Recovering from Hurricane Katrina: Small Business Owners Conquer Katrina: A Mixed Methodology Study

Penny Madonna Adams

University of Southern Mississippi

Follow this and additional works at: https://aquila.usm.edu/dissertations

Recommended Citation

https://aquila.usm.edu/dissertations/609
RECOVERING FROM HURRICANE KATRINA:
SMALL BUSINESS OWNERS CONQUER KATRINA:
A MIXED METHODOLOGY STUDY

by
Penny Madonna Adams

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

May 2011
ABSTRACT

RECOVERING FROM HURRICANE KATRINA:
SMALL BUSINESS OWNERS CONQUER KATRINA:
A MIXED METHODOLOGY STUDY

by Penny Madonna Adams

May 2011

On August 29, 2005, residents of Alabama, Louisiana, and Mississippi’s Gulf Coast Regions faced death and destruction as Hurricane Katrina made landfall. The hurricane presented numerous challenges to the Gulf Coast Region; hence, many residents continue to rebuild more than five years later. Small business owners, in particular, comprise one of the populations hardest hit.

Prior research identified barriers to recovery hindering small business owners post-Hurricane Katrina. The purpose of the current research is to determine how “recovered” small businesses overcame financial barriers post-Hurricane Katrina. This study examines the recovery process from the small business owners’ perspective and evaluates the strategies undertaken by “recovered” owners prior to and after the storm. The researcher explores the crisis planning, crisis management and resiliency frameworks, as well as the impacts of issues encountered after the storm. Through the mixed methods research design, this research investigates the lived experiences of small business owners in Hancock County, Mississippi and offers effective recovery strategies to future business owners threatened by natural disasters. The
researcher utilized survey research and conducted five in-depth interviews to capture business owners' responses to loss during the hurricane. Demographic information was calculated and analyzed for the quantitative data and content analysis occurred for the qualitative data.

Key findings indicate that successful small business owners utilized the following strategies during the recovery process: expansion of customer base, community collaboration, adjustment of business objectives and personal or self-insurance. The findings of this research contribute to small business owners' understanding of essential components of recovery; thus, improving recovery timelines. The highlighted strategies also advance the understanding of the relationship between crisis planning prior to a disastrous event and the increased ability to recover after a crisis. Businesses in hurricane-prone areas continue to face the threat of disaster; however, with knowledge and effective strategies from this research, businesses have the tools to conquer the uncertainty with success.
RECOVERING FROM HURRICANE KATRINA:
SMALL BUSINESS OWNERS CONQUER KATRINA:
A MIXED METHODOLOGY STUDY
by
Penny Madonna Adams

A Dissertation Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

Approved:

Dr. Heather Annulis
Director

Dr. Cyndi Gaudet

Dr. Patti Phillips

Dr. Brian Richard

Susan A. Siltanen
Dean of the Graduate School

May 2011
ACKNOWLEDGMENTS

I would first like to acknowledge my Lord and Savior Jesus Christ, without whose grace this project would not have been possible. I thank Him for putting intelligent, competent and caring professionals in my life during this time.

This dissertation has marked a major developmental milestone and has encouraged me to grow on all levels. I am sincerely indebted to the faculty who shared their knowledge and expertise throughout the years. Of these, I am especially grateful for my committee chair, Dr. Heather Annulis, whose wisdom and insight enabled me to produce a better research project. She encouraged me to critically analyze and improve my research and academic writing skills. I would like to thank the rest of my committee, Dr. Cyndi Gaudet, Dr. Brian Richard and Dr. Patti Phillips, for all of their support. I truly appreciate all of their contributions which helped to get this project completed.

To my husband, I cannot express how appreciative I am for your prayers and encouragement. Thanks to my family and friends, whose unconditional support has taught me that I can do all things through Christ.

Without the input and encouragement from the many people that have touched my life during the last four years, completion of this research would not have been attainable.

"Failure is not an option....but neither is settling"
TABLE OF CONTENTS

ABSTRACT .......................................................................................................................... ii

ACKNOWLEDGMENTS ........................................................................................................ iv

LIST OF TABLES .................................................................................................................... vii

LIST OF ILLUSTRATIONS ..................................................................................................... viii

CHAPTER

I. INTRODUCTION ............................................................................................................... 1

   Statement of the Problem
   Purpose of the Study
   Research Objectives
   Theoretical/Conceptual Framework
   Definition of Terms
   Limitations of Study
   Delimitations of Study
   Significance of the Research
   Summary

II. REVIEW OF LITERATURE .............................................................................................. 13

   Crisis Planning and Management
   Resiliency Theory
   History of Resiliency on the Gulf Coast
   Barriers to Recovery
   Implications for Recovery
   Katrina's Impact on the Mississippi Gulf Coast
   Summary

III. RESEARCH DESIGN AND METHODOLOGY ............................................................. 57

   Design of Study
   Population and Sample
   Data Collection and Instrumentation
   Threats to Validity
   Data Analysis
   Summary
IV. FINDINGS ............................................................................................................79

Population
Relationship of Data and Research Objectives
Interview Findings
Similarities among Businesses
Differences among Businesses
Themes
Summary

V. DISCUSSION and CONCLUSIONS .....................................................................116

Summary of the Study
Discussion and Conclusions
Study Limitations
Future Research
Concluding Remarks

APPENDIXES ..........................................................................................................129

REFERENCES ............................................................................................................140
# LIST OF TABLES

Table

2.1 Fines' Ideal Crisis Management Response ....................................... 26
2.2 Kauffmans' Ideal Crisis Management Response ............................... 27
3.1 Survey Matrix (Q1-17) .................................................................. 69
3.2 Survey Matrix (Q18-24) .................................................................. 70
3.3 Interview Questions Matrix .............................................................. 72
4.1 Demographic Information Represented by Sample ......................... 82
4.2 Frequency Counts of Employees, Customers and Business Profits ... 85
4.3 Business Experiences Post-Hurricane Katrina ................................. 89
4.4 Relationship between Research Objectives (RO) and Themes ......... 108
# LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Number</th>
<th>Illustration</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Conceptual Framework Katrina Recovery Strategies</td>
<td>6</td>
</tr>
<tr>
<td>2.1</td>
<td>The Resiliency Wheel</td>
<td>33</td>
</tr>
<tr>
<td>4.1</td>
<td>Geography of Customer Base (n=11)</td>
<td>84</td>
</tr>
<tr>
<td>4.2</td>
<td>Nature of Damage to Business Property (n=11)</td>
<td>87</td>
</tr>
<tr>
<td>4.3</td>
<td>Extent of Physical Damage to Property (n=11)</td>
<td>88</td>
</tr>
<tr>
<td>4.4</td>
<td>Outcome of SBA Loan Applications (n=6)</td>
<td>91</td>
</tr>
<tr>
<td>4.5</td>
<td>Type of Insurance Carried by Business Owners (n=11)</td>
<td>92</td>
</tr>
<tr>
<td>4.6</td>
<td>Financial State of Business before and after Katrina (n=11)</td>
<td>94</td>
</tr>
<tr>
<td>4.7</td>
<td>Preparation and Recovery Plans (n=11)</td>
<td>95</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

The Federal Emergency Management Agency (FEMA, 2002) predicts that weather related disasters affect 28 million people annually, causing an average of $16 million in damages and killing an average of 1,500 people in the United States. On August 29, 2005, residents of Alabama, Louisiana, and Mississippi’s Gulf Coast Regions faced damages and devastation as Hurricane Katrina made landfall. In the history of the United States, Hurricane Katrina remains the most expensive natural disaster to strike the Gulf Region (Dass-Brailsford, 2008). The U.S. Department of Transportation (2006) classified Hurricane Katrina as the highest loss ever recorded from a single storm measured by loss of life, destruction to property and economic hardship. With winds in excess of 150 miles per hour and 20-foot high waves, the storm destroyed the southern coastline (Dass-Brailsford, 2008). This hurricane, like no other before it, passed through the Gulf Coast Region destroying lives, leveling homes and businesses and leaving thousands of survivors in disarray.

Hurricane Katrina ravaged property in several states, mostly in Louisiana and Mississippi. In New Orleans, Louisiana, the storm surge caused the breaching of levees. “80% of the city of New Orleans was flooded with up to 20 feet of water” (Weems et al., 2008, p. 2296). The storm claimed over 1,600 lives in Louisiana and left over 1,000 people missing (LA Department of Health and Hospitals, 2006). Along the Mississippi Gulf Coast, approximately 12 communities experienced extensive destruction (Scurfield, 2008) with over 235
confirmed deaths (Pender, 2005) and over 68,000 homes and businesses destroyed (First 100 days, 2005a). The 34-foot storm-surge in western Mississippi traveled in excess of 9 miles from the coast through rivers and bayous causing extensive damage (Scurfield, 2008; Walsh, 2006). The Mississippi coast experienced destructive winds and tornadoes, which rushed through central areas of the state (Walsh, 2006). Many residents of the region lost everything and continue to cope with the devastation. Hurricane Katrina greatly affected business communities. Small business owners, in particular, comprise one of the populations hardest hit.

Every year, small business owners across the U.S. suffer major losses as a direct consequence of natural disasters. Insurance firms usually underestimate losses by measuring only insured losses. Typically, “loss estimates exclude uninsured business interruption losses, income lost during post-event recovery and losses to owners’ capital assets when businesses fail as a direct result of the event” (Alesch, Holly, Mittler & Nagy, 2001, p.4). In the Gulf Coast Region, like many other communities, small businesses employ large numbers of employees. Losses caused by disasters drastically affect the viability of employment for these workers. According to the U.S. Chamber of Commerce, Hurricane Katrina disrupted approximately 125,000 small businesses across the Gulf Coast Region. All employees of the 125,000 businesses experienced impacts. Many business owners, as well as their former employees, continue efforts to rebuild personal and professional lives (Loten, 2006). Many business owners lost employees and customers. Temporary closure of the businesses affected
owners, as well as their communities. According to a local small business owner, Katrina has affected everything—from purchasing a gallon of milk to buying a truckload of sheetrock (Hill, 2008). The entire community continues to experience the impacts of the Katrina disaster.

Statement of the Problem

Across the U.S and in many other nations, businesses and industries of all sizes experience the effects of natural disasters. Although traumatic affects of initial damages eventually subside, the recovery process requires small business owners to begin to rearrange and reestablish the mission, goals, and infrastructure of the business. Since August 2005, the Mississippi Gulf Coast small business community faces the overwhelming challenge of recovering from the Hurricane Katrina disaster. Mississippi, Louisiana and Alabama coasts experienced several storms over the last several decades; however, the recovery process remains tedious and prolonged (K. Jett, personal communication, February 17, 2009). Bureaucratic guidelines hinder the process for receiving government aid. Current processes cause small business owners enormous frustration and many relinquish the business before receiving needed help to continue business operations (K. Jett, personal communication, February 2, 2009).

Existing literature on natural disaster impact specifically related to small business is limited. Much of the literature aims at expanding the understanding of how businesses respond to natural disasters. The majority of the available literature falls into three categories: a) why some businesses recover, b) why
others do not recover (Alesch et al., 2001), and c) a listing of the barriers that obstruct recovery efforts (Runyan, 2006). Alesch et al. (2001) suggests individual businesses that are stronger and more financially stable as they enter a period of disaster recovery, and those able to adapt to a “new norm” following the disaster, are more likely to recover and continue business (Alesch et al., 2001, p. 66). The literature describes serious infrastructure problems impeding recovery, lack of access to capital for recovery problems, vulnerability to cash flow interruption and problems caused by federal assistance agencies as the strongest barriers to recovery (Runyan, 2006).

Research focusing specifically on determining how small business owners surviving natural disasters overcome the barriers impeding the recovery process remains scarce.

Purpose of the Study

The purpose of this study is to determine strategies “recovered” small business owners in Hancock County used to overcome financial barriers post-Hurricane Katrina. For this study, the definition of recovery includes businesses generally profitable within its new economic environment; thus, establishing sufficient viability to meet defined objectives and continues to conduct business at least one year post disastrous event (Alesch et al., 2001). Runyan (2006) determined barriers to recovery and development of a strategic plan to conquer identified barriers remains needful. The research captures small business owners’ responses to business loss during the worst natural disaster in the
history of the Gulf Coast and identifies attributes contributing to their recovery and resiliency.

Research Objectives

This study examines small business owners’ strategies for recovery from Hurricane Katrina. The research objectives (hereafter referred to as RO) include the following:

RO-1: Determine strategies “recovered” small business owners in Hancock County, Mississippi implemented during Hurricane Katrina recovery relative to:

v1. lack of access to capital for recovery post-Hurricane Katrina.

v2. vulnerability to cash flow post-Hurricane Katrina.

RO-2: Identify strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre-Hurricane Katrina in preparation for future disasters.

RO-3: Identify strategies “recovered” small business owners in Hancock County, Mississippi, implemented post-Hurricane Katrina in preparation for future disasters.

RO-4: Identify characteristics of a resilient small business owner as perceived by “recovered” small business owners in Hancock County, Mississippi.

Figure 1.1 presents the conceptual framework depicting the research objectives of this study.
Three theories support the conceptual framework of the study: crisis management, crisis planning and resiliency theories. Experts identify crisis planning as the initial stage of creating behavioral readiness for effective crisis management (Elsubbaugh et al., 2004; Smits & Ally, 2003).

Critical to an organization’s response, planning ahead of a crisis speeds up the recovery time after the crisis. Researchers believe that, to a certain extent, an organization’s ability to respond successfully to a crisis depends on the type of planning engaged in before the crisis (Pearson & Clair, 1998). Advanced planning can better prepare organizations for essential decisions made once in crisis mode. However, having a crisis plan in place does not fully prepare an organization for a disaster. A well thought-out management plan also remains essential for recovery.

Crisis management, commonly defined as the study of the relationship between organizations and the handling of crisis events, remains important (Hale
et al., 2005). When done effectively, crisis management can and does shorten the recovery phase (Fink, 1986). Crisis management works to minimize the impact of a crisis and helps an organization gain control of the situation (Caponigro, 2000). Effective management remains vital to the stability and resiliency of communities and organizations.

“Resilience theory addresses the strengths that people and systems demonstrate that enable them to rise above adversity” (VanBreda, 2001, p.1). According to the Community and Regional Research Initiative (CARRI) 2009, a resilient community anticipates problems and opportunities, reduces vulnerabilities, responds effectively, fairly and legitimately and recovers rapidly, safely and fairly. The Mississippi Gulf Coast experienced several natural disasters within the last several decades, including the great Flood of 1927 and Hurricane Camille. Based on the coast’s ability to encounter and recover from past disasters, the community possesses the ability to remain resilient in spite of economic hardships. However, the need remains for researchers to examine the recovery process and find more efficient recovery strategies for future events.

Theoretically, when implemented prior to a natural disaster, crisis planning, crisis management and resiliency frameworks increase chances of effective response and recovery. However, recent research purports barriers to business owners’ recovery from natural disasters (Runyan, 2006). The framework of this research examines the issues that delay business recovery processes, while identifying recovery strategies. Research suggests finances represent the most extensive barrier to recovery (Runyan, 2006).
Financial Barriers to Recovery

Formative research on Hurricane Katrina’s impacts on small business owners in the Mississippi and Louisiana Gulf Coast Regions provides pertinent information to the business community. Runyan’s research identifies barriers to recovery that small business owners faced post-Hurricane Katrina. Runyan’s variables include: serious infrastructure problems impeding recovery, problems caused by federal assistance agencies, vulnerability to cash flow, and lack of access to capital for recovery. Two variables that extend beyond the business owner’s control include: infrastructure problems and problems caused by federal agencies. For example, business owners could neither prepare for, nor mend damage to roads and bridges. Similarly, a business owner could not prepare for delays caused by changing governmental guidelines regarding recovery. Therefore, the present study focuses on Runyan’s two variables related to financial recovery (lack of access to capital and vulnerability to cash flow) of which the business owner has some control. Chapter Two presents specifics of the two financial variables related to recovery.

Recovered Small Business

Alesch et al. (2001) establishes the following definition of recovery: a) the business is profitable within the new economic environment; b) the business remains viable to meet the objectives defined for it, and c) self sufficiency established for at least one year post-event. This study utilizes the preceding definition to determine business recovery. A natural disaster changes the economic environment of a geographical location. A profitable business is one
that generates sufficient revenue to meet costs and provides a modest return to the owner within the new economic environment. Secondly, following the major impacts of a natural disaster, it is permissible to modify business objectives as long as the business continues to meet the new objectives (Alesch et al., 2001). Lastly, sustainability remains essential for recovery. A recovered business continues operation, in spite of economic hardships, for at least one-year post disaster. The following definitions provide context for this research project.

Definition of Terms

The following definitions provide uniformity and understanding of terms throughout the study.

1. **Hurricane**: A hurricane is a large, organized weather system that forms over warm ocean water. Hurricanes have a pronounced circulation around a calm center with sustained surface winds of 75 miles per hour or more. Hurricanes generally form in the summer months, when the oceans are at their warmest. The Atlantic hurricane season begins June 1 and ends November 30 (La Greca, Sevin & Sevin, 2005).

2. **Small business**: The Small Business Administration (SBA) classifies a small business as independently owned and operated but not dominant in its field of operation. A business typically maintaining revenue considerably less than comparable units within a larger corporation and employing fewer than 100 employees (SBA, 2009).

3. **Crisis Planning**: Smits and Ally (2003) identify crisis planning as the first stage of creating behavioral readiness for crisis management. Crisis
planning encompasses the organizational preparation for a disastrous event; hence, appropriate planning increases an organizations’ operational efficiency (Childs, 2008).

4. **Crisis Management**: Crisis management is the study of how organizations handle crisis events (Hale, 2005). Crisis management is defined as the function conducted by organizations to react to and recover from events that threatened the security of an organization (Whitman & Mattord, 2003). The practice minimizes the impact of a crisis and helps an organization gain control of the situation through effective decision-making (Caponigro, 2000).

5. **Resilience**: The process of adapting well in the face of disaster, trauma, threats and high stress periods of time (APA, 2004).

Limitations of the Study

Research participants were members of the Old Town Business Merchants Association in Bay St. Louis, Mississippi. The database consists of 40 small business owners from Hancock County, Mississippi. Experiencing the most extensive damage and suffering nearly complete destruction (K. Jett, personal communication, February 2, 2009). Hancock County serves as the location of focus for this research study. In addition, due to time, cost limitations and the availability of owners that remained and reopened in the area, research focuses solely on “recovered” small business owners from Hancock County, Mississippi. Business owners that lost businesses and did not re-open after Katrina were unavailable and were less likely to provide information specific to this study’s objectives.
Delimitations of the Study

This study is bounded by the responses and experiences of only small business owners who operated businesses in Hancock County, Mississippi during Hurricane Katrina. Selection from participants who are members of the Old Town Bay St. Louis Merchant’s Association limits the study. Likewise, bounding the number of participants interviewed in and a purposeful sample selection process also limit the study.

Significance of the Research

This research analyzes the lived experiences of small business owners affected by Hurricane Katrina and develops two-fold improvement strategies. First, it further assists government officials, community members and future small business owners in understanding the nature of the impact of disasters on communities, such as those in the Gulf Coast Region. The present research adds effective recovery strategies utilized by business owners during Hurricane Katrina to the empirical literature and helps to improve recovery efforts post-disaster. Understanding why and how small businesses recovered following Hurricane Katrina helps to devise strategies and blueprints to aid future small business owners in surviving similar disastrous events. This research provides small business owners specific recovery strategies used by business owners who experienced and recovered from the impacts of Hurricane Katrina.

The long-term, more theoretical motivation of this study advances the understanding of the relationship between crisis planning prior to a disastrous event and the increased ability to recover after a crisis. Moreover, the short-term,
practical goals include providing practical recovery strategies and identifying the necessary characteristics for a small business owner to increase resiliency after a disastrous event such as Hurricane Katrina. The outcomes of this study help document recovery techniques and strategies, adding to the crisis planning and management literature with specific focus on small business recovery.

Summary

On August 29, 2005, the Mississippi Gulf Coast experienced unprecedented destruction and devastation from Hurricane Katrina. The hurricane caused large-scale damage to the infrastructure of the area, but more importantly to the lives of the people who called the coast home. Hurricane Katrina records highest losses ever from a single storm measured by economic hardship, loss of life and destruction to property, (U.S. Department of Transportation, 2006). Natural disasters have an enormous impact on communities. Communities must understand the impacts and develop plans to neutralize them. This research assists business owners, community leaders and government officials in preparing for future disasters by investigating the real life experiences of “recovered” small business owners in Hancock County, Mississippi. Finally, the research yields recovery strategies for existing and future business owners.

Chapter II presents an overview of the extant literature; Chapter III discusses the methodology of the study; Chapter IV presents the findings and analysis of the data; and Chapter V contains summary, conclusions, implications and recommendations for future research.
CHAPTER II
REVIEW OF LITERATURE

This mixed methods study adds to the body of knowledge regarding recovery of small business owners in the wake of Hurricane Katrina and explores strategies utilized by “recovered” small business owners to overcome hindrances to recovery. The research investigates the lived experiences of small business owners in Hancock County, Mississippi and offers recovery strategies for future business owners facing impacts of natural disasters.

The literature review includes an explanation of the crisis planning and management theoretical framework. Implications for recovery and a description of the history and resiliency of the Mississippi Gulf Coast follow the discussion of the theoretical framework. Additionally, the review includes a description of the impact of Hurricane Katrina on the coast and expounds on the impact specifically on Hancock County, Mississippi. The researcher explores data on the economic impact of Hurricane Katrina on small business owners and issues encountered after Katrina.

Crisis Planning and Management

According to Webster’s dictionary (2009), a crisis is “a crucial time” that causes a “turning point for better or worse”; a paroxysmal attack of pain, distress, or disordered function; especially one with the distinct possibility of a highly undesirable outcome (n. p.). A crisis is an event that causes instability in the actions, plans or strategies of a system and requires quick decisions. Based on the extant literature, a crisis event is characterized by low probability, ambiguity,
high consequence and decision making under time pressure (Pearson & Clair, 1998). A crisis occurs when an organization requires quick responses to address threatened interests and the effect of practical actions is uncertain (Coleman, 2004). Crises force managers to make quick decisions based on little information while encountering rapid changes. Deutsch (1963) warned, “While moderate rates of change or disequilibrium may be dealt with successfully, many governments and organizations find themselves unable to control their behavior effectively in times of rapid change—this may put excessive load upon their decision-making system” (p.190). Quick decisions during turbulent times are critical for the survival of organizations. When a crisis hits an organization, the effects can be detrimental if recovery plans are not established (Offers, 1998). Therefore, organizations must employ crisis planning and crisis management concepts to help better prepare for disastrous events.

Crisis planning and crisis management are multidisciplinary in nature (Mitroff, 1988; Shrivastava, 1993). The literature crosses numerous academic disciplines including accounting, management, finance and many others (Hale et al., 2005). The theoretical frameworks of crisis planning and management represent constantly evolving and inexact fields of study. Human and social science or sociology disciplines support crisis planning and management by providing a theoretical foundation for the field of study (Roux-Dufort, 2007). Ironically, “the concept of crisis has never made it into mainstream organization theory” (Roux-Dufort, 2007, p. 106). In the field of organization theory, crisis management is frequently isolated for four main reasons. First, it is a non-
cumulative field of research characterized by little theorization and vague definitions. Perceived as ‘events’, which distance it from becoming a more structured model, crisis management suffers from a methodological monolithism (Roux-Dufort, 2007).

*Non-cumulative field of research characterized by little theorization.* Most often used to amplify research on other concepts, crisis, in itself, does not serve as an object of research in organizational theory. Although used as a catalyst, crisis research is seldom the subject of the theorization necessary to highlight its nature and become ingrained in organizational theory (Roux-Dufort, 2007).

*Vague definitions.* Defined as an unexpected, unpredictable event that takes the form of acute and painful manifestations (Morin, 1976), characteristics of organizational crisis are based essentially on the nature of its consequences and implications. The characteristics provide theoretical insufficiencies (Forgues & Roux-Dufort, 1998). Definitions for the concept of crisis remain vague, making it difficult for researchers to define a concrete framework for the discipline (Roux-Dufort, 2007). With weak definitions and theoretical insufficiencies, crisis research tends to lose legitimacy (Roux-Dufort, 2007).

*Methodological monolithism.* Case studies of major industrial disasters serve as root references for crisis literature (Roux-Dufort, 2007). A limitation of the foundational literature includes the existence of more information on the actual event than on the organizations experiencing the event. These studies, although having a major impact on crisis research, have somehow limited researchers to an event centered approach, focusing mainly on the incidents and
little on the contributions of crises to understanding organizational functioning (Roux-Dufort, 2007).

**Event centered approach.** Shrivastava (1992) suggests that crisis management based largely on an event-centered approach causes managers to mistake the event for the crisis itself. “Seeing a crisis as an event has disadvantaged the discipline of crisis management because it leads to the belief that the event prevails over everything else” (Roux-Dufort, 2007 p. 108). “Focusing on the event and its intensity prevents researchers from closely examining and questioning the functioning of the organization, and instead, induces them to study the different ways to deal with the surprise, urgency and disturbance” (Roux-Dufort, 2007 p. 106). Crisis planning and management remains isolated and therefore not closely associated with mainstream organization theory. To develop a solid theoretical foundation, crisis planning and management must explore the origin of events and post-event futures.

Organizational theorists believe crisis management must shift from an event-centered approach to a crisis process approach in order to gain acceptance into the field of organizational theory (Roux-Dufort, 2007; Shrivastava, 1992). The crisis process approach considers a crisis a long process that happens over a period of time and suddenly manifests itself under the influence of a “precipitating” event (Fink, 1986; Gatot & Jacques, 1999; Mitroff & Pearson, 1993; Roux-Dufort, 2007). The crisis process approach advances the idea that a crisis develops in phases, not one event, and studying each phase can reveal weaknesses and strengths in the organization. This
approach recognizes the benefits of initiating the development of crisis management and organizational theory. “If crisis management only sees crisis as punctual events, it then runs the risk of being perceived as a science of the exceptional” (Roux-Dufort, 2007 p. 108).

Despite struggles establishing a solid theoretical foundation, crisis planning and crisis management adds efficiency to the response and recovery efforts of businesses. A crisis is a time of great instability for organizations; therefore, organizations engage in crisis planning prior to the presentation of a crisis event. The resulting crisis management plans counteract the instability that a crisis event can present. Under the crisis process approach, analysis of the preparation phase applies, although natural disasters usually happen suddenly.

Survival and recovery of an organization in the wake of a crisis, such as Hurricane Katrina, often depends upon the crisis planning and management plans set in place prior to a disastrous event. In the wake of crisis situations, poor planning and management decisions serve as key sources of organizational failure (Booth, 1990; McKinley, 1993; Smith, 1990). Although many businesses do not plan for disasters, research shows that organizations fail mainly because a gap exists between planned actions and actual activities undertaken in a major crisis (Quarantelli, 1988). “Studies of disasters have demonstrated that organizational officials do not always distinguish between the two processes, which result in consequent negative results” (Quarantelli, 1988, p. 374). The assumption that an organization can merely implement pre-developed plans during the crisis remains incorrect. The aforementioned gap often serves as a
hindrance to the organization’s ability to effectively prepare for and respond to a disastrous event. Quarantelli (1988) explains the differences between crisis planning and crisis management.

*Crisis Planning*

Alexander Graham Bell once said, “Before anything else, preparation is the key to success” (Graham-Bell, 2009, n.p.). The crisis planning literature bestows much attention to planning for a crisis as a key to positive outcomes (Fink, 1986; Hale et al., 2005; Quarantelli, 1988). Crisis planning serves as a blueprint or a road map for organizations experiencing a crisis event. Smits and Ally (2003) identify crisis planning as the first stage of creating behavioral readiness for crisis management. Similarly, Elsubbaugh, Fildes and Rose (2004) place crisis preparation as the initial phase to effective crisis management and argue that organizations must strategically prepare to respond to crisis events with appropriate planning. Investing in crisis preparation yields immediate returns by increasing the organization’s operational efficiency (Childs, 2008).

Typical components of crisis planning include: a designated crisis team (Pearson & Clair, 1998); emergency communication procedures (Borda & Mackey-Kallis, 2004; Pasek, 2002); and organization specific disaster training including drills and simulations (Bonin & Lagadec, 2000; Perry & Lindell, 2003).

Some scholars suggest developing a crisis team composed of senior level experts as an important step towards experiencing successful outcomes from a crisis event (Mitroff & Pearson, 1993). A crisis team represents a cross-functional group of stakeholders from all major aspects of the business charged with
leading crisis planning and coordination (Bonin & Lagadec, 2000; Kash & Darling, 1998; Mitroff & Pearson, 1993). Essential to the team is a permanent central core of senior level executives; however, different types of crisis may require different types of team members. Therefore, Fink (1986) suggests the first task of the team includes constructing a list of potential colleagues to serve on the crisis team, depending on the crisis at hand. For example, financial crises require financial experts while natural disasters require experts equipped to handle environmental disasters. According to Hutchins, Annulis & Gaudet (2008), the crisis management team’s primary duty includes devising a crisis management plan. “An effective crisis management plan presets certain key decisions on the mechanical portions of the crisis--those aspects that rarely vary--and leaves executives free to manage the content portion of the crisis--those unique to the crisis--with unfettered hands” (Fink, 1986, p. 55). A management plan, which includes fixed determinations addressing the mechanicals, presents benefits. Crisis mechanicals include: determining roles and responsibilities of personnel at all levels of the business, deciding and assigning individuals to the organization’s crisis management team, as well as, outlining first response steps. “Each person must understand the importance and necessity of contingency planning and response to a disaster, and know what his or her role will be” (Childs, 2008, p. 20). The crisis management team further develops the plan by first identifying and assessing organizational crisis readiness. Plan expansion occurs by developing the processes and infrastructure needed to identify and manage both anticipated and unanticipated crisis events, and by formulating
recovery plans for various crisis events. For example, Childs (2008) suggests that organizations establish a remote disaster recovery site. Mitroff & Pearson (1993) also suggest that crisis management teams may help facilitate decision-making and actions by accelerating the flow of resources during a crisis. Likewise, a trained crisis management team can aid in the flow of information; hence, facilitating more effective communication.

Hale, Dulek & Hale (2005) depict crisis communication as the process of transmitting information about an ongoing crisis event to stakeholders. Effective communication aids the decision-making process and supports organizational decisions regarding sharing information with internal and external sources. The decision process becomes more efficient when the business recognizes requirements to minimize damage and potential liabilities (Childs, 2008). Typical components of crisis communication plans include ready access to emergency contact information for management, employees, retirees and emergency stakeholders. This information, when easily accessible, enables the operational portion of the organization (building and facility access, work schedule changes and alternate office locations) to flow smoothly. This helps to inform employees and stakeholders about employee relational issues, such as employee assistance programs, travel and relocation (Hewitt Associates' Report on Crisis Communication, 2004). Three basic questions for an organization to address in a crisis communication plan include the following: Who is responsible for notifying employees and the media? Who will determine and notify needed local, state or federal government agencies? Who will serve as backups in the case of
unreachable first line employees? Failure to answer these questions and other communication failures may prove detrimental to the organization and external people affected by the organization. Perfection of communication and other crisis strategies and techniques require practice.

Shaw & Harrald (2004) state that crisis training and drills serve as exercises to develop organizational crisis awareness and preparedness. In order to identify and mitigate unanticipated risks, organizations must test disaster preparedness plans (Childs, 2008). Research notes various examples of common crisis training sessions, including but not limited to the following: CPR and first aid, fire suppression and evacuation, procedures for handling hazardous chemicals and assisting persons with disabilities during disasters (Fegley & Victor, 2005). Organizations use a wide range of interaction and simulations to train employees for crisis events (Peterson & Perry, 1999).

Crisis training professionals administer training ranging from simple role-play activities to functional exercises that involve actual tests of one or more parts of the crisis plan. Sometimes full-scale exercises test major crisis planning functions in the field (Hutchins et al., 2008). Organizational members should receive skill development through frequent training and development sessions to update crisis-related competencies (Smits & Ally, 2003). Training remains important to the overall success of the crisis-planning phase; however small businesses tend to have fewer financial resources and less access to capital to plan for a crisis (Kirchhoff, 1994).
Although not a new organizational concept, very little research exists on crisis planning by small businesses. “Historically, researchers focused on planning and management activities within larger organizations” (Spillan & Hough, 2003, p. 400). Available research reveals evidence of minimal proactive crisis planning by small business owners. A study conducted by Spillan and Hough (2003) suggests crisis planning receives little attention in small businesses and for the most part, not until after a disaster strikes does a small business owner realize the need for effective crisis planning. Typically, small business owners utilize insurance coverage as their crisis planning function (Spillan & Hough, 2003). While insurance can definitely protect against extensive cost implications, coverage remains insufficient in terms of assuring the recovery of a business (Simbo, 1993). Areas not covered by insurance policies include, ‘soft dollar’ items, such as low employee morale, worker unrest and stress, increased worker compensation claims and increased absenteeism. Yet, these items drastically affect the survival of a business (Fink, 1986). Small business owners rarely focus on crisis planning because many believe catastrophic events will only happen to other organizations (Mitroff, 1989). The threat of such an event seldom seems realistic until after the crisis strikes. Crisis planning often begins after the crisis strikes (Chastang, 2000), notably too late. A recent survey of 2,500 small business owners conducted by Office Depot (2007) found that 71% did not have a disaster preparedness plan and nearly two-thirds stated they did not need one. Historical facts reveal businesses typically do not resume within 72 hours of a disaster; however, 63% expressed confidence that they
would resume within that time span (Office Depot, 2007). The majority of the crisis planning or management literature discusses familiar patterns to disaster response; however, organizations remain unprepared in crises. “To prepare for crisis events, planning is crucial to aligning people, technology, and organizational culture to mitigate potential losses resulting from a crisis” (Hutchins et al., 2008, p. 47). Small business owners acknowledge the importance of crisis planning; however, alone it cannot bring the business to a fully recovered status. Likewise, crisis management remains important to the success of a business as crisis planning.

Crisis Management

The academic community struggle for consensus on the definition of crisis management (Kouzmin, 2008). Hale (2005) offers the following definition: the study of how organizations handle crisis events. According to Whitman and Mattord (2003) crisis management serves as a sub-function of contingency planning, defined holistically as the planning conducted by an organization to react to and recover from events that threaten the security of an organization and the subsequent restoration to normal modes of business. The above definition shares similarities to others in that crisis management deals with the actions taken during and after a disaster (Whitman & Mattord, 2003). According to Caponigro (2000) crisis management functions minimize the impact of a crisis and help an organization gain control of the situation through effective decision making.
Crisis management includes making the right decisions to help an organization continue to reach strategic goals while in the midst of chaos. The concept involves curtailing the impact of a crisis on the organization through decision making; hence, "in managing a crisis you are managing decisions" (Fink, 1986, p. 84). Every business benefits by having a crisis management plan in place as organizations transition through crisis phases (Fink, 1986; Hutchins et al., 2008).

Although several different crisis management models appear in the literature, a consensus exists among field experts in the following three distinctive crisis phases: prevention/preparation, response and recovery (Elliott et al., 2005; Smith, 1990). The majority of crisis management models incorporate the three phases, albeit with different titles. For example, Smith (1990) developed a three-phase crisis management model indicating how crises typically unfold. Smith’s model includes the following three phases: crisis of management phase, operational crisis and the crisis of legitimation phase. This model provides a similar representation of the relationships among the crisis management steps.

Prevention/preparation. The prevention phase presents a pre-crisis stage when an organization can prepare for an upcoming preventable or non-preventable disaster, such as Hurricane Katrina. This prevention phase leads to the crisis event in which the organization fails to take account for an impending situation. Hence, businesses suppose traditional precautions are enough to prepare effectively for a disaster. However, Alesch et al. (2001) suggests that
traditional precautions taken by most organizations in the wake of a disastrous event will not significantly increase the probability of business survival. “The failure of organizations to recognize and respond to the presence of early crisis indicators in this stage, often cause substantial losses in revenue, reputation and human life” (Hutchins et al., 2008, p. 30). Crisis preparation serves as the initial phase of the crisis management process. Many experts argue that organizations must be strategically prepared to respond to a crisis event in order to manage effectively (Elsubbaugh et al., 2004; Smits & Ally, 2003).

Response. Management literature indicates that organizations are naturally reactive concerning potential future crises, perhaps because they believe crises are unlikely to happen to them (Mitroff et al., 1989; Pearson & Mitroff, 1993; Penrose, 2000; Shrivastava, 1993). Many organizations are not able to stop a crisis in the prevention phase and hence, find themselves in the second phase. The response phase encompasses the immediate minutes, hours and days after a crisis event occurs. While this phase begins after the crisis, significant risk of immediate damage remains present (Hale et al., 2005). The following objectives represent the response phase: to prevent the worsening of the crisis, to generate a climate of support for those involved, and to attempt to gain control of the situation (Caponigro, 2000; Smith, 1990). “At this point, organizations shift their resources and efforts to minimizing damage to the environment, facilities and people” (Hale et al., 2005, p. 113).

There are many crisis management response approaches; however, several studies produce strong arguments for the ideal crisis management
response approach. Fines (1985) and Kauffman (1999) present two studies that provide recommendations for organizations to follow when facing a crisis.

Table 2.1

*Fines’ Ideal Crisis Management Response*

<table>
<thead>
<tr>
<th>Crisis Management Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Set a broad strategy in advance</td>
</tr>
<tr>
<td>2. Respond quickly</td>
</tr>
<tr>
<td>3. Train spokespersons in advance</td>
</tr>
<tr>
<td>4. Seek third party support</td>
</tr>
<tr>
<td>5. Centralize the spokesperson’s function</td>
</tr>
</tbody>
</table>

*Note: From “Crisis forecasting: What’s the worst that could happen?” by S. Fines, 1985, Management Review, 75, pp. 52-56.*

Fines (1985) identifies five elements essential to an effective crisis management response. Fines stresses the importance of developing a strategy and providing prior training. When prepared in advance, organizations respond quickly (Coombs, 1999). By responding quickly, trained spokespersons can fill the information void created by a crisis with facts (Fines, 1985). When an organization responds slowly, speculation and misinformation will fill the information void; which can exacerbate the crisis (Coombs, 1999). Other crisis management research supports Fines’ findings (see Table 2.1).
Table 2.2

*Kauffmans’ Ideal Crisis Management Response*

<table>
<thead>
<tr>
<th>Effective Crisis Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Respond quickly</td>
</tr>
<tr>
<td>2. Tell the truth</td>
</tr>
<tr>
<td>3. Provide a constant flow of information, especially to key publics</td>
</tr>
</tbody>
</table>


In 1999, Kauffman generalized an effective crisis response strategy from research conducted on NASA’s Apollo 1 crisis. An ineffective response phase can contribute to the credibility of an organization. In order to prevent diminished organizational credibility, organizations must provide information, before if possible, during and after the crisis event.

Both Kauffman and Fines agree that for a smooth transition through the response phase, organizations must be prepared to respond quickly with a constant and consistent flow of accurate information. Smooth transition also requires advanced training and outside political and social support. Using the key elements found in Fines and Kauffman’s research, organizations can transition smoothly through the response phase and eventually begin to focus on recovery.

*Recovery.* Fink (1986) and Offer’s (1998) reviews of crisis preparedness indicate that 50% of all businesses will not survive without an adequate business recovery plan. The presence of an effective recovery plan increases business success (Fink, 1986). Pedone (1997) indicates that 90% of businesses without a
disaster recovery plan fail within two years after a disaster. Initially known as the clean up phase, the recovery phase (Fink, 1986) seeks to minimize impacts of the crisis on an organization (Elliot et al., 2005). Additionally, the recovery phase involves attempts to learn from the event internally while handling the event externally. During this time, organizations make needed corrections in management plans and return to a sense of normalcy. Communities, and those indirectly involved in a crisis, attempt to return to normal routines (Home Office, 1997, p. 3). However, organizations often cannot apply normal emergency management practices in every disaster event because of the uniqueness of each disaster. Disasters typically do not follow set patterns (Hills, 1998); therefore, requiring more than improvisation of existing plans. “The defining features of a disaster can change and organizations may be forced to take unprecedented measures going far beyond a simple extension of normal responses” (Hill, 1998, p. 164). Oftentimes, a need to develop new approaches guides actions in a continuing emergency (Turner, 1995). The disaster’s scale and intensity increases when organizations are unprepared (Horlick-Jones, 1994).

Tendency to blame other organizations presents itself as the second characteristic of a recovery stage. Smith (1990) characterizes this period as a time of blame appropriation and scapegoating. Unfortunately, in an attempt to legitimize organizational operating procedures and management styles most organizations appropriate blame and search for a scapegoat (Elliott et al., 2005; Smith, 1990). Shane, Lipton & Drew (2005) highlights this stage in an article
entitled, “After Failures, Government Officials Play Blame Game.” In an article published days after Hurricane Katrina, Louisiana state and local authorities blamed FEMA after failing to deliver urgently needed soldiers, helicopters, food and water. A spokesperson from State Senator Mary Landrieu’s office insisted FEMA failed to provide critical assistance. New Orleans Mayor Ray Nagin states that he held the federal government responsible for failing to deliver relief supplies and personnel quickly. Although, the federal government did take some responsibility for the hesitancy in the decision-making, Louisiana’s Governor Kathleen Blanco refused to sign an agreement to share control with National Guard forces. The Governors’ alleged lack of cooperation hindered critically needed progress. During this phase, Governor Blanco sought both to secure legitimacy and to take preventive measures. The “blame game” occurs often during the recovery phase and hinders the recovery process (Elliott et al., 2005; Smith, 1990).

In an attempt to prepare effectively for crisis events, organizations transition through the aforementioned crisis management stages. A disastrous event changes large and small organizations even with the best preparedness plans and crisis management techniques. An organization’s ability to be resilient often relies on its ability to prepare, manage and adapt to transitions during the crisis (Alesch et al., 2001). Resiliency remains a familiar concept to many small businesses within the Mississippi Gulf Coast (Bower, 2006).
Resiliency Theory

The American Psychological Association (2004) defines resilience as “the process of adapting well in the face of adversity, trauma, threats, or even significant sources of stress” (n. p.). Resilience suggests the ability to adapt well in the face of disaster, trauma and high stress periods of time (APA, 2004). “Resilience theory addresses the strengths that people and systems demonstrate that enable them to rise above adversity” (VanBreda, 2001, p. 1). A number of longitudinal studies appear in the psychology, psychiatry, education and sociology literature (VanBreda, 2001) documenting the phenomenon of resiliency over time; however, the impetus for resiliency research initially stemmed from research of at risk-youth and their ability to survive after experiencing adversity (Resiliency Model, 2009).

Smith and Werner (1992), child psychologists at The University of California, present an influential longitudinal study. Smith and Werner followed a group of children born in Kauai, Hawaii from 1955 to 1985 and found that about one-third of the students affected by major risk conditions escaped to adulthood without much permanent damage. Like this research, most resiliency research demonstrates many high-risk students have the capacity to overcome adversity and succeed in a supportive environment (Wolin & Wolin, 1993). Social and environmental support factors serve as the foundation of resilience in individuals (Henderson, 1997). “Social support is the role that individuals or resources within a community play in the life of an individual” (VanBreda, 2001, p. 150). Cobb (1982) identifies four kinds of support systems needed for individuals to
show resilience: social, emotional, esteem and network support. The support systems help individuals adapt to environmental stressors. However, research shows that “social support is more important than all the others put together” (Cobb, 1982, p. 190). Theoretically, socially supported individuals are better able to adapt to environmental stressors than people who do not receive support (VanBreda, 2001). However, researchers recognize the field of resilience as a multifaceted field of study (VanBreda, 2001). Both individuals and communities embrace the resiliency attribute (Resiliency Model, 2009).

Recently, researchers acknowledge a community as a standalone system (Blankenship, 1998; Bowen, 1998; Bowen & Martin, 1998; McKnight, 1997). Bowen (1998) defines community as "a network of informal relationships between people connected to each other by kinship, common interest, geographic proximity, friendship, occupation, or giving and receiving of services or various combinations of these" (pp. 3-4). Conceptions of community resilience remain tentative and underdeveloped (VanBreda, 2001); however, extant literature offers several definitions for community resilience. Bowen (1998) defines community resilience as “the ability of a community facing normative or non-normative adversity or the consequences of adversity to establish, maintain, or regain an expected or satisfactory range of functioning that is equal to or is better than prestressor functioning” (p. 5).

The Community and Regional Research Initiative on Resilient Communities (CARRI), a regional program with national implications for how communities and regions prepare for, respond to and recover from catastrophic
events, offers a working definition of a resilient community. CARRI defines community resilience as “a community or region’s capability to prepare for, and respond to, and recover from significant multi-hazard threats with minimum damage to public safety and health, the economy and national security” (Wilbanks, 2007). According to CARRI (2009), characteristics of a resilient community include having the ability to: quickly reopen businesses and return citizens to work, restore other essential services, and minimize the loss or damage to life and property. A resilient community has the ability to shun system failures and help minimize continual disruption to the community’s everyday life (CARRI, 2009). These characteristics remain essential for a full and swift economic recovery. In theory, communities and individuals who have support systems will experience less stress and recover more quickly from environmental stressors than unsupported communities and individuals (VanBreda, 2001).

Henderson & Associates (1997) formulated a resiliency-training program, which led to The Resiliency Wheel framework. The framework suggests six characteristics that help individuals become resilient. The components of the resiliency wheel are applicable to the Mississippi Gulf Coast and other resilient communities. The Resiliency Training Program provides explanations of characteristics of the framework (Henderson et al., 1997).

*Increase pro-social bonding.* Pro-social bonding involves strengthening connections between the individual and any pro-social person or activity. This concept provides individuals with a sense of purpose and connection in a situation to cope with adversity. The mission of the U.S. Chamber of Commerce
expresses advancement in human progress through an economic, political and social system based on individual freedom, incentive, initiative, opportunity and responsibility (U.S. Chamber of Commerce, 2009). In the aftermath of Hurricane Katrina, the Hancock County Chamber of Commerce shared that mission in taking initiative, seeking opportunities, and accepting responsibilities as a unified leader in recovery efforts and prosocial bonding. Networking became evident as local businesses, civic leaders, volunteer organizations and the citizens of Hancock County united to support the chamber's mission statement (Hancock County Chamber of Commerce, 2009).

**Figure 2.1 The Resiliency Wheel.** The wheel illustrates six consistent themes or characteristics of communities that foster resiliency.


*Set clear, consistent boundaries.* Clear, consistent boundaries communicate expectations and enforce consistent boundaries. Resilient communities should balance between addressing concerns and getting back to a
normal schedule. Katrina damaged 134,000 homes in the state of Mississippi, including 65,000 residences completely destroyed (Penick & Riley, 2006). Twelve percent of the population of Hancock, Harrison and Jackson Counties lived in either catastrophic or extensive damage areas (Richard, 2005). In April 2006, The Department of Housing and Urban Development (HUD) initiated the Mississippi Housing Assistance Program as a Community Development Block Grant. The program, administered through the Mississippi Development Authority, dispersed funds in phases. The first phase provided financial assistance to those homeowners outside the floodplain whose homeowner’s insurance did not cover structural flood damage. The second phase, initiated in December 2006, serviced strictly low and moderate income applicants with residences in or outside the pre-Katrina federal flood zones (MDA, 2009). The phase included an economic development feature. The economic development feature was responsible for “helping local governments attract and retain new jobs by restoring infrastructure and revitalizing downtown areas destroyed by the hurricane” (Barbour, 2006, n. p.). The Housing Assistance Program addressed the coast’s housing issues, with clear regulation and administrative guidelines for dispersement of funds.

*Teach life-skills.* Teaching and reinforcing life skills to individuals facing adversity help residents successfully navigate through the disaster experience. Life skills include conflict resolution, communication skills, problem solving, decision-making and healthy stress management. Mississippi residents received support after Hurricane Katrina. The University of Pennsylvania School of Social
Policy and Practice, in conjunction with Bucks Mont Katrina Relief Project committed to a long-term partnership to provide volunteers, needs assessments, mental health planning and intervention and health fairs in Hancock County (Scurfield, 2008). This partnership offered social support needed by Mississippi residents.

*Provide caring and support.* Caring and support serve as the most crucial of all elements promoting resiliency. Research indicates the impossibilities of successfully overcoming adversity without the presence of trusting, supportive relationships. In the aftermath of Katrina, voluntary outpouring of outside assistance in the forms of time, effort, money and services emerged (Scurfield, 2008). For example, The University of North Carolina at Chapel Hill sent a physician, several volunteer students and nurses to the Gulf Coast to provide healthcare to patients at three different clinics for five full days. Likewise, volunteer students set up a makeshift clinic, and aided Habitat for Humanity with home repairs and with clean up (Biloxi/Hurricane Katrina Trip, 2008). Organizations and volunteers from all over the world supported Mississippi residents and business communities for months following the disaster.

*Provide opportunities for meaningful participation.* Opportunities for meaningful participation involves giving individuals responsibility for activities in their community by providing opportunities to solve problems, make decisions, plan, set goals and help others. Residents feel part of the solution when provided the opportunity to develop ways to address the crisis and aid in the recovery. “A resilient community recognizes that private businesses, individual
citizens and volunteer organizations and associations are critical aspects of the fabric of a community and play significant roles in community resilience" (Edwards, 2007, n. p.). “By depending on the contributions of its members, communities promote creativity, productivity, gifts and participation of people” (VanBreda, 2001, p. 156). When communities are recovering from a crisis, both formal support systems (state and federal organizations) and informal support systems (associations, local organizations, citizens) serve as essential aspects of recovery (McKnight, 1997).

*Set and communicate high expectations.* In recovering from adversity, communities must set and communicate high expectations. In order to be an effective motivator, expectations must be realistic. In the case of Hurricane Katrina, Mississippi residents set high expectations for recovery based on past experiences. The Flood of 1927 cost the state of Mississippi $350 million in damages (“Exploring Earth”, 2008), while Hurricane Camille in 1969 costs $4.2 billion in 1969 dollars (Grammatico, 2009). Successful recovery from past disastrous events allowed Katrina survivors to believe that recovery was realistic and achievable (Edwards, 2007). The Mississippi coast communities reflect the attitude promoted in the resilience literature: the kind of resilience that promotes the ability to “bounce back” (Schwartz, 1997, n. p.).

The Hancock County Community Development Foundation (HCCDF) assists Hancock County communities with disaster recovery. In the aftermath of Katrina, formation of the Hancock County Long-Term Recovery Committee aimed at restoring the quality of life to citizens of Hancock County. These two
organizations merged to provide effective coordination of resources. The newly formed foundation’s mission statement communicated high expectations. The mission of HCCDF asserts providing programs and support for the recovery of Hancock County, to support the educational and community programs of Hancock County that stimulate job creation, to foster small business growth and support workforce development and to support the long-term needs of community non-governmental organizations (Hancock County Chamber of Commerce, 2009). This foundation, like many other local organizations, communicated the expectation for recovery and put in place support systems to make recovery possible.

There are numerous stories of survival and enrichment on the Mississippi Gulf Coast. The coast possesses many factors of Henderson’s resiliency wheel and these support systems aided in the ongoing recovery and rebuilding post-Hurricane Katrina. Local citizens, private businesses and volunteer organizations played significant roles in the recovery process. The social support systems present in the Mississippi Gulf Coast remain critical aspects of the fabric of this resilient community (Edwards, 2007).

Local governments played a significant role in helping small business owners survive and reestablish post-hurricane. Owners experienced an increase in new funding sources available to aid in re-opening their businesses (MDA, 2009). For example, the Mississippi Development Authority (2009) established job generation funding offering loans to assist with marketing plans for small businesses. This funding supports the establishment of businesses in Hancock
County and offers support systems for resiliency. Scurfield (2008) states, “there is a human connecting between our local residents, neighbor-to-neighbor, that continues and is truly heartwarming, pervading many local families and communities. Beyond individual resilience, community resilience truly is evident in south Mississippi” (p. 15).

History of Resiliency on the Mississippi Gulf Coast

The Mississippi Gulf Coast refers to the three Mississippi counties which lie on the Gulf of Mexico: Hancock, Harrison and Jackson counties. In 1699, Sieur d’Iberville first settled in an area currently known as Ocean Springs, MS. The coast evolved over the last several centuries, but with each change cultural and heritage enrichment emerged (HCTC, 2009). The antebellum homes along Hwy. 90, which resembled the traces of French and Spanish rule, made the coast well known. The many museums that share the art and history of the area also bring tourist to the Coast. Beauvoir, the last home of Confederate President Jefferson Davis, Fort Maurepas, Old Spanish Fort and Museum and St. Augustine Church and Seminary (the state’s oldest seminary training African-American Roman Catholics for the priesthood) are just a few of the special places to visit on the coast of Mississippi.

Unfortunately, several natural disasters, which have altered the area’s infrastructure, culture and history forever, make Mississippi well known. The year of 1927 remains one of the worst years the Mississippi Valley ever experienced. In early 1927, several months of unusually heavy rain caused the levee system at Mounds Landing, MS to breech resulting in thirty feet of water covering towns
up to 60 miles away (Ambrose & Brinkley, 2001). “In the end, the Flood of 1927 affected an area of 27,000 square miles and caused $350 million in damages, equivalent to approximately $5 billion today” (“Exploring Earth”, 2008, n. p.).

In 1969, Hurricane Camille, classified as the strongest storm to ever enter the United States Mainland, made landfall at the mouth of the Mississippi River (National Hurricane Center, 2009). As a Category 5 Hurricane, Camille’s wind gusts reached 200 mph with a 25-foot storm surge and in only three hours completely vanquished parts of the Mississippi Gulf Coast (National Hurricane Center, 2009). Over 15,000 residents were homeless. The total damage caused by Hurricane Camille was approximately $4.2 billion in 1969 dollars (Grammatico, 2003).

Thirty-four years later, the Mississippi Gulf Coast again experienced a natural disaster that completely annihilated sections of the coastland. Hurricane Katrina, known as one of the costliest hurricanes, remains one of the five deadliest storms in the history of the United States (Dass-Brailsford, 2008). Its landfall introduced great calamity and Mississippi continues to recover (Phillips et al., 2006). Based on the coasts’ ability to recover from natural disasters in the past, the community has the ability to remain resilient in spite of the community, family and economic hardship (Bower, 2006). However, small businesses continue to face variables that make recovery difficult (Runyan, 2006).
Barriers to Recovery

Runyan (2006) identifies barriers to recovery that Mississippi businesses faced after Hurricane Katrina: serious infrastructure problems, problems caused by federal assistance agencies, vulnerability to cash flow and lack of access to capital for recovery. Problems caused by infrastructure damage and difficulty business owners faced due to federal assistance agencies extend beyond the business owners control.

Serious Infrastructure Problems Impeding Recovery

Natural disasters often cause damage and destruction to infrastructure in the community it affects. Infrastructure refers to the basic facilities, services, and installation required of an economy to function (First Generation Consulting, 2005) such as, destruction of roadways, water and sewer systems or damage to bridges and buildings. Small business owners faced serious infrastructure problems after Hurricane Katrina and many, even with money available, had no place to occupy to operate a business. Without adequate infrastructure, business owners could not reopen. In Biloxi, Mississippi, almost complete destruction occurred to most buildings and many roadways. In Pascagoula, Mississippi, the buildings were intact but completely destroyed inside by flooding. In Picayune, Mississippi and Covington, Louisiana, approximately 25% of buildings experienced wind and rain damage (Runyan, 2006). Hancock County, (Waveland, Kiln and Bay St. Louis) experienced complete destruction and most businesses lost everything (K. Jett, personal communication, February 2, 2009). The county endured extensive damage to roadways and bridges. Infrastructure
damage was beyond human control; however, Mississippi communities also faced man made barriers during Hurricane Katrina.

Problems Caused by Federal Assistance Agencies

The Federal Emergency Management Agency (FEMA) serves under the U.S. Department of Homeland Security (DHS). “The primary mission of the Federal Emergency Management Agency is to reduce the loss of life and property and protect the Nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation” (FEMA, 2002, n. p.). FEMA holds a large responsibility in the response and recovery phases when a natural disaster occurs. However, apart from the storm damage itself, in most cases the major source of problems in disasters surface from responding organizations (Dynes, 1974). A recurring theme within Hurricane Katrina recovery literature includes problems caused by the Federal Emergency Management Agency. Post-Katrina FEMA offered substantial amounts of aid in the form of living, food and housing allowances for those individuals affected by the hurricane. Potential employees received a larger amount of monetary assistance from FEMA than that of a standard paycheck. The large amounts of assistance made it difficult for employers to recruit and hire employees (Runyan, 2006).

Because business owners could not prepare for infrastructure damage and problems caused by FEMA, this study focuses on Runyan’s (2006) financial
variables: vulnerability to cash flow and lack of access to capital for recovery. The proposed research utilizes Runyan’s barriers and explores strategies used by “recovered” small business owners to overcome the financial barriers and recover from Katrina.

Vulnerability to cash flow. Many small business owners operate with the goal of providing a steady family income stream rather than a goal of long-term growth (Carland et al., 1984). Owners operate on the cash flow generated by day-to-day operations; thus, cash flow remains critical to a small business owner. Any interruption in the flow could be professionally and personally devastating. “A delay of one to three weeks of an insurance claim settlement makes a difference” (Childs, 2008, p. 126). With closed businesses after Hurricane Katrina many small business owners had no monetary means to continue operation and became vulnerable to the lack of cash flow. However, cash flow represents only one variable identified as a barrier. Lack of access to capital also proves to be a serious impediment to recovery.

Lack of access to capital for recovery. Many small business owners operate the business with the goal of providing a stable income for the family (Carland et al., 1984). “Thus, a major crisis such as Katrina will interrupt cash flow for lengths of time which are devastating to such businesses” (Runyan, 2006, p. 19). Due to the lack of access to cash flow for recovery, those business owners who did not have personal savings available became dependent upon insurance companies for recovery capital. Hurricane Katrina induced an unprecedented insurance crisis along the Mississippi and Louisiana Gulf Coast.
Many business owners carried insurance policies, but few acquired flood insurance unless previously mandated. Insurance companies used this as a loophole and debated whether wind or water caused Katrina’s destruction (Braley, 2007). If the insurance companies that held homeowners policies could establish the damage as flood related, responsibility could inevitably shift to flood policies. Thousands of businesses remained stagnated as insurance companies debated with lawyers to determine responsible parties. Meanwhile, business owners lacked capital for business re-establishment. Owners relied on insurance policies to obtain monies to rebuild. Without capital for recovery, many small businesses waited for decisions, which would determine if the business could ever reopen.

Vulnerability to cash flow and lack of access to capital for recovery remain barriers, which “recovering” small business owners have to overcome. These barriers hinder rapid recovery; therefore, researchers and practitioners must find recovery strategies to decrease recovery time. Fink (1986) suggests effective crisis management can and does shorten the recovery phase. Crisis planning and crisis management serve as organizational tools that can assist businesses in preparing more effectively for response and recovery phases of a crisis. Better preparation will inevitably produce better management techniques during a crisis. Improved management techniques will equip small business owners with the tools to overcome the variables that hinder recovery.

Additionally, business owners perceived the Small Business Administration (SBA) as a hindrance to recovery. Businesses were able to
borrow from the SBA to fund repairs or replacement of real estate, machinery and equipment, inventory, and other assets not covered by insurance (Childs, 2008). SBA offered loans to small businesses affected by Katrina; however, the process proved lengthy and a significant amount of time existed between the application stage and funding (Runyan, 2006). Further complicating the process, many small businesses did not back up critical tax records (Childs, 2008). SBA requires pertinent tax information to determine eligibility for funds. With most of the records destroyed, small business owners requested income transcripts from the Internal Revenue Services. With thousands of small business owners making similar requests simultaneously, the response did not come immediately. Costly delays were inevitable (Childs, 2008). Very few businesses received any funding within three months of the hurricane. For a large corporation, three months has minimal impact on leadership; however, for a small business, three months without income can be detrimental to the business and the owner’s family (Runyan, 2006). Research suggests for major improvements in disaster planning and crisis management to occur, changes must occur within the standard processes of relevant emergency organizations (Dynes, Quarantelli & Kreps, 1981).

Vulnerability to cash flow and lack of access to capital for recovery were two of the biggest financial impediments to recovery that small business owners faced after Hurricane Katrina (Runyan, 2006). Many businesses could not sustain themselves through the financial hardships and therefore, did not
recover. Alesch et al. (2001) implies why some businesses can withstand the recovery process and others cannot.

Implications for Recovery

Small businesses account for more than 50% of jobs in the U.S. today; (Alesch et al., 2001) however, when hit by natural disasters many cannot survive and discontinue business. The loss of a small business deeply affects the community in which it resides. A Bureau of Labor Statistics’ 1996 report predicted small business sectors would contribute about 60% of new jobs by 2005 (Posner, 1998). Economic impacts remain widespread. Even small firms play huge roles in the economic growth of the area they occupy (SBA, 2009). Since the 1996 report, increased recognition of the importance of small businesses emerged. Researchers find it increasingly important to determine factors that enable small businesses to survive and recover from high magnitude natural disasters. In 2001, the University of Wisconsin-Green Bay conducted the Small Organizations Natural Hazard Project (Alesch et al., 2001). The projects’ objective included discovering why some small businesses and not-for-profit organizations survive natural disasters and why others do not. Researchers used a mixed methods research design to draw inferences about the distinctions between small businesses who survived and those who did not (Alesch et al., 2001). Qualitative interviews uncovered data highlighting five key variables that enabled businesses to survive. The first two variables critical to organizational survival deal with robustness and the remaining variables deal with resiliency issues.
According to Alesch et al. (2001), “robustness is the capacity or ability of a system to withstand shocks to it emanating from its environment” (p. 16). The first critical variable pertains to the extent to which the business lost production or service capacity, inventory, and capital assets as a consequence of the hazardous event. If a small business cannot offer normal services due to loss, business re-establishment is unlikely. The second variable critical to business recovery involves the extent of adverse affects experienced by the businesses’ customers or clientele. “If a very large proportion of the firm’s customers suffer significant losses, then sales will suffer, often significantly” (Alesch et al., 2001, p. 20). If the customer base experiences a decrease in discretionary monies, the businesses receiving the money will experience a decrease. However, businesses that offer essential services (those that are necessities), will experience a substantial increase following the disaster. Alesch et al. (2001) suggests robustness of a firm increases when servicing customers throughout a widely dispersed area, reducing the likelihood of simultaneously affecting all customers. However, some small business owners lack the feasibility to spread the business coverage area.

The remaining three variables involve organizational resiliency. Businesses unable to resume operations immediately following a disaster suffer substantially. Research shows little customer loyalty to individual small businesses exists (Alesch et al., 2001). Therefore, where customers require services or products small business cannot immediately supply, business resiliency diminishes (Childs, 2008). “The longer a business is unable to supply
its previous customers with services, the less likely the business will survive” (Alesch et al., 2001, p. 21). The second resiliency variable involves the small businesses’ financial strength prior to the disaster. “Firms that are stronger going into the disaster seem to be better able to attain post-event viability” (Alesch et al., 2001, p. 21). Lastly, the third variable involves the small business owners’ ability to adapt. Business owners must recognize and adapt to the post-event market for goods and services. Businesses experience drastic and irrevocable environmental changes after a disaster such as Hurricane Katrina. Businesses that survive do not attempt to use pre-event practices after the event.

Alesch et al. (2001) concludes that most small business owners hold few ideas about how to recover. The research suggests that smaller, financially weaker businesses and those under significant stress before the event typically do not survive the disastrous event (Alesch et al., 2001). However, even with the best preparation and recovery plans, a natural disaster the magnitude of Hurricane Katrina will have adverse impacts on affected communities.

Katrina’s Impact on Mississippi Gulf Coast

In the history of the United States, Hurricane Katrina classifies as the most expensive hurricane to ravish the Gulf Coast (Dass-Brailsford, 2008). Hurricane Katrina accounted for over $80 billion in damages—the highest loss ever recorded from a single storm (U.S. Dept. of Transportation, 2006). The storm spanned approximately 250 miles of the United States (“Property Claim”, 2006). With a storm surge of 29 feet in some areas, Mississippi officials calculate that 90% of the structures within half a mile of the coastline were completely
destroyed ("Mississippi Coast", 2005) with railroad tracks serving as a barrier to the storm surge (FEMA, 2004). Katrina affected various entities of the Mississippi economy including housing, large and small business communities and the insurance industry.

**Housing**

Prior to Hurricane Katrina, housing affordability (i.e., the ability of households to find standard housing at an affordable price) was a major problem in the coastal housing market (McCarthy & Hanson, 2008). Particularly acute in the rental market, 40% of the households were spending more than 30% of their incomes before the storm on rent (McCarthy & Hanson, 2008). “In the days after Katrina made landfall, FEMA provided a series of GIS map layers outlining areas on the Gulf Coast that were impacted at various levels” (Richard, 2005, p. 4). The FEMA damage levels included: catastrophic, extensive, moderate, limited and flood. Katrina damaged 134,000 homes in the state of Mississippi, including 65,000 completely destroyed (Penick & Riley, 2006). The three Gulf Coast counties experiencing the most severe impacts of Katrina include Hancock, Harrison and Jackson Counties (McCarthy & Hanson, 2008). Over 43,000 residents of Hancock, Harrison and Jackson Counties lived in either catastrophic or extensive damage areas, representing approximately 12% of the population (Richard, 2005). “Approximately 37 percent of the total Mississippi population lived somewhere in one of the five FEMA damaged areas” (McCarthy & Hanson, 2008, p. 39). In three coastal counties, approximately 22,000 severely damaged units and another 10,000 sustained moderate damage (McCarthy & Hanson,
In Hancock County specifically, (Bay St. Louis, Waveland, Kiln, Diamondhead and Pass Christian) approximately 90% of all occupied housing units sustained damage (Phillips et al., 2006), with approximately 70% of the occupied housing units suffering major or severe damage (FEMA, 2005).

Losses induced immediate need for housing for affected residents. However, four months after Hurricane Katrina destroyed homes, thousands of residents continued to live in tents constructed by the Navy Seabees while awaiting FEMA trailers (Lipton, 2005b). In an attempt to keep cost down and speed up reconstruction, Mississippi Governor Barbour created a housing council to develop plans for affordable housing (Penick & Riley, 2006). The housing council's approach relied heavily on modular housing. However, a report entitled, A Year and a Half After Katrina and Rita, an Uneven Recovery, suggests, “housing rebuilding efforts have become mired in the morass that is skyrocketing insurance premiums, minimal insurance payouts, FEMA elevation standards, rising construction costs, and indecision on the part of residents about how to move forward” (Rowley, 2007, pp. 4-5). Cost for securing adequate housing proved difficult for many local residents. Increases in construction costs, for example, lumber, plywood, engineers and construction workers resulted in higher costs to acquire housing.

The hurricane adversely affected Hancock County’s housing market (McCarthy & Hanson, 2008). According to the Hancock County’s Bay St. Louis Comprehensive Plan (2008), approximately 60% of uninhabitable homes in Bay St. Louis existed; thus, residents within these areas temporarily and in some
cases, permanently relocated. As residents left the area, the population of Hancock County decreased by 24% between July 2005 and January 2006 (Hancock County Chamber of Commerce, 2008). However, since the 2006 low, population continues to increase within the county. “Building permit data from the Hancock County Building Office indicates that there are a significant number of new homes that were built and are being built in the northern portions of Hancock County and in Diamondhead” (Hancock County Chamber of Commerce, 2008, p. 105).

Overall, lack of affordable housing remains a challenge, according to a 2008 study by the Biloxi-based Mississippi Center for Justice (Jervis, 2008). Likewise, Hurricane Katrina contributed to commercial damages. The storm affected local, small businesses on the Gulf Coast.

**Small Businesses**

Most research on crisis recovery centers on larger communities and businesses (Hale et al., 2005; Quarantelli, 1988). However, no business remains immune from natural disasters and small businesses with limited resources are especially vulnerable to the catastrophic consequences of crisis events (Spillan & Hough, 2003). The literature on disaster recovery generally suggests that many small businesses and not-for-profit organizations do not recover from major disasters (Waugh et al., 2006). A significant variable that opens small businesses to vulnerability includes fewer financial resources and less access to capital to plan, respond and recover (Kirchhoff, 1994). Childs (2008) suggests that only 29% of small businesses continue to operate two years after a natural disaster.
The Hartford Financial Group (2002) reports 43% of small business owners with no emergency plan will never reopen. Many businesses without insurance or with inadequate insurance coverage do not recover, as small businesses tend to be underinsured (Waugh et al., 2006).

For the small business community, Hurricane Katrina presented a recovery process obstacle that some could not overcome (Waugh et al., 2006). Hurricane Katrina damaged or destroyed more than 125,000 small and midsize businesses in the Gulf Coast Region (Loten, 2006). Many reopened and struggled for months before failing (Waugh et al., 2006). Disasters cause new economic environments. Small business owners must possess the ability to adapt to the new environment (Alesch et al., 2001). Yet, small business districts still struggle to recruit new businesses to fill empty storefronts (Waugh et al., 2006).

Over 15% of the businesses were in FEMA’s catastrophic zone. Every two out of five businesses were located in one of the FEMA damage zones (Richard, 2005). According to Penick & Riley (2006), casinos served as a major employer and revenue source in the state. “Katrina wiped out nine of the ten casinos in Biloxi, with the surviving one severely damaged” (Penick & Riley, 2006, n. p.). The manufacturing industry, a large employer on the Gulf Coast, did not experience destruction. “Only about 10% of total manufacturing employment in the three counties was in any of the FEMA damage zones” (Richard, 2005, p. 8). Business sectors represented more extensively in the damaged areas include financial, services and retail (FEMA, 2005).
The retail sector, a large employer on the coast, felt the brunt of Katrina’s
damage (FEMA, 2005). Research indicates retail businesses are less likely to
recover after a natural disaster (Waugh et al., 2006). The Mississippi State Tax
Commission (MSTC) (2005) released data reflecting the destruction in the retail
sector. The data indicate the difference in sales tax collections between 2004
and 2005. The top three cities with negative losses include Waveland,
Mississippi (-85%), Pass Christian, MS (-77%) and Bay St. Louis, MS (-40%), all
of which fall within Hancock County; thus suggesting the retail industry in
Hancock County received the greatest impacts (MSTC, 2005). Over half of the
Hancock County businesses sustained damage (Hancock County Chamber of
Commerce, 2009). As businesses closed residents became unemployed.
According to the Mississippi Recovery Fact Sheet (2008), unemployment rates
for Hancock County in August 2005 before Katrina made landfall totaled 5.9%.
One-month later unemployment rates reached 22%. By May 2008,
unemployment rates decreased to 5.5%, lower than pre-Katrina percentages.
Researchers contribute the decrease to the national recession, which began in
late 2008 (U.S. Dept. of Labor, 2009). However, the end of 2009 reports a
decrease in unemployment rates in Hancock County. Re-establishment of the
area casinos aided greatly in this improvement (Moore et al., 2007).
Streamlining the recovery process and getting businesses reopened
following a disaster remains a critical need (Alesch et al., 2001; CARRI, 2008).
Research provides evidence that finances continue as a major obstacle for small
business owners (Alesch et al., 2001; Childs, 2008; Runyan, 2006). Many business owners rely on insurance to provide finances for recovery.

*Insurance Crisis*

Since Hurricane Katrina, the Gulf Coast of Mississippi faces an insurance crisis resulting in increasing premiums and uninsured residents (Braley, 2007). The insurance industry labeled Hurricane Katrina the most expensive loss in U.S. history including not just cost of losses but also the cost in adjusting those losses (Witty, 2005). In 2005, homeowner insurance companies paid out $7.3 billion in claims, which is more than taken in from policyholder premiums (Adams, 2006).

Hurricanes and other disasters involving flooding create insurance coverage issues not present with other natural disasters. Property and homeowner’s insurance seldom offer coverage for flood damage (Braley, 2007; King, 2005). Large amounts of homes damaged were outside of the federally specified flood zone. Most homeowners within these zones did not hold flood insurance; hence, their regular policies excluded flooding (Braley, 2007). “Less than 20 percent of all the single-family property owners throughout Harrison and Hancock appear to have had flood insurance” (McCarthy & Hanson, 2008, p. 73). Large numbers of claims caused insurance companies to debate whether wind effects or flood effects caused property damage. “If individual companies can prove water caused the destruction to property instead of wind, and the policyholder has federal flood coverage, then the National Flood Insurance Program (NFIP) pays the bill” (Braley, 2007, p. 3). The federal program, NFIP offers flood coverage to U.S. citizens not covered by another policy (Poling,
Figures released in 2006 report almost $2.4 billion paid on almost 20,000 claims in Mississippi alone through NFIP compared to State Farm’s $1 billion on almost 80,000 claims (Lee, 2006).

As of August 2006, the insurance industry reports settling 95% of Hurricane Katrina claims by paying more than 993,000 homeowners $15.5 billion in settlements (Regional Business News, 2005). However, the big payouts have caused repercussions. The insurance sector contributes to the rise of housing costs in the market as companies attempt to reduce exposure by increasing rates (Hedde, 2007). Coastal areas of Mississippi and Louisiana experienced insurance rate increases around 500% (New Orleans City Business, 2006). Residential and commercial insurance costs escalated drastically since Katrina and the costs hinder the rebuilding process. Many insurance companies no longer write insurance coverage for coastal areas of the United States (Phillips, Collins, & Fielder, 2007). In 2007, State Farm insurance announced they would no longer write new business in the State of Mississippi. The net effect raises business recovery costs (Johnson, 2007).

With recovery time and costs increasing, Childs (2008) suggests small business owners protect themselves against interruption in business revenues. A carefully crafted insurance program can protect businesses from unanticipated losses, such as the temporary disruption in cash flow. Frequently, loss of income, not property (often insured) causes small business owners to file for bankruptcy following a disaster (Childs, 2008). Business interruption insurance pays the owner anticipated earnings based on uninterrupted business operations (Childs,
2008). Business interruption insurance can potentially keep many small businesses open.

Hancock County’s Bay St. Louis Comprehensive Plan (2008) predicted, “the time of the recovery of Hancock County after Hurricane Katrina will be dependent on the government’s ability to meet the challenges imposed by rising insurance costs and a limited insurance market, and by the new advisory base flood elevations that call for increasing the finished first floor elevations of homes across the Hancock County coastline” (p. 105). Continuous economic recovery remains vital to the success of the region (Hancock County Chamber of Commerce, 2008).

Summary

Chapter II included an exploration of the theoretical framework foundation of this study. The chapter explored the theoretical underpinnings of crisis planning, crisis management and resiliency. The researcher described the history of resiliency on the Mississippi Gulf Coast, including a discussion of previous natural disasters experienced on the coast. Hurricane Katrina presented many challenges to affected Gulf Coast communities (Scurfield, 2008). Chapter II explored the impact that Hurricane Katrina had on various sectors of Mississippi’s economy. The chapter examined negative impacts experienced by the housing, business and insurance sectors. Research acknowledges interrelationships among recovery for housing, employment, insurance and
business sectors and requires increased coordination and planning in recovery efforts (McCarthy & Hanson, 2008).

Chapter III presents an overview of the mixed methods research design and establishes its appropriateness for this research. The research design outlines the procedures followed in order to meet the objectives of the study.
CHAPTER III
RESEARCH DESIGN AND METHODOLOGY

Since August 2005, the Mississippi Gulf Coast small business community faces the overwhelming challenge of recovering from the Hurricane Katrina disaster. Although the Gulf Coast Region experienced several storms over the last several decades, the recovery process remains tedious (K. Jett, personal communication, February 2, 2009). Runyan (2006) identifies four barriers to recovery that hinder small business owners on the Mississippi Gulf Coast: problems caused by serious infrastructure damage, problems caused by federal assistance agencies, vulnerability to cash flow and lack of access to capital for recovery. Business owners cannot prepare for or control damages to infrastructure or problems caused by federal assistance agencies. Therefore, this research only considers Runyan’s financial barriers (vulnerability to cash flow and lack of access to capital for recovery), which owners can prepare for pre-disaster. Limited research exists focusing specifically on determining how business owners surviving natural disasters overcome these barriers. This gap in the literature creates a need for research-based knowledge of strategies that encourage recovery from specified barriers after a natural disaster. More practically, the need exists for small business owners to gain knowledge regarding preparation to overcome such barriers.

The purpose of this study is to determine how “recovered” small business owners in Mississippi overcame financial barriers to recovery after Hurricane Katrina. This study discusses the process of recovery from the business owners’
perspective and examines the strategies undertaken by small business owners in Hancock County to overcome financial barriers to recovery pre-and-post-Hurricane Katrina. Hancock County is the small community, approximately 40,000 inhabitants, located at the western end of the coast. The county suffered the worst overall damages from Hurricane Katrina (U.S. Census Bureau, 2009).

In order to examine the recovery strategies undertaken by small business owners, the following research objectives (RO) are explored:

RO-1: Determine strategies “recovered” small business owners in Hancock County, Mississippi implemented during Hurricane Katrina recovery relative to:

v1. lack of access to capital for recovery post-Hurricane Katrina.

v2. vulnerability to cash flow post-Hurricane Katrina.

RO-2: Identify strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre-Hurricane Katrina in preparation for future disasters.

RO-3: Identify strategies “recovered” small business owners in Hancock County, Mississippi, implemented post-Hurricane Katrina in preparation for future disasters.

RO-4: Identify characteristics of a resilient small business owner as perceived by “recovered” small business owners in Hancock County, Mississippi.
Design of the Study

This section explains the appropriateness of mixed methods research design for this study. The last several decades presented an increasing interest and debate concerning the pros and cons of qualitative and quantitative research. Experts ponder which method reigns as the superior approach (Creswell, 2003; Newman & Benz, 1998). Denzin and Lincoln (1994) offer a definition of qualitative research: qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. The objective of qualitative research seeks depth rather than breadth; focusing on smaller samples; learning about how and why people behave and think the way they do; and discovering rather than verifying theory or process (Ambert, Adler, Adler, & Detzner, 1995). Qualitative research produces findings in non-statistical or otherwise quantifiable means (Strauss & Corbin, 1990). Quantitative research serves as “a means for testing objective theories by examining the relationship among variables. Variables, in turn, can be measured typically with instruments so that numbered data can be analyzed using statistical procedures” (Creswell, 2009, p. 4). Quantitative research enables researchers to gain insight into relationships among concepts and theories (Filstead, 1979). Researchers gain insight by the translation of observations into numbers using counting and measuring techniques (Filstead, 1979; Hines, 1993). Various outlets now exist for discussions regarding mixed methods research design including journal articles and books (Creswell, 2003; Houtz, 1995; Janz et al., 1996; Lysack & Krefting, 1994).
Determining research methodology depends upon several factors including, the study’s objectives, the type of research questions asked, and the data analysis techniques used (Newman & Benz, 1998). When analyzing such factors, both quantitative and qualitative methods apply. Researchers suggest mixing the two approaches maximizes the strengths of both methodologies (Newman & Benz, 1998). In the 1970s, researchers began to mix qualitative and quantitative methods in field methods such as observations and interviews combined with surveys (Sieber, 1973). In an attempt to seek convergence across both methods Jick (1979) felt that biases inherent to each approach could be neutralized by triangulating data sources (Creswell, 2003). “From the original concept of triangulation emerged additional reasons for mixing different types of data” (Creswell, 2003, p. 15); thus developing the mixed methods approach. The mixed methods research design to inquiry combines or associates both qualitative and quantitative forms. Mixed methods include more than simply collecting and analyzing both kinds of data. It involves the use of both approaches in tandem so that the overall strength of the study exceeds either qualitative or quantitative research alone (Creswell, 2003). Several published studies merge qualitative and quantitative methods.

In 1959, Campbell and Fiske used multiple methods to study validity of psychological traits (Creswell, 2003). Through the years, many studies combine quantitative and qualitative methodologies. The following studies illustrate this concept. In 1987, a study entitled “Monitoring High School Drinking Patterns & Influences” utilizes focus group sessions and surveys to explore in-depth
perceptions of alcohol consumption patterns and influences on consumption among high school students (Beck, K., Hanson-Matthews, M., & Summons, T., 1987). The study suggests qualitative research techniques, such as the individual interviews, can serve as a valuable adjunct to quantitative survey techniques in both the formative stages of program development and the summative stages of program assessment (Beck, Matthews & Summons, 1987). Later, in 2004, a pilot study entitled “Spirituality and Coping Among Survivors of Prostate Cancer” explored the influence of religion and spirituality on coping among survivors of prostate cancer. Thirty-eight men completed a self-administered survey and 29 of the men participated in five focus group interviews (Bowie, Sydnor, Granot & Pargament, 2004). More recently, Curtis, Rabren and Reilly (2009) from Auburn University, conducted a study investigating the quality of life transition of former students who received special education services while in high school. The participants provided data for both the survey and focus group methodologies.

The study specifically uses the sequential explanatory mixed methods research design. Collection and analysis of quantitative data occurs first, followed by qualitative data collection and analysis (Creswell, 2003). Additionally, the interpretation phase integrates data from both methods.

Creswell (2003) defines the sequential explanatory design as,

Characterized by the collection and analysis of quantitative data followed by the collection and analysis of qualitative data. The two methods are integrated during the interpretation phase of the study. The design is especially useful when unexpected results arise from
a quantitative study (Morse, 1991). In this case, the qualitative data collection that follows can be used to examine these surprising results in more detail. The straightforward nature of this design is one of its main strengths. The main weakness of this design is the length of time involved in data collection, with the two separate phases. (p. 215)

Evidence from previous studies suggests that interviews and survey research combined can serve as an effective research methodology. Therefore, in order to collect the broadest range of information possible and to confirm findings from different data sources, this study utilizes the mixed methods research design (Creswell, 2003). Each possessing strengths and weaknesses (Yin, 1994), the multi-method approach allows for analysis of both quantitative and qualitative responses. By using mixed methods research design, the study encompasses the advantages of combining narrative and graphic descriptions and presents the research in a more holistic manner (Newman & Benz, 1998).

Population and Sample

The population of this study consists of small business owners who are members of The Old Town Bay St. Louis Merchants Association (OTBMA). The association is a group of independent shop owners who have banded together to cooperatively promote the Old Town Shopping District. The population sample utilized is small business owners who are active members of OTBMA and experienced and survived Hurricane Katrina.
Institutional Review Board Approval (IRB)

Prior to contacting the population sample, the researcher submitted the project to The University of Southern Mississippi Human Subjects Protection Review Committee for approval. The committee review process ensures projects involving human subjects follow federal regulations. Participation in this project was voluntary, and participants had the option to withdraw from this study at any time without penalty, prejudice, or loss of benefits according to guidelines set forth by the review committee. Approval was obtained from the IRB as seen in Appendix C.

Unit of Sampling

In addressing the primary purpose of the study, the researcher utilized a purposeful sample of small business owners from Hancock County including, Bay St. Louis, Pass Christian, Kiln and Waveland, Mississippi. A purposeful sample was used to obtain information rich data (Creswell, 2003). Patton (2002) notes, “the power of purposeful sampling lie in the selection of information rich cases from which one can learn a great deal about matters of importance and therefore worthy of in-depth study” (p. 242). Hancock County business owners are appropriate for this study given each faced the same disastrous event that destroyed the majority of the Hancock County community. Each owner can provide data to accomplish the study’s four-research objective.

The researcher received a verbal agreement of support from OTBMA and the Hancock County Chamber of Commerce to serve as participants in this research project. Forty members of the OTBMA served as the population
sample for this study. The OTBMA comprised of independent, small business, shop owners, banded together to cooperatively promote the Old Town Shopping District in Hancock County (N. Moynan, personal communication, February 2, 2009). The group, formally a conjunction of businesses from the Old Town and Depot districts, touts a mission to move the small business district of Bay St. Louis toward recovery. Members of OTBMA were chosen because membership represents a population with interest in investigating recovery strategies utilized after Hurricane Katrina.

Selection Criteria

Participation in the research was voluntary. Participation required business owners meet all of the following criteria: a) small business owner with membership in OTBMA; b) business address within Hancock County, Mississippi; c) business which was in operation prior to Hurricane Katrina; d) business currently open, and e) owner availability and voluntary agreement to participate.

Data Collection and Instrumentation

The researcher collected and analyzed both quantitative and qualitative data. Although the quantitative data (survey) collection occurred first, qualitative results built upon interpretations of the quantitative results, thus presenting a more detailed picture of the disaster recovery. In-depth interviews serve as the primary source of data (Creswell, 2003) utilized to address the research objectives and purpose of the study. RO-1 determines strategies “recovered” small business owners in Hancock County, Mississippi implemented during
Hurricane Katrina recovery relative to financial barriers to recovery. RO-2 and RO-3 explore strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre and post-Hurricane Katrina in preparation for future disasters. Lastly, RO-4 identifies characteristics of a resilient small business owner as perceived by “recovered” small business owners in Hancock County, Mississippi.

During the study, the researcher made contact seven times with the participants. To increase participation and ensure attainment of appropriate information, the contacts occurred in the following chronological order:

1. *The researcher attended OTBMA’s monthly meeting.* OTBMA holds monthly meetings for member business owners to discuss community issues (Nancy Moynan, personal communication, February 2, 2009). The researcher attended a meeting to introduce the research and inform the business owners of the opportunity to participate in the study. The participants had the option to complete the survey during the meeting and return the survey to the researcher that same night, submit the survey online via Survey Monkey or complete and mail a hard copy via U.S. Postal Service to the researcher. Business owners that completed the survey during the monthly meeting were advised not to complete the survey again when received via email. To ensure consistency in data entry, the researcher entered all hard copy versions returned into the online survey (Fleischer & Nickel, 1995).
2. An introduction letter was disseminated at OTBMA’s monthly meeting and e-mailed to all business members. The researcher distributed an introduction letter to attending business owners at the monthly meeting and the letter was later distributed via email by the Bay-Waveland Mainstreet Association to members of the Old Town Bay St. Louis Merchants Association. The introduction letter included the purpose of the study, an explanation of benefits of the study, how the results would be used and commitment requirements. The letter also explained result confidentiality and voluntary participation. This contact provided advance notice of the opportunity to participate (Dillman, 2007).

3. The survey tool was distributed via email to the entire membership (40 members) of OTBMA. The Bay-Waveland Mainstreet Association sent the survey to all 40 members on the OTBMA member distribution list. According to Dillman (2007), “email surveys are easier to compose and send” (p. 353) and include nearly complete elimination of paper, postage and data entry costs.

4. A reminder email was disseminated to encourage non-respondents to complete the survey. In an effort to increase participation, one week after the initial survey transmission, an email reminder was distributed to encourage non-respondents to complete the survey (Dillman, 2007; Fowler, 2002).
5. The entire survey was emailed a second time to remaining non-respondents. Two weeks after the initial survey transmission, all businesses received a second email of the entire survey with an invitation to participate, excluding those that already submitted the survey (Dillman, 2007).

6. The researcher contacted participants who indicated voluntary agreement for focus group participation. The researcher contacted participants to inform them of the scheduled interview session date. Five participants agreed to partake in face-to-face interviews instead of the originally planned focus groups. The original plan to conduct focus groups was modified due to low response rates received from surveys.

7. The researcher conducted face-to-face in-depth interviews. The researcher met with each participant to conduct interview sessions. This mixed methods study utilized survey research, in-depth interviews and field notes to gain an initial understanding of the business owners’ account of lived experiences in the aftermath of Hurricane Katrina.

Survey

According to Rosenfeld, Edwards & Thomas (1995) a survey is “a method used to gather self-report descriptive information about the attitudes, behaviors, or other characteristics of some population” (p. 548). Fink (2003) provides a more recent definition as a “system for collecting information from or about people to describe, compare, or explain their knowledge, attitude, and behavior”
The use of survey research dates back to the early 1800s; however, the increased acceptance and use of surveys began in the 1930s. Advances in technology, increased emphasis on cost and efficiency and changing societal attitudes contributes to the increased use (Dillman, 2000). According to Bennett (1991), survey research is cheaper, quicker and broader in coverage than other methods. When assessing phenomena not directly observable, experts recognize survey research as the most frequently used data collection method (Gall et al., 2003; Schneider et al., 1996; Smith & Dainty, 1991).

The survey content for the present study is adapted from a self-administered questionnaire entitled, “Businesses and Disasters: Impacts and Recovery Following Hurricane Andrew.” The University of Delaware’s Disaster Research Center (DRC) developed the “Businesses and Disasters” survey and utilized it in three prior research studies (University of Delaware, 2009). The DRC was the first social science research center in the world devoted to the study of disasters (University of Delaware, 2009). The center conducts field and survey research on group, organization and community preparation for and recovery from natural disasters. The researcher modified the “Businesses and Disasters” survey to fit the objectives of this study and to ensure gathering of valid information. The developer of “Businesses and Disasters” granted permission for use of the tool in this study (see Appendix D). Survey Monkey, an online survey tool, assisted the researcher in creating the survey and collecting responses. Participants inputted responses into the Survey Monkey tool, which
was organized into an Excel spreadsheet and the tool developed charts and graphs of the results.

In order to accomplish RO-1 through RO-4, strategies implemented during Katrina relative to financial barriers to recovery, strategies implemented pre-and-post Katrina in preparation for future disasters and characteristics of a resilient small business owner, an online structured survey was disseminated via Survey Monkey (Creswell, 2003; Morse 1991). Data collection occurred in Hancock County, Mississippi.

Table 3.1

Survey Matrix (Q1-17)

<table>
<thead>
<tr>
<th>Measure (Questions)</th>
<th>Demographic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Classification as a small business</td>
</tr>
<tr>
<td>Q2</td>
<td>Located in Hancock County</td>
</tr>
<tr>
<td>Q3</td>
<td>Operated before Katrina made landfall</td>
</tr>
<tr>
<td>Q4</td>
<td>Business is currently in operation</td>
</tr>
<tr>
<td>Q5-17 and 23</td>
<td>Demographical, financial and business damage information (i.e. gender of owner, business industry, number of years in business, geographical market of customer base, number of employees, and nature and extent of damage)</td>
</tr>
</tbody>
</table>

The first four questions of the survey address the study’s selection criteria, which are: a) small business owner with membership in OTBMA; b) business address within Hancock County, Mississippi; c) business was in operation prior to Hurricane Katrina; d) business currently open, and e) owner availability and voluntary agreement to participate. If the participant did not answer “yes” to all of the selection criteria, directions instructed the participant to discontinue the
survey and submit it with only the first four questions answered. Questions 5-
Questions 17 and Question 23, enrich the study by offering descriptive,
quantitative support to the study. The questions request demographical
information (gender of owner, business industry, number of years in business,
geographical market of customer base, number of employees), financial
information (losses sustained in sales and revenue) and business damage
information (nature and extent of damage). Questions 5-Questions 17 and
Questions 23 are displayed in charts and tables as frequency counts.

Table 3.2

Survey Matrix (Q18-24)

<table>
<thead>
<tr>
<th>Measure (Questions)</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q18 and Q21-22</td>
<td>Address RO-1, strategies implemented during Katrina recovery relative to financial barriers to recovery</td>
</tr>
<tr>
<td>Q19-20</td>
<td>Address RO-2, strategies implemented pre-Katrina in preparation for future disasters</td>
</tr>
<tr>
<td>Q24</td>
<td>Address RO-2 and RO-3 strategies implemented pre-and-post Katrina in preparation for future disasters and RO-4, identify characteristics of a resilient small business owner</td>
</tr>
</tbody>
</table>

Questions 18 and 21-22 address RO-1, strategies owners implemented relative to financial barriers to recovery. The three questions explore how business owners handled vulnerability to cash flow and lack of access to capital after Katrina. Questions 19 and 20 address RO-2, strategies business owners implemented pre-Katrina. Question 24 address RO-2 and RO-3, strategies business owners’ implemented pre-Katrina and post-Katrina. Question 24 also addresses RO-4, identifying characteristics of a resilient small business owner. A
final question at the end of the survey solicited participants for individual interviews. Participants supplied contact information as volunteers for further participation in individual interviews.

Originally, the study was designed to conduct two focus group sessions with participants that volunteered via the survey tool. However, due to the low response rate (11 usable surveys), the researcher modified the methodology to ensure reliability of the study. The methodology changed from utilizing two focus group sessions to conducting five individual, face-to-face in-depth interviews. The five interviews gave the researcher access to an increased amount of data and promotes increased reliability.

Interview questions utilized in Runyan’s (2006) “Small Business in the Face of Crisis” research served as a guide and provided preliminary questions for this study. Finalization of the interview questions occurred following examination of the survey data results. Based on the survey results there was no need to add additional questions. “An interview guide was used to help the researcher stay on track; ensure that important issues and topics are addressed; provide a framework and sequence for the questions; and help to maintain some consistency across interviews with different respondents” (Mullins, 2007, p. 42). For convenience purposes, the interviews took place at the various small business locations in Hancock County. Five semi-structured interview sessions aided in learning about the occurrences and strategies used based on the business owners’ observations. During each interview, the researcher used
open-ended questions to allow the participants flexibility in their responses (Patton, 1990).

Table 3.3

*Interview Questions Matrix*

<table>
<thead>
<tr>
<th>Measure (Interview Questions)</th>
<th>Research Objective (RO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 (sub questions a-e)</td>
<td>Address RO-2, strategies implemented pre-Katrina in preparation for future disasters</td>
</tr>
<tr>
<td>Q2 (sub questions b-f)</td>
<td>Address RO-3, strategies implemented post-Katrina in preparation for future disasters</td>
</tr>
<tr>
<td>Q3 (sub questions c-f)</td>
<td>Address RO-1, strategies implemented during Katrina recovery relative to financial barriers to recovery</td>
</tr>
<tr>
<td>Q3 (sub questions g-j)</td>
<td>Address RO-4, identify characteristics of a resilient small business owner</td>
</tr>
</tbody>
</table>

Interview question one explored strategies related to RO-2, strategies business owners' implemented pre-Katrina. The researcher asked business owners about plans, in place prior to the storm, to handle physical, business disaster and financial assets. Question two explored strategies related to RO-3, strategies business owners' implemented post-Katrina. Interview question three addressed RO-1, strategies business owners implemented related to financial barriers to recovery. The researcher questioned business owners about barriers to recovery initially introduced by Runyan's (2006) research. The last four research questions explored RO-4, characteristics of a resilient business owner.

*Interview Recording*

The interviews were audio taped to accurately record responses from the interviews for transcription and analysis. The researcher acquired participant permission, through consent forms, to record responses prior to the onset of the
interview. Analysis of the transcriptions using the constant comparative method first introduced in grounded theory occurred (Strauss & Corbin, 1994). The constant comparative method, described as a method for “joint coding and analysis of qualitative data has four distinct stages: comparing incidents applicable to each category, integrating categories and their properties, delimiting the theory, and writing the theory (Glaser & Strauss, 1967). The method involves “comparing one segment of data with another to determine similarities and differences. Data are grouped together on a similar dimension” (Merriam, 1998, p.18). Constant comparative method allows categorization and analysis of data until placed in an appropriate category (Glaser & Strauss, 1967). The transcriptions identified recurrent themes related to the nature of the small business owners’ experiences recovering from Hurricane Katrina, as well as the strategies used to overcome barriers to recovery.

Field Notes

Descriptive and reflective field notes documented written accounts of observations during the focus groups, as well as the researcher’s interpretations related to other observations (McMillan, 2000). After each interview, the field notes and recollections were transcribed separately for later discussion and analysis (Alesch et al., 2001).

Threats to Validity

As collection, examination, interpretation and dissemination of information occurs, all research possesses some degree of threats to validity. This section
describes three threats within this studies’ assessment of Hurricane Katrina recovery.

**Maturation**

Data collection for this study occurred five years after Hurricane Katrina made landfall and maturation is an internal threat to validity, which had potential to affect the responses of the respondents. Campbell and Stanley (1963) refer to maturation as “those biological or psychological processes which systematically vary with the passage of time, independent of specific external events” (pp. 7–8). Participants report information and shared the experience from their own perspective; however, the extended time lapse between the disaster event and data collection has the potential to cause submission of inaccurate information. Business owners could have forgotten pertinent information or the exact details of key events.

**Low Response Rate**

Dillman (2007) suggests response rates in online surveys are low, typically around 20%. In an attempt to curtail this threat, the researcher used several strategies to reduce nonresponse as suggested in Dillman’s (2007) research. After several contacts with OTBMA, 13 association members completed the survey. Of the 13 respondents, 11 report usable data. Due to the low response rate, the researcher modified the methodology to ensure reliability of the study. “The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability. If the results of a study can be reproduced under a similar
methodology, then the research instrument is considered to be reliable” (Joppe, 2000, p. 1). The original methodology included a mixture of survey research followed by two focus groups. The research methodology was modified from two focus groups to five in-depth interviews. The five interviews give the researcher access to an increased amount of data and promote increased reliability.

**History**

An additional threat to validity that occurred during this study included an environmental disaster. Campbell and Stanley (1963) define history threats as specific events, in addition to the treatment, that occur between the first and second measurement. In the case of this study, a history threat occurred during the time of data collection. In April 2010, participants of this study experienced the Deepwater Horizon oil spill. Scientist classifies the Horizon as the largest accidental marine oil spill in the history of the petroleum industry (Robertson & Krauss, 2010). The oil flowed in the Gulf of Mexico for three consecutive months before being capped off. This disaster affected businesses along the Mississippi, Florida and Louisiana Gulf Coasts. Data collection for this research study occurred during the time span that businesses were undergoing implications and impacts from the new disaster. The Deep Horizon oil spill could have influenced the data submitted via surveys and interviews.

**Data Analysis**

Parikh (2002) suggests data analysis establishes linkages between a study’s research objectives and outcomes. In accordance with Creswell (2003),
the researcher took the following steps to address the studies four-research objectives through surveys research.

In a study entitled, “Workplace Implications for Hurricane Affected Gulf Coast Regional Industrial Companies,” Boullion (2007) utilized steps to interpret quantitative data from survey research. As per Boullion (2007), the researcher took the following steps to analyze and interpret the survey results of this study:

1. The data obtained from respondents for survey questions one through four determined if the respondent met the selection criteria for participation in the study.

2. Individual and organizational demographic identifiers, (i.e. age, type of industry and owner’s assessment of business’ property damages from the hurricane) was categorical nominal data. Items within each of those questions were analyzed, tabulated and reported as frequency counts (Boullion, 2007). Descriptive tables display these data where appropriate.

3. Several survey questions request current data weighed against 2005 pre-Katrina data. Comparison occurs between the current data and 2005 pre-Katrina data. Descriptive tables display the analysis of these data where appropriate.

Also in accordance with Creswell (2003), the researcher took the following steps to address the studies four RO’s through individual in-depth interviews. The researcher began by interviewing each participant individually and all interviews were audio taped with the written permission of the business owner. Prior to starting the interview, the owners were reassured that all
information obtained would remain confidential. All interviews occurred at the actual business locations in Bay St. Louis, Mississippi. The decision to conduct the research at the business location allowed the owner to feel comfortable and safe to share information, as well as, allowed the researcher to draw inferences and conclusions based on the business environment. The duration of each interview equaled approximately one hour.

Upon completion of all interviews, a small company outside of the state of Mississippi transcribed the audio tapes, which helped to insure confidentiality. In order to protect confidentiality, the researcher assigned each owner initials to represent their business (BO-1, BO-2, BO-3, etc). The pseudonyms identify the individual participants throughout the entire data analysis process. The transcriptions were downloaded into the NVivo 8 Software, qualitative data analysis software developed by QSR International. The NVivo 8’s software design helps organize and analyze unstructured information like documents, videos, surveys or voice recordings (NVivo, 2010). This software aided in the analysis of data and generation of themes. The researcher recurrently read data until saturation in order to obtain a general sense of the information and allow reflection on its overall meaning (Creswell, 2003). The coding process allowed the researcher to categorize data from each interview session into a manageable format (Creswell, 2003; McMillan, 2000; Yin, 1994). “Coding is the process of organizing the material into ‘chunks’ before bringing meaning to those ‘chunks’ (Rossman & Rallis, 1998, p. 171). Marshall and Rossman (1989) define this stage as the process of “bringing order, structure and meaning to the mass of
collected data” (n. p.). The researcher employed content analysis to look for recurring patterns among the data. Labeled terms identify emerging themes of similarities or marked differences among the business owners within each category. Based on the coding process, a description of the setting, people and emergent themes were generated.

Summary

Chapter III contained a brief recap of the purpose of the study as well as a re-introduction of the research objectives. The chapter discussed the mixed methods research design and its benefits to this research study. The chapter discussed information on participants, as well as, the sample selection method. Chapter III presented an outline of the data collection procedures and data analysis process. Chapter IV presents the findings of the survey and the in-depth interview sessions. Chapter V summarizes the study and presents conclusions, implications and recommendations for future research.
CHAPTER IV

FINDINGS

The purpose of this study was to determine how “recovered” small business owners in Mississippi overcame financial barriers to recovery after Hurricane Katrina. The study explores the process of business recovery from the small business owners’ perspective. This chapter identifies and describes the recovery strategies used by small business owners in Hancock County, Mississippi after Hurricane Katrina and includes discussion of the relationship between survey and interview data and the study’s research objectives.

Through a mixed methods research design, the study accomplishes the following research objectives:

RO-1: Determine strategies “recovered” small business owners in Hancock County, Mississippi implemented during Hurricane Katrina recovery relative to:

v1. lack of access to capital for recovery post-Hurricane Katrina.  
v2. vulnerability to cash flow post-Hurricane Katrina.

RO-2: Identify strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre-Hurricane Katrina in preparation for future disasters.

RO-3: Identify strategies “recovered” small business owners in Hancock County, Mississippi, implemented post-Hurricane Katrina in preparation for future disasters.
RO-4: Identify characteristics of a resilient small business owner as perceived by “recovered” small business owners in Hancock County, Mississippi.

Population

The population focus for this study includes all small business owners from Hancock County, Mississippi affected by Hurricane Katrina. The population sample for this study is derived from the active small business members of the Old Town Bay St. Louis Merchants Association (OTBMA). The association includes a group of independent shop owners who band together to cooperatively promote the Old Town Shopping District.

Relationship of Data and Research Objectives

In order to address the study’s research objectives, a structured online survey via Survey Monkey was designed to collect data, which offered quantitative data for the study. The results from responses received from participants were organized into an Excel spreadsheet and displayed as charts and graphs. The results offer descriptive and demographic data.

The researcher attended the June 2010 OTBMA monthly meeting to introduce the research, disseminate introduction letters and offer the option to complete the survey that day. For those business owners who chose to complete the survey online, the Bay Waveland Mainstreet Association disseminated the survey link via email. All 40 members of the OTBMA received the link. Thirteen small business owners responded to the survey. Two of the 13 surveys returned failed to meet the study’s selection criteria, which were: a) small business owner
with membership in OTBMA; b) business address within Hancock County, Mississippi; c) business in operation prior to Hurricane Katrina; d) business currently open; and e) owner availability and voluntary agreement to participate in interviews. Only 11 of the 13 returned surveys were usable. The primary means of completing the survey was through the online link; however, participants also had the option to submit a hard copy of the survey to the researcher at the end of an OTBMA meeting or to print, complete and forward a hard copy via U.S. Postal Service to a specific mail address. Of the 13 surveys collected, two were completed during the monthly meeting briefing, three were collected through online submission and eight were collected via U.S. Postal Service. To ensure consistency in data entry, the researcher entered all hard copy versions received (10 documents total) into the online survey (Fleischer & Nickel, 1995).

Survey Content

The first four questions of the survey include selection criteria requirements, to determine which small business owners qualify for study participation. In Question one, participants verify that the respective business falls within the small business definition set forth by The Small Business Association (SBA). The association classifies a small business as one that typically maintains revenue considerably less than comparable units within a larger corporation, employing fewer than 100 employees and is independently owned and operated but not dominant in its field of operation (SBA, 2009). Question two verifies that the business location is within Hancock County,
Mississippi. Question three confirms whether the business was in operation before Hurricane Katrina made landfall and Question four establishes that the business is currently in operation. The businesses that answered “yes” to all four questions completed the rest of the survey; those that did not meet the criteria received instruction to submit the survey with only the four questions answered.

Questions 5-17, (see Appendix B), request demographic information (gender of owner, business industry, number of years in business, geographical market of customer base, number of employees), financial information (losses sustained in sales and revenue) and business damage information (nature and extent of damage). Response rates are displayed as frequency counts in the following charts and figures. Table 4.1 summarizes the demographics of the sample population.

Table 4.1

Demographic Information Represented by Sample Business Population

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
</tr>
<tr>
<td>M/F Team</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>n=11</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Business Industry</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>8</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1</td>
</tr>
<tr>
<td>Service</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>n=11</strong></td>
</tr>
</tbody>
</table>
Gender of Owners

Survey Question five identifies gender of the business owners. Seven of the 11 small business owners are female owned and operated. Male/female teams own and operate four of the 11 businesses that responded, and no surveys were returned by males who own and operate businesses pre-Katrina.

Industry

Survey Question six inquires about the type of business owned prior to Katrina. Retail businesses represent eight of 11 of the respondents. One respondent reports operating in manufacturing and one in the service industry. One business reports their business classification in the “other industry” category.

Years in Business

Survey Question seven addresses the number of years in business operation. Five of the 11 businesses are classified as new, only in operation from 1-4 years before Katrina. Out of the 11 respondents, two report being in operation for each of the following time spans: 5-9 years, 10-14 years and 15+ years.

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>5</td>
</tr>
<tr>
<td>5-9</td>
<td>2</td>
</tr>
<tr>
<td>10-14</td>
<td>2</td>
</tr>
<tr>
<td>15+</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>n=11</td>
</tr>
</tbody>
</table>

Table 4 (continued).
Customer Base

Question eight inquires about geographical customer base pre-and-post-Katrina. Concerning Question eight, seven of the 11 respondents service local and regional communities in 2005 pre-Katrina. Post-Katrina, 10 of the 11 respondents report servicing local and regional communities. Pre-Katrina, zero respondents report servicing customers on a national level. After the storm, two respondents report expansion to service a national customer base. Figure 4.1 depicts changes in customer base pre-and-post-Katrina for the responding businesses.

Figure 4.1. Geography of Customer Base (n=11).

Question nine of the survey solicits changes in the number of employees, customers served and business profits. Table 4.2 displays changes in the three aforementioned variables as frequency counts.

Number of Employees

Seven of the 11 respondents state the number of paid employees remained the same after the hurricane. Only one of the 11 businesses
experienced an increase in the number of employees post-Katrina, while three respondents report a decrease in the number of paid employees post-Katrina. Respondents attribute the reduction to employees having to move out of the area due to loss of personal property.

Table 4.2

*Frequency Counts of Employees, Customers and Business Profits*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of Employees</td>
<td></td>
</tr>
<tr>
<td>Decreased</td>
<td>3</td>
</tr>
<tr>
<td>Remained the Same</td>
<td>7</td>
</tr>
<tr>
<td>Increased</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>n=11</strong></td>
</tr>
<tr>
<td>2. Number of Customers Served</td>
<td></td>
</tr>
<tr>
<td>Decreased</td>
<td>3</td>
</tr>
<tr>
<td>Remained the Same</td>
<td>7</td>
</tr>
<tr>
<td>Increased</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>n=11</strong></td>
</tr>
<tr>
<td>3. Business Profits</td>
<td></td>
</tr>
<tr>
<td>Decreased</td>
<td>8</td>
</tr>
<tr>
<td>Remained the Same</td>
<td>2</td>
</tr>
<tr>
<td>Increased</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>n=11</strong></td>
</tr>
</tbody>
</table>

*Number of Customers Served*

Seven of the 11 respondents observed a decrease in the number of customers served post-Katrina. One business observes no change in number of customers post-Katrina. However, three respondents report an increase in the number of customers served and credits Internet marketing and products and services marketed in surrounding cities.
In Question 18 of the survey, respondents report infrastructure damage as one of the main hindrances affecting customers’ accessibility to Bay St. Louis. The Highway 90-Bay St. Louis Bridge, which serves as the main access to Hancock County, remained closed for approximately two years after the hurricane limiting entrance to the area.

*Business Profits*

Results show eight businesses experienced a decrease in business profits post-Katrina. Two respondents report no change in profits; the owners were able to maintain their business at the same level. Lastly, one business reports an increase in business profits post-hurricane. The owner attributed the increase to changes in product offered and modifications made to the marketing strategy to reach national customers. Hurricane Katrina had different effects on business profits; likewise, businesses experienced different types of damages.

*Nature of Damage*

Questions 10-11 of the survey inquire about the kind of damage the businesses experienced. Respondents were asked whether the building was damaged by the storm and the nature of those damages. Owners report the nature of damage to business ranging from structural damage, damage to non-structural elements, furnishing, equipment, inventory, damage due to looting and other factors. Figure 4.2 offers a visual depiction of the types of damages reported.
Nine of the 11 businesses experienced structural damage, while eight report damage to the non-structural parts of the building, such as windows, partitions and water pipes. In addition, nine respondents received damages to furnishings, equipment and inventory or stock. Three businesses report receiving damage from looters after the hurricane.

**Extent of Physical Damage to Businesses**

Respondents were asked in Question 12 to indicate the extent of the physical damage to the business. Choices ranged from very little to no damage, to minor damage, to major damage but still able to use, to total loss and impossible to use building.
Six respondents report a total loss to building, making it impossible to use the building in which the business was located post-Katrina. Respondents report having 3-4 inches of mud inside the buildings, taking in five feet of water, losing entire roofs and buildings taken off the foundations, which resulted in complete loss. The remaining five respondents report major damage to building from Katrina but were able to use the building.

Questions 13-17 inquire about physical damages and the impact on businesses. Question 13 asks, how disruptive was this physical damage to your ability to do business. Choices ranged from not disruptive at all, not very disruptive, disruptive and very disruptive. Eight respondents report the physical damage was “very disruptive” to the businesses’ ability to conduct business and three respondents report the damages as “disruptive.” Question 14 asks, was the business closed or inactive for any period because of the hurricane. All 11
businesses were closed because of Katrina for some period of time. Questions 15-17 inquires about business losses in sales, revenues, or gross income because of the hurricane and allowed respondents to give financial estimates of those loses. All 11 respondents report loss in sales due to the business closure.

Business owners experienced many issues that hindered recovery after Hurricane Katrina. Question 18 of the survey inquires whether respondents experienced various hindrances to post-hurricane recovery. The question addresses RO-1, strategies implemented by small business owners in relation to financial barriers to recovery.

Table 4.3

*Business Experiences Post-Hurricane Katrina*

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Frequency Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Employees unable to get to work</td>
<td>6</td>
</tr>
<tr>
<td>2. Employees missing time to attend to personal matters</td>
<td>6</td>
</tr>
<tr>
<td>3. Damage to owner’s own residence or other properties</td>
<td>10</td>
</tr>
<tr>
<td>4. Decline in customer need for goods/services</td>
<td>8</td>
</tr>
<tr>
<td>5. Owner’s vulnerability to cash flow</td>
<td>8</td>
</tr>
<tr>
<td>6. Problems caused by federal agencies (FEMA, SBA etc.)</td>
<td>8</td>
</tr>
<tr>
<td>7. Lack of access to capital for recovery</td>
<td>9</td>
</tr>
<tr>
<td>8. Serious infrastructure problems within city (Bridges and roads out, no electricity, couldn’t deliver products due to transportation issues etc.)</td>
<td>10</td>
</tr>
<tr>
<td>9. Could not get supplies/materials needed to run business</td>
<td>4</td>
</tr>
<tr>
<td>10. Could not afford to pay employees</td>
<td>7</td>
</tr>
<tr>
<td>11. Business did not experience any of these problems</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note.* n=11
Respondents selected from several choices including but not limited to: employees unable to work, damage to owner’s own residence, decline in customer need for goods, vulnerability to cash flow, lack of access to capital and serious infrastructure problems.

According to Table 4.3, ten of the 11 respondents report experiencing damage to their own residence and serious infrastructure problems. According to the data, Hurricane Katrina affected business owners in Hancock County on two levels. Business owners lost personal residences and lost businesses. Nine of the 11 businesses report lack of access to capital for recovery as a hindering variable; while an additional ten report serious infrastructure problems as a hindrance. Eight businesses report problems caused by federal agencies as hindering variables, while eight owners also report a decline in customer need for services and vulnerability to cash flow as hindering variables.

**SBA Loans**

As Table 4.3 reports, one of the most frequently reported hindrances post-Katrina includes issues caused by federal emergency agencies. Question 21 of the survey asks, “Did the business apply to the Small Business Administration (SBA) for a loan to cover hurricane-related losses?” Five respondents did not apply for an SBA loan for several different reasons including the excessive guidelines and regulations.
However, six businesses responding to the survey did apply for an SBA loan. Respondents were asked about the outcome of their SBA loans in Question 22, which address RO-1, strategies implemented in relation to financial barriers to recovery. As shown in Figure 4.4 three of the six respondents that applied for an SBA loan were denied their request. The remaining three fell into one of the following categories: one business received all funds, one business received partial funds, and one business received a loan but returned it unused. The one owner, returning the loan unused, reports doing so because the SBA’s policy of placing liens on the recipients’ assets was a huge drawback.

**Insurance Policies**

Question 19 of the survey requested information regarding insurance coverage. Data from Question 19 indicate four out of 11 businesses had no insurance and seven had one or more types of insurance. Question 20 of the
survey, addressing RO-2, to determine strategies implemented by business owners pre-Katrina, inquired about the type of insurance businesses held at the time of the hurricane. Participants chose from one or more of the following choices: insurance to cover wind damage, insurance to cover flood/water damage, insurance to cover crop damage/agricultural losses, business interruption insurance and other. Figure 4.5 illustrates insurance coverage held by respondents.

Figure 4.5. Type of Insurance Carried by Business Owners (n=11).

The seven insured small businesses responding to the survey indicated a minimum of wind damage coverage. Five of the seven responding insured businesses held business interruption insurance, a type of insurance designed to pay owners anticipated earnings based on uninterrupted business operations (Childs, 2008).
However, in regards to monies businesses received from insurance, owners received minimum payments for the policies as reported by respondents in the data. Homes and businesses alike were flooded as reported by nine of the 11 respondents and eight of the 11 respondents were located outside of the federally specified flood zone; therefore did not hold flood coverage.

In general, business owners on the Gulf Coast faced an insurance crisis following Hurricane Katrina. Even the seven owners indicating insurance coverage in response to this survey faced hardships when attempting to collect on policies. Since Hurricane Katrina, insurance premiums along the Gulf Coast have quadrupled (Braley, 2007).

Financial State of Business

Question 23 of the survey requests a description of the financial state of the business immediately prior to Hurricane Katrina and at the time of the survey. Business owners indicate their financial state pre-and-post-Katrina based on the following choices: in financial trouble: marginal, not in financial trouble but not doing well, in good financial condition and in excellent financial condition. Figure 4.6 portrays the responses describing financial conditions of Gulf Coast businesses pre-and-post-Hurricane Katrina.
Figure 4.6. Financial State of Business before and after Katrina (n=11).

Five of the 11 respondents report their business being in good financial condition pre-Katrina. Another five businesses report being in excellent financial condition pre-Katrina and one business left the question blank.

When asked about the financial condition of the business post-Katrina, some businesses report a very different financial state. Of the 11 business owners responding to this question, four respondents express having marginal financial trouble post-Katrina. Three respondents report being in good financial condition, two businesses report not in financial trouble but not doing well either and only one respondent reports excellent financial conditions post-Katrina. One respondent left the question blank.

Pre-and-Post-Katrina Preparation

Question 24 of the survey, relating to RO-2 and RO-3, asks participants about the types of preparation taken before Katrina, as well as preparation taken
since Katrina. Respondents could select multiple choices from the following: receiving written information on hurricane preparedness, talking with employees about what to do in the event of a disaster, purchased flood insurance, made arrangements to move business location, obtained emergency generators, conducting hurricane drills or exercises with employees, purchasing special equipment to prevent damage and developing a disaster recovery plan.

Research suggests that in the wake of disasters, poor preparation, planning and management serve as key sources of organizational failure (Booth, 1990; McKinley, 1993; Smith, 1990). Figure 4.7 depicts the preparation and recovery efforts undertaken by small business owners in Hancock County, Mississippi pre- and post-Katrina.

![Figure 4.7. Preparation and Recovery Plans (n=11).](image-url)
Before Hurricane Katrina, the extent of disaster preparation included, talking to employees about steps to take in the event of a hurricane (nine businesses), receiving written information on hurricane preparedness (nine businesses), purchasing special windows, shutters or protective materials to prevent wind damage (seven businesses) and purchasing flood insurance (five businesses). Small actions, those requiring little time and effort to perform, were reported most frequently by respondents (talking to employees and receiving written information). The data show very little formal preparation existed before the storm. All of the 11 responding business owners surveyed prepared as they had before for other approaching storms, except one business owner, reporting lack of engagement in any type of disaster planning. The extent of the preparation included conducting basic evacuation procedures, such as boarding windows and securing doors.

After Hurricane Katrina, data from the surveys reveals a wide array of more involved steps taken to prepare for future storms. Five out of the 11 responding business owners have since developed a business recovery plan, while three have arranged to move the business to another location in case of a hurricane. Two businesses report actively conducting hurricane drills or exercises; hence, data from the surveys indicate small businesses acknowledge a need for better preparation.

In this study, the survey data supplemented in-depth interviews (Creswell, 2003; Morse 1991). The survey data remain essential to the study as it provides a rich background of the dynamics of businesses in Hancock County pre-and-
post-Katrina. This section offers a quantitative illustration of the population; thus, playing a supportive role to the second method of data collection: qualitative interviews.

Interview Findings

Interviews of five recovered small business owners helped the researcher gain understanding of experiences with Hurricane Katrina and helped explore details of recovery strategies. Conducting in-depth interviews allowed intimate interface between the researcher and the business owners and generated comprehensive descriptions from each owner. During the interviews the researcher observed and documented within the field notes each owners’ tone, non-verbal gestures and body language. The interviews provided data, which helped accomplish RO-1 through RO-4. Prior research supports the notion that the research objectives of the current study are important to disaster recovery (Alesch, 2001; Henderson, 1997; Runyan, 2006). The researcher, therefore, began by utilizing this study’s research objectives as original themes. After an in-depth reading of the research data, the researcher confirmed additional emergent themes. The following information describes each participating business owner.

Case Description: Business Owner 1 (BO-1)

The first business owner (referred to as BO-1 henceforth), was a male/female team in their mid-50’s who operate within the retail and manufacturing industry. The female owner participated in the interview. For 15 years, BO-1 operated as a small business owner serving the local Mississippi
Gulf Coast and outlying cities within the Gulf Coast Region. Originally, the building housed two separate businesses: a dress shop and an antique gallery. However, the dress section was destroyed and closed after Katrina.

The business currently houses paintings, sculptures, and other art paraphernalia from various local and national artists. As Katrina approached the coast, BO-1 conducted the normal hurricane preparation: boarding up windows and doors. Despite their preparation, BO-1 received major damage to the building, which caused a 30-day business closure post-Katrina. The owners had wind damage insurance but received only a marginal payout. Owners’ personal contingency funds financed the majority of the rebuilding. However, along with the help of family, friends and other business owners, the business was able to renovate, reopen and take in other owners from the community into their building space. Rebuilding and reorganization occurred with a great deal of care and thought, as evidenced by the fact that the workspaces were very meticulous and well organized. In listening to the Katrina story from the business owners’ perspective, the female interviewee expressed great sorrow; yet, there was a manifested inner strength. BO-1 spoke of an interview with a well-known television station in which she said, “he had to go somewhere else to get the crock tears…and that’s what sells on television but it wasn’t here….we get up everyday, it’s a new day, and we’re thankful that we’re alive.” There was a resounding resilience theme throughout the interview. BO-1 also spoke of the possibilities for improvement to Hancock County brought about by the hurricane. “We have new plumbing and a water system, the electric, everything here is like
a brand new little town…yeah, which is nice. It hadn’t been changed for fifty years….it was time; yeah we had to look at something good.” BO-1 expressed the challenges brought on by Katrina but was also thankful for the improvements Katrina brought.

Case Description: Business Owner 2 (BO-2)

BO-2 is a female owned business within the service industry. The business was in operation approximately three years prior to Katrina and has been in business for one-year post-Katrina. As the hurricane approached the Gulf Coast, BO-2 admits the lack of preparation undertaken as she stated, “I did not move anything or do anything…I was in complete denial.” The business had conducted extensive preparation for Hurricane Ivan the year prior and the storm turned and missed the coast.

As BO-2 explains preparation for Hurricane Ivan, she states,

I had prepared for Ivan like it was the end of the world and so nothing happened with Ivan. I moved all the furniture out. Like took everything with me, loaded it up...um boarded windows, stockpiled supplies and that sort of thing for Ivan. When that one hit Pensacola, instead…it was going to hit us and then it moved towards Pensacola. So Katrina, you know, was a very bad storm but I thought the same thing. Well, I’m not going to go through all this again because I’m busy and it’s probably just going to go somewhere else anyway.
The owner predicted Katrina would do the same. Immediately after the hurricane passed, BO-2 returned to the building to find that Katrina had not missed the coast and the business experienced a total loss. The building was still standing but was off its foundation and the roof was gone. There was four feet of muck and mud inside of the building; therefore, equipment and supplies inside was not salvageable. Eventually, the building was bulldozed. BO-2 did have insurance coverage on the business; however, after a year of negotiating with the insurance company she received notification that no payout on the policy would occur. The owner contacted FEMA for assistance and received advice to falsify information to qualify for help. She immediately decided against lying; therefore, BO-2 went to work for another business owner in a different part of the city and began to save money to rebuild her own business. After four years of personally saving finances to rebuild, BO-2 re-opened the business in downtown Bay St. Louis, Mississippi. When asked why she remained and reopened on the Gulf Coast after such a devastating event, BO-2 stated, “it’s like a family here and there’s just something that just draws me to this area.” BO-2 left the following advice to other business owners, “don’t count on anybody, don’t count on insurance, don’t count on the government...you just better save some money up just in case.” Although the owner did not cry during the interview, there was intense emotion exhibited through her tone as the disappointment, regret and loss from Katrina was revisited.
Case Description: Business Owner 3 (BO-3)

Two female business partners own and operate business three. The business partners lived in the area their entire lives and were accustomed to hurricane evacuations. In operation for approximately nine years, the business exists within the retail industry. For the first five years the business was housed at a different location within Hancock County but Katrina destroyed the building causing the location to change to its current site.

As Katrina approached, the owners performed the normal preparation activities. Owner BO-3 stated, “We have lived in the area our entire lives so we basically know what needs to be done to evacuate. We always prepare the business, first we pick up all the important papers; we board up, secure everything and then secure our homes. This was no different, the only thing different being that we had nothing left.” BO-3 held business interruption, property, wind and flood insurance policies. The May before Katrina made landfall, the owners increased the business interruption policy to $50,000; however, after Katrina the owner’s found that the transaction was not complete. The insurance company deposits the insurance payment but failed to pay the underwriter. Therefore, the business coverage remained at the original coverage amount of $7,500. After negotiating with the insurance company, the business was awarded $11,000 above their original coverage amount; however, not the coverage amount the policy was increased to before the storm. The business received a full payout for the policy that covered inventory and equipment.
BO-3 applied for and received funds from the SBA for the business, although the process took over a year. According to data derived from the interview, the average business application totaled approximately 75 pages and required faxing of information. According to interview data, BO-3, “faxed the packet probably 11 or 12 times.” In addition, there was still no electricity in Hancock County; therefore, the closest access to a fax machine was in Covington or Mandeville, Louisiana, which was approximately one hour away. Each time after receiving confirmation of a successful fax, BO-3 received notification that the information did not arrive. The owner started the loan process in September of 2005 and finally closed the business loan in December of 2006. BO-3 admitted, “SBA, by itself, was almost a full time job and was the most frustrating part” of the process. During the interview, BO-3 suggested the SBA could improve efficiency if the application process was streamlined.

The remainder of the funds needed to rebuild and continue to recover after Katrina came from BO-3’s personal contingency savings and retirement money. After reopening, the business saw huge profits, “We were up our first year… we were up 165% our first roll here from what we were doing before the storm,” stated BO-3. However, the financial strain escalated within the five years after Katrina. Insurance premiums after Katrina increased drastically and the respondent expressed the strain premiums have caused. BO-3 stated, “We were paying $8000 for a combination between our business and our personal home before the storm. The first two years after we were back in, we paid $34,000 total on insurance. And this year we’re down to $28,000 but still it’s depleted all
of our savings, all of our retirement.” Unfortunately, the increase in sales remains inadequate to cover the insurance premiums. When asked to rewind to the time immediately after Katrina and explain what would be done differently, BO-3 stated, “Move.” As the owner revisited Katrina’s recovery process, great frustration, regret and abhorrence was exhibited in the tone.

*Case Description: Business Owner 4 (BO-4)*

BO-4 describes a slightly different experience with Katrina than the other business owners. The business is female owned and operated and is part of the manufacturing industry. Right before Katrina hit the coast, BO-4 entered a partnership to open an art gallery in the Bay St. Louis area. As Katrina approached, owners took the usual precautions; boarding up doors and windows and packing vital records and items into two small vehicles. When asked if the business had a formal plan to handle the financial aspects of recovery, BO-4 stated, “Yeah, I did and it’s basically the same plan we always had… that just didn’t work in Katrina.” The business had no insurance, as most gallery owners do not provide insurance for individual artists displaying work in the gallery because of risk of damage. “It’s just such a big risk that all artists are responsible for their own insurance and I have never carried any on my work and I still don’t.” The hurricane had great impact on the business; hence, BO-4 lost hundreds of pieces of artwork in Katrina. The story changes for most businesses at this point. Four days after the storm BO-4 returned to the downtown area. Nine days after returning, the owner changed the product offered and began working on artwork. The owner transitioned from producing landscape paintings, which can be
expensive, to producing mixed media assemblages out of hurricane debris. The cost of transition was minimal, as there was an excess of debris everywhere and it was free. Five weeks after the storm, BO-4 and other business colleagues collaborated to open a gallery and on the first day open, the business generated revenue. BO-4 stated, “I sold more money in my art the last five years than I probably did the rest of my life before then. As awful as Katrina was in a lot of ways, it um…made a huge, tremendous, positive difference in my business.”

BO-4 has extended the marketing to a national level and the business received national recognition for Hurricane Katrina artwork. BO-4 attributes the quick recovery and success to both: the changes made in product offered and Internet marketing. She took advantage of the demand within the new business environment for Katrina related artwork and shared it with the customers all over the nation. “If you got problems in your front door you better go out the back door and find a new neighborhood,” stated BO-4. The owner stated marketing and reaching out to a larger audience saved the business. BO-4 left the interviewer with this last thought about Katrina, “It’s been a weird mixture for me of difficulties since Katrina and because of Katrina, but also really good things have happened as a result.” The owner’s tone expressed great optimism for the future of small businesses in Hancock County, Mississippi.

Case Description: Business Owner 5 (BO-5)

Owned and operated by a male/female team near 70 years old, business five has operated for approximately 15 years within the retail industry. BO-5 experienced several hurricanes over the years on the coast and always stayed at
home or at a local shelter in the area during storms. As the hurricane approached, meteorologist warned those still in Hancock County to leave because there were no safe shelters to occupy. The couple left the coast Sunday afternoon and Katrina hit early Monday morning. It took BO-5 ten days to return to see that their business sustained substantial structural damage. The owners took the usual hurricane preparation precautions; boarding up the eight plate glass windows along the storefront. Unfortunately, the wind blew underneath the boards and broke every window. Four inches of muck and mud from the Gulf rushed into the store destroying the inventory inside. The couple had insurance coverage but found later that it only covered fire, broken water pipes or looting. The financial losses were not recoverable or reclaimable via insurance. The owners received no insurance payout for the business and the Mississippi Development Historical Grant denied the business application. BO-5 stated, “Anywhere I tried to apply, I didn’t fit in...I didn’t fit that category, anywhere I tried to apply.” Therefore, the couple used contingency funds, in the form of personal savings and retirement money, to rebuild. When speaking about the lack of help from the insurance company, BO-5 stated, “Rebuilding was all out of my own pocket...my own retirement money.” Before Katrina hit, the couple was preparing to sell the business and retire. Katrina prohibited plans to retire. After almost a year and a half of rebuilding, the couple changed from a tuxedo and costume shop to an antique shop. BO-5 collaborated with other local businesses that lost their buildings and came together to open the new business. In closing the interview BO-5 mentioned, “I can’t retire...now I gotta die with my boots on.” The
owner expressed aggravation, anger and dissatisfaction with Katrina’s recovery process, yet, displayed a resilient attitude.

Similarities among Businesses

Although the five businesses were diverse in a variety of ways, results show similarities. Caucasian owners, native to the Louisiana and Mississippi Gulf Coast, operate all five businesses. Because of their geographical background, owners previously experienced the hurricane evacuation process and the hassle of getting back to a sense of normalcy post-hurricane. Each interviewee held a small employee base (less than five employees), all were operated by one or two people. Small business owners have a small tolerance threshold or maximum time the business can afford to be without revenue before the viability of the business reaches jeopardy (Hillenbrand, 2009). Each owner reports living off the day-to-day business profits. This caused great vulnerability to cash flow after Katrina, as for some period, all businesses experienced closure and a halt in cash flow. Each of the five business owners interviewed utilized personal contingency funds to recover and rebuild after Katrina. Every owner declares the importance of having access to personal finances and how detrimental not possessing those finances are to a business. Lastly, two businesses received no help from insurance, SBA, or other grant programs and three received only minimal help. Four out of five business owners struggled financially while going through the bureaucracy of the government agencies and insurance companies. The experiences of the five businesses were very similar in nature; however, there was one difference highlighted.
Differences among Businesses

The data highlight one difference among the five businesses worth mentioning. During the interviews, BO-4 stated, "I found help everywhere I went," when speaking of financial and physical help acquired after the hurricane. During a separate interview, BO-5 stated, "Anywhere I tried to apply I didn’t fit in…I didn’t fit that category, anyway I tried to apply." After exploring and analyzing the interviews, the data suggest that businesses that relied on "general" help had a different perspective of the helping agencies. "General help" refers to aid that everyone affected received regardless of circumstances. After Katrina, FEMA issued emergency funds to every person in the affected area. "We had received that initial emergency amount that they sent everyone. I think it was like maybe $2600," stated BO-4. Eventually, the Chamber of Commerce made computers available for residents, the Mississippi Army National Guard provided water and ice and the American Red Cross offered various kinds of aid. BO-4 had no insurance and did not apply for any grants or SBA funds; therefore, the extent of the businesses’ experience with helping agencies was through aid offered to all residents of Hancock County who were affected by the storm. Hence, BO-4 had a positive outlook on agencies offering “general help” to the county post-Katrina.

On the other hand, businesses relying on formal agencies (i.e., insurance, grants, SBA) had a different perspective of the effectiveness of agencies post-Katrina. Four out of five interviewees dealt with insurance companies, FEMA for trailers or SBA for personal and business loans. Stricter and more specific
guidelines exist for distribution of financial aid from these agencies. Therefore, the businesses that struggled to receive aid from these agencies held a more negative view of the helpfulness of these organizations. In conclusion, one business had a positive view because of the type of ‘general’ aid received; whereas, other businesses held a negative view because the aid sought contained strict stipulations and eligibility criteria.

**Themes**

Qualitative analysis of the five in-depth interviews identified four key themes related to effective recovery strategies. The following four themes relate to the study’s research objectives: expansion of customer base, community collaboration, adjusted business objectives and personal or self-insurance. Business owners described the following themes as key tasks, which performed prior to a storm, have the ability to reduce post-disaster reaction time. Table 4.4 illustrates the association between the study’s research objectives and themes.

**Table 4.4**

*Relationship between Research Objectives (RO) and Themes*

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>RO-1a: Determine strategies implemented during Hurricane Katrina recovery relative to:</td>
<td>Theme: The following themes links to RO-1a:</td>
</tr>
<tr>
<td>a. Vulnerability to cash flow</td>
<td>a. Expand customer base</td>
</tr>
<tr>
<td></td>
<td>Self-insure recovery</td>
</tr>
</tbody>
</table>
Table 4.4 (continued).

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>RO-1b: Determine strategies implemented during Hurricane Katrina recovery relative to:</td>
<td>The following themes links to RO-1b:</td>
</tr>
<tr>
<td>b. Lack of access to capital</td>
<td>b. Community collaboration</td>
</tr>
<tr>
<td></td>
<td>Self-insure recovery</td>
</tr>
<tr>
<td>RO-2: Identify strategies implemented pre-Katrina in preparation for future disasters</td>
<td>Theme:</td>
</tr>
<tr>
<td></td>
<td>The following themes links to RO-2:</td>
</tr>
<tr>
<td></td>
<td>a. Expand customer base</td>
</tr>
<tr>
<td></td>
<td>b. Community collaboration</td>
</tr>
<tr>
<td></td>
<td>c. Self-insure recovery</td>
</tr>
<tr>
<td>RO-3: Identify strategies implemented post-Katrina in preparation for future disasters</td>
<td>Theme:</td>
</tr>
<tr>
<td></td>
<td>The following themes links to RO-3:</td>
</tr>
<tr>
<td></td>
<td>a. Adjust business objectives</td>
</tr>
<tr>
<td></td>
<td>b. Community collaboration</td>
</tr>
<tr>
<td>RO-4: Identify characteristics of a resilient small business owner</td>
<td>Theme:</td>
</tr>
<tr>
<td></td>
<td>The following theme links to RO-4:</td>
</tr>
<tr>
<td></td>
<td>a. Community collaboration</td>
</tr>
</tbody>
</table>

**Theme One: Expand Customer Base**

Theme one, expansion of customer base, addresses RO-1 and RO-2. RO-1 determines strategies “recovered” small business owners in Hancock County, Mississippi implemented during Hurricane Katrina recovery relative to:

(a) lack of access to capital for recovery post-Hurricane Katrina and (b) vulnerability to cash flow post-Hurricane Katrina. RO-2 identifies strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre-Hurricane Katrina in preparation for future disasters.
Infrastructure damage was reported as a barrier to business recovery after Katrina, preventing customers from reaching the local small businesses. As suggested by Alesch et al. (2001) small businesses gain revenue from day-to-day business operation. When the inflow of customers decreases, business profits also decrease. In response to this barrier, business owners found innovative ways to reach their customer base and increase business revenue. One business utilized Internet marketing and currently has a national reputation. Another owner stated, “prior to Katrina, lots of, almost 85% of my business came from New Orleans. We drive over there…I do shows in New Orleans.” This business owner had access to clientele outside of the area affected in Mississippi. Other businesses reached outside of the local market to regional or national markets also. As reported in the survey data, pre-Katrina, no respondents serviced customers on a national level. After the storm, two respondents report expansion to service a national customer base. Customer base expansion allowed the businesses to reach new clientele, which allowed cash flow to continue and addresses lack of access to capital and vulnerability to cash flow after a hurricane.

*Theme Two: Community Collaboration*

A reciprocal agreement is an agreement between two or more organizations to share resources in the event of a disaster (Hillenbrand, 2009). Agreements within a community strengthens resiliency, the ability to bounce back, as suggested by data from four of the five businesses. Community collaboration addresses RO-1 through RO-4. Four owners collaborated and
shared business space after Katrina. BO-1 and BO-4 collaborated to reopen and took in eight other small businesses. This collaboration helped in two ways: a) offered owners a reestablishment location to make inventory available and b) decreased recovery timelines. It took only five weeks for the network of businesses to repair the building and have a grand re-opening. BO-5 opened the damaged shop and took in six other antique dealers who completely lost their shops. The collaboration agreement enabled businesses to re-establish the ability to offer an acceptable level of product to customers and continue revenue flow. The data from interviews indicate that having a collaboration agreement in place relieves the financial and physical burden from a single business owner; thus allowing the owners to restore business processes quickly. Alesch et al. (2001) suggests, “the longer a business is unable to supply its previous customers with services, the less likely the business will survive” (p. 21).

Data from this study suggests that theme two, community collaboration is a strategy that is most effective when implemented pre-disaster but is beneficial when implemented post-disaster (RO-and RO-3). A crisis requires quick decision making under time pressure (Pearson & Clair, 1998). Pre-disaster, the decision to form partnerships is made during a time of less stress from disaster related issues. However, the data shows that post-disaster collaboration is advantageous also as indicated by the successful implementation by the respondents from this study.

Community collaboration also addresses RO-4, identifying characteristics of a resilient small business owner. The interviews exposed a closeness and
sense of accountability to the community and other locals that reaches far beyond the houses, cars and personal items taken by Katrina. Interviewees expressed a personal community connection that encouraged rebuilding in spite of the hardships faced during and after the storm. This connection and “coming together” brings strength to this community, as mentioned throughout the interviews. According to BO-3, “the most difficult part is that I have lost so many friends. That’s been the most difficult thing for me. That people that I was close to for years and years left the area and they’re not coming back. I mean it’s obvious, things can be replaced but people can’t. You know, people that, you just wonder how they’re doing and wish they would come back.” Based on the interviews and research conducted on resiliency models (Henderson, 1997), community collaboration is a characteristic resilient business owners possess and remains evident in the Hancock County respondents who participated in this study.

Theme Three: Adjust Business Objectives

The third theme surfacing addresses RO-3, identification of strategies “recovered” small business owners in Hancock County, Mississippi, implemented post-Hurricane Katrina in preparation for future disasters. Survey data from this study report eight of the 11 respondents experienced a decline in customer need for their businesses’ goods or services within the new environment post-Katrina. In order to thrive, many owners changed business objectives to fit the needs of the new environment. For example, BO-1 began offering painted memorabilia of items salvaged from the hurricane; BO-2 kept the same business objective but
relocated to a different area and worked with another business owner. BO-4 stopped manufacturing regular paintings and used hurricane debris to begin an art collection specific to Hurricane Katrina. BO-5 changed from a dress/tuxedo shop to an antique shop because local citizens required furniture and household items as home rebuilding began. In these instances, a complete change of business idea was not required; however, a modification in business process was warranted to meet the new objectives. Businesses adjusted type of product offered to meet the demand within “the new normalcy.” According to Alesch et al. (2001) business owners must recognize the post-event market for goods and services; hence, businesses must adapt to the demand in the new market. Alesch et al. (2001) also declares, a business that can sufficiently meet business objectives set, is profitable within the new economic environment and conducts business for one year post-event is a “recovered” business. The five interviewees displayed adaptability and recovery after Katrina’s devastating blow, meeting the definition of a “recovered” business.

Theme Four: Personal or Self-Insurance

The fourth theme links to RO-1 of the study. RO-1 determines strategies “recovered” business owners implemented relative to lack of access to capital and vulnerability to cash flow post-Hurricane Katrina. Data from the survey administered in this study indicate four out of 11 businesses had no insurance and seven had one or more types of insurance. The seven owners indicating insurance coverage; received minimum payments for the policies as reported by respondents in the survey data. One common premise through the five
interviews was the owners’ use of personal contingency funds to offset the lack of insurance payout and to regain business operation. Two business owners utilized personal retirement money, two utilized money from family and personal savings and one had to save money in order to rebuild the business. The researcher inquired, “Was there a plan to handle financial aspects of the business?” The business owner stated, “We had cash…everything was dealt with in cash. There was no income but we had savings and we went into our savings.” The researcher presented the question, “If you didn’t get the insurance money for your business, how did you reopen?” The owner responded, “My own …my retirement money; it was all out of my pocket, so now I can’t retire.”

All five respondents report diminished trust and loss of faith in insurance companies. In addressing RO-2, data from this study suggests that business owners should prepare financially post-disaster by self-insuring. The monies can be used during disaster response for business operations and recovery. Two of the five businesses currently do not have any insurance at all. BO-1 states, “Insurance is a disaster and that’s why people can’t afford to be back here. We do not have a mortgage on anything and we have it saved…if there is a problem, we have it and we’ll do it ourselves.” Insurance rates have quadrupled and many recovered owners along the coast continuously face closures due to inability to make the insurance premiums.
Summary

Communities and businesses on the Mississippi Gulf Coast have lived through the impacts that Hurricane Katrina brought to the area. This research investigates the real life experiences of “recovered” small business owners in Hancock County, Mississippi and outlines strategies for future use.

Interpretations and perceptions of the hurricane’s impact differed among small business owners; however, each respondent shares his experience of the same event, which provides for rich accounts of the recovery process. Summarizations of the strategies occur through four themes identified within the data: expansion of customer base, community collaboration, adjustment of business objectives and personal or self-insurance. As evidenced by the preceding results, the qualitative and quantitative results confirm each other and the emerging themes accomplish the study’s research objectives.

Chapter IV presents a synopsis of the relationship between the data and research objectives. The chapter also gives an overview of the individual stories of five business owners and the four themes captured through survey and in-depth interviews. Chapter V discusses the summary, conclusions, implications and recommendations for future research.
CHAPTER V

DISCUSSION AND CONCLUSIONS

Summary of the Study

This research discusses the disaster recovery process undertaken by small business owners after Hurricane Katrina. The study investigates the lived experiences of small business owners in Hancock County, Mississippi. Four research objectives, which determine strategies and characteristics of recovered business owners, were identified. RO-1 determines strategies “recovered” small business owners in Hancock County, Mississippi implemented during Hurricane Katrina recovery relative to financial barriers to recovery. RO-2 and RO-3 explore strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre-and-post-Hurricane Katrina in preparation for future disasters. Lastly, RO-4 identifies characteristics of a resilient small business owner as perceived by “recovered” small business owners in Hancock County, Mississippi.

To address the research objectives, the researcher utilized a mixed methods research design. This approach allows the collection of a broad range of information and confirmed findings from different data sources (Creswell, 2003). Newman & Benz (1998) suggest the mixing of qualitative and quantitative approaches maximize the strengths of both methodologies. In order to accomplish the research objectives of this study, a structured online survey was disseminated to 40 members of the OTBMA (13 completed), followed by five in-
depth face-to-face interviews. Data collected reveals four themes, which address the study's research objectives.

Alesch et al. (2001) evaluates business owners’ ability to recover from natural disasters. The research documents that business owners who recognize and adapt to the post-event market for goods and services and those servicing customers throughout a widely dispersed area were more likely to recover after experiencing a natural disaster. The study also found that, “the longer a business is unable to supply its previous customers with services, the less likely the business will survive” (Alesch et al., 2001, p. 21). During the process of analyzing data from the current study, the researcher found small business owners in Hancock County, Mississippi successfully utilized similar criteria to Alesch et al. (2001) recovery characteristics. Many of the key recovery strategies outlined by small business owners in this study mirror factors suggested by Alesch et al. (2001).

The findings of this research contribute to small business owners’ understanding of necessary strategies needed to recover from a natural disaster such as Hurricane Katrina. Overall, the data offered during data collection indicate that the following concepts are important to the recovery process: expansion of customer base, community collaboration, adaptation to new business environment and self-insured recovery. The themes show direct relationship to the study’s research objectives. The themes are preventive measures, if implemented pre-disaster or in a timely manner post-disaster, can possibly streamline the recovery process.
As local Mississippi communities experienced the financial burden of Hurricane Katrina, business owners created pathways to new clientele. The first finding involves expansion, a concept undertaken by business owners in an attempt to provide products or services to customers outside of the Hancock County region. In order to address financial barriers to recovery businesses utilized Internet marketing as an effective tool to accomplish the expansion of customer base. Likewise, businesses began to transport product to other regions to sell within different markets. This strategy aligns with Alesch et al.’s (2001) idea of servicing a widely dispersed area and addresses recovery strategies that can be implemented pre-disaster.

Also in alignment with prior research, business owners developed strategic partnerships to help rebuild and reopen. Without the help of insurance companies or the federal government, owners developed reciprocal agreements, which allowed sharing of financial resources. The collaboration permitted the division of rebuilding costs and therefore increased the efficient and timely allocation of resources to restore operations. Business owners took in other businesses or reopened in a shared building. Quick reopening meant reestablishing the ability to offer an acceptable level of services to customers. Developing strategic partnerships serve an important role in business owner’s recovery process. This research suggests that as networks of businesses collaborate to support each other in the recovery efforts, the chance of becoming a resilient business increases.
Concurring with concepts reported by Alesch et al. (2001), a businesses’ ability to adapt to new business environments by adjusting business objectives and identifying strategies implemented post-Katrina for future disaster recovery remains critical. Owners adjusted business objectives after Katrina to meet the demands of the new post-hurricane environment. Reorganization of business objectives attributed to business sustainability and recovery. Self-insuring is another strategy businesses utilized during recovery.

Although not directly addressed in prior research, the concept of self-insurance during recovery was predominant throughout the study. The theme addresses RO-1, strategies implemented during Hurricane Katrina recovery relative to financial barriers to recovery. Owners suggest the decision to assume the loss associated with Katrina rebuilding, rather than rely entirely on insurance policies to cover the risk was essential due to the lack of access to capital caused by support agencies. Businesses either utilized personal finances, while awaiting financial aid, or began saving funds to reopen. Without personal finances, recovery seemed impossible due to payment time gaps caused by insurance and government agencies. Insurance companies and federal help agencies lost the respect and trust of many business owners, as evidenced by increased plans to self-insure in addition to obtaining adequate insurance coverage.

Discussion and Conclusions

After analyzing field notes and observations made during interviews, the researcher drew two conclusions worth discussion.
Conclusion One: Need for Adequate Disaster Preparation

RO-1 and RO-2 determine strategies implemented by business owner’s pre-and-post-Hurricane Katrina to prepare for future disaster. The research suggests that small business owners lacked formal disaster planning pre-Katrina and the findings support the conclusion that business owners experienced hurricane fatigue pre-Katrina.

Alesch et al. (2001) suggests that traditional precautions taken by most organizations in the wake of a disastrous event will not significantly increase the probability of business survival. Business owners conducted the basic evacuation procedures with the notion that the normal procedures would suffice. According to small business owners in this study, businesses on the coast are accustomed to threat of hurricanes; hence, due to that normalcy, seriousness of preparation diminishes. The research suggests repeated preparation caused the process to become redundant; thus, appearing to produce apathetic business owners. According to the population in this study, each time a business owner prepares for an approaching storm, especially when the storm fails to affect the expected area, the owner remains less likely to prepare sufficiently for the next storm. However, this attitude could remain dangerous for businesses operating in an area high-risk to hurricanes. According to this research, evaluation of hurricane intensity and effective preparation and recovery strategies remains critical.

Based on the data from this study, businesses choosing to operate in high-risk hurricane areas willingly accept a defined level of risk and issues in order to conduct its day-to-day operations. Frequent evacuations remains one
issue business owners endure. As owners locate within a high-risk area, they accept the threats that can disrupt the delivery of products or services to customers. According to Childs (2008), adequate preparation enriches business survivability and ample preparation must occur each time a hurricane approaches. Exposure associated with a risk is mitigated by adequate preparation and planning (Childs, 2008).

Recommendation One: Development of Disaster Briefing Literature

Findings of this research support the conclusion that effective disaster planning is critical. It is essential that accurate information concerning effective planning protocol and Katrina recovery strategies be dispersed in an easily readable, easily accessible format. The researcher recommends the development of briefing literature (i.e., brochures or podcasts), which document recovery strategies revealed through this study. Developing a manuscript of effective disaster planning and recovery guidelines could prove beneficial to the small business community and provide knowledge of critical disaster preparation tasks.

Conclusion Two: Actual Financial Recovery

Research objective one sought to determine strategies “recovered” small business owners in Hancock County, Mississippi implemented during the Hurricane Katrina disaster relative to financial barriers to recovery. Findings from this research suggests that small business owners were not fully prepared to recover from the financial impacts of Hurricane Katrina as indicated by continued financial struggles. In accomplishing research objective one, the research
findings support the conclusion that business owners lacked an understanding of the extra expenses associated with recovery. After Katrina, business owners reopened and soon discovered the extra costs required to maintain business operations. Drastic changes occurred in business revenue necessities; thus the amount of revenue required to conduct business post-Katrina exceeded the revenue required pre-Katrina. Alesch et al. (2001) suggest that an organization’s ability to be resilient often relies on its ability to prepare, manage and adapt to transitions during the crisis. Hurricane Katrina was a transitional moment in the financial stability of small business owners and business resiliency depended upon the ability to adapt to the new financial environment. Survival in the new Bay St. Louis economy requires increased business profits. The mandatory increase was in part due to the insurance crisis following the storm (Braley, 2007). Insurance rates are four times higher than pre-Katrina; therefore, revenue required to sustain business operations needs to increase four times. The lack of understanding of the insurance crisis and the impact on business created a false sense of recovery for many owners. Post-Katrina, owners lacked accurate revelation of the necessities for financial success in the new business environment. Without acquiring knowledge of the actual costs of recovery, the research suggests that small business owners will continuously struggle to sustain business operations.

Recommendation Two: Examination of Financial Requirements

Alesch et al. (2001) suggests that smaller, financially weaker businesses and those under significant stress before the event typically do not survive the
disastrous event. Therefore, the researcher recommends that local small business owners in conjunction with government officials examine financial requirements for recovery, as well as insurance rate and recovery timeline trends post-Katrina. Other means of examining Katrina trends, such as collaborating with federal agencies to assess Katrina’s disaster recovery experience, should be explored. Data produced by this collaborative effort can introduce improvements to the recovery process and offer best practices for future disasters. According to this research and prior extant literature, businesses that are financially educated and prepared pre-disaster are more likely to survive post-disaster.

Study Limitations

This study is limited to the responses and experiences of the “recovered” small business owners who operated businesses in Hancock County, Mississippi during Hurricane Katrina. The decision to focus only on “recovered” business owners was made because the owners attained knowledge of effective recovery strategies utilized during Katrina; therefore, these respondents could address the study’s research objectives. Businesses, which did not recover, were less likely to provide information specific to this study’s objectives.

The uniqueness of the Katrina experience of this study’s respondents may limit results and inferences to that specific business. Sample size and selection bias are two limitations that can potentially decrease generalization of this study’s results.
**Sample Size**

With sample size as an easily identifiable limitation to this study, questions arise as to whether the sample size, eleven business owners, is large enough to represent all small business owners affected by Hurricane Katrina. Ability to generalize the findings requires consideration. However, utilizing a mixed methods research design to collecting the data reduces the inconsistency or variability. Additional studies conducted, using larger sample sizes, may allow for more expansive conclusions and broader generalizations.

**Selection Bias**

The researcher limited this study by selecting only small business owners from Hancock County, Mississippi as the sample population. The decision was based on the premise that business owners from Hancock County were hardest hit by Katrina, as the eye of the storm made landfall there (U.S. Census Bureau, 2009). The results of this study are therefore, shaped in the perspectives of small business owners from Hancock County and not from small business owners across Mississippi. The researcher contends that this limitation strengthens the study in that the population experienced direct impact of the hurricane; hence, received the most damage. As such, these small business owners were more likely to give additional insight or implications that may influence business recovery processes.

**Future Research**

Based on the outcome of this study, the researcher recommends that additional studies on practical steps business owners can take to prepare for
disaster recovery are examined further. As such, the researcher offers the following recommendations for further research.

The current findings were derived from “recovered” business owners in order to accomplish the study’s four research objectives. However, there are additional lessons learned which “non-recovered” business owners have the ability to contribute. Further research can collect pertinent data concerning the Katrina disaster from small business owners who did not reopen after the hurricane. This information could prove useful by adding actions detrimental to recovery to the extant literature.

The research objectives of this study explored the strategies implemented by small business owners during Hurricane Katrina recovery relative to financial barriers to recovery; strategies “recovered” small business owners in Hancock County, Mississippi, implemented pre-and-post-Katrina in preparation for future disasters and identified characteristics of a resilient small business owner. Duplication of this study utilizing a larger and more diverse population to verify if strategies from the current research are transferable to larger businesses could prove valuable. Evaluating whether the results of this study would simulate across a broader spectrum of businesses, considering size, geographical location and business type could serve as another area of academic research. The research could determine if recovery strategies are different based on size of the business. Larger businesses are responsible for more employees, larger budgets and adhere to more governmental regulations; these specifics
characteristics may influence the response to natural disasters or affect recovery time.

In the history of the United States, Hurricane Katrina ranks as the most expensive natural disaster to hit the Gulf Coast Region (Dass-Brailsford, 2008). The U.S. Department of Transportation (2006) classifies Hurricane Katrina as the highest loss ever recorded from a single storm measured by loss of life, destruction to property and economic hardship. Along the Mississippi Gulf Coast, over 235 confirmed deaths were reported (Pender, 2005) and over 68,000 homes and businesses destroyed (Editor’s Notebook, 2005a). Although small businesses in the U.S. have experienced great devastation from natural disasters, other countries share in that experience. Disaster recovery themes identified in the current research include: expansion of customer base, community collaboration, adjusted business objectives and personal or self-insurance. The second area helpful in bridging the gaps in the available disaster research includes utilizing the current research findings to influence small business recovery processes in other countries. Many countries experience natural disasters, which adversely affect their small business communities. In 2004, Sumatra, Indonesia endured the Indian Ocean Tsunami (“Deadliest Tsunami”, 2010), in 2008, China experienced the Sichuan Earthquake (“Sichuan Earthquake”, 2009) and in 2010, Port-au-Prince, Haiti experienced a devastating earthquake (“Haiti Raises Earthquake Toll”, 2010). Findings from the current study’s research objectives can be utilized to investigate and analyze business recovery strategies and resiliency characteristics in the aforementioned
countries. The strategies outlined by the population of this study could aid recovery planning and management practices in other countries.

Concluding Remarks

The conceptual framework of this study outlines the financial barriers to recovery faced by small business owners in Hancock County, Mississippi and identifies strategies utilized by small business owners post-Katrina to overcome those barriers, thus establishing business recovery. This research has successfully revealed the strategies used by the participants of the study as expansion of customer base, community collaboration, adjustment of business objectives and self-insuring.

The review of literature and responses expressed during data collection confirms that Hurricane Katrina presented challenges to affected Gulf Coast communities (Scurfield, 2008). Rebuilding of infrastructure, homes and businesses represent a small portion of recovery challenges the communities faced (Waugh et al., 2006). However, Katrina not only brought challenges but opportunities. The opportunities lay in the possibility of redevelopment of large tracts of land cleared by wind and flood (Waugh et al., 2006). Thus, an opportunity exists to rethink the economic bases of damaged Gulf Coast communities.

This research suggests that Hurricane Katrina had a great social impact on the well-being of the Hancock County community; however, resilient small business owners participating in this study hold an extraordinary sense of endurance and community. Business owners continuously repeated that material
things lost in Katrina were temporal; hence, the people and connection with others in the community were irreplaceable. This realization comes from surviving such enormous tragedy. The stories expressed during this research were those of panic, horror and trauma; however, they were also stories of triumph and courage. The participants of this study experienced the psychological, emotional and financial impacts of Hurricane Katrina; yet survived. Small business owners on the Mississippi Gulf Coast operate under uncertain and unpredictable weather conditions. Businesses in hurricane prone areas will continue to face the threat of disaster; however, with knowledge and effective recovery strategies in place, businesses can conquer the uncertainty with success. As each hurricane season comes and goes on the Mississippi Gulf Coast, small business owners brace themselves for the worse as they hope for the best.
APPENDIX A

INTRODUCTION LETTER

*Calling All “Recovered” Small Business Owners Who Conquered Katrina!*

*Please help!* The Hancock County small business community is invited to participate in a research study of the recovery process from Hurricane Katrina.

Allow me to introduce myself. My name is Madonna Adams, a PhD student at The University of Southern Mississippi. I am currently conducting dissertation research entitled “Recovering from Hurricane Katrina, Small Business Owners Conquer Katrina: A Mixed Methods Study.”

**Purpose**

- The purpose of this study is to explore recovery for small business owners post Hurricane Katrina. Strategies used by “recovered” business owners to overcome barriers to recovery will be examined.

**How to participate**

- The research study consists of an online questionnaire, which will only take approximately 20 minutes of your time. Answering the questions involves no foreseeable social or physical risks and participation is strictly voluntary.
- Following the questionnaire you may be selected to participate in an hour and a half focus group interview which will provide in-depth knowledge of the recovery strategies your business used after the hurricane. Interviews will be conducted at a convenient location for business owners.
- Data collected and will be kept confidential.

**What’s in it for you?**

- This research will make strong contributions to the recovery of Hancock County now and in the future. Recommendations based on research findings will help you and future small business owners better prepare for natural disasters.
- Results will be shared with the Old Town Bay St. Louis Merchant’s Association and individual member businesses.

Thank you for your cooperation in this important initiative. Your participation is invaluable.

Madonna Adams  
Phone:  337-257-1665  
Email:  padams1@alumni.lsu.edu
APPENDIX B

SURVEY INSTRUMENT

Name of Business ________________________________

1. A small business is defined by the Small Business Administration (SBA) as one that is independently owned and operated, is not dominant in its field of operation, typically has revenue considerably less than comparable units within a larger corporation and has less than 100 employees. Is your business considered a small business?

   YES[ ]      NO[ ]

2. Is your business located in Hancock County, Mississippi?

   YES[ ]      NO[ ]

3. Was this business in operation at the time Hurricane Katrina made landfall on August 29, 2005?

   YES[ ]      NO[ ]

4. Is this business currently in operation?

   YES[ ]      NO[ ]

*** If you have answered ‘NO’ to any of the questions 1-4, please press submit now. If you have answered ‘YES’ to questions 1-4, please continue survey.

5. What is the gender of the business owner(s)?

   [ ] Male
   [ ] Female
   [ ] M/F Team

6. What type of business did you operate just prior to Hurricane Katrina?

   [ ] Retail
   [ ] Manufacturing
[ ] Service
[ ] Other, please specify ___________________________

7. At the time of Hurricane Katrina, how long was your business in operation?

[ ] 1-4 years
[ ] 5-9 years
[ ] 10-14 years
[ ] 15+ years

8. Market or customer base for the goods or services provided by your business, 2005 and now.

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainly local</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Mainly regional</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Mainly national</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Mainly international</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

9. Please indicate whether any change has occurred since the hurricane in each of the areas below. If change has occurred—whether it was an increase or decrease—place a check in the last column if you believe that is (at least to some degree) related to the hurricane.

<table>
<thead>
<tr>
<th></th>
<th>Decreased</th>
<th>Remained The Same</th>
<th>Increased</th>
<th>Was due to the hurricane?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Number of employees at the business?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>B. Number of customers or clients served?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>C. Business profits?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

10. Was the building housing your business, its contents, or attached property physically damaged as a result of the hurricane?
11. If yes, what was the nature of the damage to the business property? (Check all that apply)

[ ] Structural damage to building
[ ] Damage to buildings non-structural elements
  (Windows, Light fixtures, Partitions, Water Pipes, etc.)
[ ] Damage to furnishings (Desks, Cabinetry, etc)
[ ] Damage to equipment (Computers, Machinery, etc.)
[ ] Damage to inventory or stock
[ ] Damage or loss resulting from looting
[ ] Other damage (What?) ________________________________
  ______________________________________________________________________

12. How extensive was the physical damage to the building that housed the business?

[ ] Very little to no damage
[ ] Minor damage
[ ] Major damage, but still possible to use
[ ] Total loss, impossible to use building

13. How disruptive was this physical damage to your ability to do business?

[ ] Not disruptive at all
[ ] Not very disruptive
[ ] Disruptive
[ ] Very disruptive

14. Was the business closed or inactive for any period of time as a result of the hurricane?

YES[ ]  NO [ ]

15. In total, how many hours (if less than one day) or how many days was the business closed as a result of the hurricane?

__________  Number of Hours (if less than one day)
__________  Number of Days
16. Whether the business closed temporarily or remained open, did the business experience losses in sales, revenues, or gross income as a result of the hurricane, for example, because customer spending declined?

YES [ ] NO [ ]

17. If yes, what is your best estimate of the losses the business sustained in sales, revenues, or gross income within the first year after the Hurricane?

$ ____________

18. In the first year or two after the hurricane (2005-2007), did the business experience any of the following problems that were hurricane related? (PLEASE CHECK ALL THAT APPLY)

[ ] Employees unable to get to work
[ ] Employees missing time to attend to personal matters
[ ] Damage to owner’s own residence or other properties
[ ] Decline in customer need for goods/services
[ ] Owner’s vulnerability to cash flow
[ ] Problems caused by federal agencies (FEMA, SBA etc.)
[ ] Lack of access to capital for recovery
[ ] Serious infrastructure problems within city (Bridges and roads out, no electricity, couldn’t deliver products or services due to transportation issues etc.)
[ ] Could not get supplies/materials needed to run business
[ ] Could not afford to pay employees
[ ] Business did not experience any of these problems

19. At the time of the hurricane, was this business property covered by insurance?

YES [ ] NO [ ]

20. What type of insurance did the business have? (CHECK ALL THAT APPLY)

[ ] Insurance to cover wind damage
[ ] Insurance to cover flood/water damage
[ ] Insurance to cover crop damage/agricultural losses
[ ] Business interruption insurance
[ ] Other (What?)
21. Did the business apply to the Small Business Administration (SBA) for a loan to cover hurricane-related losses?

[ ] Yes, for property damage
[ ] Yes, for economic injury/business interruption
[ ] Yes, for both property and economic injury
[ ] No

22. What was the outcome of the loan request?

[ ] Loan approved, received all funds requested
[ ] Loan approved, did not receive all funds requested
[ ] Loan approved, but decided not to accept
[ ] Loan application denied
[ ] Other (What?)_______________________________________________________________

23. Without giving any confidential financial information, please describe the state of the business at two points in time—just before Hurricane Katrina struck in 2005, and at the present time. Check the item that best describes your business in 2005, just before the hurricane and now.

2005       Now

Business financial condition,
2005 pre Katrina and now

In financial trouble; marginal [ ] [ ]
Not in financial trouble but not doing well [ ] [ ]
In good financial condition [ ] [ ]
In excellent financial condition [ ] [ ]

24. In the list that follows, please check all the items that apply to your business before the hurricane and in the years since the hurricane. For your business, have you or your employees:

<table>
<thead>
<tr>
<th>Received written information on hurricane preparedness</th>
<th>Did before Hurricane</th>
<th>Did since hurricane</th>
</tr>
</thead>
</table>
Talked with those working in your business about what to do in the event of a hurricane?  
Purchased insurance to cover flood damage to your business?  
Developed a business disaster recovery plan, covering what to do if a hurricane strikes?  
Conducted hurricane drills or exercises for your employees?  
Made arrangements to move the business to another location in case of a hurricane?  
Purchased special windows, shutters, or protective materials to prevent wind damage?  
Stored tarps, sandbags or other materials for protecting the structure?  
Obtained an emergency generator for use if electrical power fails?  
Been involved in any hurricane preparedness or response training programs for your employees?

VOLUNTARY Focus Group Participation:

Are you willing to participate in a focus group interview regarding your businesses' recovery from Hurricanes Katrina? If yes, please complete contact information below. Thank you for your participation in the survey.

Name: ___________________________________________________
Business Name: ____________________________________________
Contact Address: ___________________________________________
Contact Phone: ______________________________
Contact Email: _____________________________________________
APPENDIX C

FOCUS GROUP INTERVIEW QUESTIONS

1) Crisis Planning for Natural Disasters
   a. Did you (as a small business owner) have any formal plans established on how to conduct your business before, during or after a natural disaster?
      • If you had a formal plan, was it written?
      • What was included in the plan?
      • Were your employees aware of this plan? If so, how was it communicated?
   b. Did you have a plan to protect the physical assets within your business?
   c. Did you have insurance to cover your business (inventory, fixtures, etc.); your income; your employees’ income?
      • Were there obstacles to receiving payment for damages?
      • Did your insurance cover what you thought it would?
   d. Was there a plan to handle the financial aspects of your business, given the likelihood that local banks would also suffer damages?
      • e.g., how would you gain access to cash/credit needed to make necessary repairs, purchase new inventory.
   e. Do you have a business disaster plan in place now?
      • What have you done to prepare for another disaster?
      • What plans do you currently have to handle financial aspects or physical assets within your business?

2) Crisis Management for Natural Disasters
   a. How did you deal with the effects of the hurricane immediately prior to it hitting your town (removing inventory, reinforcing windows and doors, helping employees evacuate, securing business records and computers, boarding windows, leaving town etc.)?
   b. How soon were you able to get back into your business to assess damage?
      • If more than a day, what prevented you from gaining access to your business?
   e. What percentage ($value) of your inventory and or equipment was lost?
   f. Did you receive any assistance (physical) from Chamber of Commerce, fellow business owners; city/state/federal government; customers?

3) Recovering From The Natural Disaster (Resiliency)
a. Please describe the damage sustained by your business.

b. How long did it take to resume business after the hurricane?
   - What had to happen to get your business back up and running?
   - How much did it cost?
   - Please describe the financial strength of your business prior to Katrina
   - Please describe the financial strength of your business following Katrina

c. In the recovery process did you experience problems caused by federal assistance agencies (FEMA, SBA etc). If so, what were they?
   - What did you do to deal with the problems caused by federal assistance agencies?

d. Did your business suffer due to infrastructure problems (bridges & road closures, lights and electricity outages) caused by Hurricane Katrina?
   - What did you do to overcome the problems?

e. After the hurricane, was your business vulnerable to cash flow problems?
   - What strategies did you use to deal with the vulnerability to cash flow?

f. Do you feel that your business experienced a lack of access to capital for recovery after Hurricane Katrina? (availability of resources and their effect on ability to carry on).
   - Was your business insured prior to Katrina and did you experience any problems filing claims or receiving claim payments?
   - What specific steps did you take to overcome this barrier?

g. Why did you choose to stay in (city)?

h. If you could identify one thing that has contributed most to your business’ ability to re-open, what would it be?
   - Who or what have been the most helpful in your recovery?

i. What aspect of the hurricane and its aftermath has been the most difficult for you?

j. If you faced a situation like this again, what would you do differently?
APPENDIX D

INSTITUTIONAL REVIEW BOARD APPROVAL

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board
118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 10051701
PROJECT TITLE: Recovering from Hurricane Katrina, Small Business Owners Conquer Katrina: A Mixed Methodology Study
PROPOSED PROJECT DATES: 06/01/2010 to 05/01/2011
PROJECT TYPE: Dissertation or Thesis
PRINCIPAL INVESTIGATORS: Penny Madonna Adams
COLLEGE/DIVISION: College of Science & Technology
DEPARTMENT: Economic & Workforce Development
FUNDING AGENCY: N/A
HSPRC COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 05/27/2010 to 05/26/2011

[Signature]
Lawrence A. Hosman, Ph.D.
HSPRC Chair

5-28-2010 Date
Permission to use DRC survey instrument

From: Pat Young (pyoung@UDel.Edu)
Sent: Mon 4/11/11 12:55 PM
To: padams1@alumni.lsu.edu

To Ms. Madonna Adams
Permission to use DRC Survey Instrument
April 11, 2011

Ms. Adams -

Per our initial e-mail and telephone conversations dating back to 2009, I am granting you permission to use a copy of the Disaster Research Center's survey instrument titled "Business and Disasters: Impacts and Recovery Following Hurricane Andrew" to complete the research and writing of your doctoral dissertation.

We hope you will find and have found this instrument to be useful in your research on business recovery following disasters. We look forward to adding a copy of the completed dissertation to our extensive Resource Collection here at DRC.

Sincerely,
Pat Young
REFERENCES


McCarty, K, & Hanson, M. (2008). *Post-Katrina recovery of the housing market along the Mississippi Gulf Coast*. Arlington, VA: RAND.


