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SOCIAL NETWORKS AND THE REPORTING OF DISASTERS

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CHAPTER
THREE

**SOCIAL NETWORKS AND
THE REPORTING OF DISASTERS**

***Gambo Shehu Nababa &
Hassan Alhaji Ya'u***

Introduction

This study explored how active users of social networking sites report serious happenings around them with specific consideration to the flooding that affected millions of people in Nigeria in 2012. It is assumed that understanding how the people used social networks for emergency and humanitarian intentions will provide a clue on how to structure emergency preparedness through social networking sites in the country. The study is quantitative and largely a descriptive analysis of the variables employed in the study.

According to the Centre for Research on the Epidemiology of Disasters (CRED), in 2012 Nigeria ranked third globally both in the rankings of numbers of people killed as a result of natural disasters as well as rankings of numbers of victims of natural disasters. “Among countries figuring in the 2012 top ten for the number of victims, the flood in Nigeria accounted for the highest number of victims of over seven million” (Guha-Sapir, Hoyois & Below, 2013, p. 21). The 2012 flooding affected over seven million people, displaced 2.3 million people, killed over 363 persons and destroyed or damaged about 597, 476 houses in Nigeria (Soriwei, 2013).

After assessing the level of damage caused by the 2012 floods, Nigeria's President, Goodluck Ebele Jonathan said there was the need for greater public enlightenment and advocacy to ensure compliance with measures that had been evolved to help the victims

and control the devastating floods across the country (Wakili, 2013). This indicates the gravity of destruction and damage caused by the 2012 floods disaster in the country and the importance of proper public enlightenment to ensure appropriate management of the disaster.

At times of mass emergency, “affected populations are suddenly placed in a position to make decisions and then act on those decisions. However, information about the situation (be it a flood, wildfire, earthquake, etc.) is often challenging to obtain” (Vieweg & Starbird, 2010, p. 1).

Social networking sites, blogs and other social media technologies are becoming reliable tools for sharing information to target audience in a timely manner especially during emergencies (Osatuyi, 2013). This might not be unconnected to the rapid acceptance the networks witness among people particularly the younger generations. For example, Facebook which was launched in 2004 has been rated as the world's top social network with 1.2 billion users (Anon, 2014). In sum, the number of channels available to disseminate information has increased rapidly (Jurin, Roush & Danter, p. 2010).

The mainstream media were found to be the main source for disseminating information of the 2012 flooding disaster in the country. Information was disseminated to all nooks and corners of the world through various channels. It is against this backdrop that this study explored how social networking sites were used to report the 2012 flooding in Nigeria particularly by the youth who are said to be 'the most consummate mobile telephone users (Ling, 2007)'.

Use of conventional media in reporting natural disasters

In a study on the roles of local and regional mass media in natural and technological disasters, Quarantelli (2002) analysed two bodies of data. One was the fairly large number of publications on social aspects of mass communication and the other was the series of studies that the University of Delaware's Disaster Research Center (DRC) has conducted for around two decades on mass communication, almost all of which were done in a disaster context. The study found that media organizations that provide information about disasters in their communities provide very extensive coverage. In one DRC study, local newspapers examined in nine communities struck by a disaster found the range of coverage was from 44 to 160 stories, with an average of almost 90 concerning the disaster in each newspaper. Of these news accounts, 33% appeared on the front page and 55% within the first three pages. In addition, a total of almost 700 photographs accompanied the 904 stories. The study also indicated that citizen sources were employed more than usual, and used in different ways by newspapers and broadcast organizations. However, their usage was rather complicated. Different prevailing conditions create different patterns of usage on the part of radio/television and newspapers. Thus, the size of the media organizations involved and the

scope of the disaster also affected such usage of citizen sources (Quarantelli, 2002). Mass communication system studied by Quarantelli centred on traditional media disaster reporting thereby providing a gap to study new media.

In 2012, Houston, Pfefferbaum and Rosenholtz studied depictions of eleven major natural disasters on national newspapers and broadcast television news in the US from 2000-2010. The study found that: mass media covered natural disasters for shorter periods of time than other issues; that media coverage tended to focus on the impact of disasters on humans, the built and the natural environment; disaster economics were an important topic; disaster media coverage generally focused on the state and region related to the event; and disaster news were largely about what was happening during the event (Houston, Pfefferbaum, & Rosenholtz, 2012). The conclusion of the study was that if the media's role in disasters was only to communicate warning to the public, describe what occurred, and keep the public informed post-event, then the results described were satisfactory. However, if the media also have a role to contribute on individual and community preparedness, recovery, and resilience, then the results were somewhat disappointing (Houston, Pfefferbaum, & Rosenholtz, 2012).

Use of social networking sites for information sharing

Social networking sites or services “are primarily web-based and provide a collection of various ways for users to interact, such as status update, chats, messaging, e-mail, video, games, file sharing, blogging, discussion groups and more” (Haddow & Haddow, 2009, p. 164). “Social networking sites are applications that enable users to connect by creating personal information profiles, inviting friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other” (Kaplan & Haenlein, 2010, p. 63).

In a 2010 study of the role of social networking sites in planning processes, Evans-Cowley examined the extent to which the public and planners were using social networking sites to organize the public around place-based planning issues in seven countries, but the data was primarily collected from Canada, United Kingdom and United States. Planning departments were contacted to determine the degree to which the social networking groups influenced the planning process. The study found that there was minimal influence of the networks on the planning process but concluded that online social networks had the potential to become more successful tools for information dissemination (Evans-Cowley, 2010). This conclusion has indicated the need to further explore how the social networks are used to share information in other situations.

Yates and Paquette in 2011 studied how the social media technologies were used, what influences they made on knowledge sharing, reuse, and decision-making, and how knowledge was effectively maintained in the 2010 Haitian earthquake. The study found

that social media technologies hold great promise to influence public participation in disaster response. The findings also indicated the networks' advantages when used within formal organizations to support open, collaborative knowledge sharing and reuse. "When properly employed, the benefits of social media support are faster decision cycles and more complete knowledge resources" (Yates & Paquette, 2011, p. 12).

A 2012 study on the use of information technologies for knowledge sharing by secondary healthcare organizations in New Zealand found that the country's District Health Boards used a range of ITs to share knowledge. Knowledge sharing activities emphasizing the sharing of explicit knowledge (via exchanging documents in electronic form) were significantly more common than knowledge sharing activities emphasizing the sharing of tacit knowledge (via technology-mediated discussions and via using technology to connect employees to experts). The study concluded that, in view of the finding that several organizations were making extensive use of teleconferencing and videoconferencing facilities and expert databases, these technologies are useful and could be of benefit to other healthcare providers and that barriers to their adoption could be overcome (Ali, Whiddett, Tretiakov, & Hunter, 2012).

The use of social networking sites and other social media platforms to share information is gradually complementing the traditional media outlets such as television, newspaper, and radio. However, while the advantages are becoming obvious, there is limited academic work examining online social networks as they relate to reporting natural disasters and in specific flooding disaster as argued by Yates and Paquette that: "Little research exists on the design of social media and knowledge management technologies for emergency management, including how they differ from other organizational systems with respect to usability, portability, open standards, and durability in a post-disaster environment" (Yates & Paquette, 2011, p. 12). More importantly, "the knowledge on how to effectively share information on social media sites is crucial in order to actively engage the target audience", (Osatuyi, 2013, p. 2624).

The literature indicates lack of empirical studies that investigate how the social networks were used to report natural disasters particularly in the Nigerian context. Therefore this study is needed.

Citizen Journalism

Unlike journalists working with the mainstream media, citizen journalists have a lot of independence in determining what to report or share to other audience. In the conventional media, no individual acts entirely alone because of factors such as gate-keeping that affects what ends up on the printed page or over the air (Vivian, 2003). Citizen journalists are popularly known as "first responders of the wired world" and are 'former' mass media 'audience' armed with online information, photo and video sharing technologies" (Haddow

& Haddow, 2009, p. 117).

As such, citizen journalism is about non-trained journalists reporting information through networked computers and other interconnected devices. Citizen journalism is the act of citizens “playing an active role in the process of collecting, reporting, analyzing, and disseminating news and information” (Bowman & Willis cited in Haddow & Haddow, 2009, p. 114). Majority of the new-breed citizen journalists were under thirty and so was their target audience (Bainbridge, 2014). In Brazil, during street protests that rocked the country at the eve 2014 World Cup for example, a new group of citizen journalists, frustrated by mainstream media coverage, used digital tools to tell a different side of the story.

The increase of information sources as a result of networked computers and other interconnected devices has encouraged significant changes in the availability and nature of sharing information particularly during emergencies. Technology has provided opportunity for people to connect with public officials and relief agencies (Vinck, 2013). A 2007 study on e-government, social networks and effective emergency management concluded that: “With a cell phone, every resident is a potential reporter of emergency information, a potential responder to provide community support to those affected in an emergency, and a potential recipient of information that might prove lifesaving” (Jaegera, Shneidermanb, Fleischmanna, Preecea, Qua, & Wua, 2007, p. 601).

Theoretical Background

This study adopted the uses and gratifications theory as its theoretical background. Uses and gratifications theory is concerned with how people use the mass media to satisfy their needs. “The theory is based on the assumption that the audience is proactive and seeks media that satisfy their needs and that different media compete to satisfy each individual needs” (Daramola, 2003, p. 33). The idea that media use depends on the perceived satisfaction, needs, wishes or motives of the audience member is almost as old as mass media research itself (MacQuail, 2005).

Researchers have begun to study the ways that cable television and other new media are offering user choices related to the user's pursuit of uses and gratifications. Consequently, the uses and gratifications theory was successfully applied to a range of new media and related technologies (Eighmey & McCord, 1998). The uses and gratifications theory could be utilized to explore the impact of the new technologies on the audience; and theories of the uses and gratifications have been refined, revised and extended accordingly (Jin, 2002). These arguments suggest the need to explore how audience use social networking sites to share information about the 2012 flooding in Nigeria.

Method

This research is exploratory in nature and aimed at establishing beginning familiarity with variables employed in the study in the Nigerian context. For this reason this study adopted a descriptive survey and questionnaire instrument is used as method of data collection. The survey instrument was used to examine how active users of social networking sites reported 2012 flooding in Nigeria. However, there were preliminary discussions with respondents to ensure that they met the characteristics of those to participate in the study before administration of the instrument. Copies of the questionnaire were administered to a purposive sample of 120 active social networks users in the three northern geo-political zones, 40 users were interviewed from each state in the zones (Kano, Bauchi & FCT) In all, 107 copies of the questionnaire were retrieved and found useful for analysis.

The social networking sites explored in this study were Facebook, Twitter, WhatsApp, Blackberry Messenger (BBM) and LinkedIn. Others are Google +, 2go, Wechat and Viber.

Participants

Participants were active users of social networking sites who were connected to the sites for at least four years i.e. from 2011 to 2014 and were between the ages of 17 and 40 years. Male respondents that participated in the study were 60.7 per cent and 39.3 per cent were females. The survey instrument was administered by the researchers and two research assistants and the survey was open for data collection for a period of three months (from January to March 2014).

Data preparation and analysis

SPSS version twenty was used to conduct analyses in this study. Response frequencies and percentages were conducted.

Research questions

1. What were the frequent social networking sites that active social network users used to share information among themselves?
2. To what extent did active social network users share information about the 2012 flood disaster in Nigeria?

Findings:

The 107 respondents were asked to indicate the networks they use frequently among the nine social networking sites identified in the study. Facebook had the highest usage with 76.6% users. It was closely followed by WhatsApp with 75.7%. BBM, Twitter and Google + were also rated by the respondents with 43.0%, 39.3% and 19.6% respectively. The result also showed that the remaining networks received little attention in relation to frequent usage by the respondents. Viber had 14.0%, 2go 8.4%, Wechat 4.7% and LinkedIn 1.9%.

Table 1 provides interesting findings of the same variable by gender of the respondents. While majority of the male respondents identified Facebook, WhatsApp and Twitter as their most frequent used social networking sites; majority of the females identified WhatsApp, BBM and Facebook as the most frequent used networking sites.

Table 1: Respondents frequent usage of social networking sites by gender.

Network		Gender of the Respondents			
		Male		Female	
		F	%	F	%
Facebook	1	65	100.0	17	40.5
	2	0	0.0	25	59.5
Twitter	1	34	52.3	8	19.0
	2	31	47.7	34	81.0
WhatsApp	1	48	73.8	33	78.6
	2	17	26.2	9	21.4
BBM	1	24	36.9	22	52.4
	2	41	63.1	20	47.6
LinkedIn	1	2	3.1	0	0.0
	2	63	96.9	42	100.0
Google+	1	17	26.2	4	9.5
	2	48	73.8	38	90.5
2go	1	5	7.7	4	9.5
	2	60	92.3	38	90.5
Wechat	1	5	7.7	0	0.0
	2	60	92.3	42	100.0
Viber	1	8	12.3	7	16.7
	2	57	87.7	35	83.3

1=Yes
2=No

Table 2 shows frequent usage of social networking sites by education of the respondents. The findings indicate 100 per cent of those frequently using LinkedIn and Wechat having completed postgraduate study and a diploma or certificate of education respectively.

Table 2: Respondents frequent usage of social networking sites by education.

Network		Respondents Level of Education			
		Junior/ Senior Certificate	OND/ NCE	Bachelor Degree/ HND	Post- Graduate
		%	%	%	%
Facebook	1	36.6	41.5	17.1	4.9
	2	92.0	0.0	0.0	8.0
Twitter	1	40.5	40.5	14.3	4.8
	2	55.4	26.2	12.3	6.2
WhatsApp	1	51.9	29.6	11.1	7.4
	2	42.3	38.5	19.2	0.0
BBM	1	54.3	26.1	10.9	8.7
	2	45.9	36.1	14.8	3.3
LinkedIn	1	0.0	0.0	0.0	100.0
	2	50.5	32.4	13.3	3.8
Google+	1	47.6	42.9	0.0	9.5
	2	50.0	29.1	16.3	4.7
2go	1	44.4	55.6	0.0	0.0
	2	50.0	29.6	14.3	6.1
Wechat	1	0.0	100.0	0.0	0.0
	2	52.0	28.4	13.7	5.9
Viber	1	26.7	53.3	20.0	0.0
	2	53.3	28.3	12.0	6.5

1 = Yes

2 = No

The findings also show how information about the flooding was disseminated among the respondents. Majority of them (103) representing 96.3 per cent indicated that they received information about the flooding and they were asked to identify the media from which they learnt about the flooding. Figure 1 provided findings on this variable where more than half of the respondents said they learnt about the flooding through social networking sites; less than twenty per cent identified radio as source of their information on the flooding; about eleven per cent of the respondents learnt about the flooding through interpersonal relationships while less than ten per cent identified newspapers/magazines and television each.

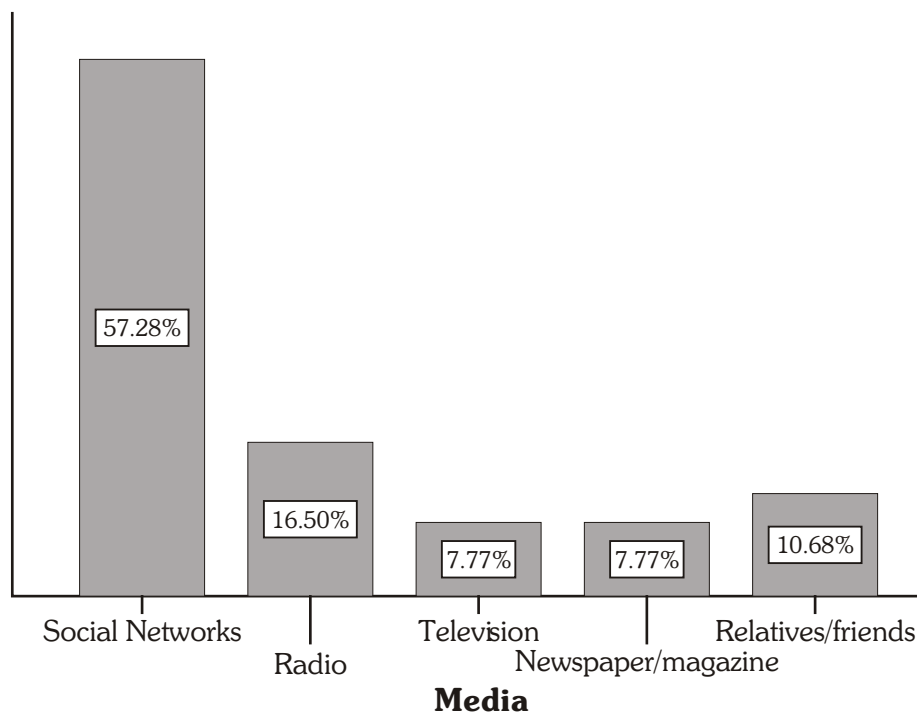


Figure 1: Media through which respondents learnt about 2012 flooding.

However, 53 respondents (88.3%) who said they received information about the flooding through social networks identified Facebook as their source of information and seven respondents (11.7%) said Twitter was their source of information.

Irrespective of the media from which they learnt about the 2012 flooding, 89 respondents (86.4%) said that they reported the information to others. The respondents equally identified the media they used in reporting the information where 86 respondents (96.6%) said they reported the disaster information through social networking sites while three shared the information through interpersonal relationships.

Table 3 shows the type of information shared or reported on the social networking sites. About two-third of the respondents reported news about the 2012 flooding disaster whereas more than one-third of the respondents reported both news and pictures of the disaster on the sites.

Table 3: Nigeria's 2012 flooding information shared on social networking sites by respondents.

Item	F	%
News about the disaster	58	65.2
Picture of the disaster	0	0.0
Both news and pictures of the disaster	31	34.8
Others	0	0.0

The findings also showed other usage of social networking sites by the respondents apart from reporting happening around them. Majority of them 57 respondents (53.3%) used the sites for chatting with friends; 18 (16.8%) used the sites for announcing social events; 16 (15.0%) used the sites for education; 14 (13.1%) used the networks for entertainment; and 2 respondents (1.9%) for other purposes not identified in the study.

Discussion and conclusion

This study is exploratory in nature and therefore purely descriptive. The findings in this article report a descriptive analysis of how active users used social networking sites in sharing information with special attention to 2012 flooding in Nigeria. In 2001 Stebbins stated that exploratory research is an area which reports “a combination of descriptive statistics and generation of relationships between concepts based on existing data in order to contribute to the understanding of relevant existing prior related studies” (Stebbins 2001 as cited in Osatuyi, 2013, p. 2625).

The exploratory analysis carried out in this study showed that Facebook, WhatsApp, BBM and Twitter were the most frequently used social networking sites by the respondents. The findings also indicated that while Facebook was the most frequently used social networking site among males, the females were more frequent users of WhatsApp. The 2010 study on the role of social networks in planning processes found that Facebook and online social networks in general, have the potential to become a more successful tool for information dissemination and planning process (Evans-Cowley 2010).

The study also found that the respondents learnt and reported information about the 2012 flooding through social networking sites. Almost 60 per cent learnt about the flooding on the sites as Figure 1 indicated and irrespective of the media through which the respondents learnt about the flooding, about 100 per cent of the respondents said they reported the disaster information through social networking sites. These findings indicate the extent to which the respondents reported the 2012 flooding in which even those who learnt about the flooding through conventional media and interpersonal channels, reported or shared the information via social networking sites. None of the respondents indicated that they

reported the 2012 flooding information through conventional media; this shows the value which the respondents attach to the social networking sites in terms of information sharing. This is consistent with the findings of a 2007 study on e-government, social networks and effective emergency management which concluded that with a cell phone, every resident could be a potential reporter of emergency information (Jaegera et al., 2007).

The findings also indicated other usage of the social networking sites by the respondents. Chatting with friends, announcing social events and entertainment were some of the usage identified. These findings are in agreement with the results of a 2013 study which investigated teens' Internet use through the mobile phone and indicated that: "In general, the teens' tend to use the mobile phone for recreation and entertainment purposes" (Lin, Zhang, Jung, & Kim, 2013, p. 651).

In general, there is consistent difference between how the social networks under study were used to share information by the respondents. This result lends support to the argument that social networking sites and by extension social media technologies in general are structurally different; "hence they are used differently to convey different types of information" (Osatuyi 2013, p. 2630). More importantly, the findings from this study have shown that social networking sites hold the potentials for quick dissemination of information during emergencies. Further research on these variables is necessary to understand how the networks can be used effectively during mass emergencies.

Implications for practice from the study

The most important implication for practice from this study is the information revealed on frequently used social networking sites by the respondents and their enthusiasm to share information during mass emergency. Policy makers and aid agencies can use these findings to improve their existing plan on emergency preparedness especially in Nigeria. They can use this platform to reach the youth group. Information management is not a new idea for agencies involved in disaster response. "Since each disaster is unique and presents entirely new environmental, geographical, political, economical, and sociological concerns, it is normal for responders to build new knowledge structures on the fly to capture important information for later reuse" (Yates & Paquette, 2011, p.7).

Limitations

The main limitation of this study has been its exploratory orientation hence the findings cannot be generalizable. More so, although the findings have shown that the respondents were actively using the social networks for information dissemination irrespective of their gender affiliation, 60.7 per cent of the respondents were males. This has indicated that in the Nigerian context women seem to be marginalized in terms of access to digital information through the social networks and this is another interesting area of research worth exploring in the future.

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