Chapter 7
Lessons of Disaster Recovery Learned for Information Systems Management in US Higher Education

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ABSTRACT
Most U.S. universities planned and prepared their disaster recovery (DR) and business continuity strategies for their Information Systems after the September 11th attack on the United States. The devastating hurricanes and the most recent catastrophic earthquakes caused unprecedented damage for many campuses within a decade. Some of their plans worked and some of them failed; however, with these lessons learned, Information Systems Management for U.S. higher education must be reexamined, re-planned and redesigned, including DR strategies and procedures. It is equally important that the curriculum of Management Information Systems be updated along with updated DR concerns for all educators in U.S. universities.

INTRODUCTION
Lessons learned from the past decades - the hurricane Katrina in New Orleans, the terror attack on the World Trade Centers, mudslides in the West coast of North America; massive floods in China; and the Boxing Day tsunami in Southeast Asia, and the most recent catastrophe earthquake in Haiti propelled Disaster Recovery Planning (DRP) to the highest status in almost all organizations. Whether commercial, governmental, or educational businesses — rely on some form of
technology to manage the various parts of their operations. A disruption to the availability of any of these resources, if even for a few hours, can have serious consequences for their ability to function at normal capacity. These disasters brought about the loss of essential services. More seriously, they may damage the most valuable property of the organizations – their critical information. How quickly and how much the organizations recover their lost properties and resume their operations depends on how well they prepared their recovery technologies and systems. This is where disaster recovery planning comes into play.

Compared with other business organizations, the development of disaster recovery planning for Information Systems Management, in particular in US higher educational institutes has received little attention. The goal of this research is to alert our schools with important facts and practical approaches of their information systems management on how to plan and prepare necessary recovery procedures to prevent from possible terror attacks or natural disasters. Another purpose of this research is to advocate and explain the necessity to integrate the DRP education with other emerging information technologies for the current Management Information Systems (MIS) curriculum.

The integration of enhanced DRP concerns and up-to-date technical solutions in US campuses along with the joint efforts of university IT groups and MIS faculty is emerging as an effective and potentially invaluable resource for answering such questions in regards to disaster recovery planning and management (Toomey, Frost, & Jennex, 2009).

LESSONS LEARNED FROM MAJOR TRAGEDIES

Property Loss

Nine years after the terrorist attacks that brought down the twin towers of the World Trade Center (WTC) on September 11th in 2001, this tragic events was not only deeply remembered by all American people, but also was best learned as a most fundamental lesson for our entire country. Similarly, Hurricane Katrina and Rita devastated entire New Orleans city, ravaged the Southern United States, most Gulf Coast and a large area of Texas five years ago. In addition to several thousands of casualties suffered from both disasters, hundreds of business organizations were wiped out in just few hours. Business giants and tech industry found themselves so vulnerable and paralyzed easily with no offices, telephones, email, or computers. While 250 of a total of 450 WTC tenants declared business disaster, 150 went out of business (IAGS, 2004). Price-Waterhouse-Coopers estimated later that the overall WTC losses were approximately $40.2B. And the losses from business interrupted economic activity caused by Hurricane Katrina exceed $100M per day. This natural disaster is considered the costliest one ever - with the estimated total loss of 125B and insurance industry slice of the clean-up bill reaching as much as US$60B (Foster & Irusta, 2003).

Information Systems Disaster

Disaster recovery planning is one of those management tasks that’s easy to overlook (Law Office Management & Administration Report, 2008). Destroyed property losses are comparably recoverable. However, business interruption losses, especially losing critical data, are immeasurable and usually non-recoverable. Above 30% of WTC losses from September 11 attack represent business interruption costs. Of companies that suffer a major loss of computerized records, 43 percent will never reopen, 51 percent will close within two years and only 6 percent will survive long-term (Hoey, 2008). Information is the life-blood of any organization, and operating without it is a ‘non-starter’ (Bradbury, 2008). Lighthouse Technology reported that annual data loss to PCs cost US businesses $11.8B in 1998. In 2001, the business downtime caused loss was $1,010,536 per hour for an average of all industries (Peterson,
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