The College of Business Creates a Continuity Plan

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ABSTRACT

This paper presents outlines the steps taken by a College of Business committee tasked with creating a continuity plan to respond to a natural disaster such as a hurricane. This paper outlines the literature on disaster recovery as well as the experiences of some New Orleans area universities to Hurricane Katrina. The importance of continuity of the course delivery system, email access, alternate communication methods and continuation of Human Resources support are discussed.

INTRODUCTION

We have contingency plans for all sorts of events. Ray Parker asked, "If an invisible man is sleeping in your bed, who you gonna call?" (The answer, of course, is Ghostbusters)

(Parker, R., 1984)

If hoards of Zombies rise and infest our cities, the Center for Disease Control already has outlined their response. Linked from the central website (http://www.cdc.gov/phpr/zombies.htm) are Zombie preparedness posters ("Preparedness 101: Zombie posters," 2012) (see appendix), a blog section that includes sections on a "Brief History of Zombies", "Emergency Kit", "Emergency Plan", and "Never Fear – CDC is Ready" (Khan, 2011) , and a link to a 40 page Novella (Silver) .

While dozing, trespassing, invisible men and zombie hordes may be low probability events, plans exist to deal with these eventualities. Dozens of pages of text and thousands of feet of celluloid are devoted to dealing with these potential problems. What contingency plans have been developed at your university and college to ensure "we keep getting our paychecks", as Dean Abdelsamad of our College of Business phrased it? Is your college prepared to resume classes after a higher probability event such as a tornado, hurricane or large scale illness

outbreaks such as the H1N1 flu? Are the plans for these contingencies written? Does everyone know what is expected of them?

This paper will discuss the creation and output of a committee tasked with creating the College of Business Continuity Plan at Texas A&M University Corpus Christi (TAMUCC). The paper will describe some unique qualities of TAMUCC and the College of Business. We will then discuss how differences in the timing and scope of a disaster call for different contingency plans (there is no "one size fits all" plan). Finally we will present the plan developed by the committee to deal with a 'worst case' scenario.

TEXAS A&M UNIVERSITY CORPUS CHRISTI (TAMUCC)

TAMUCC is "The Island University". It is located on 240 acres of Ward Island between Oso Bay and Corpus Christi Bay. (For a picture, visit http://www.tamucc.edu/about/location.html). There are two bridges to the island campus, but one leads to the navy base on the neighboring island and is not used by students. In addition, most of the university's water and electricity enter the island from a single point. Failure of the bridge, water lines or electric lines would shut the university down.

The College of Business recently began offering an online MBA program. For a student with the appropriate prerequisite classes, it is possible to complete the degree in one year and never set foot on campus. A student in this program will take two classes in each seven week term. (Two terms run each Fall and Spring and another term runs in the summer).   The university has partnered with Academic Partners to promote the program. Students can be located anywhere on the planet. This presents a different set of problems for the College of Business than some of the other colleges on campus. Many students in the Online MBA program would be unaffected by problems localized to Ward Island, Corpus Christi, or even South Texas. Further, while a campus closure for a week would be a small issue for local students, it would be 14 percent of an Online MBA course. These students have been promised that they can complete their degree in one year and the College of Business must be prepared to carry on their classes.

In addition to the compressed MBA online courses, TAMU-CC offers Maymester classes and two summer sessions. Maymester classes are conducted on a 10 class day schedule, while the typical summer sessions run five weeks. The university is planning to add 10 day classes in both August and January calendars in the near future. There are both on-campus and online courses offered with this format. These courses present an even more compelling need for continuity of service.

DIFFERENCES IN TIMING AND SCOPE OF DISASTER PLANS

Disasters can take many forms. Their effects on the university and the College of Business are a function of several factors. These factors include the specific nature of the event

(hurricane verses water outage), the timing of the event (when in the semester – beginning, middle or the end), the scope of the event (localized to just a portion of the island to the multi county region), and the duration of the event (from a few minutes to several months). One could envision a three dimensional matrix where the X axis could be the damage/nature of the event such as power to a particular building, loss of the water line coming to campus, loss of a single building, or major damage to the area. The Y axis would measure the length of time needed to correct the problem from a few moments to several months. The Z axis would measure the point in the term that the event took place as problems in the beginning of the term would have different solutions than problems in the middle and end of the term.

Clearly, the best problems are those that are of a very short duration and do not involve damage to the physical structure of the campus. As there is no physical damage, restoration of the particular problem allows all units to return to 100 percent function immediately. For small problems such as a power loss for a few hours, the solutions are fairly simple. Classes may be cancelled or not. A water outage may cause sanitation problems and the entire campus may need to be shut down. Still, the timing of the event should be considered. A minor problem in exam week may require a different solution than the first month of classes.

At the middle of the spectrum would be events that do not destroy any structures or services, but affect a large area. Meyer and Wilson (2011) investigated how the top 50 state institutions dealt with transitioning to online or distance learning for emergencies such as H1N1. In this case, all of the physical function of the university is available, but health agencies cautioned against large gatherings of people. The timing of these events may require different solutions. Class start dates may be delayed if the emergency occurs in the beginning of the term, short term closures may be appropriate if the event is expected to be short lived but occur in the middle of the term, while at the extreme, classes could simply be declared over and grades issued based on the work completed if the event occurs in the last days of a term.

At the other extreme are problems that destroy the physical plant of the campus and affect a large area. The timing of the event is now critical. TAMUCC (then The University of Corpus Christi) was hit by Hurricane Celia in 1970. Classes were delayed several weeks. McLennan (2006) reports that Hurricane Katrina made landfall in August 2005 two days before the start of Tulane University's scheduled start date. It was not until October 24 that Tulane began to offer online classes in a "mini fall semester". Hartman and Lundberg (2009) report that the University of New Orleans planned to start online classes on October 10. However, they also report several other problems for the university and its constituency, including that one of the authors, a department chair, was not paid. Faculty and students had to make "temporary" housing arrangements (lasting well over a year in many instances).

THE CHARGE

The Provost's office of Texas A&M University – Corpus Christi ordered each college to create a Continuity Plan in the event of a hurricane. From these plans the university will design and implement a unified plan, including a list of resource requirements each college expects the university to provide to be able to quickly resume classes. This paper discusses the results of the College of Business Committee that was created to address the requirements of the Provost's Office.

Disasters can take many forms. Their effects on the university and the College of Business are a function of several things, including but not limited to the specific nature of the event (hurricane verses water outage), the timing of the event (when in the semester), the scope of the event (localized to just a portion of the island to the a multi county region), and the duration of the event (from a few minutes to several months). Through emails and conversations with the Dean and the Provost it was the immediate task of the college committee to deal with a 'worst case' disaster and continuity plan. Committees from each college were formed to prepare plans to deal with the worst case (assumptions follow) scenario and outline what that college would need from the university to continue to deliver classes. The next section will outline or define the 'worst case' problem. We then outline the proposed solution, providing the solution to "what we were asked for". It will be left to a future committee to fully develop contingency plans for lesser problems.

THE "WORST CASE SCENARIO"

Trying to predict 'the worst that could happen' is a futile exercise. As bad as one thinks things can be, it can always be worse, and to even ask the question, "What is the Worst that could happen?" serves only to challenge the disaster gods. We assumed that the City of Corpus Christi (and the Island University) was hit by a major (category 3 or above) hurricane.

Hurricane Celia hit the Corpus Christi area on August 3, 1970 at just after 4 pm. (See http://www.srh.noaa.gov/crp/?n=celia1970 for more information). Sustained winds of 125 miles per hour were reported at the Corpus Christi Airport. The highest gust reported in the area was 161 miles per hour. The storm surge in the Corpus Christ bay front area was 4.9 feet. Damage to residential areas was substantial with damage reported to 70 per cent in Corpus Christi, 75 percent in Port Aransas and 90 per cent in Portland.

Damage to the University of Corpus Christi (UCC) was extensive. "After Hurricane Celia severely damaged the campus in 1970, civic leaders sought local and state support to convert UCC to a state-supported institution with an expanded curriculum."

(A Brief Campus)

The Corpus Christi Caller Times reported some comments by UCC's president Maroney.

"After Maroney's initial look at the damage, he told others it was time to get to work making repairs.

"We got to ... really get after it if we're going to get this place back together in time for school to start," he recalled.

He spent about 30 minutes in his office brainstorming and then began assigning employees responsibilities such as getting construction started and setting up a command post.

The university put about 300 Southwestern Bell employees in dormitories while they repaired phone connections. Power generators brought by the phone company also gave the university electricity within two days.

"We were shortly a beehive of activity," he said.

Alumni who heard about Celia also began showing up to help with repairs, Maroney said.

The college reopened about month later on Sept. 9."

(Boscamp, 2010)

Damage to Corpus Christi and the surrounding area was extensive. Electricity was out in many areas for weeks. The day after the storm, telephone service was expected to be out two to three weeks. While the water was uncontaminated, there was no water pressure. Even if a house was undamaged by the storm, it lacked electricity, phone and even water.

National Guard troops manned checkpoints on the highways leading to Corpus Christi. The Caller Times reported that traffic was backed up for 2 hours. Only people with IDs indicating that they were residents of the area were allowed to enter.

A department chair was a high school student when Hurricane Celia hit. In response to an email sent to the college faculty requesting their hurricane plans, he provided a firsthand description of what he experienced.

"Hurricane Celia hit town just before my senior year at Ray H.S. A different era, there was little notice and my surfing buddies and I were the last to leave the island thanks to a lone police officer who made us leave. Celia was a wind event, no storm surge, which is important. I lived in the Parkdale area and we had no utilities for 4 weeks. My grandparents lived in Lamar Park and went about 3 weeks with no utilities. About a week after the storm HEB (a local grocery store chain) sent 18 wheelers in from San Antonio with 50 pounds blocks of ice - 1 per person. Everything and more in the news article is true. For weeks after the storm glass windows popped out of the large office towers uptown. Woolco, which was where Sutherland is now in Parkdale, was pancaked. As the article said, Marshall law was applied but it was a different time and I recall no problems - grocers getting the word out to come by an get food before it was spoiled and so we did. It was orderly and everyone took just what they could use in a few days since no one had ice. I do recall one gas station operator who used a generator to run a gas pump

and tried to sell gas for $4 a gallon (the price was 23 cents a gallon then). I had friends on the UCC tennis team, nationally ranked, and visited them after the storm - total destruction."

Should a major hurricane strike the university and the Corpus Christi area, it is reasonable to expect that there would be considerable damage to the local housing stock, electricity in the region to be out for weeks, and cellular phones as well as traditional phones may be unusable for several days or weeks. Classes could not be held on campus for at least 1 month, perhaps longer (based on past experience with Celia). On campus student housing would likely not survive the storm and students, according to pages 3.8-3.15 of the university plan last updated   June   27,   2011, (http://www.tamucc.edu/marcom/hurricane/assets/hurricane_defense_plan.pdf), would be housed at Texas A&M University International in Laredo. Their return to TAMUCC would depend on the damage to student housing and the time it took to repair or the ability of the university to secure alternate housing for them.

Given the dependence our students (or perhaps our society) have on cell phones, a sustained loss of power would devastate our ability to communicate. Assuming that the cell phone towers were still standing, those without power will stop functioning immediately. Cell phone towers with battery backup would function for less than a day. Further, phone systems are often overwhelmed in an emergency, even if the system is undamaged.

Even if the cell phone system survives the storm, if our students and faculty are not able to recharge their phones, the devices are useless for communication. Similarly, without power, portable computers have a limited time of operation before they must be recharged. Without power, WiFi hotspots would not function, so even if a computer had battery power, it may not be able to connect to the Internet.

The first steps the committee took were to ask the faculty for their plans in the event of a storm and to initiate a literature review. This section of the paper will outline some of the comments from our survey of faculty, followed by some of the literature reviewed for this task.

 If CC were near the center of "the cone of death" of the hurricane tracking charts and it was a 'major hurricane' (class 3 or higher), what are your plans?

Most of the faculty indicated that they would leave for a major hurricane, but would ride out a weaker storm. Only two indicated that they would stay. One indicated that they had faith in the construction of their house and would stay to avoid being denied reentry to the area by authorities and to begin repairs, and prevent mold damage. The other indicated that they had evacuated before and felt safer at home than risking being stuck on a highway.

If you evacuate, how early might you leave, and how long do you expect to be gone?

Those that indicated that they would evacuate would try to leave at least 24 to 48 hours before the storm was expected to make landfall. Some would return as soon as possible, and others would wait until the electricity was restored and the university reopened. Two examples of replies are, "I would wait until the last minute but depending on the damage may stay away as long as possible." Another reply was, "I will leave town ASAP. I will return when the storm has passed and it is safe to return home."

If we could not use the island for a week or more what would you do about your classes?

This question provided a wide range of responses. One responded that they are fully ready to continue classes online through Blackboard. Another was prepared to use email to make and gather assignments. Others questioned whether any electronic communication would be available at all if the campus shut down. One assumed that if the campus was unusable, then the entire area would be so damaged that students would be more concerned with food and shelter than classes, so they were not planning to continue class.

The university's ability to bring Blackboard back online is certainly a critical issue. However, except for the students evacuated to Texas A&M – International, access to electricity and the Internet are preconditions for students to continue taking classes and that is beyond TAMUCC's control.

If a major hurricane or other disaster were to strike the South Texas area, why would it be important to quickly bring the university back on line? From the answers received some faculty felt that students would be more concerned with putting their houses back together than worrying about continuing their education. However, Hartman and Lundberg (2009) gave a few examples of comments from students following Hurricane Katrina after classes resumed online at the University of New Orleans.

"From Nicole, in my initial class, 'Online courses give me a chance to regain normalcy'

Danielle: 'Online courses gave me the opportunity to grow stronger each day'

Sherrie: 'I apologize for being so long winded, it's a hard story to condense, *particularly given this is the first time to tell it.* I'm really excited about classes starting to help keep my mind occupied. And I'm anxious to see how the rebuilding process for our wonderful city pans out."

(Hartman & Lundberg, 2009).   So it is not just the students that would be safely housed at the Texas A&M – International campus or the students in the Online MBA Program that will be anxious to continue their education, the local students will also be looking for a return to structure and normalcy.

LITERATURE REVIEW

President Eisenhower said,

"I tell this story to illustrate the truth of the statement I heard long ago in the Army: Plans are worthless, but planning is everything. There is a very great distinction because when you are planning for an emergency you must start with this one thing: the very definition of "emergency" is that it is unexpected, therefore it is not going to happen the way you are planning.

So, the first thing you do is to take all the plans off the top shelf and throw them out the window and start once more. But if you haven't been planning you can't start to work, intelligently at least.

That is the reason it is so important to plan, to keep yourselves steeped in the character of the problem that you may one day be called upon to solve--or to help to solve."

Dwight D. Eisenhower: "Remarks at the National Defense Executive Reserve Conference," November 14, 1957. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. http://www.presidency.ucsb.edu/ws/?pid=10951.

(Peters & Woolley, 1999). Disaster recovery planning articles generally agree that there are certain steps necessary to the creation of a plan to return to normal operations. Rohde and Haskett's (1990) paper focusses on academic computing centers and notes that disaster recovery planning involves four distinct phases: Prevention and Preparation; Prerecovery; Immediate Recovery; and Return to Normal Operations (Rohde & Haskett, 1990). Fallara (2003) paper is geared toward businesses and identified four similar steps for risk management: Identify processes and their resource requirements; Prioritize based on time sensitivity and criticality ("related to the cost entailed for a process to be out for a period of time"); Identify the existing threats; and "Define objectives for strategies to eliminate avoidable risk and to minimize the impact of risks that cannot be eliminated" (Fallara, 2003). Buchanan's (1988) book was written for libraries and archives and devotes ten pages to the process of planning and seven more pages to the contents of a disaster plan (Buchanan, 1988).

The Provost had already identified the problem. TAMU-CC is to prepare for a hurricane. Each college is to develop a plan. Landry and Koger (2006) wrote, "Myth 9: Disaster Recover can be Planned Individually. Planning for disaster recovery must be centrally coordinated, and the larger and more complex the organization, the more important this becomes." (Landry & Koger, 2006) Our task was to focus on the second of Rohde and Haskett's (1990) four phases, "Prerecovery". As the risk of a hurricane has been identified and it is not possible to avoid the risk, following Fallara (2003), plans must be made to minimize its impact on our valuable 'class time' or more appropriately 'course time' as we may not be able to actually be in class. However, as Eisenhower pointed out, events will not "happen the way you are planning" but the

hurricane contingency plans for delivering our education product to our students will be just as valid for dealing with health related issues such as H1N1 or anything else that prevents entry to our island campus.

In order for the committee to derive a plan for how to continue the business of educating our students we made a list of essential resources that would need to be provided by the university to facilitate the faculty. At a minimum the university would need to ensure that there will be sufficient computer capability. Faculty must have reliable access to both email and Blackboard. In addition, faculty would need the support of human resources by continuing to receive salary and access to other benefits such as insurance support. In addition, the committee recommended that upper level administrators have access to reliable communication such as satellite phones. In the event of a prolonged power failure or large scale failures, the ability to communicate with A&M System administrators, government officials and other administrators would be critical to the quick return to normalcy.

EMAIL

Buchanan recommended that "The plan must have an up-to-date list of appropriate telephone numbers or ways to contact key people and services (such as plumbers) in case of an emergency. Backup staff should be included if possible. This list should be updated regularly and a copy kept at the homes of all key personnel" (Buchanan, 1988). While a telephone or reporting tree is important and each administrator should be able to contact each member of their unit, when a hurricane warning is issued many faculty, staff and students will evacuate. Some students will be transported to emergency housing at another university (Texas A&M – International). Administrators may also evacuate. Even if a department chair had everyone's emergency contact phone number, would that number reach an evacuated faculty or staff member? After Katrina, no telephone service was available in New Orleans (Hartman & Lundberg, 2009). Therefore email addresses as well as phone numbers should be collected and retained by each department chair and upper administrator.

What email address, though? Many people have more than one email address and if the university email system is unavailable, no communication can occur. Faculty should also be provided with alternate email addresses for their students. McLennan (2006) described some of the experiences of Tulane University. "Still, in the early days after Hurricane Katrina made landfall, Tulane's email was not back online and it was necessary to compile manual lists of students' alternate email address and other contact information. Further, while the regular Tulane Blackboard system only uses student (and faculty) Tulane.edu email addresses … instructors could not send out e-messages through their course sites" (McLennan, 2006).

INTERNET PRESENCE AND BLACKBOARD

It is axiomatic that without a course delivery system, courses will not be delivered. Without an Internet presence, communication with faculty, staff and students is hampered. A

university home page can give updates on recovery efforts. Blackboard allows for efficient communication with students through email and the ability to post class announcements. Assignments can be made, collected and grades can be recorded. Many courses even now rely on Blackboard to supplement current classes. Instructors use the Blackboard system to post syllabi, PowerPoint presentation, assignments, quizzes, tests, host chat sessions, and even to hold virtual office hours. Should anything prevent classes from being held face to face, reliance on the Blackboard system will be increased. As it is currently used by a number of faculty members, it has the benefit of student familiarity.

However, Blackboard is not conducive for every class and not every faculty member would be able to use it without assistance. There are several potential problems trying to simply convert and "hold classes online". Could the university's servers, especially in the aftermath of a large scale emergency, handle the bandwidth of hundreds of students simultaneously trying to access the system? Could the system handle multiple classes trying to stream video? Could faculty adjust to these difficulties with limited or no administrative assistance or help desk support?

Some of the "lessons learned" from Tulane's experiences after Hurricane Katrina include:

"Prearranging and interruption of service agreement with your courseware platform provider that will provide your institution with alternative platform courseware and server space"

"…access to an e-mail function within each course site could contribute to effective deliver of post disaster online courses"

"Include simple course site administrator functions in the mandates/recommended training for all online instructors"

"Remind online instructors to keep (and/or evacuate with) copies of any teaching materials they would need to recreate their course sites"

"…redundant web site development capability is needed. That is, the recreation of an alternative website for continuing education academic unit was critical the University College's ability to communicate with displaced students, faculty and staff".

(McLennan, 2006)

An interruption of service agreement is likely not free. However, it is likely to be much cheaper than the $70,000 estimated cost of a hot-site for a medium sized main frame (Pastore, 1988). In a time of tightening budgets, will administrators attempt to find an alternative? "An apparent solution would be an agreement in which several institutions agree to provide backup for each other in case of an emergency. But most of the literature indicates that these reciprocity arrangements do not work even though they are widely promoted" (Rohde & Haskett, 1990).

Blackboard has the ability to email students registered in a course. However, after Tulane was able to access "loaner Blackboard space", the system was not linked to an email server.

Computer center administrators are often reluctant to decentralize their authority. Perhaps it is a fear that users will accidently make changes that are difficult or time consuming to repair, if they can be repaired or undone at all. However, when resources are strained, the ability to add a student to a class so that they can proceed with their education may take days to accomplish by an overworked central authority. Allowing faculty to manage their own classes may make sense. However, before faculty can accomplish tasks such as these, they must be trained.

Even for faculty who previously set up their courses on Blackboard, do they have the ability to recreate their course in the event of a catastrophic failure? Could they do so away from their office? Do they have the texts, flash drives, computers or access to get back online? In Tulane's case, after the flooding, the "Blackboard system was only brought back online for instructors to use to retrieve teaching materials (McLennan, 2006). The experience of a department chair at the University of New Orleans may be worse. After evacuating and moving a second time, this time to North Carolina (sharing a house with 17 people at the peak),

"we had no computers and none of us knew how to use the Blackboard or how to teach on line. … In effect, we had to locate textbooks and teaching materials, find ways to get them to students, and set up blackboard courses, a situation generally analogous to setting up a website for a course and 'discussion boards', which were similar to chat rooms for course topics. We also learned how to test online, how to correspond with students via Blackboard's email capabilities and similar activities. It was an enormous task to be completed in a very short time" (Hartman & Lundberg, 2009).

In the prerecovery stage faculty should already have their courses online. Their classes should be backed up onto a flash drive, laptop, or portable hard disk that goes with them when they evacuate. Faculty should know how to load a class into Blackboard. They should be given administrative authority and trained for simple class administration tasks such as adding students to the class.

PAY ET AL

Dr. Olof Lundberg was a department chair at the University of New Orleans when Hurricane Katrina hit. Initially he evacuated to Chicago for two weeks where he shared a one bedroom apartment where five adults were sharing one computer. He then evacuated to North Carolina, sharing a house with as many as 17 people. In this six week period he had to buy a computer and ran up a $1,000 phone bill. In addition to all of the difficulties of his job, evacuating two times before finally returning to New Orleans to stay with another friend because

his house was uninhabitable (for 15 more months), he did not get paid (Hartman & Lundberg, 2009).

If the university is going to be quickly and efficiently returned to a normal operating condition, university employees must be able to return to work and not worry about how they are going to pay to eat. As important as the return of the computer network is the ongoing back office support of the Human Resources office ensuring that all employees (faculty, staff and even administrators) are paid on time, maintain insurance capability and also have access to other support systems such as Employee Assistance Programs. "People who have experienced a disaster say they are surprised at the impact the emergency has on staff. The stress factor generally appears 90 to 120 days following a disaster (Rohde & Haskett, 1990). In addition, "It is also important for people not to work excessive hours. In emergencies everyone wants to do as much as they can, but for things to run smoothly over the long term it is important that people maintain a normal schedule" (Rohde & Haskett, 1990). As employees will already be under a great deal of stress it is critical that the university provide a timely paycheck, support dealing with health insurance providers, and support from the Employee Assistance Program.

COMMUNICATION

The flooding in New Orleans disrupted the phone switching station. Anyone with a New Orleans area code, no matter where they were on the planet, was unable to make or receive calls. Some businesses now provide executives with an additional cell phone with an area code from another section of the country.   Other businesses are paying for satellite phones for top executives so that they can stay in communication even if the normal phone system is disrupted. Additional cell phones with outside area codes are cheaper than satellite phones. However, they are just vulnerable to power outages and clogged networks as cell phones within a region. Satellite phones, though more expensive have the benefit of being usable outside the range of a normal cell phone network. As they are more expensive, fewer people will have them so there is much less likelihood that the satellite network will be overloaded. Like cell phones, they can be charged with a car's cigarette lighter. They should not be the first line of communication, but when the other systems are unavailable, it may be the only method of communication available. One of the lessons learned by the University of Southeastern Louisiana when it became a Disaster Recovery Center after Hurricane Katrina was the importance of reliable communication. "Additionally, the director of the UC is trying to obtain a set of satellite telephones to aid in communication in case cellular telephone service is knocked out as it was during Hurricane Katrina," (Lawrence & Shafer, 2007).

DEVELOPING THE PLAN

Meyer and Wilson investigated the websites of the top fifty public universities (those with the names "University of" or "State University") to investigate how/if these institutions had prepared to go online in response to an emergency. They found that 34 institutions had no

reference to online learning at all and only one mentioned online learning specifically (Meyer & Wilson, 2011). They commended the University of Washington's efforts in creating its Academic Continuity Toolkit.

The website (http://www.washington.edu/itconnect/emergency/act/) includes a readiness quiz, instruction on how to make your class available online, to communicate with your students, conduct your classes and how to work from home (University of Washington, N.D.). From the website, it is clear that The University of Washington does not use Blackboard as their course management delivery system, so the direct application of their method was not possible. However, it does provide an excellent example of what should be done to allow faculty to prepare their courses for alternate delivery.

Meyer and Wilson (2011) also highlight the work of the University of Wisconsin-Madison which modified a plan created by East Carolina University. Their site http://flu.wisc.edu/wp-content/uploads/2009/07/Preparing-your-course-for-social-distance-teaching.pdf ("Preparing your course for Social Distance Teaching") provides guidance to create "a short term response to a crisis: it is "good enough" instruction, which we recognize is a significant departure from the exemplary instruction we are used to providing" (University of Wisconsin - Madison, 2009). The PDF provides an example syllabus statement,

"In the event that this course is no longer able to meet face-to-face, students should (first go to section XX in this syllabus and complete the alternative assignment) and/or (immediately check the course site and read the announcement) and/or (etc.)…" (University of Wisconsin - Madison, 2009).

The site also includes outlines of two scenarios. The first is "Just in Time Planning" and assumes that faculty and students will have internet access. Several alternatives to face to face delivery methods are suggested and websites are included to link to those suggestions. They also provide several examples for alternative individual and group assignments that may be appropriate for a short duration event.

The second scenario (Just in Case Planning) assumes that students or faculty will be without internet access or computers. "Under these circumstances a great deal of pre-planning must go into syllabi and materials development." In this case, the syllabi would include a "just in case" section outlining what the alternate assignment would be and when face to face classes resume. Assignments from the current textbook could be an option (University of Wisconsin - Madison, 2009).

Lawrence and Shafer (2007) described the experiences of Southeastern Louisiana University when it became a disaster recovery center after Hurricane Katrina hit the New Orleans area and Hurricane Rita threatened the area (Lawrence & Shafer, 2007). The focus of the paper is on preparing the campus or a particular part of the campus for a storm and its aftermath. They outline the seven broad phases of actions that should be performed. The first

phase is an 'off season' planning phase. Phase II is the entire hurricane season. Phases III through VII outline the responses to a Hurricane Watch through the post hurricane clean up and restoration. While the specific details are geared more to the physical plant of Southeastern Louisiana University, breaking down the continuity plan into phases may be helpful.

NEED FOR TRAINING

Are faculty prepared to exist in a Blackboard environment without the assistance of a help desk? Can they load course materials to the servers away from their offices?

Are the campus IT professionals prepared to operate the university's home page and course delivery packages from the back up site (assuming one even exists)? "In many organizations there is the prevailing notion that in the event of a disaster, employees will conduct business at the DR (disaster recovery) site. The problem is that many employees have never set foot in it and to search for the DR site in an emergency is one of the worse things that can happen," (Landry & Koger, 2006). As a specific example of 'on the job training', "None of the key personnel in charge of campus facilities had gone through any type of formal shelter training" even though the University of Southeastern Louisiana' Kinesiology Building is a designated American Red Cross special needs shelter (Lawrence & Shafer, 2007).

Training is an essential step in the preparation stage. Untrained faculty cannot begin to prepare their courses for any alternate course delivery system. IT professionals must be familiar with the location, set up, and even the limitations of any back up sites that the university would use. It is too late for training once the Hurricane Watches are posted.

TESTING: THE MISSING LINK

Some say "practice makes perfect". Others counter, "perfect practice makes perfect". Once a plan is developed it must be tested. Until it is tested will anyone know if it will work? If the plan will not work when the weather is clear, it is too late to try to fix it once the hurricane has passed. Worse, if the plan was never tested where would one start to diagnose the problem? Is the failure a result of the emergency or was it destined to fail because of a design failure? Without a test under 'perfect conditions', how could potential problems be diagnosed and cured? Wold writes, "an initial test of the plan should be performed by conducting a structured walk-though test. The test will provide additional information regarding any further steps that may need to be included, changes in procedures that are not effective, and other appropriate adjustments," (Wold G. H., 1997).

The failure to test is sad, but not unique. "…while we have done isolated tests, we have not done a full-scale mock disaster and we believe we should. Testing is the phase in the disaster recovery which is mostly overlooked," (Rohde & Haskett, 1990).

Where are we? Afraid. Very afraid.

The continuity plan was approved by the faculty of the College of Business in April of 2012. Several faculty members are proficient in Blackboard as they have used it for quite some time. Additional faculty members have gone through the eight hour Blackboard training sessions offered on campus. At the start of the Fall semester of 2012 the Dean has directed the department chairs to identify the stage of readiness for each class offered in the College of Business. Many classes are ready for an emergency and many more are not.

Over the summer College of Business staff, including the college's IT professionals, began entering the College's contingency plans into the "Islander Ready" system. This is an online resource that prepares continuity plans. Each functional area on campus is required to complete one. Purchasing began its plan in May of 2010.

The university is rumored to have a back-up site in South Texas. Though several inquiries have been made to the administrative unit in charge of Blackboard and the university network, no clarification has been received detailing what may be there. Further, the university continues to suffer from Blackboard failures. Worse, in May of 2012 faculty were informed that the system would be taken down for a short time while equipment was replaced. Representatives from the College of Business suggested that this would be an excellent opportunity to test the back-up site. However, instead of testing the site, the system was taken offline.

In the last three months of this writing, the Blackboard system has failed at least a few times. The longest failure lasted 46 hours. The most recent failure occurred the morning the president made an announcement that the university was expanding Blackboard to be used with iPods and iPhones. No College of Business representatives to the university IT committee can authoritatively confirm that the university has ever tested any back-up capability or is prepared to operate at a back-up site in the event of an emergency.

CONCLUSIONS

This paper presents the product of a College of Business committee to create a continuity plan in response to a natural disaster such as a hurricane. This paper has briefly outlined the literature on disaster recovery literature and the experiences of some New Orleans area universities to Hurricane Katrina. The importance of continuity of the course delivery system, email access, alternate communication methods and continuation of Human Resources support are discussed. The work product of the committee are included an appendix to this paper.

Colleges and universities seeking to create their own plan are referred to Meyer and Wilson's (2011) outstanding investigation of flagship universities attempts to deal with the possibility of closures to control the spread of the H1N1 virus. In addition the websites from the University of Washington and the University of Wisconsin- Madison are invaluable references to start.

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Appendix 1: TAMUCC College of Business Contingency Plan approved April 2012.

Contingency Plan
College of Business, TAMU-CC

This College of Business Contingency Plan is based on the assumption that a University-wide Contingency Plan will be available to support college activities.

Preparation ---- Implementation: Summer 1 2012 and on an ongoing basis
Faculty members

If not familiar with Blackboard (Bb), faculty must enroll in a Bb training class.

Post syllabi, handouts, PowerPoint, any lecture notes, etc. for each course in course shells provided in Bb.

Enter any test banks used for each course in Bb or make plans for alternative delivery of exams. Staff can help obtain these files from the textbook publishers to upload to Blackboard. These can be hidden from the student's view until you choose to make them operational.

Construct alternative exercises, cases, discussion questions, etc. to substitute for in-class materials. These can also be hidden and ready in the appropriate tabs in Bb.

Utilize the Bb gradebook to keep students up-to-date on their progress. This also serves as a reminder to students of graded assignments (should they misplace their syllabus).

Have duplicate textbooks and other course materials at home or at an alternate location.

Secure access to any online textbooks or websites for your course (if any). Coursesmart.com is a website that can be used to download your text (your textbook representative can give you access).

Duplicate your university computer files on a portable device.

Add the following statement to each syllabus:

If unexpected events require that the university be closed for a portion of the semester, faculty will post instructions about the course in Blackboard (iol.tamucc.edu) and send information about the class to students' Islander email accounts. Students are expected to login to

Blackboard as well as check their Islander email account to receive information from their instructor regarding any changes to the class necessitated by the university closure.

College of Business

Provide faculty with a back-up device for university computer files.

Consider replacing faculty CPU towers with laptop computers at replacement time.

Provide assistance in preparing faculty member's Bb sites. Obtain textbook publisher material for faculty as needed.

Book supplements

Test banks

Syllabus

Gradebook

Other services as needed

Short-term Closure ---- Implementation: Summer 1 2012

This plan assumes that Blackboard and email access will be uninterrupted (or interrupted for 1-3 days or less) AND that faculty and students have access to the Internet.

Faculty members

Must have access to a laptop or comparable device. Faculty members can check out a laptop from the College of Business IT services if needed.

Backup university computer files on a portable device.

Prepare a travel kit with materials needed to conduct your classes at a distance.

University

Provide

A means of dependable communication, such as satellite telephones for upper administration, including Deans.

Ensure Blackboard system is running and helpdesk is available for support.

Islander help desk for both students and faculty that can be accessed by telephone or email.

Ensure faculty and student email servers are running

Ensure faculty webpages are running (faculty.tamucc.edu)

The ability to temporarily extend the semester and post grades for an extended time after the event, should this occur at or toward the end of the semester.

Long-term Closure

This plan assumes that the University Blackboard and Internet services are in place, but the campus is damaged to the point that faculty and students cannot gain access for an extended period (one week or longer).

College of Business and Faculty

Determine which courses can be delivered via Blackboard, either entirely or until the campus facilities are repaired.

Ensure that courses are prepared according to the Preparation Plan

University

Provide

A means of dependable communication, such as satellite telephones, for upper administration, including Deans.

Blackboard service.

Islander help desk for both students and faculty

Email access for faculty and students

Faculty website server operational

Temporary housing and computer lab access at another university campus for students, so that students can continue their coursework remotely

Ensure

Salary and benefits continue

Provide alternative means for accessing health insurance information

If the long term closure starts at least half way through a semester, the university provides

The ability to temporarily extend the semester and post grades for an extended time after the officially semester ends.

If the long term closure starts at least ¾ of the way through a semester, the faculty, College of Business, and/or the university should determine at what point the total grade earned becomes the final grade, or if an incomplete would be the reasonable choice.