

What a Difference a Disaster Makes: The Role of Vicarious Leadership Learning in Differential Responses to Post-Katrina Hurricanes

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August 2005 and the ensuing months saw a natural disaster, Hurricane Katrina, and a leadership disaster surrounding governmental and institutional response to the storm's aftermath. An event of such monumental proportions would predictably offer numerous challenges; however, the extent of the weaknesses in preparedness and response revealed by Katrina was nothing short of astounding. Lessons learned from this experience were quickly incorporated into many organizations' planning, readiness, and response activities. This manuscript discusses salient aspects of less-than-optimal responses to Katrina's effects and explores changes in and different programs for coordinating subsequent disaster response. Interestingly, many such changes were undertaken by units not directly impacted by or involved in Katrina's aftermath. The authors propose the term "vicarious leadership learning" to describe this phenomenon. Examples from a variety of organizations are presented, and the benefits of vicarious leadership learning are discussed.

Keywords: Leadership, Leadership learning, Katrina, Vicarious learning

1. Introduction

As the 2013 Atlantic hurricane season passes, residents along the Gulf Coast breathe a collective sigh of relief. Each year that passes without a major storm is a gift. Each storm that threatens the area is a reminder of the most devastating one to date, 2005's hurricane Katrina. Katrina, with its extensive property devastation, death toll, and sociological impacts, taught innumerable lessons about hurricane preparedness, or lack thereof. Perhaps more importantly, it taught a region and a nation painful lessons about pervasive, vital deficiencies in critical aspects of disaster readiness. With damages of some \$81 billion, Katrina remains the costliest hurricane in U.S. history (Hubbart, 2011). In addition to the costs of its devastation, Katrina is significant for another reason. While every disaster teaches some lesson, Katrina was responsible for far-reaching changes in policies, behaviors, attitudes, and beliefs. This disaster made a difference. The purpose of this paper is to document post-Katrina conditions and actions undertaken by organizations in response, to illustrate examples of vicarious institutional learning related to leadership, and to propose a name for events observed under such circumstances. We discuss the major aspects of ineffective responses to Katrina's effects, as well as changes that have been instituted to better respond to subsequent hurricanes. Because many changes were undertaken by entities not directly impacted by Katrina, we contend that a process analogous to social learning occurred. We propose the term "vicarious leadership learning" to describe this phenomenon.

Prior to hurricane Katrina, cities all along the Gulf Coast assumed they were hurricane-ready. Everyone knew their roles when a potential threat was swirling in the Gulf of Mexico. News media provided information about the storm's characteristics – its size, strength, wind velocity, likely rainfall amounts, and predicted movement. Governmental units announced availability and location of shelters and encouraged or ordered residents to evacuate. Residents prepared their homes to withstand wind, rain, and power outages; stocked up on supplies such as bottled water, non-perishable foods, first-aid items, and batteries; and made plans to evacuate if necessary. Hurricanes had been dealt with this way as long as anyone could remember. But Katrina proved to be a game changer. As the storm battered New Orleans, levees designed to protect the city from the Mississippi River failed, allowing thousands of homes and businesses to be flooded. Flood waters in excess of eight feet poured into affected areas. People who had remained, and who managed to survive, were often stranded in flooded areas. Nightmare-like stories of events in the Superdome, opened at the last minute as a shelter, are now legendary, as are accounts of the inability to provide water and food to patients and employees stranded in area hospitals and nursing homes. Both state and federal government agencies and officials were lambasted because of slow and ineffective attempts to provide supplies and funds to aid the recovery. In the rush to get people evacuated from the city once the storm had passed, families were often separated, with members sent to different shelter locations out of state. Chaos caused by lack of good tracking systems, combined with failures of communication systems and destruction of broadcast facilities, lengthened the amount of time many people spent desperately trying to learn family members' whereabouts, much less reuniting.

Needless to say, with the majority of the city under water, normal activities were impossible.

And by the time most of the water was gone, many homes and commercial buildings had been flooded for two to three weeks. Direct water damage was quickly followed by damage from mold, and many structures had to be completely gutted and rebuilt. Roadways and drainage systems were also impacted. Streets, street lights, traffic signals, and street signs were damaged or destroyed, severely hampering movement. The cessation of business activity in the New Orleans area had far-reaching impacts. Many regional distribution facilities were located there. Corporate and individual customers far enough removed to not have suffered major impacts from the storm were affected by the distributors' inability to operate. Shipment of items such as merchandise, food, and publications was impossible. A sizable volume of mail, in New Orleans postal facilities for sorting and routing when the storm hit, was permanently lost.

Compounding the situation in and around New Orleans was the devastation to the east. Katrina had wrought massive destruction all along the Mississippi gulf coast. Although there was less impact in terms of supply chain disruption, structural devastation and large numbers of displaced residents plagued much of the region. Effects from accommodating the displaced spread out in ripples, much like water from a dropped pebble. Communities located in the radius surrounding the affected area took in displaced residents. As each radial "band" filled, people spilled over to cities in the next ripple. This happened successively, filling hotels to capacity. Moreover, most of these areas saw an additional influx of people caused by residents taking in displaced family and friends. Evacuated New Orleans residents landed in large cities (such as Houston; Baton Rouge; Jackson, Mississippi; Memphis; and Atlanta) in this radius. The cumulative result was an expanded region full of small towns and larger metropolitan areas overfilled with people.

At the same time, businesses in storm-ravaged areas were trying to reopen or remain open to supply those still in the area with food, gas, and other necessities, as well as to sustain their viability. The resulting demand on distributors similarly spread in waves. Many businesses in the now-overpopulated areas had relied on New Orleans-based suppliers. Now that those were gone, local facilities and distributors successively farther away became responsible for satisfying increased demands in evacuee-laden areas and for helping restore normal business operations to areas damaged by the storm. People whose only previous knowledge of goods shortages came from reading stories about war rations and bread lines found themselves waiting in long lines to buy a limited amount of gas and having to do without bread and other staples previously taken for granted.

Less than a month later, hurricane Rita struck, making landfall near the Louisiana-Texas border. Louisiana coastal parishes to the west of those that were hardest hit by Katrina suffered much worse destruction from Rita. The recovery period from these two storms was a stressful time for individuals and organizations, for business managers, agency heads, and local, state, and federal government officials. But even as they worked and worried, planned and strategized, met and innovated, placed incredible demands on themselves and their employees, and devised some creative ways to handle certain issues, leaders were learning. The things that they learned have become part of the "dealing-with-hurricanes" repertoire, and will have far-reaching benefits as we deal with future storms.

2. Vicarious Leadership Learning

Interestingly, many of the individuals and organizations learning and making changes were not directly impacted by Katrina; rather, the organizations' leaders learned the need for, and implemented desirable changes as a result of, observing other organizations' actions and outcomes. Bandura (1977, 1986) refers to this phenomenon in individual behavior as social, or vicarious, learning. We introduce and define the term "vicarious leadership learning" to capture this process as it relates specifically to leadership learning through observational exposure. In the case of post-Katrina learning, the things leaders learned span a variety of areas, as will be discussed below.

2.1 Evacuations

Before Katrina made landfall, New Orleans mayor Ray Nagin had ordered a mandatory evacuation. Warning that there would be no shelters, he urged residents to leave. Ultimately, though, concern for residents who stayed despite the evacuation order led officials to open the Superdome as a shelter. After the storm passed, the facility was crowded with a large number of people who had no way to leave and no way to get supplies because of the flooding. Media coverage of the Superdome nightmare, and the deplorable conditions endured by those seeking shelter there, resulted in subsequent evacuations being ordered earlier, and those orders more likely to be heeded (Could have been worse, 2008; Grunwald & Gray, 2008; Jervis, Bello, & Stone, 2008). Evacuations are now better planned, with contingency measures and back-ups in place. Officials walk a tightrope of sorts, though, in managing evacuations. Once a storm has passed, they must quickly assess the areas' condition and readiness for residents to return. Residents are often anxious to return because of the economic costs of staying away, concern for security of their property, and worries over wellbeing of friends and relatives, even though they are often coming home to the inconvenience of power outages, business closures (and resulting unavailability of goods and services), and storm damage. The decision to allow them back must take into account the ability of law enforcement to maintain safety and order, and of utility and clean-up workers to move about to restore services and remove debris. Managing residents' return involves all these factors and also has implications for citizens' heeding future evacuation orders (Russell & Donze, 2008). No one wants to create a climate of residents being unwilling to leave because they fear not being allowed to return soon enough.

A mandatory evacuation was ordered in advance of 2008's hurricane Gustav. FEMA and state emergency management personnel worked together to plan how many residents would need to be moved, how they would be transported, and where they would go. Evacuees received identification wristbands that noted special medical or other needs, and registration information was networked (Witt, 2008) to ensure that there was a record of who was being sent to which shelter. Vastly improved records management practices helped ensure better tracking of evacuees' whereabouts. No one wanted a repeat of post-Katrina cases of families not knowing where their relatives had been sent, or whether they were safe, and being unable to contact them. Because of problems evacuating before Katrina, state and federal agencies provided more resources, including buses, boats, planes, and helicopters, to help (Jervis et al.,

2008; Jonsson, 2008). Additionally, the Department of Homeland Security and the Department of Health and Human Services collaborated with health departments in Gulf and East-Coast states to assess evacuation needs and resources. Since Katrina, these agencies have contracted with ground and air ambulance services to ensure sufficient ability to safely evacuate those in hospitals and nursing homes in advance of future storms (U.S. Government Accountability Office [GAO], 2008). Laditka et al. (2008) pointed to a variety of needs relative to evacuating nursing home residents. Sheltering facilities need to be prepared with generators and fuel to operate them, and extra supplies on hand for their own employees' family members and family members accompanying evacuees. Awareness of such concerns helps managers in these facilities prepare for and execute disaster plans.

Another evacuation issue concerns police protection in the evacuated areas. Looting and violence were unfortunate topics of too many post-Katrina news stories. Police units now give more thought to balancing personnel safety during the storm with the need to protect property from looters. Officers are provided with safe houses to shelter them during storms and allow them to be patrolling again quickly once storm dangers have passed (Jervis et al. 2008).

Many Katrina evacuees were forced to leave their pets behind because of the inability of shelters to accommodate them. The length of time needed to return to their homes stretched far beyond the usual few days due to flooding and the magnitude of the disaster. As a result, many pets were essentially abandoned and suffered from lack of food, water, shelter, and care. The PETS Act was passed to authorize FEMA to provide for the needs of individuals with pets and for the pets themselves (American Veterinary Medical Association, 2010). During the evacuation before Gustav, some residents were allowed to take pets with them on the evacuation buses, while personnel from animal-rescue groups were stationed at evacuation terminals to receive animals that would be held and returned after the storm (Jonsson, 2008).

2.2 Communication

A major problem after Katrina was lack of communication caused by damage to equipment. At the time, Louisiana did not have a statewide wireless network that public safety agencies could use to communicate with each other (Marsan, 2006), although one has been implemented since. There was no radio communication for three days following the storm, fueling rumors of heavy loss of life and rendering local and state officials unable to provide residents with critical information (Jervis et al., 2008). A \$40 million upgrade in Louisiana's radio communication network (Jervis et al., 2008) will hopefully prevent this situation in the future. An alliance among area broadcasting companies, wherein facilities, equipment, and personnel were pooled in an effort to keep residents informed, was an important factor in post-Katrina recovery efforts (Phillips & Phillips, 2008). Ensuring the flow of accurate information is a critical part of disaster planning (Debunking the myths of hurricane Katrina, 2009); thus, cooperative efforts such as this provide a model for future situations. Additionally, area media have made vast improvements to their web sites, with the goal of rapidly disseminating breaking news (Glaser, 2008).

Telephone and internet communication were similarly disrupted by Katrina. Both landline

and cell phones, in addition to email and web site communication, were missing or unstable for weeks following the storm (Laditka et al., 2008). Many organizations subsequently developed databases containing employee information that includes multiple email addresses and phone numbers for the employee and next-of-kin, texting capability, etc. (Lessons learned from hurricane Katrina: Preparing your institution for a catastrophic event, 2010). Additionally, anecdotal evidence suggests that increased intra-organizational communication about employees' evacuation plans has become part of routine hurricane preparedness. Managers' efforts to capture this information should at least lessen future incidence of the post-Katrina scenarios wherein organizational members had essentially no idea where their cohorts were.

2.3 Rebuilding Facilities

Katrina was a wake-up call to any agency responsible for infrastructure components – such things as bridges, water supplies, power grids, drainage systems, and roads. Countless comprehensive plans were developed, designed to carry a unit through prevention, preparation, mitigation, and recovery (Mendoza, 2009). Lessons learned through rebuilding in the aftermath of Katrina and in completing the steps required to draft a comprehensive plan have made agencies more confident of their ability to deal with future disasters.

Residents returning to heavily-damaged areas expect important services, including hospitals and other health-care facilities, as well as personnel, to return also (Umbdenstock, 2006). Hospitals rebuilding after Katrina often factored their experiences into plans for future disasters. Including aspects such as radio phones, chemical toilets, emergency fuel supplies, and expanded supply inventories to allow a longer stand-alone period became immediate goals. Longer-term plans included flood walls and elevated areas to position generators, telecommunication equipment, and critical services and supplies out of harm's way (Lofton, 2007). Many rebuilding projects included measures aimed at being able to withstand future floods (Tilove, 2010). On a more global and ongoing scale, calls for coastal preservation and building better levees (Grunwald & Gray, 2008) are aimed at preventing widespread damage from subsequent storms.

Recreation needs are likewise important. Numerous gaming facilities were damaged or destroyed by Katrina. Casinos' mandated water-based locations made them particularly vulnerable to storm damage. After Katrina, the Mississippi legislature approved land-based casinos. Rebuilding efforts have thus seen more of these structures, which should better withstand future hurricanes (Lofton, 2007).

2.4 Expediting Federal and Other Disaster Assistance

So many things went wrong relative to disaster response at the federal level following Katrina that President George W. Bush ordered a thorough review of the government's failed response. Activities of agencies such as the U.S. Department of Homeland Security (DHS) and FEMA, among others, were scrutinized (Gaoette, 2006; Pulliam, 2006). As a result, the Post-Katrina Emergency Management Reform Act was signed into law in October, 2006. This law targeted leadership, organizational structure, and functions of FEMA and the

Department of Homeland Security, in an effort to “strengthen the Department’s ability to prevent, prepare for, protect against, respond to and recover from all hazard threats” (U.S. Department of Homeland Security, 2008). Further, DHS developed the National Response Framework, effective in March, 2008, to clarify officials’ and agencies’ roles and responsibilities in disaster response efforts (U.S. GAO, 2008). The United States is clearly more prepared to deal with disasters now than it was when the 9/11 attacks occurred, and when Katrina hit, but some believe there is still confusion as to who will be in charge during a disaster (Wormuth, 2009). Others worry that the federal agencies’ structure is still not best for rapid response (Glenn, 2005), and that the system of working up from the local, to the state, to the federal level is ineffective in dealing with disasters (Morris, 2008).

Other managerial policies within agencies of the federal government have been similarly changed, resulting in a number of subsequent improvements. The post-Katrina days were marked by story after story of delays in getting much-needed supplies to affected areas (e.g., Leavey, 2005). Future disasters may see fewer problems of this sort, thanks to changes in government-agency disaster policies (Tilove, 2010; Townsend, 2006; U.S. Environmental Protection Agency, 2006). Heavy criticism of federal slow response to the plight of Katrina-ravaged areas has resulted in the government’s more rapid involvement in subsequent storms. For example, President Bush visited state emergency operations centers as they prepared for hurricane Gustav in 2008, sending a clear message that federal agencies were on notice to respond as needed (Bush response to Gustav contrasts with Katrina, 2008).

Additionally, thanks to Katrina, local and state officials ask for and are granted disaster declarations and mobilization of National Guard troops earlier (Hart, 2008; Jervis et al., 2008; Tilove, 2008). Generators and other emergency supplies are in place and waiting even before a storm makes landfall (Jonsson, 2008), and agencies such as the Red Cross have personnel on standby ahead of time (Hart, 2008). A network of pharmacists stand ready to be deployed as needed to dispense medications and supplies in disaster-affected areas (Thompson, 2010). Overall coordination and readiness to respond have improved since Katrina (Bush: Gustav coordination better than Katrina, 2008). It is important to note that readiness efforts refer to readiness to respond to any hazard, disaster, or threat. Some contend that a culture of readiness is of vital importance in dealing with disasters (e.g., Carafano & Keith, 2006). FEMA’s National Preparedness Directorate fact sheet (U.S. Department of Homeland Security, Federal Emergency Management Agency, 2009) enumerates response components, which contain a comprehensive list of duties and responsibilities. This list, gleaned from vast experience with Katrina and other disasters, is an important resource for disaster preparedness.

2.5 Vicarious Leadership Learning Defined

Taken together, the changes to and establishment of management practices, policies, and procedures discussed above represent substantial adjustments by the organizations involved. Many of those were not directly impacted by Katrina; rather, the organizations’ leaders learned the need for, and implemented desirable changes as a result of, observing other organizations’ actions and outcomes. Bandura (1977, 1986) refers to this phenomenon in

individual behavior as social, or vicarious, learning. He notes that people learn not only from their direct, personal experience and outcomes, but also by observing and modeling others' behavior. We propose the term "vicarious leadership learning" to describe situations in which leaders learn desired leadership behaviors and organizational actions by observing other organizations' leaders' actions and resulting consequences for those organizations. As is true for individuals, leaders – and hence their organizations – benefit greatly from such vicarious learning.

Two very relevant examples of vicarious leadership learning emerged quite soon after Katrina. A media firestorm of perceived positives and negatives of various leaders' handling of the Katrina debacle had begun almost immediately after the storm passed. Peer leaders in subsequent hurricane situations learned from these accounts and modeled their behavior accordingly, in exactly the ways that social/vicarious learning theory would have predicted. Less than a month later, while Katrina's ravages were still being assessed, hurricane Rita formed. Although it ultimately struck near the Texas-Louisiana border, for a time it was forecast to hit Galveston, Texas. About a month thereafter, hurricane Wilma was approaching Florida, with Miami appearing to be its target. Both Lyda Ann Thomas (then-mayor of Galveston), and Manuel Diaz (then-mayor of Miami), mobilized their response units early on, and dealt proactively with disaster preparations. Their alacrity was matched at the state and federal levels, with contingency plans in place to cover potential disaster situations. No one wanted a repeat of the Katrina horrors, faithfully narrated by the news media. Would they have done the same things without the recent Katrina examples to prod them? They most likely would have, but not likely as much in advance, as proactively, or as publicly. Vicarious leadership learning guided their actions, providing an excellent array of behaviors for them to observe and model. In many cases they modeled opposite – or radically different – behaviors, hoping for much different results. And that is what they got, along with kudos for their foresight, their vision, their leadership. In fact, Lyda Ann Thomas was presented the (inaugural) Galvestonian of the Year award in recognition of her extraordinary leadership during preparations for hurricane Rita (Thomas Galvestonian of the year, 2006).

More recent events point to stability in this type of vicarious leadership learning. When August 2012's Tropical Storm/Hurricane Isaac was still days from landfall, Louisiana's and Mississippi's governors filed disaster declarations well in advance (Gov. Jindal requests major disaster declaration for Louisiana, 2012; President Obama Signs Mississippi Disaster Declaration, 2012). President Obama quickly signed the necessary declarations (Obama: Isaac Disaster Declarations Offered for Louisiana and Mississippi Areas Hit by Storm, 2012). These measures expedite federal disaster assistance for emergency work in affected areas.

3. Discussion

Vicarious leadership learning can be of great benefit to leaders and to the organizations they serve. Certainly leadership is not about waiting until someone else tries something to see what happens, but having the advantage of vicarious experience can be a valuable input to managerial decision making. Organizations exist in turbulent environments. Rapid changes, new technologies, and widely varying conditions further increase the worth of observational

learning. As leaders scan their environments, they should be on the lookout for information available from others' forays down various paths. While there is no assurance that a similar venture will lead to exactly the same outcome, vicarious learning can serve to reduce the uncertainty associated with a range of actions.

Vicarious leadership learning is at the heart of most of the changes to hurricane preparedness in specific, and disaster readiness in general, that have occurred since Katrina. That learning is now an inherent part of managerial plans, procedures, and policies in place that govern how organizations and agencies at all levels will handle future crisis situations. Few would argue that the most shattering national disaster occurred on September 11, 2001. But it was Katrina and the leadership lessons learned from multiple, pervasive aspects of failed response that finally mobilized a pervasive, coordinated attempt to bring together all of the major federal initiatives and agencies that would be involved in preparing for and responding to future emergencies of all types. What a difference a disaster makes, indeed.

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