Knowledge Sharing and Lesson Learned From Flood Disaster: A Case In Kelantan

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Abstract Flood is a common natural disaster in the world. Like other natural disasters, floods can cause fatalities from drowning and damages to properties such as houses, buildings, plantations, livestock and others. Recently, flood becomes unpredictable and frequently occurred including in Malaysia. The worst case in history happened in Kelantan last year. So, the purpose of this paper is to investigate how people and victims say about the flood and study how social media act as knowledge sharing tool to spread flood’s information. Basically, in other word is to understand the impact of social media during flood disaster either it is good effects or not. This paper will discuss about introduction of flood itself, the cases, and how social media aids during flood disaster. The concept of knowledge sharing via social media during flood disaster is highlighted in this paper as well. The approach of doing this research is by analyzing the previous papers and case studies, look into newspaper and interview with residents who are affected by flood. From the interview, a mind map of initial finding was illustrated to see the clear picture of what respondent's point of view and some recommendation solution are also be discussed in this paper.

Keywords: Flood, Social media, Knowledge sharing, Social media in flood.

1. INTRODUCTION

Normal floods are commonly welcomed in many parts of the world as they provide water, rich soil, and a means of transport, but flooding at an unpredicted scale (destructive flood) and with excessive frequency causes damage to environment, livelihoods and even to human life, pets and other living thing. The list below shows the few terms of flood disaster and common concept of it. These terms are:

- Flood – An overflow of the huge amount of water which sinks land and causes overflow (FEMA 2007).
- Disaster - A crisis situation causing widespread damages which difficult for residents to recover. Disasters are either natural or man-made (Michigan 1998).
- Flood Plain - Occurs when in times of flood, the rush of water in the high regions flow down and carries along a greater quantity of sediment resulting in planation. Any impediment across a river, like a group of hard rock, may form a flood plain behind it (Mohd, Alias & Daud 2006).
- Flood Risk and Vulnerable Areas - Identifying hazardous areas and determining risks are the initial steps in the hazard mitigation process. Risks are defined as the type and severity of the hazard and its frequency of occurrence (IOTWSP 2007).

According to McCluskey (2001), there are a few types of floods which are flash flooding; urban flooding; coastal flooding; slow-onset from sustained rainfalls; predictable, regular flooding and increased size of regular flooding and monsoon flood (Alnap 2008). Many countries in the world faced the flood such as India, Thailand, Indonesia, Malaysia and Australia. For example, a case studies in Victoria, Australia. Victoria experienced significant major floods between September 2010 and March 2011. During that time, many community members used social media as a means to receive information about the floods and to share information, news and photographs with others (Charlwood 2012).

Social media itself became as platform and tools for knowledge sharing (KS) during the flood. KS means the management of explicit or tacit knowledge consists of performing one or several of the knowledge processes such as transferring, creating, integrating, combining and using knowledge (Sarkheyli et al. 2012). The other authors defined KS as procedure undertaken by people whenever they are exchanging ideas by means of discussion so that new knowledge or thoughts will be formed, (Alam et al. 2009; Nordin, Daud & Osman 2012; Kathiravelu, Abu Mansor & Kenny 2013). The KS process is actually
already involves direct or indirectly in the social network nowadays. Social network can be used as the tools for knowledge management for example in the creation, exchanging and transformation of the knowledge. Social network features such as personal profiles, communication among groups and expressing opinion can enhance KS in transferring information (Mahmood, Mohamed Dahlan & Che Hussin 2013). So, from the previous authors’ statement, social media can enhance KS in transferring flood’s information and knowledge.

Social media serves as one platform to chat either in forum or messages or comments and acts as discussion tools to facilitate knowledge sharing. Other than that, its function is to communicate lifesaving knowledge and past experience. Social media can be an intermediate to make announcement, notifications and bulletin boards to make current and future disaster related programs known to the community of practice (Dorasamy et al. 2012).

Therefore, from the usage of social media, it aids in process of transferring information regarding the flood faster and efficient way. The Victoria State Emergency Service (VICSES) realize the importance of social media, so the agency provided information to communities through social media. Between 12 January and 10 February 2011, VICSES responded to more than 17,500 requests for assistance, 320,000 individual Emergency Alert messages were delivered and the VICSES Flood and Storm Information Line received over 16,800 calls. Communication of warnings and information to the community was supreme, and online social media outlets were used broadly by communities, media, emergency services, and other interested people (Charlwood 2012).

According to Charlwood (2012), in his paper, during the flood event in Victoria, social media behaviours proved was message spreading, which covered 43 per cent of the total dataset. Message spreaders included shares, retweets, repost and distribution of comments involving to donations, relief, warnings, news, and general emergency information. Message spreading relating to relief and donations was most dominant, followed closely by the spreading of news items. Message spreading relating to warnings was only 7.5 per cent of the total dataset and it is consider as low, because of a lack of official agency use of social media for warnings. In addition, social media users were also actively participating in spreading official messages of warnings and information. This willingness to spread official messages through individual personal networks has the chance to a substantial increase the in the reach of official communications. The second behaviour proved was the willingness of social media users to give relevant information back to emergency management agencies. The VICSES Facebook page received a number of direct posts from social media users with detailed information about local conditions, road closures, and images and videos of local flood consequences. During that time, Facebook was most strongly used for commentary by people who were directly involved in the floods and meanwhile, Twitter was most often used for spreading news, information and warnings.

Despite of creating opportunity in times of crisis, however, the challenges of using social media were stressed as well. The trustworthiness of social media content is sometimes questioned, though filtering tools have been developed to reduce time spent reading irrelevant messages from untrustworthy sources. The obstacles is that a broad range of players can communicate, using various channels simultaneously. This represents both an opportunity, as it can speed up the emergency responses, but also presents with challenges of spreading inappropriate rumours. Errors can occur such as the provision of inaccurate information, mishandling of sensitive information (Wendling, Radisch & Jacobzone 2013).

From the case study, the research question of this paper is, “What is the importance of knowledge sharing and lesson learned from flood disaster via social media?” As to answer the question, the objective is needed. Owing to that question, the research objective is to examine the importance of knowledge sharing and lesson that can be learned from the disaster through the social media medium.

In general, this paper is organized into four sections which are Section 1 is introduction, Section 2 is research background, Section 3 is initial finding and last section is conclusion and future work. Section 1 stated about flood and using social media in flood disaster situation in general ways such as case in Victoria. Flood cases in Malaysia, general problems of flood, reason that motivated studying in flood and social media area, and how social media became solution to those problems are stated in Section 2. Meanwhile in Section 3 discussed about initial finding based on randomly interview with respondents who are affected by flood with their story and opinions. Finally, in Section 4, this paper concluded and stressed benefits using social media in flood disaster and future works that can be done of it.

2. RESEARCH BACKGROUND

Malaysia is so lucky that it is not straight exaggerated by disasters like volcanic eruptions, earthquake, hurricanes, tsunami, typhoon, and tornados because lies in a geologically stable region just outside the “Pacific Ring of Fire”. It is also lies too far south of the major typhoon paths (Chan 2012). Moreover, Malaysia also rich with water resources, receiving a plentiful volume of rain every year. The average annual rainfall is 2,400 mm for Peninsular Malaysia, 2,600 mm for Sabah and 3,800 mm for Sarawak (Ministry of Natural Resources and Environment 2007). However, flood disaster occurred frequently in this country and the most major natural disasters which affect 4.9 million people and cause damage worth of several million every year. About 29,720 square kilometers or 9 % of the land area of the country is prone to flooding (DID 2007). Usually, floods will happen in East of Coast states of Malaysia which are Kelantan, Terengganu and Pahang because of monsoon (Azmi, Hashim & Zamhury 2012). The basic factor of flood in Malaysia is the incidence of heavy monsoon or continuously rainfall and as a result, large concentration of overflow which has been worsened due to rapid
development in the river catchment and deteriorated river capacity (Ho 2002). The combination of natural and human factors has produced different types of floods, monsoon, flash and tidal (Chan 1998b). Coupled with natural factors such as heavy monsoon rainfall, intense convection rain storms, poor drainage and other local factors, floods have become a common feature in the lives of a significant number of Malaysians (Chan 2012).

Several major floods have been experienced in the last few decades in Malaysia. Flood in 1926, affected most of Peninsular Malaysia, resultant in extensive damages to houses, property, road systems and agricultural land and crops. Then, in 1967, disastrous floods surged across the Kelantan, Terengganu and Perak river basins, taking 55 lives. Four years later, in 1971, a disastrous flood swept across many parts of the country. Pahang was severely affected, suffering great economic losses in the form of property and crops, as well as a death of 24. Flood occurrences seem to be getting more frequent in recent years, especially in big cities like Kuala Lumpur, Penang and Kuching where rapid urbanization is taking place (Wing, Buletin Ingenieur). The main causes of flooding in Malaysia are as follows:

- Inadequate drainage systems or failure of localized drainage improvement works, extended insufficiently downstream
- Siltation in waterway channels from indiscriminate land clearing operations
- Localized continuous heavy rainfall
- Tidal backwater effect
- Inadequate river capacity (Wing, Buletin Ingenieur).

Authors Mohit and Sellu (2013), explored the flood case study in Pekan, Pahang. Based on the research, they found that public facilities, infrastructure, residential, commercial, and the surrounding agricultural activities are not properly zoned and lead to flood occurrence. Along Jalan Sultan, the road is at a bit higher elevation than the foundation of the shops. During heavy rains, water enters into shops and remains trapped, and the local residents have to bail out waters. A number of issues and problems have been identified related to the role they play in influencing flood damages. These are poor drainage systems, narrow drains, low level foundation of houses/structures at the town centre, lack of regular clearance of drains, high tides of the Pahang River as well as siltation and sand mining in the Pahang River (Mohit & Sellu 2013).

December 2014 is the terrified flood case in history, when Kelantan faced the flood. The record-setting flood of 2014 was a ‘tsunami-like disaster’ in which 202,000 victims were displaced (Bahrudin et al. 2015). Heavy rains that began on the 17th of December, 2014, led to flash flooding and forced 3390 people in Kuala Krai, Kelantan, to left their homes (Sapa-dpa 2014). Then, three days of continuous heavy rain fall from the 21st to the 23rd of December, 2014, in Gua Musang. This was a record-setting rainfall of 1295mm, equivalent to the amount of rain usually seen in a span of 64 days. Consequently, the water levels of three major rivers, which are Sungai Galas in Dabong, the Sungai Lebir in Tualang and the Sungai Kelantan, rose drastically above the water levels considered dangerous (Murthy 2015). The highest recorded level of the Sungai Galas in Dabong was 46.47 metres (flood stage: 38 metres), the highest recorded level of Sungai Lebir in Tualang, Kuala Krai was 42.17 metres (flood stage: 35 metres) and the highest recorded level of Sungai Kelantan was 34.17 metres at Tangan Krai, Kuala Krai (flood stage: 25 metres) and 22.74 metres (flood stage: 16 metres) in Tanah Merah. The highest level of Sungai Golok at Rantau Panjang was 10.84 metres, which was over the danger point of 9 metres (ebanjir Main Portal of Kelantan 2015). The flood is called ‘yellow coloured flood’ because the color of water is yellowish brown with the high mud contents. The route to Kelantan through the East West Highway was closed to all traffic after part of the highway at the 65th kilometre near Puncak Titiwangsa collapsed. The Gua Musang-Kuala Krai road has been closed to all traffic while the route from Padang Besar through Haadyai was also impassable due to the floods (The Star 2014). The Figure 1 below shows the recent flood in Kelantan, December 2014.
evacuation routes. Many emergencies require an early warning which reaches many people as fast as possible. Twitter and Facebook can offer solutions because most of the users will receive the notification instantly and spread it in their network (Wendling, Radisch & Jacobzone 2013).

Experienced users of the social media for emergency warning recommend to stick to facts and to be as objective as possible. There is a need to focus not only on communicating to the affected persons but also to take into account that even the unaffected can be worried and in need of information. Social media can also be used to indicate willingness to help in the event of an emergency. Social media change risk and crisis communication as they empower and connect large numbers of volunteers (Wendling, Radisch & Jacobzone 2013).

Social media can be used to solicit donations when major ruins occur. During an emergency, people who want to help by providing blankets or a safe place to stay for victims of a disaster often do not know who to turn to. By indicating precisely on social media what type of in kind contribution could be needed, emergency services can avoid flows of unnecessary materials and develop synergies in the communities. Social media can be used after a crisis to facilitate the lessons learnt processes and as useful materials for risk and crisis researchers (Wendling, Radisch & Jacobzone 2013).

3. INITIAL FINDING

This section will explain about the research methodology and the discussion of finding. Method used in this research was interview session. Then, information obtained from the interview session will elaborate details here.

3.1 Research Methodology

One of the ways to collect the data is by having interview session. The interview is held by facing face to face and also using Whatsapp mobile application and Facebook. The locations of session are in villagers' house, market, barber shop, mall and stall. The respondents are about 20 respondents only because of time constraint. Most of them are housewives, sellers in market and stall, customers in market and mall, barber, and university students. Some of them are having experiences during flood disaster (victim) and rest of them retold the story from their families who are affected by the flood (unaffected). So in this session, most respondents are victims and affected person and a few is unaffected person but their families are the affected one.

The interview is informal way and the timing for each session is different depends on the respondents’ answer and how long their stories are. The approximate time taken for each person is 20 minutes per session. Luckily, most of them gave very good cooperation and willing to share their knowledge and information. Those respondents in the interview are not saying much about social media, but they gave the good input and rough idea to be put in questionnaire question. Only university students in that interview touch a little bit about the advantages of using social media during flood disaster as they can know their family status faster and their house condition in hometown because their families shared the photos and told the story through Whatsapp. The respondents and their characteristics and information are showed in Table 1 below.

<table>
<thead>
<tr>
<th>Occup - ion &amp; Age</th>
<th>Category</th>
<th>Way of Interview</th>
<th>Information collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student (23)</td>
<td>Victim (30)</td>
<td>Through Whatsapp</td>
<td>Can know the condition of the district and realize the situation faster through social media</td>
</tr>
<tr>
<td>Student (24)</td>
<td>Victim (30)</td>
<td>Through Whatsapp</td>
<td>She post her condition and her family to Facebook and she told, she and her family staying on top of hill during the flood</td>
</tr>
<tr>
<td>Student (25)</td>
<td>Victim (30)</td>
<td>Through Facebook</td>
<td>She and her family trapped during flood and cannot go anywhere, and she post the information to Facebook page and the soldier came to help her and her family</td>
</tr>
<tr>
<td>Student (27)</td>
<td>Victim (30)</td>
<td>Others retold the story</td>
<td>Told the story on how he managed to safe his life by clinging to fallen tree trunk</td>
</tr>
<tr>
<td>Housewife (30)</td>
<td>Victim (30)</td>
<td>Others retold the story</td>
<td>Loses her last child because the infants regardless her hold during on the way to go to evacuation center</td>
</tr>
<tr>
<td>Soldier (35)</td>
<td>Victim (30)</td>
<td>Face-to-face</td>
<td>Don’t have shelter after helping the victims. The welfare of volunteers and soldier, nobody cares</td>
</tr>
<tr>
<td>Market seller (37)</td>
<td>Victim (30)</td>
<td>Face-to-face</td>
<td>Her house is not affected by flood, but they cannot go</td>
</tr>
</tbody>
</table>

Table 1: The respondents in interview session
anywhere because the main road is filled with water.

Teacher (37) Victim Others retold the story She and her husband died due to boat flipped and do not wear life jacket.

Lorry driver (46) Victim Others retold the story He and his family slept on the lorry for few days because the house filled with water.

Refrigerator Technician (50) Victim Face-to-face He registered to evacuation center, but the evacuation center is already full and need to find another center quite far from his village by himself.

Fishmonger (54) Victim Face-to-face Not prepared because flood never come to his house before this. He do not know where to go, how to go, and how to get help.

Barber (54) Victim Face-to-face Not prepared because flood never come to her house before this.

Housewife (58) Victim Face-to-face She do not get the food in evacuation center because the younger one is very fast to grab the food given.

Student (22) Unaffected Through Whatsapp Can know the status of family faster during flood by social media.

Student (23) Unaffected Through Whatsapp Can realize the situation faster and know the safe route during flood through social media.

Student (23) Unaffected Through Whatsapp Can know how to contribute the items and know the path to join charity work during flood through social media.

Student (24) Unaffected Through Whatsapp Can know her family status and condition of her village through social media.

Student (24) Unaffected Face-to-face Don’t know the truth of news and can’t expect the level of water during flood.

Housewife (52) Unaffected Face-to-face Gave suggestion such as each village need to have flood community and discuss the plan before, during and after the flood occur and must have boat to transfer the villagers to safer place as well as class preparation and simulation about flood.

Housewife (55) Unaffected Face-to-face Gave suggestion during flood like always prepared during flood, need planning where to move, each person need to have life jacket and learn to swim.

Meanwhile, the Table 2 below shows the summarization of Table 1 based on category of respondents either victim or unaffected with number of respondents, way of interview and respondent’s occupation.

<table>
<thead>
<tr>
<th>Details</th>
<th>Victim</th>
<th>Unaffected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondent</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Way of interview</td>
<td>Through Whatsapp, Facebook, others retold the story and face-to-face</td>
<td>Through Whatsapp and face-to-face</td>
</tr>
<tr>
<td>Occupation</td>
<td>Student, housewife, soldier, market seller, teacher, lorry driver, refrigerator technician, fish monger and barber</td>
<td>Student and housewife</td>
</tr>
</tbody>
</table>
3.2 Discussion

According to recent interview with residents that being affected by flood in Kelantan, a lot of problems arose from their story. Kelantan is chosen because it can be considered as latest worst flood disaster in Malaysian history. This flood had made loss approximately billion Ringgit Malaysia to all victims. They loss the properties, plants, farms, pets, as well as business properties like shop and the items inside it. Almost districts in that state like Tumpat, Kota Bharu, Pasir Mas, Tanah Merah, Machang, Jeli, Kuala Krai and Gua Musang were affected by flood except Bachok and Pasir Puteh. The disaster happened in the end of 2014. The Figure 2 below shows the Kelantan map with the districts.

Figure 2: Districts in Kelantan (Mat Din 2015)

And, Figure 3 below shows the summarization in form of mind map of initial finding. There are five main focuses in the figure. The first one is the story told by the respondents (blue box) which will mention in next paragraph. Based on their stories, some of the problems arose and being state in problem category (red box). The limitation of this study also defined in limitation category (black box). IT (Social Media) category (orange box) is to focus on the benefits of using social media during flood disaster. Last but not least, the a few suggested general solutions are mentioned in solution category (green box).

Figure 3: Initial finding mind map

Based on the findings, almost residents cannot expect the level of flood and how big the disaster is each year. They are not prepared for disaster as they never experienced the flood before. The flood never approaches their village before. Unfortunately, the flood on December 2014 taught them a lesson. As human being, we can only predict the flood will coming at the end of the year, but cannot predict the water level. For those who are first time experiencing the flood disaster, they are not sure what to keep, where to go and how to get the help and how to go to centre. Their answer and feel also same as being reported in newspaper. Malaymail Online reported that most villagers have accepted their fate and are ready to move on. But they have one big question which remains unanswered: how did the massive flooding occur? The water levels rose so high, by up to 30 meters in some places. Petrol kiosks, supermarkets, and other shops went out of business overnight, meanwhile families lost their homes in the blink of an eye. Is it everyone is napping during that time? Well, not really. The truth is no one had expected the floods to cause such huge damage.

After all, floods have been an annual affair for so long that the Kelantanese have accepted it as part of life but they never imagine the flood this time is so huge. One of the villager known as Ahmad said that they have been experiencing the several flooding before, but never bad as last year. He also added that before this, they can expect the flood and the damage is not huge like December 2014. Several villagers gave their opinion regarding the reason why the flood occurred. Some place the blame on the non-stop rain, while others believe it was water
released from the dams. There are those who say the floods would not have been this bad if not for deforestation. Then there are those who conveniently said it was an act of God. Perhaps it is a combination of everything (Malaymail Online 2015).

Another problem faced by victims is they being trapped in their village and cannot move anywhere. This scenario happened due to other villages which surrounded their village are full with flood’s water. One blogger stated that the condition is in categories of yellow flood. That blog divided the yellow flood into 5 categories and 1 of the categories is, “Those whose homes were only slightly submerged and did not sink immediately but besieged by water”. Most of the villagers did not immediately move. They practiced ‘wait and see’ concept. As the result, the level of water rose very quick and they felt panicking and cannot go anywhere and do not know where to move (Mat Din 2015).

The electricity and water source also affected during those time. As said in the blog, heavy flooding is also a lesson to people who never knew the meaning of difficulty in life. This extensive flooding affects all whether rich or poor, learned or ignorant, young and old. Along with this flood disaster, Kelantan populations were also tested in the absence of clean water, electricity and telecommunications coverage. For those who are not familiar with these situations, it is the time for people feel and learn based on previous generation before who live without water pipes, electrical fires and without media coverage and telecommunications. Not only that, they also tested in the absence of food supply because all road route was closed (Mat Din 2015).

The volunteer and soldier also do not have shelter after helping the victims, as the donation of food, necessary items only is given to victims not to volunteer. The centre or school is full with all the victims. The soldier after helping victims themselves, they do not have shelter to rest awhile. This problem is truthfully told by one of the soldier who participates in charity work during the flood disaster. They just slept everywhere either outside the centre or on the land with their uniform.

Another story was the victims went to centre, but the centre is already filled with a lot of victims, so they need to return back to their home that already full with water. Also, at first, the centers are alright and can be use, but after the water rose, some centers also filled with water, the victims need to move many times to other centers which are already packed with other victims. In centre also, the food and necessity are not enough. The concept first come, first serve happened there. The old victims do not get the food as the younger one is active to get the food. Those who fled to the hills could not bring any goods, including food and clothing. While those who fled to evacuation centres were registered also often moved several times due to a transfer centres there were also flooded. Some victims also just slept in the car or lorry and on top of hill as the shelter for few days. The helper did not come to them because do not get information about where the victims are stayed.

The sad tragic story is also about death during flood. A couple of husband and wife died due to boat flipped when going back to centre. The coupled did not wear life jacket. The incident happened in Terengganu, but being told by one of the residents in Kelantan. Based on the newspaper, Nurhayati Sulong (teacher) willing returned to her home in the worsening flood situation simply to take the SPM examination papers that have not been marked (Sinar Harian 2014). And on the way back to the evacuation center at the Sekolah Kebangsaan Geliga, she was killed when the boat she was traveling overturned torrent swept away last Wednesday. Her husband, Suhaimi Awang, 37, was also killed in the crash, which occurred when the boat capsized after being trapped in a whirlpool in Kampung Che Akob, Terengganu (Sinar Harian 2014). Also, the infant died because his mother regardless of hold. The incident took place in Kuala Krai. During that time, the house was collapsed and elder members in family luckily hold the rambutan trunk, but poor for the infant that missed from her mother hug.

The solution or recommendation that can be suggested is always prepared near or before the monsoon flood. The preparations are likely be alert with flood warning system and always listen to the current announcement made by mass media and social media’s authorities established, check the drain and clean the blockage items which blocked the movement of water, prepare the emergency equipment and food stocks, prepare what to keep and easy to find that thing during rush hour and make sure all the family know how to act during the emergency at home. Besides that, the victims or victims – to – be also need to know the location of the Transfer Center and Help Center Disaster in our area and need planning where to move if the school is easy to get full. They must move when the water level increase and do not just wait until the level is on top of roof. Also, need to know the latest update of flood.

Each village or residential area need to have flood committee to handle victims and what to do as well as where to go during the flood. Each village or residential must have boat, lorry or four wheel car (for example, Hilux) so that easy to transfer the villagers. Other than that, the flood committee can held a class for flood preparation and flood simulation like fire practice at school or office. Meanwhile, for individual, each person needs to have life jacket and learn to swim. Lastly, the solution that be consider is using amphibian house. This house is float house using the concept of Archimedes.

Other important recommendation is by knowledge sharing of above solutions through social media. The social media such as Facebook and Whatsapp can help victims as the news easy to spread faster, so the source faster to receive and helper know where the house of victim located (Minister of Communication and Multimedia 2014).

A lot of NGO and charity volunteer will get information from social media. People can indicate on their Facebook page that they have contributed to funding an NGO for crisis response and hence encourage their friends, families and networks to do so. During an emergency, people who
want to help by providing blankets or a safe place to stay for victims of a disaster. Often, people do not know how to respond. By indicating precisely on social media what type of assistance is needed, emergency services can avoid sending unnecessary materials and develop synergies in the communities (Wendling, Radisch & Jacobzone 2013).

Social media can be used to identify both survivors and victims. The citizens who are not affected by flood know the condition and learn the lesson from disaster so that they can prepare as it might be come to them one day. The children or families will know their family status by social media faster. Social media can help to know if family members are safe (Wendling, Radisch & Jacobzone 2013). By social media can strengthen the bond although they do not know each other.

Other than that, by social media the person knows how to contribute and where to contribute the donation to victim. Community members also published social media websites of their own effort to share information without involvement from emergency services during the floods. Some of these pages had several thousand ‘fans’ or likers and high levels of engagement during the floods. This type of communication can happen during emergency situations without involving official sources or in the dialogue or comments. Such scenario also points to a considerable level of self-organisation within the social media community at the peak of emergency situations, for instance, during flood disaster (Bruns 2011). Now with the sophistication of communication technologies we are able to follow the progress that has been synonymous with flooding coastal areas of the eastern end of each year. Quick information provided by relatives and friends of the victims of floods in the form of text and images. But employers should not worry if the employee is absent from duty to give reasons for flooding due to the existence of a valid data sent via smartphones.

As we know, the advantages also come with disadvantages or limitations, either it is small matter or big matter. The limitation of this research is no one can predict how big the flood will arise each year, although their place had flood each year and how the impact to human, pets and living things. Well, that is the human limit. We only need to prepare early when it's time to rely on social media for the peak of emergency situations, for instance, during flood disaster (Bruns 2011). Now with the sophistication of communication technologies we are able to follow the progress that has been synonymous with flooding coastal areas of the eastern end of each year. Quick information provided by relatives and friends of the victims of floods in the form of text and images. But employers should not worry if the employee is absent from duty to give reasons for flooding due to the existence of a valid data sent via smartphones.

Other than that, some information in social media is a lot and fills with rumours. Users cannot differentiate which information is true or not. The worst case is if the people took advantages from incident, for example, they took the money donation and do not give to the victims. The trustworthiness of social media content is sometimes questioned, though filtering tools have been developed to reduce time spent reading irrelevant messages from untrustworthy sources. The obstacles is that a broad range of players can communicate, using various channels simultaneously. This represents both an opportunity, as it can speed up the emergency responses, but also presents challenges with spreading inappropriate rumours. Errors can occur such as the provision of inaccurate information, mishandling of sensitive information. Hopefully, the limitations can be overcome bit by bit and only valid information is spread to users. It is important to know which types of Facebook pages, tweets or blogs can be trusted or not. The human themselves need to be sure just to spread the true information only. Therefore lessons must be learnt from each crisis, to identify the trusted ones and these who are not reliable (Wendling, Radisch & Jacobzone 2013).

4. CONCLUSION AND FUTURE WORK

An important lesson from this research is that social media is beginning to play an integral role in the way that people both gather and communicate information during emergency situations. As with all methods of communication during emergency events, social media is just one channel that should be used as part of an overall communications platform encompassing multiple tools. Social media cannot, and arguably should not, replace or forgotten traditional approaches such as sirens, radio and television to emergency management communications, but if leveraged strategically, it can be an effective means of strengthening and augmenting current systems (Charlwood 2012). The best case study that has good impact is in Victoria, Australia during the disaster.

Based on interview session, the victims taught us the lesson that we need to prepare during the flood before it become worst. And by having the literature review, we know that the importance and the efficient of knowledge sharing through social media during flood disaster.

Future works of this research are preparing the questionnaire, distributing to respondents and analysis the results to examine the influence of knowledge sharing using social media during flood disaster. The analysis is in the form of descriptive of discussion based on data collected from questionaire.

5. REFERENCE


ALNAP. (2008). Flood disasters Learning from previous relief and recovery operations.


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