Chapter 11
SOHO Users' Perceptions of Reliability and Continuity of Cloud-Based Services

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ABSTRACT

The adaptation of cloud computing services is continually growing because of its popularity, its ubiquitous, ease-of-use, and inexpensive nature. Small office/home office (SOHO) businesses are joining large organizations and purchasing cloud services to help with the continuity of their business services. However, cloud computing and its effect in business continuity and information security by SOHO users is not well understood. A qualitative case study was conducted to examine the perspectives of SOHO users of cloud services during Hurricane Sandy in the states of New York and New Jersey. SOHO cloud users were questioned about their understanding of cloud services for business continuity, the services provided by cloud vendors, and their perceptions about cloud data management and security services. The results of this study demonstrated that SOHO users gravitate to the cloud because it of its ubiquitous nature, however, they lack understanding of the business continuity and disaster recovery features and their impact in data security and, their business endurance.

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INTRODUCTION

Since 1980, one of the strengths associated with information technology (IT) management is the ability to collect and store information or data electronically through digital means. After data are collected and stored, they must be protected. Security of data involves the protection of their confidentiality, integrity, and availability (Gelbstein, 2011). Traditionally, data in electronic form have been protected by physical means (e.g., hard-drives, tapes, and compact discs) and are stored, physically, in hot-sites (production site) or warm-sites (a redundant site that will take hours to get up to production level).

Because of its reported low cost and ease of use, cloud computing is reportedly becoming the de facto standard by which information is backed up, stored, and retrieved (Choudhary & Vithayathil, 2013). However, concerns surround cloud computing regarding whether it can effectively provide the necessary protection of confidentiality, integrity, and availability that traditional backup and retrieval systems have been providing with data in motion or data at rest (Ahmed, Chowdhury, Ahmed, & Rafee, 2012; Anthes, 2010; Bedi, Marwaha, Singh, Singh, & Singh, 2012; Choubey, Dubey, & Bhattacharjee, 2011; Mohamed, AlSudiari, & Vasista, 2012). One of the major concerns is whether the cloud will work well under duress such as a manmade or natural disaster.

An IT organization's business continuity/disaster recovery plan provides a structured approach for responding to unplanned incidents, which threaten an IT infrastructure (Speight, 2011; Takazawa & Williams, 2011; Tammineedi, 2010). The business continuity planning process is the assessment of the potential risks to the business and business data that could be caused through critical incidents, catastrophes, or emergencies. Experts must consider all the possible incidences and the impact each may have on the organization's capability to continue to provide its normal business services.

Arora and Gupta (2012) explained cloud computing as business continuity while Speight (2011), Takazawa and Williams (2011), and Tammineedi (2010) defined disaster recovery as a contemporary disaster plan, and Lawler (2010) explained the tolerant cloud model. However, few studies exist on how the cloud can be used as a tool for the backup and retrieval of business critical data, or how it can be used as a disaster recovery tool.

In this study, the researchers used Hurricane Sandy, a natural disaster, to identify the resilience of the cloud and business continuity services when small office/home office (SOHO) cloud users were under duress. In October 2012, Hurricane Sandy emaciated the Atlantic coast with record winds and flooding. The storm's devastation left approximately eight million people without power; businesses shut down for days, and more than $800 billion accrued in damages. In the United States, among