (2011). Factors affecting business recovery immediately after Hurricane Katrina." Journal of Contingencies and Crisis Management 19, 169-81.

Donahue, Amy, and Robert Tuohy. "Lessons We Don't Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them." Homeland Security Affairs 2, Article 4 (July 2006)

Elliott, D. & McGuinness, M., (2002). Public inquiry: panacea or placebo? Journal of Contingencies and Crisis Management 10, 14-25.

Erickson, J. (2013, February 14). Survey: U.S. Small Businesses Not Ready for Natural Disasters Like Sandy, Nemo. Retrieved from http://www2.alizila.com/survey-us-small-businesses-not-ready-natural-disasters-sandy-nemo

Floodplain Management. Retrieved from https://www.fema.gov/floodplain-management/

Ghesquire, F. & O. Mahul, (2010). Financial protection of the state against natural disasters. Policy Research Working Paper 5429 (Washington: World Bank).

Guha-Sapir D, Hoyois Ph. , Below. R. Annual Disaster Statistical Review 2013: The Numbers and Trends. Brussels: CRED; 2014." Retrieved from: http://www.cred.be/sites/default/files/ADSR_2013.pdf

Honey, P., & Mumford, A. (1992). The Manual of Learning Styles. Maidenhead: P. Honey.

Shotton, M. A. (1989). Computer addiction? A study of computer dependency. London, England: Taylor & Francis.

Hooker, C. (1976). Learned Helplessness. Social Work 21, May, 194-198.

IHS Markit. (2014). Global Terrorism & Insurgency Attacks Rapidly Increase in Five Years, According to IHS Jane's Terrorism and Insurgency Centre. Retrieved from: http://news.ihsmarkit.com/press-release/aerospace-defense-terrorism/global-terrorism-insurgency-attacks-rapidly-increase-five-

Insurance Information Institute. (2004) Can your business survive a natural disaster? Advance planning, proper insurance are essential [Press release]

IT Security Risks Survey 2014: A Business Approach to Managing Data Security Threats (Rep.). (2014).

Jaques, T. (2008) A case study approach to issue and crisis management: Schadenfreude or an



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955

opportunity to learn? Journal of Communication Management 12, 192 – 203.

Karanci, A., Aksit, B. & Dirik, G. (2005) Impact of a community disaster awareness training program in Turkey: Does it influence hazard-related cognitions and preparedness behaviors. Social Behavior and Personality 33, 243-258.

Kelly, J. and Stark, D. (2002) Crisis, recovery, innovation: responsive organization after September 11. Environment and Planning 34, 1523-1533.

Kroll, C., Landis J., Shen, Q. & Stryker, S. (1990). The economic impacts of the Loma Prieta earthquake: A focus on small business. Berkeley Planning Journal 5, 39-58.

Pearson, C. & Mitroff, I. (1993). From crisis prone to crisis prepared: a framework for crisis management. Executive 7, 48-59.

Moynihan, D. (2008) Learning under uncertainty: Networks in crisis management. Public Administration Review 68, 350-365.

New Zealand Centre for SME Research. (2012). Perspectives from New Zealand: Crisis management and the impact of the Canterbury earthquakes. New Zealand: Battisti, M. &Deakins, D.

Pearson, C. & Clair, J. (1998). Reframing crisis management. The Academy of Management Review 23, 59-76.

Perry, S. (2001), The relationship between written business plans and the failure of small businesses in the U.S., Journal of Small Business Management, 39, 201-208.

Storm Surge Overview. (n.d.). Retrieved from http://www.nhc.noaa.gov/surge/

Swiss Re. (2014). Preliminary sigma estimates global disaster events cost insurers USD 34 billion in 2014 [Press release].

Quarantelli, E.L. (1988), Disaster crisis management: A summary of research findings. Journal of Management Studies 25, 373-385.

Quorum. (2013). Disaster Recovery Report, Quarter 1 2013. Retrieved from: http://www.slideshare.net/CtoBuddy/disaster-recovery-report-quarter-1-2013-by-quorum-inc-26335897

Rivera, J. & Miller, D. (2009) Disaster vulnerability education: A new focus on disaster education across the curriculum. Journal of Applied Security Research 4, 60-67.

Rosso, A. (2013) From Bad to Worse. Collector 78, 20-25.

Roux-Dufort, C. (2000) Why organizations don't learn from crises: The perverse power of normalization. Review of Business 21, 25-30.

Runyan, R. (2006), 'Small Business in the Face of Crisis: Identifying Barriers to Recovery from Natural Disaster', Journal of Contingencies and Crisis Management 14, 12-25.

Sage. (2012). Sage Survey: Most U.S. Small Businesses Back Up Data as a Precaution, but May Not Be Sufficiently Prepared for a Crisis.

Sapriel, C. (2003) Effective crisis management: Tools and best practice for the new millennium. Journal of Communication Management 7, 348-355.

Scheier, Robert L. "A dose of reality: nothing gives you a warts-and-all experience like testing your disaster recovery plan in the real world." Computerworld 19 Apr. 2004: 39.

Sitkin, S. (1992). Learning through failure: The strategy of small losses. Research in Organizational Behavior 14, 231-266.

Small Business Administration. (2014). Frequently Asked Questions, Retrieved from: https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf

Spillan, J. and Hough, M. (2003) Crisis Planning in Small Businesses: Importance, Impetus and Indifference. European Management Journal 21, 398-407.

Staples. (2013). Staples' Business Safety Survey: Natural Disasters Top Concern.

Storm Surge Overview. (n.d.). Retrieved from http://www.nhc.noaa.gov/surge/

Survey: U.S. small businesses not ready for natural disasters like Sandy, Nemo, Retrieved from: http://www2.alizila.com/survey-us-small-businesses-not-ready-natural-disasters-sandy-nemo

United Nations Office for Disaster Risk Reduction (2014). Geneva, Switzerland. From Shared Risk to Shared Value – The Business Case for Disaster Risk Reduction, Global Assessment Report on Disaster Risk Reduction. Retrieved from: http://drbenchmark.org/wp-content/uploads/2014/02/ANNUAL_REPORT-DRPBenchmark_Survey_Results_2014_report.pdf

U.S. Census Bureau. (2012) Statistics of U.S. Businesses Employment and Payroll Summary:2012. Retrieved from: https://www.census.gov/library/publications/2015/econ/g12-susb.html

U.S. Census Bureau. (2012) Survey of Small Business Owners. Retrieved from: https://www.census.gov/econ/overview/mu0200.html

Verizon. (2012) Data Breach Investigations Report. Retrieved from: http://www.verizonenterprise.com/resources/reports

Webb, G. R., Tierney K. & Dahlhamer J. (2002) Predicting Long Term Recovery from Disasters; a Comparison of the Loma Prieta Earthquake and Hurricane Andrew. Environmental Hazards 4, 45-58.

World Meteorological Organization. (2014). Centre for Research of Epidemiology and Disasters and the Universite Catholique De Louvain. The State of Global Disaster Recovery Preparedness, 2014 Annual Report. Disaster Recovery Preparedness Council at http://www.wmo.int/pages/prog/drr/transfer/2014.06.12-WMO1123_Atlas_120614.pdf



https://scholars.fhsu.edu/jiibr/vol3/iss1/7
DOI: 10.58809/MKMA1955