

# **Surviving Disasters: A Multi-company Case Study on Disaster Recovery Plans**

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*This multiple case study investigated strategies that three small real estate business leaders in southeastern Louisiana used to resume and sustain operations after a natural disaster. The chaos theory and stakeholder theory were the conceptual frameworks used. Data were collected from semistructured interviews, review of business continuity plans, and member checking. Emergent themes were leaders' education and abilities, stakeholder engagement, planning and critical processes, and disaster response. Study findings include identification of effective strategies for increasing small business sustainability through implementation of proven business continuity strategies to help keep communities intact, reestablish commerce, and contribute to regional economic sustainability.*

*Keywords: small business, sustainability, continuity planning, economic development*

## **INTRODUCTION**

Small business enterprises are significant contributors to economic growth and development, yet 40% to 60% of small businesses in the United States that experience a natural disaster never reopen after that natural disaster (Federal Emergency Management Agency, 2018). Most small businesses are home-based, and the obstacles to small business recovery affect the economic and personal well-being of the business owner and his or her family (Schrank, Marshall, Hall-Phillips, Wiatt, & Jones, 2013). Recovery of small businesses is vital to the community as they form the cornerstone of community life (Chamlee-Wright & Storr, 2014).

Unexpected, large-scale, external shocks to small businesses, such as large-scale natural disasters, have affected most Americans and have not been adequately studied (Schumann, 2013). Post-disaster sustainability planning enables small business owners to identify the fundamental recovery systems to expedite resumption of services in the event of a disaster (McKnight & Linnenluecke, 2016).

Small business disaster planning and recovery involve interrelated individual and organizational decisions encompassing a wide range of issues that may change over time or under different circumstances (Jordan & Javernick-Will, 2013). Business leaders who develop, maintain, and update disaster sustainability plans have an increased likelihood of small business survival (Benson, 2016). Post-disaster recovery and sustainability planning assists small business owners and managers to minimize disaster-related losses and stress, decrease recovery time, and increase long-term sustainability (Marshall & Schrank, 2014; Nicoll & Owens, 2013; Phelps, 2014; Schumann, 2013). However, many small

business leaders do not have disaster recovery plans implemented to sustain a small business after a natural disaster (Phelps, 2014; Marshall & Schrank, 2014).

The findings of this research study may contribute to social change by identifying effective strategies for increasing the sustainability of small businesses. Research regarding post-disaster recovery strategies is especially crucial for small businesses because it leads to increased preparedness and recovery strategies for the small business sector and reduced economic vulnerabilities in areas dominated by small business owners (Schrank et al., 2013). Successful recovery practices may help community leaders, housing industry professionals, and disaster recovery officials to understand, visualize, coordinate, and effectively manage post-disaster concerns to increase community resilience (Chang, Potangaroa, & Seville, 2012).

## LITERATURE REVIEW

The conceptual frameworks for this research were chaos theory and stakeholder theory. Henri Poincare is the founder of chaos theory (Bussolari & Goodell, 2009). The fundamental principle of chaos theory is that systems tend to self-organize to adapt to continuing challenges to overcome chaos (Faggini & Parziale, 2016). The most useful aspect of the chaos theory for business leaders is that it increases an understanding of the unpredictability of a system's behavior (Bussolari & Goodell, 2009). Dynamic systems are continually changing, and conversion is part of the evolution of the system in response to the evolving environment.

Therefore, organizational systems, including small businesses, must adapt to change in order to continue to exist (Ozturk & Kizilkaya, 2017). Complex systems adapt to new circumstances by gathering necessary information. This involves an interaction between the system and the environment and causes the complex adaptation to occur. Finally, the organization gains experience because of the new circumstances which necessitates organizational redevelopment (Holland, 1995). Small business owners, especially those faced with natural disasters, must adapt to the changing environment as participants in the complex system (Marshall & Schrank, 2014; Ozturk & Kizilkaya, 2017).

Freeman originally developed the stakeholder theory in 1984 to investigate how firms engage stakeholders that affect the organizations as well as stakeholders that are affected by the organization's actions (Freeman, 2010). Under the stakeholder theory, business owners, governments, community organizations, banks, employees, and others are all stakeholders in the business (Freeman, 2010). These relationships take on added importance as businesses engage with disaster-affected communities (McKnight & Linnenluecke, 2016). The stakeholder theory facilitates an understanding of the strategic direction, the strategic program formulation, budgeting, control and structure, and systems necessary for strategic management. The stakeholder theory provides a lens for understanding the strategic benefit of post-disaster sustainability and business continuity planning for firms to recover in a post-disaster environment and made it possible to analyze responses to the interview questions to evaluate the degree to which business owners have incorporated the principles of stakeholder theories into their disaster recovery plans. Over time, managers can recognize environmental change as the doorway to growth and to new, not-yet-imagined possibilities and connections (Bussolari & Goodell, 2009).

The chaos and stakeholder theories allow us to frame the factors that affect small business survival. Small business owner managers need to understand a complex system. This means being able to understand not just their line of business, but general business concepts like finance and accounting, strategy, and human resources. They also need to recognize that their business is part of a broader system that includes other stakeholders such as employees, creditors, customers, and suppliers. Finally, they need to be prepared for the unexpected by proactively having plans in place instead of always trying to reactively respond to new situations.

Uninformed decision making by small business leaders results in poor capital investment decisions, which could influence business performance and sustainability (Dickins et al., 2016; Frid, 2015). A small business leader must have the necessary skills to perform a full range of managerial functions to be successful (Coleman et al., 2016; Dickins, Gibson, Harris, & McDowell, 2016). Managers who possess

the ability and skills to innovatively and effectively respond to disasters will be poised to re-enter commerce more competitively (Brancati, 2015; Jansson, Nilsson, Modig, & Vall, 2017; Phelps, 2014; Purcarea, Maria del Mar, & Apetrei, 2013). Small business owners who lacked the necessary knowledge to understand the likely impact of their decisions on the sustainability of the business were more likely to make choices that increased risk and reduced likelihood of long-term sustainability (Hsu, Wiklund, & Cotton, 2017).

Education is a fundamental component necessary for entrepreneurs to have viable, sustainable ventures and to increase the ability to lead the organization through an unplanned interruption (Chinomona, 2013; Hsu, et al., 2017; Phelps, 2014). Education level influences financial decisions and small business owners who are not at ease using financial statements to inform their choices tend to use the statements less than owners who exhibited more proficiency (Hsu et al., 2017; Kozan & Akdeniz, 2014). Advanced education levels increase the likelihood that business owners have access to traditional debt and investment funding opportunities for viable, sustainable entrepreneurial ventures (Hsu et al., 2017; Kozan & Akdeniz, 2014). The scarcity of entrepreneurial education related to innovation management, financial management, and partnerships hinders small business sustainability and resumption of business service after a disaster (Brancati, 2015; Coleman, Cotei, & Farhat, 2016; Comeig, Fernandez-Blanco, & Del Brio, 2014; Frid, 2015; Purcarea, et al., 2013; Wang & Wang, 2013). Young, well-educated, entrepreneurs with professional experience and a family history of entrepreneurship find support from external resources such as business incubators most useful (Albort-Morant & Oghazi, 2016). The new generation of entrepreneurs is more receptive to the use of consultants, technology, expert resources, and collaboration to aid strategic decision making regarding financial decisions (Albort-Morant & Oghazi, 2016; Strakova, 2017). Effective small business leaders must continuously develop the skills to implement business continuity plans in order to overcome business disruptions and maintain long-term sustainability (Pletnev & Barkhatov, 2016; Phelps, 2014; Strakova, 2017). Additionally, the success of a small business directly correlates with the owner's investment in employees regarding training and involvement in the business (Pletnev & Barkhatov, 2016). Small business owners contribute to improved business performance and sustainability by continuously investing in skills training for themselves and their employees to generate more revenue and maintain viability and effectively respond to unplanned business interruptions. In fact, employee skills training has a stronger effect on small businesses' performance than the small business owners' expertise, which emphasizes the importance of employees' skills training in the small business (Chinomona, 2013; Hsu et al., 2017).

One of the most crucial elements of post-disaster survival is access to capital. Dickins, Gibson, Harris, and McDowell (2016) led a university study to examine small business owner financial literacy and its relationship to the business owner's satisfaction with their business. The researchers collected the data via a survey issued to 63 small businesses with an average operation time of 21.3 years. The study consisted of five multiple-choice questions addressing the cost of capital, financial statements, economic failure, tax implications of a change in business ownership, and knowledge of how to value small businesses (Dickins et al., 2016). The average small business owner lacks enough financial literacy to make informed capital investment decisions (Dickins et al., 2016; Frid, 2015). Identifying and applying for sources of financing is a significant problem affecting small business sustainability after a disaster (Mikic, Novoselec, & Primorac, 2014). In most cases, there is no shortage of disaster funds in the wake of a natural disaster but, lack of planning and knowledge often results in ineffective recovery operations (Sardana & Dasanayaka, 2013). In the wake of a financial disaster, government funding is one possible source for financing, but political factors are often involved (Guajardo, 2013). In the aftermath of Hurricane Katrina, political leaders focused more on the interests of developers and big businesses in the restoration of New Orleans than the interests of small businesses and the working-class residents; as a result, many local companies ceased operations (Parthasarathy, 2015).

Small business owners with little or no home equity and no post-disaster recovery plan are often faced with limited personal capital access to sustain operations immediately after a disaster and are unable to maintain services until the real estate market recovers (Comeig et al., 2014; Marshall, 2014). In the aftermath of Hurricane Katrina, many small business leaders did not receive necessary assistance due to

miscommunication and limited information channels (Josephson & Marshall, 2016; Marshall, 2014). Research conducted by Sardana and Dasanayaka (2013) indicates that there was often no shortage of either disaster funds or commodities in the wake of a natural disaster, but inadequate governance often resulted in ineffective recovery operations (Sardana & Dasanayaka, 2013). Small business owners tend to use self-financing methods as the primary source of capital funding and continue to pursue personal debt and equity, often in the form of private property mortgages or savings, as the business matures and develops (Dickins et al., 2016; Frid, 2015). One reason for this is that banks are averse to lending to small business enterprises with limited capital and often demand collateral that many small business leaders are unable to provide (Dickins et al., 2016; Frid, 2015). In the aftermath of a large-scale natural disaster, this type of self-financing may not be adequate and business managers must understand the factors that influence outside investment (Schrank et al., 2013).

Business strategy is a key component to success. Training and tools, including templates to assist with post-disaster plan development, are available from various free resources such as the Federal Emergency Management Agency, SCORE, the United States Small Business Administration, and the Chambers of Commerce (Albort-Morant & Oghazi, 2016; United States Small Business Administration, 2017). Programs such as the Goldman Sachs 10,000 Small Businesses and the nationwide Small Business Development Centers which exist to facilitate knowledge and training pertinent to small business success (Delgado Community College, 2018; United States Small Business Administration, 2018).

External stakeholders are another invaluable component of small business success in terms of financing, employee development, and strategic planning. (Albort-Morant & Oghazi, 2016; Phelps, 2014; Purcarea et al., 2013). Most leaders of small business consider networking with external partners an integral source of learning, an effective way to monitor competitor action, an avenue to stay abreast of technological innovations, and an avenue to gather and utilize information collected from industry experts and independent consultants as sources of strategic information (Phelps, 2014; Purcarea, et al., 2013).

Chaos theory and stakeholder theory show the importance of a small business owner's education and training and also the importance of stakeholders. However, that is only part of the solution – they also have to have a plan. Business continuity management (BCM) is a product of disaster recovery planning processes developed in response to operational and technical organizational risks first identified in the 1960s and 1970s (Phelps, 2014). Business continuity management identifies internal and external risks, assesses the potential impact to the organization, and develops a framework for organizational resilience (Porter, 2016; Torabi et al., 2014). The most important aspect of BCM is that it facilitates potential risk identification and mitigation (McKnight & Linnenluecke, 2016). Business continuity management is a vital aspect of any small business.

Porter (2016) identified seven main development areas to help build the foundation of a successful and high-performing business continuity management team very similar to those developed by Torabi, Rezaei, and Sahebjamnia (2014). First, secure executive level support to establish why business continuity planning is essential and the benefits to the organization. This step also involves performing an internal audit to assess the organization's business continuity management's capabilities against any specific regulatory and compliance requirements to identify the most experienced personnel to contribute to the team. Although the organization's safety professionals may seem like the apparent team members, it is to the organization's benefit to building a team of experts from different areas of the organization to optimize planning (Nicoll & Owens, 2013).

The business should also establish an organizational crisis leader to serve as the chair of BCM (Porter, 2016). The leader is a coordinator while representatives with knowledge from each department must participate in the planning process (Nicoll & Owens, 2013). The BCM must clearly define and obtain consensus on organizational process criticality and priority (Porter, 2016). BCM must address all critical processes by including qualified and experienced members from every department (Nicoll & Owens, 2013; Porter, 2016). Next, properly train all members of the BCM with applicable certifications and establish a central source of truth and capability (Porter, 2016). The BCM team should coordinate with all organizational departments to identify available resources in developing the most effective, cost efficient continuity processes (Nicoll & Owens, 2013; Porter, 2016). In step six, the BCM focuses on

organizational resilience to mitigate unexpected business interruptions (Porter, 2016). BCM team must be familiar with or trained in risk assessment and mitigation processes (Nicoll & Owens, 2013). Finally, as the business continuity management framework matures, the BCM team must focus on maintaining a resilient organization by continuously reviewing and testing processes for effectiveness and efficiency (Porter, 2016). The plan must be formal and effectively communicated by the BCM team and members must be committed to the policy (Nicoll & Owens, 2013). The BCP must be implemented, reviewed often and regularly revised to benefit the organization (Porter, 2016).

Chaos theory emphasizes the importance of having business leaders with the necessary skills and training to handle complex systems. Stakeholder theory argues that business leaders are not alone in this system and that they must work with other stakeholders in order to survive after a natural disaster. The idea of BCM is that business leaders must have a plan in place that prepares for complexity and involves stakeholders. As such, all of these factors are expected to be important factors in post-disaster business continuity. In this study, small businesses that faced a major natural disaster and were able to sustain their business are examined to determine if these factors did indeed contribute to their success.

## **METHODOLOGY**

The objective of this qualitative multiple case study is to explore strategies that leaders of small real estate businesses used to sustain their activities after a natural disaster. This research design incorporates unique experiences and how those experiences relate to specific events and are particularly relevant for research involving small business management issues (DeMassis & Kotlar, 2014; Henry & Foss, 2015). Purposeful sampling methods target a population that meets specific criteria to gain a sample of participants in the phenomenon (Leedy & Ormrod, 2013). Researchers use their judgment to select participants based on the study criteria (Leedy & Ormrod, 2013). According to DeMassis & Kotlar (2014), researchers should select cases because they are suitable and relevant to address the phenomenon under investigation.

The subjects of the case studies are real estate firms in the New Orleans area that survived Hurricane Katrina which made landfall August 29, 2005. Hurricane Katrina, when combined with other 2005 hurricanes, constituted the largest natural disaster in U.S. history (Marshall, 2014). Between December 2005 and November 2007, the period following the largest natural disaster in U.S. history, the United States allocated more than \$13.4 billion in Community Development Block Grant (CDBG) funds to Louisiana alone for housing and long-term recovery programs. For perspective, the total value of grants equates to approximately 40% of the budget for the Department of Housing and Urban Development (HUD) for all states for the fiscal year 2005 (Marshall, 2014). The devastation from Hurricane Katrina resulted in more than \$108 billion in damages (Josephson & Marshall, 2016). The estimated actual value of taxable property is likely to decrease immediately after a natural disaster, dependent upon the magnitude of the devastation, but then increase in the years after the catastrophe (Guajardo, 2013). For example, the estimated actual value of real property in New Orleans in 2008 was about \$17.2 billion compared to pre-Katrina values estimated at \$12.1 billion in 2004 (Guajardo, 2013).

The sample firms were selected using contact information from public contact information on the New Orleans Metropolitan Association of Realtors and New Orleans Chamber of Commerce websites. I emailed the invitation to participate (see Appendix A) to potential participants and included an explanation of the purpose of this study and the participant informed consent form for participant review (see Appendix B). The first three business leaders who met participation criteria and indicated consent constituted the multiple cases for this study in order to preclude bias in selecting cases for this study. Thirteen of the 25 business leaders contacted responded to the request to participate. Selection of three participants was acceptable for this multiple case design as a sample size as small as a single case may have been adequate (Henry & Foss, 2015).

Each participant in the study participated in a 20- to 30-minute interview, reviewed a written transcription of the meeting to confirm accuracy and provided post disaster business continuity planning documentation for researcher review and analysis (Yardley, 2017). The interviews were conducted in

person or via email, telephone or Skype at the convenience of the participant. Participants were asked a standard list of questions (Appendix C) and were provided the opportunity to ask any questions. The interview format allowed the participants to share information that was not part of the official interview script to enhance the qualitative research study (Henry & Foss, 2015). Effective adjustment in the direction of the responses offered by each interviewee facilitated identification of unexpected relevant information (Yardley, 2017). Participants reviewed and validated the interview transcripts and document interpretations for accuracy (Yardley, 2017).

A digital recording of each conversation was transcribed into a Microsoft Word document and e-mailed to participants for their review (Alby & Fatigante, 2014). After receiving responses from the participants, and verification that the transcribed information accurately represented the participants' intent, the documents were uploaded into the NVivo 12 software program (Bertolotti & Tagliaventi, 2007) in order to identify emergent themes and relationships (Bertolotti & Tagliaventi, 2007; Savage & McIntosh, 2017). Key words were extracted from the interview transcripts and the number of times the words recurred was counted in order to categorize respondent answers to the interview questions (Bertolotti & Tagliaventi, 2007). The words extracted and sorted provided a definitive keyword list to determine factors that affected the resiliency of the small real estate businesses in the aftermath of a natural disaster data (Bertolotti & Tagliaventi, 2007; Savage & McIntosh, 2017).

## RESULTS

The principal research question guiding this study was: What factors affect business continuation management after a natural disaster? The analysis indicated that four main themes emerged: (a) education and abilities, (b) stakeholder engagement, (c) planning and critical processes, and (d) disaster response. Each theme consisted of two strategic components of post-disaster recovery and sustainability plans as depicted in Table 1. The themes highlighted strategies used by three small real estate business owners in southeastern Louisiana to sustain their business after Hurricane Katrina. In the following sections, I discuss significant elements of the study.

**TABLE 1**  
**STRATEGIC COMPONENTS**

Strategic component	P1	P2	P3	<i>N</i>	Emergent theme
Skills	3	17	18	38	a
Training	3	13	18	34	a
Stakeholders	12	17	24	53	b
Community	9	16	15	40	b
Development and implementation	25	23	30	77	c
Review and revision	3	8	10	21	c
Business impact analysis	21	27	20	68	d
Documentation (agreements, plans, insurances)	11	9	8	29	d

### Participant Description

The participants displayed a high degree of personal accountability and motivation, and a strong commitment to rebuilding. All participants indicated that stakeholder engagement prior to and during recovery from a disaster is integral to effective and expedient post disaster recovery. The data gleaned from the interviews and documentation supported this assertion. All three participants had an established process for maintaining contact with key stakeholders before, during, and after a disaster. All agreed that planning is imperative to maintain order in the chaotic aftermath of the disaster. All participants participated in the real estate industry and provided services essential to economic community recovery. P1 provided real estate rental management services, P2 provided real estate insurance and mortgage services, and P3 provided construction services. All participants acknowledge that the services they

provided were instrumental in rebuilding the infrastructure in the affected region and to the effective reestablishment of commerce. The participants stressed the importance of stakeholder engagement, business continuity training and certifications, defined organizational processes, retention of experienced personnel, cross training, and technical competencies.

### **Emergent Theme 1: Education and Abilities**

Barrett (2015) emphasized that education and training is a fundamental component necessary for entrepreneurs to have viable, sustainable ventures and to increase the ability to lead the organization through an unplanned interruption. Effective strategic planning processes are essential for managers to overcome business disruptions and maintain long-term sustainability.

Bischak and Woiceshyn (2015) asserted that small business leaders must have the necessary skills to perform a full range of managerial functions to be successful and invest in skills training for employees. Access to capital is an integral component of small business success according to Xiang and Worthington (2015). Wamba, Hikkerova, Sahut, and Braune, (2017) found that small business owners with advanced levels of education and training experienced an increase in access to traditional debt and investment funding opportunities.

The results reaffirmed that management education and skills are a critical component of effective post-disaster recovery planning. One major area where education is important is financial literacy. Access to financing is necessary for small business sustainability and failure to maintain financing is a constraint to the resumption of operations and sustainability. Business managers need to understand financial options for small businesses as well as the loan processes, documentation requirements, and credit scoring processes. Interview data and data gleaned from the BCM templates and meeting agenda indicated that participants had some background in financial literacy. The leaders possessed the ability and skills to innovatively and effectively respond to a major disaster and effectively re-entered commerce and subsequently expand operations. The small business owners embraced business continuity and sustainability planning and maintained strategic focus in the chaotic aftermath of a largescale natural disaster and subsequent small business interruptions. All companies had formal business continuity plans in place and kept minutes of business continuity planning meetings. The strategies varied in the format as they were specific to each company. However, all the plans included a communication protocol, identification of key personnel, identification of critical processes, and a business impact analysis.

P1 had advanced education in business administration, business impact analysis, and computer information systems. The business owner had operated as a financial operations manager of a large corporate firm in the area before starting the company. P2's business was very technologically dependent and required a skilled and talented staff. P2's spouse and partner had previously worked in a for a local government agency in an accounting manager. P3 had advanced levels of education in management and finance, another organization partner had more than 20 years' experience in construction, and the other partner was an experienced project manager with over ten years of corporate experience. Ferro, Padin, Svensson, Varela, Wagner, and Hogevoid (2017) promulgated that effective small business leaders must continuously develop skills to implement business continuity plans. Each of the participants had significant relevant education and experience with business operations and planning and had formal training plans in place for themselves and their employees. Employee skills and training contributed to improved small businesses performance and supplemented the small business leader's expertise.

All three participants identified a formal, organizational training plan, although the plans differed in extensiveness. P1's plan was more exhaustive than P2's strategy, and P3's program was the most comprehensive of all. However, all three participants required that employees hired with specific certifications and skills maintain the relevant certifications and abilities and provide annual verification of compliance. Each of the participants acknowledged that the related skills of themselves and their employees were necessary, and all were proponents of continuous training. Each of the organizations had business continuity plans in place and had identified a specific individual responsible for business continuity planning for their organization. P1 Stressed the importance of responding quickly with appropriate processes and documentation.

P1 emphasized that it is critical for small business leaders to stay informed and current regarding technologies available to expedite restoration of operations as soon as possible after an unplanned business interruption. Leaders must be proactive, informed, and up to date on disaster response training opportunities for staff at all levels of the organizations. P2's company has a dedicated business continuity manager and conducted business disaster training sessions regularly. According to P2, the disaster plan was developed utilizing managements extensive experience with business evaluation and recovery. One of the key management personnel in P3's organization was a certified project manager and had previous experience with business continuity planning. P3 was a construction company and used a business continuity plan based on a project management template. P3 considered their continuity plan the most vital asset in during recovery because it provided structure and a clear path for a company that was dependent on customers and suppliers. In concurrence with research conducted by Sahebjamnia, Torabi, and Mansouri (2018) and Rossmiller, Lawrence, Clouse, and Looney (2017), these research findings indicate that small business owners must develop post- disaster recovery plans for timely resumption of operations of operations after a natural disaster to increase the likelihood of long-term sustainability after a natural disaster.

### **Emergent Theme 2: Stakeholder Engagement**

According to Marin, Bodin, Gelcich, and Crona (2015), natural disasters have an economic impact on the affected communities, and the uncertainty aftermath of Hurricane Katrina illustrated how the affected systems created order from chaos. Marshall and Schrank (2014) found that disaster recovery at the federal level begins with the presidential declaration of disaster, community stakeholders must lay the groundwork for improvement prior to a disruption because the various economic, financial, social, human, and educational factors that exist at the time of the disaster influence the resilience of every entity affected. Ferro, Padin, Svensson, Varela, Wagner, and Hogevoid (2017) argues that small business leaders must proactively engage in stakeholders to resume and maintain operations and sustainability. Rogers (2016) stated that governments, community organizations, owners, consumer advocates, suppliers, customers, competitors, and employees are stakeholders in the business and business managers engage with disaster-affected communities through their stakeholder relationships.

The participant business leaders surveyed actively engaged stakeholders immediately following the disaster in order to facilitate sustainable disaster recovery processes and used all available tools to redevelop old real estate and revitalize neighborhoods. The participants expressed that recovery was a partnership effort between the small business and community stakeholders. P2 and P3 emphasized how crucial it was to communicate with other small businesses in the area that were part of their industry as well as community leaders and local officials. P1 indicated that it was imperative that he reassure his investors of the feasibility of rebuilding. His management team stayed in constant communication with government officials regarding infrastructure improvements, repopulation trends, and other relevant issues while simultaneously filing insurance claims, arranging for contractors and responding to clients.

Consistent with the findings of Inigo, Albareda, and Ritala, (2017), business continuity planning strategies that the small real estate businesses leaders used to respond to the unplanned business disruptions and maintain sustainability after a natural disaster contributed to community recovery initiatives. Successful post-disaster planning helped the small business leaders coordinate efforts with community leaders, housing industry professionals, and disaster recovery officials to understand, visualize, coordinate, and effectively manage post-disaster concerns to increase community resilience. All participants indicated that one of the most critical aspects of recovery was maintaining a strong relationship with stakeholders, including employees, government officials, clients, partners, and suppliers.

Participant 1 operated a very client-focused business and understood this in the aftermath of the catastrophe and the emphasis on staff was to accommodate and assist tenants in whatever manner possible. P1 worked with government officials to identify housing assistance and temporary shelter for displaced tenants. Without the trust of his customers and the support of community leaders, he would have faced a much more difficult time to recovery of operations.

Participant 2 emphasized that organizational leaders preserved contact with clients, colleagues, and city officials consistently throughout the disaster event and reconstruction period. P2 stressed that the strong relationships he had established with clients, customers and community leaders availed him of critical information and resources to expedite recovery. According to P2, business relationships were vital to recovery and mutually beneficial. P3 operated a business that was dependent upon other small business operators and material suppliers to service clients effectively. P3 stated that their network of business colleagues was invaluable in identifying resources, navigating legal challenges, regulations, and other challenges in the constantly changing environment following the large-scale natural disaster. Previous working relationships and post-disaster partnerships were invaluable to this participant as the company worked to establish insurance claims processing in conjunction with local insurance agents, among other service partners that were also displaced.

The company leaders by necessity committed to maintaining communication with city officials, regulatory officials, property owners, and material suppliers to respond to construction needs for community rebuilding. Business continuity planning strategies that the small real estate businesses leaders used to withstand the unplanned business disruptions and maintain sustainability after a natural disaster will assist planning and recovery officials with post-disaster community recovery initiatives. All three exhibited formal communication processes to identify and maintain communication key stakeholders as part of normal operations and in the event of a natural disaster.

### **Emergent Theme 3: Planning and Critical Processes**

Medina (2016) found that understanding strategies to increase the sustainability of small business enterprise helps fill fundamental knowledge gaps for business owners, academics, and practitioners and increases the likelihood of survival and sustainability for small business owners that experience an exogenous shock such as a natural disaster. Chen (2015) asserts that the identification of critical processes leads to increased organizational development and operational efficiencies to maximize profitability and sustainability. Barrett (2015) states that the identification of essential processes leads to improved organizational development and operational efficiencies. This research reaffirms that effective business continuity strategies increase the survival and sustainability of small businesses in the aftermath of a natural disaster. Effective BCM and identification of critical processes are critical strategic components of BCM.

The participants' responses in this study indicate that organizational business continuity planning was an ongoing process developed to improve the capacity to respond to unplanned business interruptions. The identification of critical processes led to increased organizational development and operational efficiencies to maximize profitability and sustainability. Review of the post-disaster business continuity plans confirmed that the projects included identification of critical processes, responsible parties, dependent processes, and business impact analyses. The leaders identified continuing education opportunities for BCM and proactively engage in BC planning. According to Jansson, Nilsson, Modig, and Vall (2017), business leaders must be committed to sustainability plans and practices.

Review of business continuity planning documentation and information gleaned during participant interviews yielded the following information. P1's program did identify critical businesses processes and process dependencies. The business impact analysis portion of the plan was detailed and unique to P1's organization. P2 was a mortgage and insurance company and used a custom disaster recovery plan. Critical processes had been identified based on P2's extensive, in-depth knowledge of business operation and the program is updated approximately quarterly. P2 had been a member of management since the business was started and had, with the help of his spouse and partner, developed and revised the plan as the company grew and expanded. Historical analysis and recovery from smaller disasters and continuous revision of the continuity plan resulted in a comprehensive, tailored plan with clear process paths with different business impact scenarios. The business plan was very analytical and detailed.

According to P3, the management team had developed a business continuity plan a few months before the 2005 hurricane because a senior member of the team is a project management professional with experience in business continuity planning with other organizations.

Management identified critical processes and established a business impact analysis. The identification of essential processes led to increased organizational development and operational efficiencies to maximize profitability and sustainability. P3's business is multifaceted, and identification of critical processes was crucial for business survival. As the company has matured, they have developed and implemented a formal business continuity plan that is updated annually. All managers update the processes for their respective departments and conduct business impact analyses to present at the annual meeting. The organizational leaders develop a master plan which implements contribution from each of the department managers. Review of the post-disaster business continuity plans confirmed that the projects included identification of critical processes, responsible parties, dependent processes, and business impact analyses.

Since the management team for P2 had developed and refined their BCP since the inception of the business, the plan was useful and identified a hierarchy of processes. Of the three participants, P2's program was the most comprehensive. The continuity plan focused on the interdependency of processes among departments and clear identification of the critical organizational processes. P2's plan included business impact studies for natural disasters as well as loss of essential personnel events and supplier disruptions. P2 emphasized that he focuses on the post-disaster recovery plan because he experienced the costs associated with a lack of operational planning. The current continuity plan was very extensive.

P1 conducts annual reviews and revisions of the BCP to accurately identify critical processes. P1 and P2 emphasized that the Hurricane Katrina experience reinforced the importance of identifying essential pathways. P2 shared, that the company has always had a disaster response plan. Leadership has expanded and improved the plan as the company grew. The original disaster response plan was a very simple document that has developed as the business has grown and expanded operations. The business manager is the business planning person and oversees documenting and updating the business disaster response manual. The business leaders and managers work together to keep up with the business disruption plan up to date and meet as a team, every spring before the start of hurricane season. The manual is updated for every major business change as part of the business model.

P3 led a relatively young company at the time of Hurricane Katrina but by the nature of the business had project management tools in place. P3 credited effective operations management as the impetus for the survival of the young firm. According to P3, leadership had developed a basic plan based on a standard plan that they had retrieved from the internet. They were able to maintain communications, their network, client contacts and technology. However, due to the severity of the damages caused by the 2005 hurricane, P3 admits that they were initially overwhelmed, and they were uncertain that they would be able to resume operations.

The network was so disrupted that management experienced obstacles implementing some of the disaster response processes in place. Colleagues and clients were geographically scattered after the storm. Politics caused even more difficulties in identifying and utilizing resources and the city's infrastructure was almost non-existent. The business is multifaceted, and identification of critical processes was crucial for business survival.

As the company has matured, P3 indicated that a more formal business continuity plan was implemented and is updated annually. Each manager is required to update the processes for their respective departments and conduct business impact analysis to present at the annual meeting. A master plan incorporates the departmental contribution from each of the department leaders. P3 maintained the original plan as well as all revisions made to date which documented and illustrated the program revisions in response to changes in critical processes over the years.

The participants indicated a thorough understanding of the unique aspects of disaster recovery. Participants have progressively improved the plans for post-disaster business continuity and include the participation of management from all areas of the organizations. The leaders emphasized how vital business continuity planning was to their post-disaster and long-term sustainability. Review of the post-disaster business continuity plans confirmed that the strategies included identification of critical processes, responsible parties, dependent processes, and business impact analyses. The leaders identified continuing education opportunities for BCM and proactively engage in BC planning. The small business

managers are supportive of the organizations business continuity and sustainability plans and presented evidence to demonstrate how the policies have contributed to strategic competitiveness.

As stated by McKnight and Linnenluecke (2016), post-disaster sustainability planning enables small business owners to identify primary recovery systems and business continuity planning may expedite the resumption of services in the event of a disaster. This study was significant as it affirms that leaders of small real estate businesses use BCP strategies used to increase the small business community's ability to efficiently and expeditiously re-establish commerce, particularly in the real estate industry, after a largescale natural disaster.

#### **Emergent Theme 4: Disaster Response**

According to Sahebjamnia, Torabi, and Mansouri (2018) timely resumption of business operations in the wake of any disruption event is critical to business sustainability. P1 stated that there was no time to hesitate after the disaster. He was very hands on and involved in almost every aspect of the recovery. He emphasized that small business owners must respond quickly with due diligence, commitment, and vigilance. P1 advised that small business owners take ownership of operations, be accountable and proactive. As P2 emphasized that time is of the essence. Delay in resumption of operations is costly. Small business leaders must be self- motivated and creative. P2 has tried to develop a plan that will mitigate any disruption in services to clients. He believes that responsiveness after a natural disaster is paramount, little to no business downtime is his goal. He has expanded his operations to have offices in Northwest Louisiana as well as Southeastern Louisiana. His team undergoes training on a consistent basis and all offices and leaders contribute to the business disruption plan and training in the implementation of the plan to facilitate not only continuity in operations no matter the extent of the disaster but to capitalize on opportunities to expand operations as well. Effective planning is vital to timely resumption of business operations in the aftermath of a disaster.

Participant 1 had developed a business impact analysis as part of his business operation plan before the 2005 hurricane Katrina using a customized online template. The plan identified the business impact financial costs. P1 had a clear map of his expected expenses. P1 indicated that the business impact analysis that his team had developed was the most helpful in the recovery. P1's team was able to conduct property damage assessments, establish recovery point objectives, repair costs, identify necessary resources, establish estimated timelines and reestablish services for their clients. . P1 shared plan documentation to illustrate how the plan developed before Katrina is very different from the plan in place today. P1 shared that in the aftermath of Katrina, company leaders reassessed integral processes on a regular basis because they changed so rapidly as codes, regulations, and suppliers changed. P1 was able to rent units when there was very little supply in the area which garnered higher rents and higher revenues. P1's company had experienced an unplanned business disruption a few years before the 2005 hurricane and management had devised a business impact plan in response. One of the business impact scenarios included in the analysis was water and wind damage due to a tropical event.

Participant 3 also identified critical processes and established a business impact analysis. The managers update the processes for their department and conduct business impact analysis to present at the annual meeting which incorporates contribution from each of the department leaders. The nature of the services provided by P3's firm requires responsiveness in the wake of a large scale natural disaster that results in infrastructure damage. Construction companies need to be some of the first in the area. According to P3, company leadership felt very fortunate to have had a plan. The BCP provided a semblance of normalcy in a chaotic environment. P3 admits that they did not have the best possible plan at the time of the disaster, but at least they had a plan to start with that enabled them to reestablish and maintain operations., P3 admits that leadership had to be very flexible, pro-active and creative.

Jansson, Nilsson, Modig, and Vall (2017) assert that established operational sustainability planning processes and experience lead to increased revenues and longterm sustainability.

Strakova (2017) states that effective analysis of business operations and capabilities increase stability and development of small businesses. Based on the research results, future and current small business leaders who had business continuity plans in place resumed and maintained operations after a large-scale

disaster and maintained long term sustainability, increased revenues, growth and competitiveness. Leaders of small real estate firms should implement business continuity planning focused on business planning, stakeholder engagement, operations management, and responsiveness.

## CONCLUSION

The findings revealed that small business leaders who had a business continuity plan in place before a natural disaster experienced a positive outlook during the emergency, were organized in the aftermath of the natural disaster and resumed and continued operations after a natural disaster. Four recurring themes were evident through review of data gathered through participant interviews and document reviews in this study. The four general ideas to increase business sustainability were: (a) education and abilities, (b) stakeholder engagement, (c) planning and critical processes, and (d) disaster response

Increased awareness and understanding of practical business sustainability planning strategies have the potential to aid small businesses during the disaster recovery process. The information from this research may assist small business professionals that operate in a disaster-prone area to be more proactive in business continuity planning to improve resumption of operations due to an unplanned business disruption. Business leaders who developed, maintained and updated disaster sustainability plans experienced an increase in long-term sustainability, competitiveness, and growth. Effective business continuity strategies keep communities intact, reestablish commerce, and contribute to regional economic sustainability (Schrank et al., 2013). Small business disaster recovery requires a continuous partnership among the small business owner, the owner's family, customers, and the community (Marshall & Schrank, 2014). Small businesses are significant economic contributors, and post-disaster sustainability planning increases the small business owner's ability to re-establish operations and contribute to community redevelopment (Marshall & Schrank, 2014).

Identification of effective strategies that leaders of small real estate business used to resume and sustain operations after a catastrophic natural disaster reinforce the importance of small business leader commitment to post disaster sustainability planning and implementation. Small businesses are vital to redevelopment in a post disaster affected area. Effective post disaster sustainability planning allows small business leaders to engage with community leaders to retain existing jobs, create new job opportunities, facilitate community redevelopment and growth, and stimulate economic development. These strategies help stabilize communities in the aftermath of natural disasters by creating and expanding business opportunities. Natural disaster preparedness may increase economic viability and sustainability in the affected communities.

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## APPENDIX A

Good morning Mr./Mrs. \_\_\_\_\_,

I am doctoral candidate with Walden University conducting a research study to explore strategies that small business leaders use to sustain operations after a natural disaster. Small business owners and managers who have provided or who are providing real estate services, other than real estate brokerage services, in Southern Louisiana after a natural disaster are invited to participate. Participation will require no more than an hour of your time in total and at a time and location of your convenience. An informed consent form which includes additional information about the study and your participation is attached to this email to allow you to understand this study before deciding whether to take part.

This study is voluntary. You are free to accept or turn down the invitation. No one will treat you differently if you decide not to participate in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time. Please note that not all volunteers will be contacted to take part. The first three respondents that meet participant criteria will be selected to participate.

Thank you for your consideration and please contact me with any questions.

Best regards,

Vianka Maria Miranda  
vianka.miranda@waldenu.edu  
(504) 400-4420

## **APPENDIX B**

You are invited to take a part in a research study to explore strategies that small business leaders use to sustain their businesses after a natural disaster. The participant criteria for this research study are that your organization is a small business as defined by the United States Small Business Administration domiciled in Southern Louisiana that offers a service in the real estate industry, other than real estate brokerages, has survived a natural disaster, and has a small business disaster recovery and sustainability plan in place. I obtained your contact information from either publicly available contact information located on the Internet, your local real estate association or the local Chamber of Commerce. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part. This study is being conducted by a researcher named Vianka Maria Esteves Miranda, who is a as a doctoral student at Walden University.

### **Background Information**

The purpose of this study is to explore strategies that small business leaders in the real estate industry use to maintain businesses operations after a natural disaster.

### **Procedures**

If you agree to be in this study, you will be asked to:

- Participate in a twenty to thirty-minute audio recorded interview
- Review a written transcription of the interview to confirm accuracy
- Provide relevant, publicly available documentation regarding the business’ post disaster sustainability plan that you feel that it may enhance an understanding of the post disaster plan.

Here are some sample questions:

- What type of disaster did you experience?
- What post-disaster sustainability processes strategies did you use to sustain your business after the natural disaster occurred?
- What sources of reference and methodologies did you use in developing the post disaster sustainability plan?
- What obstacles did you encounter in implementing the plan?
- How did you address the key obstacles to implementing a post disaster sustainability plan?

### **Voluntary Nature of the Study**

This study is voluntary. You are free to accept or turn down the invitation. No one will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time. Please note that not all volunteers will be contacted to take part. The first three respondents that meet participant criteria and indicate consent to participate will be selected.

### **Risks and Benefits of Being in the Study**

Participating in this study would not pose risk to your safety or wellbeing. The benefit to the participants in this study is that the answers provided will increase understanding of factors that improve sustainability in the wake of a natural disaster for Louisiana small businesses that provide real estate services.

### **Payment**

No payment, compensations, or gifts of any form will be provided to study participants.

**Privacy**

Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. The researcher will not use your personal information for any purpose outside of this research project. Data will be kept secure by Vianka Maria Esteves Miranda on a in a locked file cabinet in hard copy and on a password protected USB drive, when possible, for a period of at least 5 years, as required by the university.

**Contacts and Questions**

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at [vianka.miranda@waldenu.edu](mailto:vianka.miranda@waldenu.edu) and /or (504) 400-4420. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss your concerns with you. Her phone number is (612) 312-1210. Walden University's approval number for this study 11-16-18-0340134 and it expires on November 15, 2019.

Please print or save this consent form for your records.

**Obtaining Your Consent**

If you feel you understand the study well enough to decide about it, please indicate your consent by replying to this email with the words, "I consent."

## APPENDIX C

Participant Code \_\_\_\_\_ Interview Date \_\_\_\_\_

<p>Introduce the interview and set the stage—often over a meal or coffee Reiterate the purpose of the study and how the interview will proceed.</p>	<p>Good (morning, afternoon). Thank you for taking the time to meet with me. I appreciate time and willingness to participate in my research study regarding strategies that small business leaders use to develop and implement a small business post disaster business continuity plan. I want to remind you that all the information you provide is confidential as stated in the participant form that I provided to you via email. Remember that your participation is voluntary and appreciated, however, you may withdraw at any time without penalty. I will ask 9 questions, if you require clarification or can add any information to expound upon the topic, please do not hesitate to share that with me. Do you have any questions or concerns before we begin?</p>
<ul style="list-style-type: none"> <li>• Watch for non-verbal queues</li> <li>• Paraphrase as needed</li> <li>• Ask follow-up probing questions to get more in-depth</li> </ul>	<ol style="list-style-type: none"> <li>1. What type of disaster did you experience?</li> <li>2. What post-disaster sustainability processes strategies did you use to sustain your business after the natural disaster occurred?</li> <li>3. What sources of reference and methodologies did you use in developing the post disaster sustainability plan?</li> <li>4. What obstacles did you encounter in implementing the plan?</li> <li>5. How did you address the key obstacles to implementing a post disaster sustainability plan?</li> <li>6. How did your organization develop the post-disaster sustainability plan?</li> <li>7. How did your business leaders respond to development of the post-disaster sustainability plan?</li> <li>8. How, if at all, have you revised your post-disaster sustainability plan since the disaster?</li> <li>9. What else can you share with me about the development and implementation of your organization’s post-disaster sustainability plan?</li> </ol>
<p>Wrap up interview thanking participant. Verify that I have the most up to date participant contact information and that the participant has my information as well.</p>	<p>Thank you so much for taking the time to speak with me. I want to make certain that you do still have my contact information (provide business card). Also, I would like to verify your information as (restate participant contact information). Do you have any questions for me at this time?</p>
<p>Schedule follow-up member checking interview and discuss member checking process.</p>	<p>As part of the research process and to ensure that I accurately record the information that you have shared with me, I would appreciate the opportunity the share the transcribed and interpreted information that I will use to develop my findings with you for your review and verification within the next couple of weeks, what would be a good day and time for us to meet.</p>