Social Media – Viable for Crisis Response?

Experience from the Great San Diego/Southwest Blackout

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ABSTRACT

On September 8, 2011, the Great San Diego/Southwest Blackout occurred affecting approximately 5 million people. This paper explores the availability and use of social media as a crisis response tool following such a crisis event. Contrary to expectations, Internet and the cell phone system had less than the expected availability and as a result, users had a difficult time using social media to status/contact family and friends (even though they wanted to). This paper presents a survey exploring and analyzing the use and availability of social media during the Great San Diego/Southwest Blackout event.

Keywords: *Cell Phone System, Crisis Response, Internet, San Diego/Southwest Blackout, Social Media, Social Media Availability as a Crisis Response Tool*

INTRODUCTION

To mitigate the unpredictability of crises and the complexity of crisis response affected individuals and first responders are using new technologies, particularly social media, to help organize and coordinate crisis response. Examples include:

- Concerned citizens used a wiki after Hurricane Katrina to organize, collaborate, and rapidly create the PeopleFinder and ShelterFinder systems (Murphy & Jennex, 2006).
- Citizens affected by the 2007 San Diego Wildfires used a wiki to pool knowledge on which homes burned and which survived when the local media failed to support their needs (Jennex, 2010).
- Mumbai citizens used twitter to report their status, let others know where to find friends, relatives, etc., and to solicit blood donations following the 2008 Mumbai terrorist attacks (Beaumont, 2008).
- Victims trapped by falling debris during the 2010 Haiti earthquake used texting and/or Facebook to alert their friends/family to their location and condition (Boodhoo, 2010).

These anecdotes provide evidence of the value of social media to individuals in responding to crisis. However, on September 8, 2011 a wide spread blackout struck southern Cali-

DOI: 10.4018/jiscrm.2012040104

fornia, including San Diego, and parts of Baja, Mexico. San Diego State University was closed as a result in the late afternoon with students and faculty released to rush hour congested freeways. During the drive home the author was contacted by local news stations for comment. This proved very difficult as cell reception faded in and out. Since this was not normal for this region it caused the author to wonder if the blackout was affecting cell availability. This led to contemplation on if other social media were experiencing availability (note that this paper defines availability as something that is usable upon demand) issues and ultimately to wondering if the blackout was an opportunity to explore social media availability and use during a large scale crisis. This paper reports on an exploratory study conducted on the availability of social media during the blackout and to help answer the question, is social media currently a viable option for crisis response during a large scale disaster. (Note that there is no Federal or Universal scale for classifying emergencies, for this paper a large scale emergency and disaster is one that affects all or nearly all residents in a large geographical area. San Diego County, according to Wikipedia (2012) has a population of over 3 million people, encompasses an area of over 4500 square miles (over 11,700 square kilometers, has over 70 miles of coastline, 16 military bases, 4 major universities, a nuclear power generation facility, and widespread industries such as communication, biotechnology, healthcare, and information technology).

SOCIAL MEDIA

Plotnick and White (2010) describe social media as generally being attributed to the collaborative applications supported by Web 2.0 technologies. These include, but are not limited to, Twitter, Facebook, My Space, wikis, and blogs. Blogs, wikis, and My Space were the first applications becoming popular in the early 2000s while Facebook and Twitter are more recent creations. Cloud computing infrastructure is making social media applications more resilient and available; however, the methods users utilize to interact with social media applications are not. Most users access social media applications using their laptops, home computers, or mobile/smart telephones. Cloud computing infrastructure can be supported by self contained back up power supplies to ensure they remain operational should grid power be lost. Home connections rely on grid power to run their computers. Should that power fail, batteries are usually available for laptops and some users have uninterruptible power supplies (UPS) for their desk tops. In both cases broadband users rely on their modems/routers to connect to their Internet Service Provider (ISP) and these modems/routers may not be connected to a UPS. Mobile connections rely on the cell phone infrastructure to connect to the Internet. The cell phone infrastructure relies on a series of cell towers to connect mobile phones to the telephony system. Back up batteries are included in cell phone towers should grid power be lost. Ultimately, social media application availability is not just reliant on having a resilient platform on which to run. Availability is also dependent upon having a resilient and usable upon demand connection system (cell phone infrastructure, landline infrastructure, cable infrastructure) and interface system (mobile, laptop, desktop). The availability issue then becomes that of being a complex system of inter-reliabilities between multiple systems owned and operated by different, and sometimes, competing, companies.

THE GREAT SOUTHWEST/ SAN DIEGO BLACKOUT

The Great Southwest/San Diego Blackout began at 3:38 PM on Thursday, September 8 2011 when a maintenance worker in Yuma, Arizona performing maintenance on a 500 kv (kilovolt) transmission line caused that line to trip, stopping power flow to San Diego. The line was restored to operational status within several minutes but during that period of inoperability instabilities in the grid caused a power generator in Mexico to trip offline. The