Social network site, a citizen’s mouthpiece in time of crisis

The study of Facebook use in Thailand floods 2011

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Master in Communication Thesis
Report No. 2012-046
ISSN: 1651-4769
Acknowledgments

I offer my sincere gratitude to my supervisor, Nataliya Berbyuk Lindström, who has helped me throughout my thesis. Thank you for your useful advices and patience. To me you are a teacher who teaches with heart.

Thank you all my research participants for your time and contributions, this thesis will not happen without your helps.

I would like to thank my father, Apichart who worked hard to support our family, thank you for raising me up and making me who I am today. For my mother, Veeranuch, even you never have a chance to see my success today but I am sure that you sense it. To my brother, Apiwat thank you for your love and your shoulders for me to cry on.

Finally, I would like to thank my partner, Tobias, thanks for your love and everything. Meeting you is one of the best things that ever happened to me. You believe in me and it is the reason why I will never give up on anything.
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ABSTRACT

A social network site such as Facebook has rapidly gained popularity among internet users in recent years. This technology has extended the capabilities of the Internet and turns it into a highly interactive communication space where individuals can produce and distribute information as well as express opinions and experiences to others. This study highlights the use of Facebook in time of crisis by focusing on communication via Facebook during Thailand floods 2011.

In this thesis, the researcher aims to identify the reasons for Facebook use during Thailand floods using online semi-structured interviews with the people who experienced the disaster. Further, the thesis describes and analyzes the patterns of communication on Facebook related to this crisis and the role of Facebook in this context by analyzing the Wall posts related to Thailand floods using Activity Based Communication analysis.

Findings indicate that Facebook functioned as a citizen’s mouthpiece during the floods in Thailand last year. Ordinary people used Facebook to communicate with the public, offer and ask for help, broadcast their views on certain issues and to disclose suspicious activity in the society. Furthermore, the study reveals that information generated by citizens shared on Facebook is relatively specific, accurate, updated and easier to comprehend compared with the messages sent from the authorities or mainstream media.

KEYWORDS: communication, crisis, Facebook, social network sites, Thailand
1. INTRODUCTION

Social network sites (SNSs) such as Facebook, LinkedIn, MySpace, and Twitter have rapidly gained popularity among hundreds of millions of internet users in the last few years [21, 11] as the 2011 report from Pew Internet shows that 65% of online adults in the USA use SNSs [31]. Since their introduction to internet users for more than a decade ago [7], SNSs have extended the capabilities of the internet and turn it into a highly interactive communication space where individuals can produce and distribute information as well as express opinions and experiences to others rather than being merely an information access tool [23].

The emergence of SNSs enhances our communication in everyday life in which people use these communication technologies to facilitate their social interactions [7]. Moreover, the technologies also play a prominent role in supporting communication in times of crisis in both natural and manmade incidents. Studies suggest that individuals in the geographical space of disasters, and those outside the crises used SNSs as a communication platform that allows everyone in society to participate in crisis response by sharing, and seeking information in order to have timely and adequate reactions to cope with crises [26, 33, 36, 47].

During crisis, SNSs also functions as a citizen’s mouthpiece that allows users to send messages to many receivers at a time [26]. The role of SNSs during times of crisis thus, have became an important issue particular in the Global warming era in which people around the globe have experienced harsh impacts from natural disasters which data from the United Nations [52] reveal that natural catastrophes have severe effects on human lives and cause vast environmental and economic losses in recent years [52].

In Thailand, millions of residents faced the worst floods in half a century [10] when floods occurred during monsoon season in June, 2011 and persisted in some areas until early of January, 2012 [10, 48]. The widespread adoption of SNSs among internet users in Thailand [45] leads to a change of communication channel in which more and more people turn to SNSs such as Facebook and Twitter to seek, and share information related to the floods instead of solely rely on the official information provided by governmental agencies or national news networks which is often criticized by the public for being outdated, ambiguous and insufficient [6, 19, 32, 34, 37, 38, 50]. The citizen-side information shared on SNSs is increasingly playing an essential role in disaster preparation, warning, response and recovery in Thailand, for example, in massive undersea earthquakes off Indonesia in April 11, 2012, SNSs were used by people across the southern provinces of Thailand to share initial information about the earthquakes and Tsunami warnings to those in the risk areas. Meanwhile, The Television Pool of Thailand was criticized for its failure to broadcast breaking news and warnings to the public right after the temblors occurred because it was in the middle of broadcasting the royal funeral ceremony [42]. News reports and commentators suggest that SNSs fulfil people’s needs for real-time and practical information that the
authorities or main stream media fail to provide to the public even though SNSs are often full of misinformation [19, 32, 37].
2. PURPOSE AND RESEARCH QUESTIONS

The purpose of this study is to examine the use of Facebook in times of crisis. The research focuses on the citizen side. The study aims to describe and analyze the communication via Facebook in relation to Thailand floods 2011 in order to understand why people used Facebook to communicate during the disaster and how they used it.

According to Mintz et al [35], a mild degree of controlling and monitoring over sharing content or information on SNSs makes users easily become target of fraud and misinformation [35]. While the study on crisis communication during the 2004 Indian Ocean tsunami that struck Thailand’s west coast found that during the disaster, Thais considered the government as a credible source of information, and television was perceived as a primary media to receive information [9]. However, the inundation in Thailand last year showed a remarkable phenomenon in which many people did not solely rely on official information from the government or traditional news media, rather they chose to receive information from unofficial sources such as SNSs [19, 32, 50]. Therefore, the findings from this study will explain this phenomenon and might be valuable for governmental and non-governmental organizations responsible for crisis response and management to improve their communication with the public in order to minimize the losses from crisis.

This research aims to understand the use of Facebook and its role during the major floods in Thailand 2011. In order to fulfil the research objective, the study intends to answer the following questions:

1. Why was Facebook used in Thailand floods 2011?
2. How did the communication via Facebook look like during the crisis?
3. What was the role of Facebook during the crisis?
3. BACKGROUND

This section provides a literature review about communication in relation to social network sites adoption during crisis. The definitions, backgrounds and prior studies of the two concepts will be presented below, followed by the background of last year major floods in Thailand.

3.1 Communication and its definition

Communication is an important element in human’s social live [3]. Jens Allwood, Professor in linguistics and communication, defines communication as “a transmission of content X from a sender Y to a recipient Z using an expression W and a medium Q in an environment E with a purpose or function F” [4, p.1]. Thus, we may say that communication is a process of transmission of a message between communicators through an expression which can be done verbally or non-verbally with or without awareness and a medium (e.g. the air, paper and etc.) in any environment (e.g. physical environment, social environment or cultural environment) with any objective or function. Communication is accomplished when mutual understanding is reached [39]. According to Allwood, communication is the most important type of “social glue”, without it most human collective activities will not be existed because as soon as people participate in coordinated activity, there is always communication which is mostly linguistic [3]. Communication is the most important element to examine in the present study because the research objective is to understand people’s communication via Facebook in crisis as a coordinated activity.

3.2 Computer-mediated communication (CMC)

Scholars have studied Computer-mediated communication (CMC) from various perspectives since the popular expansion of the Internet in the late 1980s [25]. According to Mary-Anne Williams, professor in Information Technology, CMC is a communication in which people use computer technology to transmit messages to each other. This type of communication can be done synchronously or asynchronously, it means that communication can occur in real time such as a conversation in live chat room where interlocutors are online at the same time. However, CMC can also be done asynchronously such as e-mail that sender and receiver do not have to interact to each other at the same time [54].

Popular forms of CMC include instant messages, e-mail, video, audio or text chat as well as communication via blogs and social network sites. Herring [25] points out that the communication pattern of CMC differs according to the technologies on which it is based and to the contexts of utilization [25].
3.3 Social network sites (SNSs)

Social network sites (SNSs) is a relatively new topic in academia since the technologies emerged in the late 1990s [7]. However, the topic attracted scholars from various disciplines. With their rich affordances and the reach to broadly audiences, SNSs are perceived as a powerful communication tool [7, 26, 28]. Nowadays, SNSs such as Facebook, LinkedIn, MySpace, and Twitter have become the popular communication technologies that are extensively embraced by online community members [1]. Therefore, organizations and individuals that recognize power of SNSs use these technologies to communicate with the public in order to promote their reputation and their interests [28].

3.3.1 Definition of social network sites (SNSs)

Boyd and Ellison [7] define SNSs as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system.” (p.211)

Therefore, SNSs users have to create profiles about themselves within a bounded system that can be viewed by everyone who uses the system or some certain groups of users. These web-based services link connections that their users have with other members of the service and users can also find other users via a networking system.

The term “social network sites” is often used interchangeably with the term “social networking sites.” However, Boyd and Ellison explain that they choose not to use “networking” because it highlights relationship establishment between strangers which is not the main practice on many of SNSs that mostly support and maintain pre-existing social networks and make these network more visible [7].

Facebook, for instance, aims to connect people who have the same social backgrounds such as school or workplace. Studies [7, 21] suggest that Facebook users mainly use the site to interact with their close social ties such as friends, colleagues and family members as well as people they have met in real life [7, 21]. The pattern of offline to online relationship can also be seen from LinkedIn, a SNS for professional networks that allows users to keep connections with their past and present colleagues [30].

3.3.2 Functional building blocks of SNSs

Today, there are hundreds of SNSs in the market, and these sites offer diverse of technological affordances to support audiences’ wide range of interests, backgrounds, and activities [7]. For example, Flickr emphasizes on people’s interest while BlackPlanet and AsianAvenue are ethnical-centered and CouchSurfing highlights on activity.
Kietzmann and colleagues [28] propose functional building blocks of SNSs to help people have a better understanding of how these sites work. The seven functional building blocks of SNSs include identity, conversations, sharing, presence, relationships, reputation, and groups. According to the study, each SNS emphasizes on each block differently depends on functional objective of the site.

1) **Identity** represents the way SNSs users reveal and present their identities. For instance, Facebook users have the tendency to reveal their real names and “identities” because of the main purpose of the site is to help users to stay connected with people in their social networks while the users of other SNSs may use their screen names to represent themselves.

2) **Conversations** refer to the way SNSs users communicate with others in an online world. Take a look at Twitter for instance, this micro blog service allows its users to send and read tweets of up to 140 characters that are mostly real-time updates. In comparison to Facebook, Twitter emphasizes conversation between users rather than identity.

3) **Sharing** represents the way SNSs users exchange, distribute and receive content. The matters shared on SNSs are the reason that users meet online and associate with each other, for example, Flickr and YouTube, online platform for sharing photos and videos.

4) **Presence** is the extent to which SNSs users can recognize if other users are accessible. The presence block usually happens through user’s status, it helps people to identify where the users are and whether they are available. This functional building block bridges the real and the virtual world; for example, Facebook allows users to “check in” at particular locations, thus people in friend list can know where the users are.

5) **Relationships** stand for the way that SNSs users can be related to other users. It means that the relationships block links two or more users who have some degree of association and leads them to interact to each other. For example, LinkedIn facilitates users to see how they are connected to others and how many degrees of separation they are from a possibly an employer they want to meet.

6) **Reputation** refers to information to determine the standing of SNSs users. In social network platforms, reputation is an indicator of trust, for instance a Twitter user how has enormous numbers of followers will be perceived as a trustworthy information source. On YouTube, the reputation of videos might be considered from “view” counts while reputation of content on Facebook may be measured by number of “like”

7) **Groups** functional building block is the extent to which SNSs users can construct communities and sub-communities. SNSs allow users to sort people in their contact list and place them into different self-created groups such as friends, followers or fans. Moreover, users can create groups that function as online-clubs to associate with people who have
similar interests. Facebook, for example, offers users to create groups that can be either public or private groups.

3.3.3 Communication on SNSs

Study by Underwood and colleagues [53] shows that there are two modes of communication on SNSs platform: 1) Broadcasting, refers to a transmission of messages from one sender to many receivers with the primary flow outwards from the sender. Broadcasting can be considered as a public communication style characterized by the individual’s self-projection. 2) Communicating, refers to a transmission of message from one sender to a few receivers with mutual exchanges, this type of interaction is more private compares with Broadcasting that aim at public consumption. Findings from the same study suggest that these two modes of communication via SNSs will vary in the quality of the interaction. Broadcasting generates a low quality of interaction because this mode of communication is an act of self-projection involving impression management, while the mode of Communicating results in high quality interactions because mainly people who know each other are involved [53].

3.3.4 The role of SNSs in society

SNSs have affected people’s social live and activity in many ways. The emergence of SNSs triggers concern that the technologies will isolate users from their offline social lives. However, findings from several studies indicate the opposite trend and argue that SNSs support offline relationships as much as they support the online ones.

Research by Keenan and Shiri [27] found that SNSs have different features to promote socialization on the Internet. Findings from their research indicate that Facebook encourages privacy and it represents “real world” connections in an online world. MySpace encourages publicity and represents both real world and virtual connections in an online world. LinkedIn encourages sociability through professional networking by reconnecting with colleagues and associates. A micro blogging service, Twitter, allows its users to send short message updates that can be sent to mobile devices, this feature thus encourage sociability by helping users to stay connect with Twitter network even without an internet enable mobile device [27].

The study on the Facebook use in relation to the formation and maintenance of social capital by Ellison and colleagues [13] suggests that online interactions on SNSs platform do not necessarily remove people from their offline social networks but they can be used to promote relationships and help people to stay in touch even when they do not work or study together any longer [13]. The study is consistent with a research from Pew Internet titled “Why Americans use social media” that the findings show that two-thirds of online adults use social network sites with the primary purpose to maintain relationships with close ties such as friends and family members [43]. While another research by Pew Internet [20] reveals that the use of SNSs leads to social support. The findings found that making friends on Facebook is related with higher levels of social support such as advice, companionship
and help when users are sick and it is likely that users who made the most frequent status updates will get more emotional support from their friends [20].

Hampton and colleagues [22] conducted a study on the relationship between the diversity of people’s social networks and Information and communication technologies (ICT) such as social network sites, and they found that many of SNSs indirectly contribute to diversity by supporting participation in traditional settings such as neighborhoods, and voluntary groups. Findings from the study indicate that SNSs allow people to more easily get social support from outside their neighborhood, reducing trust on local ties but increasing opportunities for the creation and maintenance of more diverse social networks.

3.3.5 The role of SNSs in crisis

Besides the prominent role of SNSs as a social lubricant that maintain and nourish pre-existing relationships as mentioned earlier, the technologies also have an outstanding role as communication tools in times of crisis. Nowadays, the advance of mobile connectivity allows people to go online at anytime and anyplace. It means that people can access SNSs to share information right from the scene of disaster or seek information in order to have quick decision making and actions to cope with crises. Palen and colleagues [36], suggest that Information Communication Technology (ICT) such as Internet and SNSs has changed our patterns of communication from the ephemeral to the traceable. Nowadays, people tend to rely more on peer-distributed information and this kind of information often turn out to be more timely and accurate than official information because peer-distributed information usually come from individuals at the scene of crisis that provide a local context information.

According to Lindsay [29], the use of SNSs in times of crisis can be categorized in two approaches: 1) SNSs can be used passively to diffuse information and receive feedback from users via wall posts, incoming messages and polls. 2) SNSs can be used as an emergency management tool that emergency management organizations systematically use the technologies to carry out emergency communication and issue warnings. Moreover, SNSs can be used to receive assistance requests from people, monitor user activities to build situational awareness and use uploaded photos to estimate damage from disasters [29].

3.3.6 SNSs support “Back-channel communication in crisis”

Sutton and colleagues [47] studied the emergent use of SNSs during the 2007 Southern California Wildfires. Findings indicate that SNSs expand information arena during crisis and the technologies enable citizen-side information to be more visible. They support “backchannel” or “peer-to-peer” communication that allows members of the community to actively engage in the information production and distribution rather than being merely passive information consumers.

Backchannel or peer-to-peer communication plays an essential role in disaster response because it allows wide-scale interaction between members of the community that can be
collectively resourceful, self-policing and generative of information that cannot be easily obtained [13]. Unofficial communication between citizens during crisis can also be seen from the 2007 Virginia Tech massacre, during the shooting, students were using SNSs such as Flickr, English version of Wikipedia, Facebook, MySpace, Orkut, and Second Life to interact with people both inside and outside the campus. Students created groups on SNSs platform in order to check the welfare of each other. They also use the “awareness” feature which is called by Kietzmann and colleagues [28] as “presence” feature, that allow SNSs users to know other user’s status, whether that person is available or not, to check their friends’ well-being. From this approach, students can see that their friends are safe from the “online” status.

3.3.7 Information provider on SNSs as “Information broker”

Academic studies concerning the role of information providers through SNSs during crisis are scarce. However, the study from the 2007 Southern California Wildfires [47] found that people in the wildfires event used SNSs to seek information because they thought that mainstream media such as national news network fail to provide specific and accurate information. In the study, Sutton and colleagues [47] found that people who managed disaster-related online forums such as SNSs and provided information through these platforms had unique role as “information brokers” or “technical facilitators” because they supported in gathering people and information via various technology media. Thus, these people usually have technical skills in collecting and comparing statistics, generating data, creating online forums and annotating maps.

3.3.8 SNSs enable problem solving activity

The shooting incident at Virginia Tech, demonstrates a large scale of problem solving activity. According to Palen and colleagues [36], people involved in the crisis voluntarily contributed first hand information as well as information they gathered from elsewhere in order to create and expand lists of the victims shared on Facebook groups and Wikipedia. The researchers found that victim lists from this collective problem solving activity were never incorrect because those who participated in the activity interacted to each other by considered the accuracy, verification and credentialing issues.

3.3.9 SNSs support legitimation of citizen-generated information

Unofficial information generated by citizens and shared on SNSs is not only perceived as reliable information by locals but also people outside the site of crisis such as traditional media and some emergency management personnel. Evidences from the 2007 Southern California Wildfires show that online community forums were increasingly considered as reliable, useful and authoritative sources of information [47]. The finding is in line with a study by Bruno who suggests that leading newspaper and news agencies such as New York Times, BBC, and CNN recognize that SNSs such as Facebook, Twitter and YouTube enable rapid transmission of information and are affordable compare with past media formats [8].
3.3.10 SNSs and stress reduction in crisis

In crisis, SNSs have another function to help users release stress from difficult situations. The case of 2007 Southern California Wildfires revealed that the wildfires victims used SNSs to release stress by sharing information to others as a psychologically practice of talking about traumatic events. Sutton and colleagues claim that previous disaster researchers have indicated that social interaction between people who experience the same tragedy is very important to help people who affected by the disaster cope with the depression from loss of property, bereavement or relocation [47]. The finding supports the study by Pew Internet mentioned earlier [20] that Facebook users who make more frequent status updates are likely to have higher emotional support.

3.3.11 Negative impacts of SNSs on society

Negative side concerning the use of SNSs is one of the aspects that scholars have been studying about these online social platforms. One of the most concerning issues is the privacy of users. Early studies on privacy in relation to SNSs found the potential threats of identity theft in users’ profiles that contain personal information such as real name, date of birth and address [2]. The Security Threat Report 2010 from Sophos, a computer security company, reveals that SNSs such as Facebook and Twitter have become a primary target for hackers, and thus, have become the most significant vectors for data loss and identity theft [46].

Another drawback of SNSs is in relation to communication during crisis. Lindsay [29] claims that researchers have found outdated, inaccurate and false information shared on SNSs in times of crisis. These problems seem to be common issues on SNS platforms that numbers of people are disseminating and exchanging information [29].

3.4 Facebook and communication on Facebook

Facebook is a SNS chosen to investigate in this study. It was founded by Mark Zuckerberg, Dustin Moskovitz, and Chris Hughes in 2004 as an online platform for Harvard University students. It was opened to the public in 2006 [7, 14, 15]. Facebook is widely adopted by millions of internet users around the world. It had 901 million monthly active users at the end of March 2012 [17]. According to statistics from internet and website information service companies, Facebook ranks on the top of the most visited websites list in recent years [1, 12]. In Thailand, statistics show that there were more than 14 million Facebook users in May 2012, or approximately 80% of online population in the country [45]. More than a half of Facebook users in Thailand live in the capital city, Bangkok [44].

According to seven functional building blocks of SNSs proposed by Kietzmann and colleagues [28], Facebook emphasizes on “Identity” and “relationships”. Facebook users have the tendency to reveal their real names and other “identities” such as age, gender, address,
education or professional backgrounds because of the site is user-centered, and these identities link users to other users in their social networks. This suggestion is in line with a research by Keenan and Shiri [27] who suggests that Facebook encourages privacy and it promotes “real world” connections in an online world. The communications via Facebook are mostly between people who know each other in real life and know each other identities. Thus the communication on Facebook rarely to be anonymous and degree of trust between Facebook is relatively high [7].

As a SNS that facilitate communication between users, Facebook offers several features to its users such as Wall post, Messages, Chat, Video calling, Like, Questions. These features allow users to communicate synchronously through Chat and Video calling or asynchronously via Wall post, Message, Like and Questions. In addition, Users can choose to communicate using two modes of communication as proposed by Underwood [53]. Users can communicate in Broadcasting mode if they want to send a message to many receivers at a time or they can communicate in Communicating mode which refer to a transmission of message from one sender to a few receivers with mutual exchanges if they want more privacy [53].

3.5 Facebook communication in crisis

The study of Facebook use in relation of communication in crisis is a relatively new area. According to Lindsay [29], Facebook has an outstanding role in crisis management. Many emergency organizations both in private and public section use Facebook in crisis communication activities such as distributing information, emergency planning and exercises. On citizen side, the adoption of Facebook during crisis can be seen from the Typhoon disaster in Taiwan in August 2009 where people used Facebook as a communication tool to interact with the officials when facing the disaster. Findings from the study suggest that Facebook and other SNSs can be used by the government to collect, and interpret accurate and timely data from affected areas in order to have effective emergency responses. Moreover, the non-hierarchical two-way communication system of Facebook and other SNSs encourages public users to participate in policy discussions with feedback to influence policy making of officials [26].

Another role of Facebook during time of crisis is to support a collective problem solving activity as described earlier from the shooting incident at Virginia Tech [36], where people joint Facebook groups to contribute the information in order to create accurate victim lists from the shooting. Moreover, the so-called “awareness” or “presence” feature of Facebook was used by students at Virginia Tech to check the welfare of other students.
### 3.6 2011 Thailand floods

The severe floods in Thailand occurred in June, 2011 and persisted in some areas until early January, 2012 [10, 48]. Flood water arrived to some parts of Bangkok in October 2011, and by early November 2011 the majority parts of Bangkok were inundated. The prolonged inundation affected 65 of Thailand’s 77 provinces, killed more than 800 victims and affected more than 13 million people [10]. The initial estimation by the World Bank shows that the disaster caused damage and economic loss approximately 45 billion US dollars, the estimate put the floods last year into the world’s fourth costliest disaster as of 2011[55].

The major floods last year resulted in a remarkable phenomenon in shifting information arena of the disaster in Thailand. Previously, most Thais followed news during crisis from traditional news media such as national television news networks, radio, news paper and announcements from the Television Pool of Thailand which was perceived as credible sources of information [9].

However, the widespread use of social media among internet users in Thailand leads to a change of communication medium in which people increasingly turn to social networking sites such as Facebook and Twitter to seek, and share information related to the floods instead of merely rely on the official information provided by governmental agencies that often outdated and ambiguous [6, 34, 19, 32, 50].

The uses of SNSs in Thailand increased drastically during the floods. Statistics showed number of Twitter users in the country jumped from 600,000 users in September to 720,000 users in October 2011 and #thaiflood, a civic group founded to share information and help coordinate relief efforts between humanitarian organizations, the government and other parties, was the number one hashtag at that time. The #thaiflood keyword had more than half a million hits in September, surpassed the second most popular hashtag #Ch3, a Thai television station, which had just over 82,000 hits over the same period. The Thai government, meanwhile, also joint in the SNS platform to communicate with the public but its effort was not widely embraced, its official Twitter account, @FloodThailand had around 7,500 followers, while @thaiflood account has around 94,000 followers [19, 32].

Meanwhile, statistics showed that Facebook users rose to more than 12 million from just over seven million at the start of 2011 [19].

During the floods, many flood-related pages were created on Facebook as a virtual community venue for people to exchange information about the inundation. One of the most popular flood pages on Facebook with more than 200,000 likes in October, is “Nam Kuen Hai Reeb Bok” means “when water rises, quickly tell”. The page was founded with the aim to be a common ground for citizens to report flood situations from their neighborhoods [41]. The same trend can be seen from YouTube where people flocked to the video sharing site to watch animated videos from a group of volunteer animators and filmmakers called
“Roo Su Flood”, means “know, fight, flood.” It created series of animated videos using blue whale to represent waters. The videos provided clear suggestions how to handle the floods, gave simple explanations about a cause of floods and compared that an enormous volume of water moved toward Bangkok is equal to 50 million blue whales. According to The Wall Street Journal report [38], the combination of clear, useful information and characteristically Thai sense of “sa-nook” or fun led to more than 750,000 views on YouTube for the first episode video, the group’ page on Facebook also attracted more than 78,000 likes [38]. The example of animated videos shared on SNSs from Roo Su Flood group is presented in Figure 1 and 2.

Figure 1

Figure 2

Figure 1, 2: Screenshot of animated videos shared on SNSs from “Roo Su Flood” group [56, 57]
4. METHODOLOGY

This section presents an overview of the study design used in this research. A combination of data collection methods (online interviews and the analysis of Facebook Wall posts) was used for this study in order to get insight into the reasons for using Facebook in crisis and the communication patterns of Facebook interactions.

4.1 Study Design

In order to answer the first research question about the reasons of Facebook adoption during crisis, fifteen semi-structured interviews were conducted online. To address the second research question: “how did the communication via Facebook look like in time of crisis?”, the data from Facebook Wall posts was collected and analyzed using the framework of Activity Based Communication Analysis (ACA). Finally, the data from interviews and Facebook Wall posts analysis was combined to answer the third research question about the role of Facebook in crisis.

The aim of the present study is to understand how and why flood victims used Facebook to communicate in crisis and to find out what is the role of Facebook in crisis. Therefore, this study is labelled as a qualitative research in which Hennink and colleagues [24], define as an approach that researchers use to understand and interpret social phenomena as well as people’s thoughts and behaviors [24].

4.2 Data collection methods

Below, brief outlines of the data collection methods used in this study are presented, starting with interview and followed by analysis of Facebook Wall posts.

4.2.1 Interview

The first data collection method used in this study is an online interview. Fifteen semi-structured interviews were carried out from November 28 to December 23, 2011, the time that Thailand faced the prolonged inundation [10, 48]. In participant recruitment process, the researcher employed a purposive recruitment approach in order to have participants who have particular experiences or characteristics that can contribute to a deep understanding of the study topic as mentioned by Hennink et al [24]. Thus, the recruitment aims for people who experienced the floods in Thailand and used Facebook to communicate about the inundation by focusing on people who live in Bangkok and the neighboring provinces because statistics shows that more than half of 14 million Facebook users in Thailand live in Bangkok [44].

For the recruitment strategies, the researcher recruited participants through informal networks such as friends and former colleagues who experienced the floods. Later a snowball strategy [51] was adopted to recruit more participants by asking friends and
colleagues who participated in the interviews to introduce the suitable individuals for the study as mentioned by Treadwell [51]. With these recruitment techniques, the researcher was able to recruit 15 individuals aged 27 to 35 years (four men and eleven women) to participate in the study. All of the respondents had first-hand experiences of the floods and they represent a wide range of professions. It means that these participants will generate variety of experiences [24] which is in accordance with the aim of the study to get information from ordinary people about their experiences using Facebook during crisis. Therefore, the study will not be dominated by people from certain background, for example, an IT specialist is likely to have better skill using Facebook compare with others who do not have much knowledge in technology.

Majority of the participant (14 of 15) live in Bangkok and a neighboring province (Nonthaburi) while “Participant 7” resides in Prachuapkirikhan province, located in central part of Thailand that was not directly affected by the floods, but frequently travels to Bangkok for business. All participants have Facebook account and reported that they used Facebook to communicate during the floods last year. And since the target participants are Facebook users all of the interviews were carried out online via Facebook Chat feature, the language used in the interview was Thai and each interview took around 30 to 45 minutes. An overview of participants’ general information is presented in Table 1.

Table 1: An overview of participants’ general information

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Sex</th>
<th>Occupation</th>
<th>Living Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 1</td>
<td>31</td>
<td>male</td>
<td>waiter</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 2</td>
<td>29</td>
<td>female</td>
<td>flight attendant</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 3</td>
<td>27</td>
<td>male</td>
<td>CG designer</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 4</td>
<td>29</td>
<td>female</td>
<td>company officer</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 5</td>
<td>29</td>
<td>female</td>
<td>hotel staff</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 6</td>
<td>33</td>
<td>male</td>
<td>TV program producer</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 7</td>
<td>30</td>
<td>female</td>
<td>business owner</td>
<td>Prachuapkirikhan</td>
</tr>
<tr>
<td>Participant 8</td>
<td>29</td>
<td>female</td>
<td>company officer</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 9</td>
<td>29</td>
<td>female</td>
<td>secretary</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 10</td>
<td>29</td>
<td>male</td>
<td>IT specialist</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 11</td>
<td>28</td>
<td>female</td>
<td>copy writer</td>
<td>Bangkok</td>
</tr>
<tr>
<td>Participant 12</td>
<td>30</td>
<td>female</td>
<td>sale person</td>
<td>Nonthaburi</td>
</tr>
</tbody>
</table>
The semi-structured interview consists of four sections:

*First section* is questions about background information of the interviewees such as age, gender, educational and professional backgrounds and current address. This section allows the researcher to gain personal information as well as other contexts about the participants. For example, occupation may indicate the knowledge of technology usage.

*Second section* concerns interviewees’ Facebook usages in general such as what is the main purpose to use Facebook? How long have they been using Facebook? How many friends do they have in friend lists? How often do they use Facebook? and et cetera. This section is a series of general opening questions to build rapport with the participants. Questions about general usage of Facebook help the interviewees to feel comfortable enough to start telling more specific experiences in Facebook use during crisis.

*Third section* is questions about interviewees’ choice of media for following flood situations and updates such as what are the main media they used to follow flood-related news?, and which media they thought that provide fastest, richest, and most reliable information during the floods? This section enables the researcher to gain in-depth information about participants’ views on different type of media that distribute flood-related information and the selection of media that participants chose to receive information during the floods.

*Fourth section* consists of questions about interviewees’ Facebook use during the floods. The questions include their purposes for using Facebook during the floods, individuals or organizations they communicated with via Facebook at that time, and their opinions about the role of Facebook during the inundation. This section was designed to collect the key information to answer the research question about why Facebook was used in Thailand floods 2011 and its role during the disaster.

Once completed each interview which took approximately 30 to 45 minutes, the researcher copied the textual conversation from Facebook Chat and kept it in Thai language, then use this information to develop coding data in different themes for data analysis which was done in Thai language since the researcher’s mother tongue is Thai. Hennink et al [24] suggest that language translation is not always necessary if the researcher fluent in the language used in the interview and able to analyze data in that original language [24]. Therefore, the whole data analysis process was conducted in Thai while the important information was translated into English and will present in the results section.
A translated version of interview guide is presented in Appendix A.

4.2.2 Analysis of Facebook Wall posts

The second data collection method is the analysis of Facebook Wall posts using the framework of Activity Based Communication Analysis (ACA). According to Allwood [3, 5], social activity is a key factor that influence and determine human linguistic communication because each activity has different purpose and goal [3,5]. For example, in a class room lecture, teacher tends to have a dominant role in this activity by providing information to students and facilitate interactions in classroom, while students, in most cases, have a role as information recipient and providing requested feedback. In contrast, if a teacher and students are in another social activity such as a coffee break session, the pattern of communication between them will be different as the teacher does not have a dominant role in the interaction, rather both teacher and students have the right to communicate equally.

As mentioned earlier, the present study particularly focuses on Facebook use of individuals who experienced floods in Thailand last year. The researcher chose to study on Facebook because it is currently one of the most popular SNSs with hundreds of millions users from all over the world [21, 17]. In Thailand, statistics show that there are more than 14 million Facebook users in May 2012, or approximately 80% of online population in the country [44]. Another reason Facebook is chosen for the study is that information posted on Facebook’s Wall is convenient to trace back to the older posts by using “Timeline” feature [16] which allows users to view old information arranged by month, and year.

The chosen Facebook page for analysis is “Nam Kuen Hai Reeb Bok” (“When Water Rises, Quickly Tell”). This unofficial flood-related page was founded in October 6, 2011 as a public virtual platform for people to communicate and share flood updates from their neighborhoods, as well as news, official announcements, information about traffic routes, potential diseases and so on [41]. The researcher chose to examine communication on Nam Kuen Hai Reeb Bok because it is considered as one of the most popular flood pages on Facebook with more than 200,000 likes in October 21, 2011 and more than 270,000 likes in January [41, 18]. The page is also recognized by Ministry of Information and Communication Technology as the best “public minded social media” [49]. The chosen contents for analysis are Wall posts in November 2011 when majority areas in Bangkok were flooded.

A screenshot of Nam Kuen Hai Reeb Bok page can be found in Figure 3 and a screenshot from Nam Kuen Hai Reeb Bok’s Wall posts is presented in Figure 4.
4.3 Methods for data analysis

To analyze the obtained data, the Activity Based Communication Analysis (ACA) is used. First, an analysis of Facebook page communication as social activity is provided for readers to understand the setting in which communication takes place. Secondly, the interviews were transcribed and analyzed. The topic related to research questions were extracted from the data to find out why people used Facebook to communicate during crisis. Interview analysis
was complemented with the analysis of Facebook Wall posts to get a complete picture of the reasons of using Facebook and patterns of communication on this platform.

4.4 Ethical consideration

For ethical reasons, all of the study participants were informed that their identities such as name, age, gender, educational and professional backgrounds will be kept anonymous. Therefore, they will be referred in this study by name codes displayed in Table 1. In addition, the researcher also got permission from a person who appears in one of the figures presented in this report.
5. RESULTS

This section presents a description and analysis of communication via Facebook in Thailand floods 2011, starting with an activity coding for Facebook communication and followed by analysis of interviews and Facebook Wall posts.

5.1 Facebook communication as a social activity

According to ACA approach proposed by Allwood [3, 5], social activity is a crucial factor that influences and determines human linguistic communication. Each social activity has different goals and purposes, therefore, human actors who participate in a certain social activity will communicate in certain way. The understanding of Facebook interaction’s activity structure thus, important for the understanding of the communicative behavior of people who participate in the activity.

Facebook communication is a social activity in which interactions between participants takes place in a virtual environment using communication technology called Web 2.0 that transforms internet into a highly interactive medium that can be accessed through computer and smart devices such as cell phones and PDAs [26]. In crisis, people use Facebook to communicate with those in their friend lists or people outside their connections but participate in the same Facebook pages such as flood-related pages to receive and distribute information or express their feelings and opinions about the situation.

Below, the researcher provides an activity coding and description of Facebook communication during crisis based on ACA and focusing on the following activity parameters proposed by Allwood. [5]

1. Purpose, goals, procedure refers to the reason why activity exists and what the participants aim to achieve. According to Allwood, “the difference between purpose and goal concerns degrees of awareness and explicitness”[5, p.7]. Purposes are activity’s objectives which most participants are aware of and sometimes even formulated in written documents. Goals are better outcomes which participants are not necessarily aware of.

2. Role: rights, obligations and competence concern the expected behaviors or duties and in some cases, formal requirements concerning right obligations and competence needs from participants who perform certain roles in activity.

3. Artifacts, instruments tools, media include objects that are used to perform and accomplish the activity.

4. Environment: social, physical refers to social environment such as culture, social institution and organization and physical environment such as lighting, sound, temperature, furniture in where the activity takes place.
Table 2: Facebook communication in crisis: purpose, activity structure and goals

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>Activity structure</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants receive and distribute floods-related information and updates (e.g. news, warnings, and announcements from governmental agencies) in order to have effective and appropriate actions in disaster preparedness, response, and recovery activities.</td>
<td>- Activity begins without greetings.</td>
<td>- Participants communicate through Facebook to</td>
</tr>
<tr>
<td></td>
<td>- Discussion initiator posts a message on page’s Wall (e.g. request for flood-related information, updates or share information, news and announcements from private or public organizations).</td>
<td>1) seek information and flood situations updates</td>
</tr>
<tr>
<td></td>
<td>- Page participants read a Wall post and provide requested information, express comments on discussed topic.</td>
<td>2) share flood-related information</td>
</tr>
<tr>
<td></td>
<td>- Page participants receive desired information from Wall post without providing requested information or feedback. (Providing requested information or feedback is not a mandatory requirement for Facebook interaction)</td>
<td>3) request and offering assistant</td>
</tr>
<tr>
<td></td>
<td>- Page’s administrators can respond to feedbacks from participants</td>
<td>4) provide emotional support to each other</td>
</tr>
<tr>
<td></td>
<td>- Page participants can “Like” a Wall post</td>
<td>5) Unveil government’s suspicious activities in flood-related issues</td>
</tr>
<tr>
<td></td>
<td>- Page participants can share a Wall post to other Facebook users who do not join the page.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Activity ends without farewells.</td>
<td></td>
</tr>
</tbody>
</table>

**Purpose** of Facebook communication in crisis is to receive and share floods-related information and updates such as news, warnings and announcements from private and public organizations to fellow page participants and share information from the page to
people in their friend lists who do not join the page in order to have enough information to take effective and appropriate actions in disaster preparedness, response, and recovery activities.

*Activity structure* of communication via Facebook differs from other social activities that participants usually begin their interaction with greetings. In online environment, in particular a virtual public forum, participants do not know beforehand who they will interact with and how many. Therefore, it is common to start the interaction by stating specific topic he or she wishes to talk without greeting other participants and leave without farewell. Once information posted on the page’s Wall, mostly by the page administrators, participants can read the message, provide requested information and comments on discussed topic. However, the facts that there are no specific rules or requirements about giving or receiving feedback in Facebook communication, participants can read, “Like” and share Wall posts to other Facebook users who do not join the page without providing any feedback. The page’s administrators can respond to feedbacks from participants who join discussed topic. See a summary of roles, competences, rights and obligations of Facebook interaction in Table 3.

The *Goals* of activity vary from group to group. However, data analysis reveals that the goals of communication on Nam Kuen Hai Reeb Bok page are: 1) Seek information and flood situations updates such as information about flood relief centers, traffic routes, and etc.; 2) Share flood-related information such as flood relief centers and flood victim shelters, warnings of scams, potential threats and hazards as well as updates of flood situations in participant’s neighborhoods.; 3) Request people to help in voluntary activities and offer assistance such as relief supplies.; 4) Provide emotional support to each other. Participants tried to cheer up and comfort each other during crisis by posting Buddha’s words of wisdom and amusing photos. Finally 5) Unveil government’s suspicious activities in flood-related issues, a participant disclosed information about the suspicious activities of the government’s Flood Relief Operation Center.

A summary of purpose, activity structure and goals of Facebook communication in crisis is presented in Table 2.
Table 3: Facebook communication in crisis: roles, competences, right and obligations

<table>
<thead>
<tr>
<th>ROLES</th>
<th>Competences</th>
<th>Rights</th>
<th>Obligations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>- Have technical skills to facilitate the page by connecting people and collecting information from various sources through various technology media</td>
<td>- Send (distribute) information</td>
<td>- Communicate with participants with sincerity, motivation and consideration i.e. provides accurate and useful information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Take initiative in discussion topics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Request information and feedback from the page participants e.g. request people to update flood situations from their neighborhood, conducting surveys.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Filter out commercial advertisements and remove posts that may provoke fights.</td>
<td></td>
</tr>
<tr>
<td>Participants</td>
<td>- Contribute own knowledge or experiences to the discussion topics</td>
<td>- Participate in page’s discussions</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>- Have knowledge about different communication features of Facebook</td>
<td>- Take initiative in discussion topics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Providing feedback (opinions and comments) on the discussed issues</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Share information from the page to other Facebook users</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Share information from other sources to fellow participants</td>
<td></td>
</tr>
</tbody>
</table>

Other parameters for analysis communication on Facebook in time of crisis are Role, Rights and Obligations. People who participated on Facebook page discussion have certain competencies. In order to run the page successfully, administrators must have technical skills to facilitate the page by connecting people and collecting information from various sources through various technology media. As mentioned earlier, communication on SNSs
platform does not have clear rules or specific requirements or expectations concerning participants’ roles and obligations. Therefore, participants can communicate freely and do not have an obligation to give feedback when required.

A summary of roles, competences, rights and obligations of the participants in Facebook communication in crisis is in Table 3.

Table 4: Facebook communication in crisis: artifacts, instruments, media, and environment

<table>
<thead>
<tr>
<th>ARTIFACTS</th>
<th>Instruments</th>
<th>Media</th>
</tr>
</thead>
</table>
|           | Text, video and audio messages, photographs, maps, drawings, diagrams, emoticons, ASCII-art, codes to indicate information source | - Computer  
- Smartphone |

<table>
<thead>
<tr>
<th>ENVIRONMENT</th>
<th>Context</th>
<th>Physical</th>
</tr>
</thead>
</table>
|             | - Computer-mediated communication  
(asynchronous chat group in fast pace)  
- Communicate in time of crisis | - |

This study focuses on communication via Facebook during Thailand floods 2011 which is in form of Computer-mediated communication. Therefore, artifacts and environment parameters are considered as key factors that influence the interactions because people interact or communicate differently in different situations and through different media. Facebook enables users to communicate with each other through various forms of message thus, in this social activity, artifacts used in the interaction include text, video and audio messages, photographs, maps, drawings, diagrams, emoticons, ASCII-art as well as codes for participants to identify information source they shared. Codes consist of three conventional codes used among page’s participants. #I represents first-hand information, #N represents second-hand information that they obtain from elsewhere and #Q for questions. Participants put certain code in front of messages they post, for instance, “#I it’s raining cats and dogs in Silom district at 15.40”.

Even though interactions on Facebook Wall post usually function as asynchronous chat group in which participant can “dip into” the conversation at anytime, but evidences from data analysis show that in some popular Wall post discussions, participants interact to each other almost in real time.

A summary of artifacts, instruments, media, and environment is in Table 4.
5.2 Analysis of interviews

Analysis of the interviews shows that people adopted Facebook to communicate during crisis for different reasons. The study also found some drawbacks of Facebook use in the crisis as well.

5.2.1 Seek information and flood situation updating

Because of information dearth, people turn to Facebook to fulfil their information needs. Findings from the study indicate the main purpose that participants use Facebook in flood disaster is to update the situations in order to have quick and appropriate responses to the crisis. Even most of the interviewees admitted that they mainly follow flood news from the national TV networks because they believe that these traditional media outlets provide most reliable information. However, some of the respondents thought that sometimes they can get richer and more specific and accurate information from Facebook compared with the other syndicated news media that usually coverage the news in important areas. Participant 1 explained that:

“Those news outlets don’t pay that much attention on rural areas or areas that are not so important or not in the focus of the public, so I turned to Facebook and asked the (Facebook) users who live in these areas about how high the water was and can I drive my car there or which roads that I should avoid and so on”

The findings show that 10 of 15 of the participants thought that because of its rapid broadcast nature and mobility access, the SNSs provide information about flood faster than other mainstream media such as television, radio, news websites or governmental agencies. And most of the participants (13 out of 15) reported that they followed Facebook pages of non-profit organizations that dedicate to the flood issue such as “Nam Kuen Hai Reeb Bok”, Roo Su Flood, and FloodConnect. These Facebook pages have thousands of followers and provide valuable information for people to handle with the floods. Participant 11 said that:

“When the (flood) water approached Bangkok, I regularly used Facebook to check whether it has arrived yet. I think this way I can get information faster than following the news on TV or radio, not to mention the warnings from the government which are always outdated and ambiguous. I followed the flood-related Facebook groups that have lots of followers because it is a place where people from many areas in Bangkok and neighbour provinces shared information about the situation almost in real time which helps me to act to the situation quickly”.

Facebook also serves as a tool for people to seek information about the welfare of friends and family members whom they do not live with or meet regularly. Participant 2 commented that:
“While I usually make phone calls to my close friends and family members to update about their well-being during this time (flooding) but Facebook also helps me to catch up with the well-being of those who are not so close enough to talk to them on the phone or people I don’t meet regularly”

5.2.2 Information, photos and videos sharing

Facebook is an effective tool for sharing information, photos and videos taken from the flooded areas. Flood victims provided information about the situation in their neighbourhoods that may be overlooked by the mainstream news organizations. Some people uploaded photos and videos on Facebook to show how much they were affected by the floods. Participant 10 said that:

“I used my iPhone to take photos of my house that overwhelmed by flood and uploaded them on my Facebook page so my friends and family know exactly what’s going on”

Example of photo shared on Facebook is presented in Figure 5.

Figure 5: Photo that a flood victim shared on Facebook (Participant 10 permitted to use the photo for the thesis)

Meanwhile some people shared useful video clips they have seen elsewhere to help others have a better understanding of the flood situations. Participant 5 mentioned that she shared interesting photos and video clips she saw from other websites or Facebook pages to her friends and family members in order to that help them understand the situation easily. These photos and videos provide simple, clear information and sometimes lively which help people understand some complicated issues more easily. For example, series of animated videos from Roo Su Flood group using blue whale to represent flood waters, the videos
provided clear suggestions about how to cope with the floods and also gave simple explanations about a cause of floods. Participant 5 said that:

“Information provided by Governmental agencies is very difficult to understand because they used formal and academic language, I think it’s very boring! But luckily, I found these (photos and video clips) which use cartoon or cute picture and easy language to explain the situation I was not hesitate to share them with my friends on Facebook”

Screenshots from photos and video clips shared on Facebook are presented in Figure 6, 7.

**Figure 6:** Screenshot of a satellite imagery of flood water in the central part of Thailand that looks like a whale shared on Facebook and later the whale figure was used to represent flood water in many flood-related video clips to help people understand about the flood situation easily. [18]

**Figure 7:** Screenshot of video clip shared on Facebook. The creators used whales to represent flood water [56]
5.2.3 Seek help

With the features that enable users to disseminate a message to multiple recipients at a time, Facebook was used as a mouthpiece for flood victims to request assistants from friends and public. Participant 4 said that:

“It (water) came really quickly, and within a few hours my house was under water. We had to evacuate but I couldn’t bring all of my 8 dogs to the hotel with us, so I sent a message to everyone in my friend lists, asked if anyone could take care of my babies for a while. Within 24 hours, all of my dogs were taken by my friends and people I know on Facebook”

Similarity, Participant 6 decided to join a voluntary work after he saw a Wall post from one of his friends on Facebook who asked for labour to build sandbag walls to protect one of the key hospitals in Bangkok from the flood. He said that:

“My family and I rushed to the hospital to help them build the dikes after my friend who works there posted a message on Facebook that the hospital was likely to be flooded within 48 hours. With help of many volunteers we can protect the hospital before the water arrived, I’m so proud of that...”

5.2.4 Criticize government

Facebook was found to function as a citizen’s mouthpiece during crisis as Participant 2 reported that she used Facebook to criticize the way the central government handled flood problems. She said that:

“I posted a harsh criticism about how incompetence the government was in dealing with the floods, [...] although no one from the government heard what I’ve said but at least other people (on Facebook) heard it and expressed the same feeling”

Participant 13 also revealed the same experience:

“I used it (Facebook) to criticize the way government cope with the disaster that I was disagree with because... sometimes I thought that they (the government) didn’t work quick enough [...] I also discussed this issue with my friends via their wall posts and also on floods-related Facebook pages. ”

5.2.5 Drawbacks of Facebook communication

Even though our respondents agreed that SNSs like Facebook have positive role serving as a communication medium in Thailand’s floods but they also pointed out some of its drawbacks as well. One of the disadvantages is the lack of credibility of information presented on Facebook. Participant 9 commented that:

“Flood group provides reliable information but friends or individuals usually put their personal opinions and their feelings when they post something on Facebook, which sometimes I found it is a biased opinion”
Another problem found from the interview is that sometimes Facebook can be rife with rumors. This issue caused users to get confused and had hard time to make decisions on their emergency plan. Participant 14 said that:

“I was overwhelmed and confused by too much information especially when the water approached Bangkok, there were lots of rumours that Bangkok will be flooded for months and that the commodity prices will be drastically increased so I should prepare large stockpiles of food and drinking water but some people said that the situation will not be that serious”

5.3 Analysis of Facebook Wall posts

Data from Nam Kuen Hai Reeb Bok Wall posts analysis show that there are five main purposes that people used Facebook to communicate with other members of society during the floods last year.

5.3.1 Seek information and flood situations updates

The analysis shows that participants posted messages to ask for flood-related information such as information about flood relief centers, traffic routes, how to clean a house after the floods and etc. Page administrators also set up a survey to ask participants’ opinions to improve flood reporting style. Example of a post that the administrator asked for the effective ways to clean up dirt after the house was flooded is presented in Figure 8.

Any of our fellows know that
If we want to wash away dirt after months of flood TTtT"
What is the best chemical to use?

.. P.S. Administrator has just bought stuffs for moving back home >.<
(Rubber boots, rubber gloves, cleaning brush..)

Figure 8: Screenshot of message posted on Facebook to ask for information [18]

5.3.2 Share flood-related information

Findings show that page’s administrators shared information about the flood relief centers and flood victim shelters, warnings of scams, potential threats and hazards occurred during the floods such as dangerous animals, risk of electric shock and how to register for compensation money from the government and other relevant information from both official and unofficial sources. Participants shared information, photos and video clips about the flood situations in their neighborhoods as well as easy food recipes during the floods.
Examples of flood-related information shared on Facebook Wall posts are presented in Figure 9 and 10.

Figure: 9, 10 Screenshots of example flood-related information shared on Facebook [18]

5.3.3 Request and offering assistance

Data from the analysis reveal that participants posted messages on the page’s Wall asking for volunteers to build sandbag walls to protect key hospitals in Bangkok from flood water. Other participants posted messages offering free drinking water and electrical testing equipments. Example of a Wall post asked people to help in voluntary work is in Figure 11.
Urgent! Volunteers needed for building sandbag walls to protect Rajvithi Hospital and other neighbouring hospitals*

Please share this as soon as possible

Just received this information a moment ago, we will start working tonight (Nov.8 to Nov.9) at midnight when the first truck that transports sand arrives...

VOLUNTEERS NEEDED
BUILDING SANDBAG WALLS TO PROTECT RAJVITHI HOSPITAL AND OTHER 5 HOSPITALS ALONG PHAHOLYOTHIN RD. AND VIBHAVADI RD.
WE HAVE LESS THAN TWO DAYS

Figure 11: Screenshot of an example message posted on Facebook to request assistant [18]

5.3.4 Providing emotional support

The analysis shows that participants tried to comfort their Facebook page fellows during hard times and provided emotional support by posting Buddha’s words of wisdom and amusing photos to cheer up their fellows. Example of amusing photo is presented in Figure 12 and example of Buddha’s words of wisdom is presented in Figure 13.

Figure 12, 13: Screenshots of example messages and a photo shared on Facebook to cheer up and comfort people who got depressed during the floods [18]
5.3.5 Unveil government’s suspicious activities

Another reason of Facebook use found from the data analysis is to uncover government’s suspicious activities in flood-related operations. The data shows that one participant share a photo to unveil suspicious activities of the government’s Flood Relief Operation Center. A photo shows mountain of relief supplies that were donated by the public to help flood victims but the center kept these supplies to distribute to some certain political groups that support the government.

![Figure 14: Screenshot of a post shared on Facebook to unveil suspicious activity of the government’s flood center [18]](image)

5.4 Patterns of communication on Facebook

Findings from Facebook page analysis based on Activity Based Communication Analysis (ACA) suggest that patterns of communication on virtual platform such as Nam Kuen Hai Reeb Bok page are different from other type of communication such as Face-to-face interaction. Below I will present the patterns of communication on Facebook in crisis.

5.4.1 No greetings or farewells

As a public page where everyone can access freely participants do not usually greet each other at the beginning of the session and do not bid farewell to others when they leave the conversation. The data also shows that it is common to start the discussion by identifying specific topic that a person wishes to talk. For example, “Flood evaluation on November 7, 2011 from Professor Sasin Chalermlarb’s Facebook post” or “Accessible traffic routes in Bangkok”.

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5.4.2 Participants have no obligations to give feedback

Facebook page interaction is usually dominated by page’s administrators who facilitate the interactions and take initiative in discussions. Once information posted on the page’s Wall, participants can read the post and provide requested information, express comments on discussed topic. However, data analysis shows that there are no clear obligations or expectations about giving and receiving feedback in Facebook communication, therefore, it is common that participants can read and shares Wall posts freely without providing any feedback. Meanwhile, page’s administrators can respond to feedbacks from participants who join discussed topic and have the right Filter out commercial advertisements and remove posts that may provoke fights.

5.4.3 Asynchronous interactions in fast pace

Another finding from data analysis suggests that although the interactions on Facebook page usually function as asynchronous chat group that participant can jump into the conversation at anytime but in some popular Wall post discussions, participants interact to each other almost in real time. Example is presented in Figure 15.

![Figure 15: Screenshot of Facebook discussion that participants interacted to each other almost in real time [18]](image)

5.5.4 Facebook supports various forms of message

According to the analysis of artifacts, instruments, media and environment, Facebook allows users to access its service via computer or Smartphone. It also enables users to communicate to each other through various forms of message such as text, video and audio messages, photographs, maps, drawings, diagrams, emoticons, and ASCCI-art. These
findings are interrelated with findings from interviews that participants reported to share information with their friends in forms of text-based message, photos to demonstrate flood situations as well as animated videos that used a lively cartoon character and simple language to explain about the floods. These multimodal media facilitate interactions between users and help them to understand the messages easily.

In addition participants also use codes to indicate information source or type of message they shared. For example #I stands for first-hand information, #N refers to second-hand information and #Q represents question. The conventional codes help participants to be able to determine and select the type of messages they want to read quickly. Example of codes used by participants can be seen in Figure 16.

Figure 16: Screenshot of codes that participants used to indicate information source and type of message [18]
6. SUMMARY AND DISCUSSION

In this section, I will summarize the main findings and present how they answer the three research questions and how they relate to the prior studies. I will provide the findings to answer the research questions by starting from the first one.

6.1 The reasons for using Facebook in time of crisis

<table>
<thead>
<tr>
<th>Question 1: Why was Facebook used in crisis?</th>
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Results from data analysis indicate five main reasons that people used Facebook to communicate during crisis.

1) Seek information and flood situations updates

Findings from both interviews and Facebook Wall posts analysis found that the main reason people who experienced the major floods last year turned to Facebook is to update and seek for flood-related information. Participants from the interview said that information shared on Facebook was faster and sometimes more specific and accurate compare with information provided by the government or traditional news organizations such as TV, radio and newspaper because information shared on Facebook came from eyewitnesses or the locals who had first-hand experiences. In addition, people also used Facebook to update about their friends and family members’ welfare, in particular people they did not live with or meet regularly.

These findings are in line with a study of 2007 Southern California Wildfires [47] which suggests that SNSs expand information arena during crisis and they support “backchannel” or peer-to-peer communication by allowing members of community to interact with each other, therefore, information shared on SNSs tend to be more updated, practical and accurate than information from official sources because it usually come from people at the scene of crisis.

2) Share information, photos and videos

Results from interviews and Facebook Wall posts analysis show that Facebook was used to share flood-related information. The advance of mobile internet technology allows people to access to Facebook at anytime and anyplace according to the interview, a participant said that he use a smart phone to take photos of his flooded house and posted on Facebook in order to have his friends and family members know exactly about his situation during the disaster. Thus, people used Facebook to distribute information right from the site of disaster.
and information they shared on Facebook was in various forms such as text, audio, video, photographs and so on.

Participants from the interviews also reported that they shared information found on Facebook or elsewhere to their friends to facilitate the understanding of flood situations. For instance, photos of flood situation in their neighborhoods or animated video clips that help people to understand how the floods occurred and so on. Participants thought that information shared on Facebook to some extent, offer clearer message than information from the government that used formal language and technical terms. The same trend was also found from Facebook Wall posts analysis in which page participants share flood-related information in various forms of message for example, photos of dangerous animals found during the disaster, and photos from areas affected by floods.

The act of sharing information between Facebook users are consistent with “Sharing” functional building block of SNSs proposed by Kietzmann and colleagues [28] who describe that “the matters” shared on SNSs are the reason that users meet online and associate with each other, in our case, flood-related information is the matters that brought people to interact with each other on Facebook. Furthermore, the “Groups” functional building block of Facebook also enables users to construct online communities such as flood-related pages as a forum for people to participate in coordinated activities during the floods.

In addition the findings are also in line with study of Sutton and colleagues [47] who suggest that SNSs encourage citizens to actively engage in the information production and distribution rather than being merely passive information consumers which helps to expand the information arena of the disaster [47]. The case of Thailand floods is obvious that information sharing activities among citizens fulfilled people’s needs for real-time and practical information that the sometimes authorities or main stream media fail to provide to the public.

3) Request and offer assistance

Results from interview and Facebook page analysis show that people use Facebook to request and offer assistant not only from people they know but from the public for example the Wall post asked for volunteers to build sandbag walls around key hospitals in Bangkok and posts of giving away free drinking water and electrical testing equipments.

The fact that Facebook users asking or offering help directly to the public emphasizes the role of Facebook as a citizen’s mouthpiece that enables individuals to directly communicate with the public via virtual community forum. This function of Facebook is in accordance with Broadcasting mode of communication on SNSs platform mentioned by Underwood [53] which can be considered as a public communication style characterized by the individual’s self-projection.
4) Provide emotional support

Results from Facebook Wall posts analysis found that participants of Facebook page, posted meaningful messages such as Buddha’s words of wisdom and amusing photos to cheer up and comfort their fellows who had emotional stress or got depressed by the disaster.

These finding are in line with the study of 2007 Southern California Wildfires [47] which suggest that social interaction between people who experienced the same tragedy is very important to help people who suffered from the disaster cope with the emotional stress or depression from loss of property, bereavement or relocation.

In addition, the present study show that besides emotional supports from friends and family members, Facebook users also received emotional supports from strangers they met on Facebook pages as suggested by prior studies [22, 20] that Facebook promotes diversity of social networks, allows people to get social support from outside their neighbourhoods more easily and people who make more friends on Facebook will get more emotional support [22, 20].

5) Criticize government’s work in flood-related issues and unveil suspicious activities

Other reasons that people use Facebook to communicate during crisis are to criticize and unveil government’s suspicious activities. Results from both interviews and Wall posts analysis show that people used Facebook as a platform to express their disagreements and question government’s role in disaster management. Wall posts analysis shows that one participant used Facebook to disclose information about the suspicious activities of the government’s Flood Relief Operation Center to the public.

The findings about Facebook used as a tool to criticize and unveil the authority’s doubtful activities are not directly mentioned in previous studies on SNSs use in relation to crisis. However, they emphasize the role of Facebook as a citizen’s mouthpiece that allow ordinary people to directly communicate with the public which mentioned by Underwood [53] as a Broadcasting modes of communication on SNSs platform that users can broadcast their personal views to a large scale of audiences not just people in their friend lists.

To sum up, the findings indicate that during the 2011 floods in Thailand, Facebook facilitated communication and expanded the information arena during crisis. Facebook was used to construct online forum for members of society to participate in coordinated activities during the floods. People use Facebook to seek, distribute, and share flood-related information. Information shared on Facebook was perceived as reliable and practical information because it was generated by eyewitnesses. Moreover, people also used Facebook to offer or ask for assistances, provide emotional supports, criticize authorities and disclose suspicious activities in society.
6.2 Patterns of Facebook communication

**Question 2: How did the communication via Facebook look like in time of crisis?**

According to Allwood [3, 5], social activity is a key factor that influence and determine human linguistic communication because each activity has different purpose and goal [3,5]. Findings from Facebook page analysis based on Activity Based Communication Analysis (ACA) reveal that the communication on Nam Kuen Hai Reeb Bok page function as an asynchronous chat group in which interactions between participants can be fast-paced in some popular topics, these findings are interrelated with data from interview analysis which a participant reported that Facebook page participants interact to each other almost in real time.

The fact that the page is open to the public and participants do not know their counterparts beforehand makes it is common for participants to begin the conversation without greetings and leave the conversation without farewells. This finding is consistent with Herring [25], who suggests that the communication pattern of computer-mediated communication differs according to the technologies on which it is based and to the contexts of utilization [25]. Another pattern of communication on Facebook page found from the current study is that participants can be merely passive information consumers who read Wall posts without providing any feedback because there are no clear obligations, or expectations about giving feedback in Facebook communication.

Results from interviews and Wall posts analysis also show that Facebook allows users to communicate to each other through various forms of message such as text, video and audio messages, photographs, maps, drawings, diagrams, emoticons, and ASCII-art. The multimodal media shared on Facebook help recipients to understand the messages easily and facilitate interactions between users where mutual understanding is considered as the goal of activity as mention by Allwood [3] and Rogers [39].

In addition participants also use codes to indicate information source whether the message is first-hand or second-hand information and to indicate that a message aims for inquiry which help participants to be able to determine and select the type of messages they want to read quickly. The use of conventional codes found in this study is considered as a wide scale problem solving activity mentioned by Palen and colleagues [36].
6.3 The role of Facebook in crisis

**Question 3: What is the role of Facebook in time of crisis?**

**Facebook as a citizen’s mouthpiece in crisis**

Results from the interviews and Wall posts analysis show that during crisis, Facebook functions as a citizen’s mouthpiece that allows individuals to broadcast or distribute messages to the public. Evidences from the study suggest that people used Facebook to amplify their voice to be heard by the public. For example, a wall post asked friends to take care of the dogs while the owner fled from her flooded home, a post requested for volunteers, Wall posts criticized government and unveiled suspicious activity of the Flood Relief Operation Center.

The act that people used Facebook to distribute a message to public is to some extent in accordance with a Broadcasting mode of communication proposed by Underwood and colleagues [53] which refers to a transmission of messages from one sender to many receivers with the primary flow outwards from the sender. However, evidences from Wall posts analysis show that interactions between participants tend to be more two-way communication where the degree of mutual exchange is high in particular from receiver side. Facebook’s function as a citizen’s mouthpiece thus, turned out to be useful for communication in crisis because it helps users to receive rapid helps form the public.

**Facebook support “Back-channel communication in crisis”**

Besides the role as a citizen’s mouthpiece in crisis, Facebook also supports “back-channel” or “peer-to-peer” communication in crisis. During flood disaster last year, people in Thailand did not solely relying on information provided by the government or mainstream news organizations. Rather they gathered to a virtual community forum on Facebook to seek and share information they need to cope with the disaster. Facebook enables wide-scale interaction between members of the community that can be collectively resourceful, and accurate.

The construction of flood-related pages on Facebook demonstrates another Facebook’s affordance as proposed by Kietzmann and colleagues [28] that a SNS such as Facebook has a “Groups” functional building block that allows users to build communities and sub-communities that function as online-club for members to socialize with people who have similar interests. This Groups functional building block therefore, has a key role to support and expand information arena in time of crisis as mentioned by prior studies [36, 47].
6.4 Drawbacks of Facebook communication

Lastly, results from interviews also reveal some drawbacks of Facebook. Participants found that Facebook can be rife with rumours and information shared there can be prejudiced from individuals’ views. These findings are in line with a prior study by Lindsay [29] which suggests that previous studies have found outdated, inaccurate and false information shared on SNSs in times of crisis [29]. These problems seem to be common issues on SNS platforms where a degree of controlling and monitoring over sharing content or information is low [35]. However, individuals can minimize these problems by selecting information from credible sources such as Facebook pages of governmental agencies, other relevant organizations or flood-related groups that have a good “reputation”. The reputation indicates the trustworthiness of information source which can be determined by a large number of “Like” as mentioned by Kietzmann and colleagues [28].

6.5 Method consideration

The in-depth interview approach chosen for this study is useful and suitable for the research objective because it allows the researcher to gain in-depth information on people’s personal experiences and behaviours and in this case this method can answer the questions why Facebook was used to communicate in disaster event.

Online interview via Facebook Chat was adopted to reach out the target participants in Thailand. This approach turned out to be very useful and convenient because via text-base chat, participants tend to summarize their ideas before they type the answers that reflect their genuine views unlike communication via e-mail that participants have more time to think and might adjust their views and give answers that are not truly their own because they want the answers to be “rational” as mentioned by Hennink et al [24]. Furthermore, interviewing via text-based chat allows the researcher to simply “copy and paste” texts from the conversations to Word documents for data analysis process.

Concerning drawbacks of the chosen text-based interview method that lack of non-linguistic traces such as gestures, facial expressions and other body language from an interlocutor. The researcher argues that the present study does not need to observe participants’ non-linguistic traces and interpret them because it aims to examine people’s experiences on Facebook use which is not considered as a sensitive issue that need to interpret participations’ non-linguistic traces because they might not give the genuine answers as a form of justification or rationalization [24].

Facebook Wall posts analysis using the framework of Activity Based Communication Analysis (ACA) was adopted to understand the context of communication activity which enables the researcher to identify the communication pattern via Facebook page in time of crisis. Different activity parameters used for data analysis such as purpose, activity structure and goal, role, rights, obligations and competence of activity participants, and artifacts,
instruments, and media used in activity as well as environment where activity occurred help the researcher to understand how people actually communicated via Facebook in time of crisis.

Limitation to this study is the fact that the researcher examined only one social network site. Therefore, the findings may not be completely generalized to other SNSs. Topics that Facebook users communicate with each other tend to be general issues such as people’s lives, and what’s going on in society, but if compare with the communication via CouchSurfing that emphasizes on traveling the communication will be different as suggested by Kietzmann and colleagues [28] that SNSs are vary in terms of objectives therefore, people use them differently with different purposes [28].
7. CONCLUSION

Thailand’s flood disaster in 2011 had demonstrated that a SNS such as Facebook is not just a communication tool that helps people to stay in touch with their friends and family members as its original aim when founded but to some extent, Facebook also functions as a citizen’s mouthpiece during crisis. Findings from this study show that ordinary people used Facebook to communicate with the public, ask for help, broadcast their views on certain issues and even use it to disclose suspicious activity in society.

7.1 Suggestions for Facebook use in time of crisis

Evidences from the present study indicate that information generated by citizens shared on Facebook is relatively specific, accurate, updated and easier to comprehend compared with messages sent from the authorities or mainstream media. This kind of information can be useful for individuals to make decisions or action plans when crisis arises. However, Facebook users should bear in mind that information shared on a social network site such as Facebook can be incorrect or outdated because this kind of communication platform usually have a mild degree of controlling and monitoring over sharing content or information. But users can minimize these problems by selecting information from credible sources that have a good “reputation” which indicates the trustworthiness of information.

Governmental and non-governmental organizations responsible for crisis response and management should consider the benefits of Facebook used as a communication platform that facilitate social participation activities in time of crisis in order to improve their communication with the public. The improvement may be done by providing specific, updated and easy to comprehend information to the public via organizations’ media or by cooperating with flood-related civic groups that are popular on SNSs such as Roo Su Flood and Nam Kuen Hai Reeb Bok on Facebook and @thaiflood on Twitter. By this way, the government can directly provide information such as warnings, alerts, evacuate plans and other relevant information for these groups to distribute the right information to the public which will reduce confusions and rumours among the public during crisis. Moreover, information that the public get will be in the same direction which will allow the government to cope with the crisis more effectively and it will minimize losses from crises.
8. REFERENCES


[18] Facebook’s Nam Kuen Hai Reeb Bok page, found at Facebook’s website http://th-th.facebook.com/room2680 (accessed May 16, 2012)


Appendix A

Interview guide “Facebook use in Thailand floods 2011”

1. Background information
   a) Gender
   b) Age
   c) Educational background
   d) Occupation
   e) Address

2. General information concerning Facebook use
   a) How long have you been using Facebook?
   b) How many friends do you have in friend lists?
   c) Why do you use Facebook in general?
   d) How do you access to Facebook
      Probe: via computer/ Smartphone? Why?

3. Questions about choice of media for following flood situations
   a) What is the main media you used to follow flood news?
      Probe: Why? How was the quality of information presented by this media?
   b) From your point of view, which media provide fastest information?
      Probe: Why?
   c) From your point of view, which media provide most in-depth information?
      Probe: Why?
   d) From your point of view, which media provide most reliable information?
      Probe: Why?

4. Questions about Facebook use as a communication platform during the floods
   a) What is your main purpose of using Facebook to communicate during the floods?
      Probe: Why?
   b) Whom did you use Facebook to communicate with during the disaster?
      Probe: Why? How often? What kind of subject did you communicate about?
   c) Have you participated in any flood-related pages on Facebook?
      Probe: Why did you participant? How many? What sort of information have you got from the page? What is the benefit of participating the page, do you think information shared on the page reliable or not?
   d) From your point of view, what is the role of Facebook as a communication technology during the floods?
      Probe: Why?
e) What is the benefit of using Facebook to communicate during the disaster?  
   Probe: Why?

f) What is the drawback of using Facebook to communicate during the disaster?  
   Probe: Why?