# Examining the Determination of Flood Victim's Knowledge Sharing Behavior: from the Perspectives of Social Cognitive Theory

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## ABSTRACT

During the occurrence of disaster, knowledge sharing plays as important role. Through effective knowledge sharing, it can help victims save lives; received immediate relief and support; and minimize the disaster effect. But lack of works has been done to examine the determinants of knowledge sharing within disaster management context. Therefore, this study aims to provide a better understanding of knowledge sharing during the occurrence of disaster. In order to examine the determinant of individual's knowledge sharing behavior during the occurrence of disaster, the researcher will use social cognitive theory (SCT) to conceptualize a theoretical model for this study. This study holds self-efficacy, reciprocity, social support and social recognition as an influence individual in sharing knowledge during the occurrence of disaster. The methodology begins with constructing a questionnaire to investigate the theoretical model. The respondents are victims that have had experience in sharing knowledge during the flood. This study was used a Structural Equation Modeling (SEM) to test causal relationships between constructs. Hopefully, by proposed theoretical model through this research can provide additional insight on what influence knowledge sharing behavior within disaster management context.

**Keywords**: Disaster management, Flood in Malaysia, Knowledge sharing, Social Cognitive Theory.

## I    INTRODUCTION

In the event of disaster, sharing knowledge effectively is very vital as it can help save lives, provide immediate relief and support, and minimize the disaster effects. According to the United Nations Disaster Assessment and Coordination Team (UNDAC, 2013), effective knowledge sharing is important to help coordinate collective efforts among agencies in order to minimize the disaster effects. According to Kaklauskas, Amarantunga and Haugh (2009), one of the reasons why most of disaster management strategies were not implemented effectively because lack of effective knowledge sharing during the event of disaster. Through knowledge sharing activities during a disaster, victims and agencies can take an action to overcome the problem of a disaster.

During a disaster, knowledge is shared at many levels and it is owned widely across different agencies (Kaklaukas et al., 2009; Zhang, Zhou & Nunamaker, 2009). Knowledge sharing take places when victims/agencies communicate data, information and knowledge that trigger actions or decisions. Knowledge sharing can be defined as a "process through which one unit (i.e., individual, group, department, or division) is affected by the experience of another" (Argote, Ingram, Levine & Moreland, 2000, p. 3). Knowledge sharing is important as it can facilitate the creation of new knowledge and at the same time increase the use or reuse of current knowledge. Through knowledge sharing it allows individuals or groups to get solution in solving problems, reducing costly duplication of efforts and create new innovative solutions through collaboration (Dixon, 2002).

Within knowledge sharing literature, understanding the determinants of knowledge sharing behavior have been the focused of previous researchers (Bock & Kim, 2002; Lpe, 2003; Liu & Chen, 2005; Lin, 2007). Most of previous works examined knowledge sharing behavior within the domain of education, business, and management. For instance, (Liu & Chen, 2005) focused on determinant of knowledge sharing behavior in E-Learning application while (Lin, 2007) focused on the organizational domain relating to the motivational factors on employee knowledge-sharing intentions. However, lack of work been done to examine the determinants of knowledge sharing within disaster management context. Understanding this topic within disaster management is important as in an event of disaster (i.e., flood) knowing what is right action to take can help victims trigger required action and as a result it can reduce disruption and most importantly save lives.

Sharing knowledge during the occurrence of a disaster usually occurs on a voluntary basis. In the event of a disaster, victims usually try to help not only themselves, but also the surrounding community. During the occurrence of disaster, the victims always intend to share information and experience in an

attempt to reduce the uncertainty surrounding disaster. Thus, in this situation, a victim's behavior of sharing knowledge is heavily directed by their willingness to act voluntarily. In order to explain individual knowledge-sharing behavior in a voluntary situation, this study intends to adopt the use of Social Cognitive Theory (SCT) by Bandura (1986). SCT model is one theory that gives critical perspectives to examining the reasons why individuals adopt certain attitudes (e.g., voluntary). SCT explain psychological functioning in term of behavior, personal, and environmental factors that use as interacting determinants to individual behaviors (Wood & Bandura, 1989).

Based on previous research, through the use of SCT have been discussed that even the individual act as a voluntary in sharing knowledge, but they are also expects feedback from others. For instance, Hsu, Ju, Yen and Chang(2007) noted that self-efficacy can be a major self-motivator in sharing knowledge where it can help develop a positive attitude towards knowledge-sharing while Mathbor (2007) find that communities which voluntary share knowledge in the event of disaster are grateful for the social recognition of their relentless efforts in helping people in their communities. Bock and Kim (2002) noted the individual who has received help feels an obligation to reciprocate in future. For example, the individuals will find as much knowledge about food, shelter or medical relief in order to reduce the victims feeling, by hoping that people will reciprocate in future. Therefore, based on the above discussion, this study will focus on understanding the factors that influence victim's behavior to share knowledge during the flood disaster by using social cognitive theory as a major theoretical.

To determinant of knowledge sharing in disaster management context, this research have outline with three research objective which is to identify factors that influences victim knowledge sharing behavior during the occurrence of disaster; to design theoretical model from the perspective of social cognitive theory and lastly to evaluate the theoretical model. Accordingly, this paper focuses for research objective number two which is "how to design theoretical model from the perspective social cognitive theory". This theory will be used as the underlying theory to determine victim knowledge sharing behavior. This paper is organized as this follows. In Section 2, the author will give the overview of theoretical background and research model, in Section 3, the author will present the current research direction. In Section 4, will propose the research contribution and lastly, in Section 5 will present about the author conclusion and future work.

## II    THEORITICAL BACKGROUND AND RESEARCH MODEL

This research used social cognitive theory (SCT) to conceptualize a research model for this study. The theoretical model proposes self-efficacy, reciprocity, social support and social recognition as a positively influence in sharing knowledge during the occurrence of disaster. The following subsections discuss about SCT and theoretical model of this research.

### A.  Social Cognitive Theory

In order to examine the determinant of individual knowledge-sharing behavior during the occurrence of a disaster, the authors used social cognitive theory (SCT) to conceptualize a research model for this study. SCT plays an important role in determining Knowledge-sharing. SCT by Bandura (1986) is a widely accepted theory that gives a critical perspective to examining the reasons why individuals adopt certain attitudes. Referring to figure 1, in the SCT model, behavior, together with personal and environment factors, acts as interacting relations in
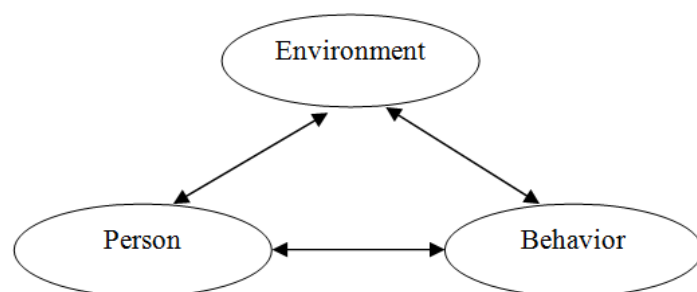


determining individual behavior (Wood & Bandura, 1989).

**Figure 1. The social cognitive theory model**

Previous research has demonstrated the use of SCT in various domains such as organization, health, and education. In health, this theory has been use to predict lifestyle behavior for the prevention of osteoporosis (Landis, Burant, Droator, Morgan, Trapl & Kwoh,2003) and in virtual community SCT has been applies to study community loyalty behavior in online communities (Lin, 2010) but in disaster management context there are lack of research to examine individual behavior in sharing knowledge.

Thus, social cognitive theory is the most appropriate model to examine the reasons why individuals adopt certain attitudes. This social cognitive theory come out with two sets of expectation in examining individual behavior which is self-efficacy and outcome expectations as a personal outcome expectation and community outcome expectation.
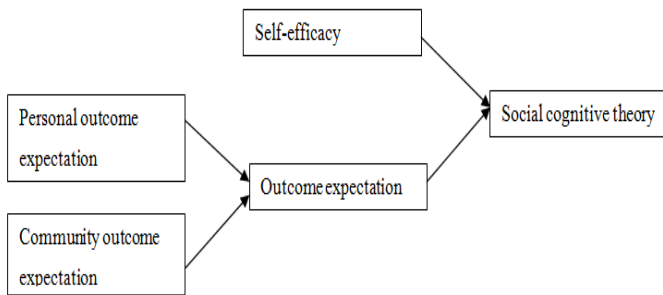
Refer to figure 2:



Figure 2. Theoritical Model

Bandura (1986, p.391) defines self-efficacy as "people judgments of capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one but with judgments of what one can do with whatever skills one possesses". In general, self-efficacy plays an important role in influencing individuals in sharing knowledge (Bandura 1982, 1986; Igbaria & Livari, 1995). When individuals sharing useful knowledge to the people, they gain confidence in term what his/her do and this will automatically increase self-efficacy (Constant, Kiesler &Sproull, 1994). This will be a self-motivational for knowledge contributor in sharing knowledge (Bock & Kim, 2002). Therefore, Individuals who have high self-efficacy will love to share knowledge rather than individuals who have low self-efficacy. Otherwise, individuals that feel they have lack of knowledge that is useful to other people, his/her will refuse in contribute knowledge because his/her believe that knowledge will not bring any goodness to others. Within knowledge sharing self-efficacy (KSSE) literatures, Researchers have highlighted the KSSE as the various factors that affect individual's readiness to share knowledge. Bock and Kim (2002) defined that KSSE as a major factor that influenced of knowledge sharing activities. The results show that KSSE have a positive effect on knowledge sharing behavior. Hsu et al. (2007) noted that KSSE as critical determinant and combined with another variable to examine the knowledge sharing behavior, the finding showed that KSSE will positively influence of knowledge sharing behavior. Based on this studied above, the researcher recognize that KSSE can be a factor for individual in sharing knowledge during the occurrence of disaster. With KSSE, the individuals that believe his/her knowledge useful for others will share all the knowledge and information in order to save lives and minimize the disaster effect.

Beside the self-efficacy, social cognitive theory by Bandura (1986) also comes out with outcome expectation which is personal outcome expectation and community outcome expectation. In social cognitive theory, outcome expectation can define as "judgment of the likely consequence such performance will produce" (Bandura, 1997, p.11). In others words, outcome expectation refers to an individual's beliefs that the task accomplishment lead to possible outcome in future. Individuals behavior will lead to positive outcome, because individual will behave based on their self-interest. Therefore, individual believe that by share their knowledge his/her will get a positive outcome for own self. In addition, outcome expectation can be extrinsic benefits or intrinsic benefits (Bock & Kim, 2002; Kankanhalli, Tan & Wei, 2005). Extrinsic benefits can define as focused on goal-driven reason in performing activity related to sharing knowledge (Deci & Ryan, 1985) These can include: monetary rewards, promotion, or educational opportunity; while intrinsic benefits can be defines as indicates the pleasure and satisfaction in performing activity (Deci, 1975) These can comprise: self-satisfaction, social recognition and power in sharing knowledge (Kankanhalli et al., 2005).

Two types of outcome expectation are personal outcome expectation and community outcome expectation. Personal outcome expectation can be define as the expectation of rewards or change in image (Compeau, Higgins & Huff, 1999). Based on view of Social Cognitive Theory concept, the individual attitude in contributes knowledge because his/her expect of something reward from other. For instances are making friends, promotion, raises, and praises (Compeau & Higgins, 1995; 1999). From previous studies, the researches provided empirical support suggesting for individual benefits such as expected association and organization rewards may act as motivation to individual in sharing knowledge (Bock & Kim, 2002; Kankanhalli et al., 2005). For instances, Hsu et al. (2007) focus on individual expectation such as making more friend and reciprocity in identify the knowledge sharing behavior in communities while Lee, Cheung, Lim and Sia (2006) found that people will continue to share information on internet for praise and rewards. Within previous literatures, this study found that expected of "reciprocity" is most suitable to relate with personal outcome expectation in expected of rewards. Therefore individual would like to share his/her knowledge only when they expect to receive personal benefits for him/her.

Community outcome expectation can be defines as individual's expectation about the impact of his knowledge sharing to community. Chiu, Hsu and Wang (2006) noted that individual are motivated is sharing knowledge to communities by his/her expectation for beneficial outcomes for himself/herself

or for communities. Some studies suggest that individual share knowledge to communities with expectation of achieving a goal, seeking support and enriching knowledge. For instance, Hsu et al. (2007) reveal that community outcome expectation is motivated people in sharing knowledge in communities by expected from achieving a goal and enriching knowledge in communities; while Chiu et al. (2006) suggest that individual are motivated to sharing knowledge by their expectation and beneficial outcome to community. This study focus on expected rewards by people that sharing their knowledge during the occurrence of disaster. Within previous literatures, this study found that expected of "social support" and "social recognition" are most suitable to relate with community outcome expectation in expected of rewards.

## B. **Hypoteses**

The theoretical model supporting this study present in figure 3. The model propose self-efficacy, reciprocity, social support and social recognition as a positively influence in sharing knowledge during the occurrence of disaster.
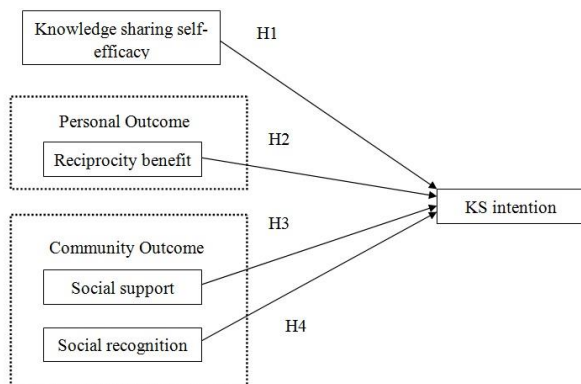


**Figure 3. Social cognitive theory**

According to Bandura (1986) self-efficacy refers to belief in individual capabilities to organize and execute courses of actions which required them to manage prospective situation. In other words it refers to individual beliefs that he/she is capable to share their knowledge with others. According to Hsu et al. (2007) self-efficacy is important because knowledge sharing is a complex activity and requires self-evaluation that he/she is capable to undertake the amount of effort and persistence to put forth their knowledge for others. Deficits of self-efficacy will leads to lack of contribution to share knowledge with others. Bock and Kim (2002) and Hsu et al. (2007) find that self-efficacy can be a major self-motivation in sharing knowledge where it can help developed positive attitude towards knowledge sharing in community. In addition to that, self-efficacy is also considered as one of the important factors that have strong influence on individual decision to share knowledge (Hsu et al., 2007; Kankanhalli et al., 2005).

In the occurrence of disaster, sharing the right knowledge related to it is very important. According to ADPC (2002), one of the major challenges in requiring and distributing knowledge during disaster is that they are widely distributed and owned by different organizations. Thus having high self-efficacy is important as it requires individual to reuse and collect information from many resources. Therefore based on the above discussions, this study beliefs that self-efficacy is an important factor to predict knowledge sharing intention during the event of disaster.

*H1. Knowledge sharing intention is positively influenced by self-efficacy*

According to Blau (1964, p. 6), reciprocity implies "actions that are contingent on rewarding reactions from others and that cease when these expected reactions are not forthcoming". Kollock (1999) noted that reciprocity behavior can provide a feel of responsibility to reciprocate back; knowledge contributor generally hopes from others in the future in order to ensure ongoing supportive knowledge-sharing. Within knowledge-sharing literature, it is evident that reciprocity has a positive effect upon knowledge-sharing behavior. For instance, reciprocity is important in order to promote knowledge-sharing. According to Thibaut and Kelly (1959), communities expect that reciprocity in terms of effort and time their spent in sharing their knowledge. Davenport and Prusak (1998) noted that reciprocity is one of the factors that drive people to share knowledge. They believe that sharing knowledge in communities will lead to future requests for knowledge being met. Bock and Kim (2002) also noted that the individual who has received help feels in future they have to reciprocate back the help, while Hsu et al. (2007) found that people are more motivated to share information in communities if there is the expectation of receiving better cooperation in return. In the occurrence of a disaster, people are usually uncertain with information. During a disaster event, victims need knowledge or information relating to food, shelter or medical relief. Thus, people that have high levels of reciprocity will find as much knowledge as possible in order to reduce the victim's feelings of uncertainty; by sharing all this knowledge, they hope that people will reciprocate in the future. Therefore, based on the above discussions, the researcher of this study believes that reciprocity is an important factor by which to predict knowledge-sharing intentions during the event of a disaster.

*H2. Knowledge sharing intention is positively influenced by reciprocity*

Social support is defined as the sharing of verbal and non-verbal messages in order to express emotions, information and referral; hence, social support can

assist in reducing one's uncertainty (Walther & Boyd, 2002). In the occurrence of a disaster, social support is considered to be a necessary protective factor. It has been shown to reduce stress, depression and increase health (Benight & Bandura, 2004). Knowledge-sharing activities take place when an individual or a group of victims share data, information and knowledge to take an action or decision. Through effective knowledge-sharing, the relevant information can be gathered and the right judgment subsequently made. This is crucial for, namely: helping to save victims' lives; receiving immediate relief and support and minimizing the effects of the disaster. The vast amount of such social support behavior shows that communities always intend to share information and experience in an attempt to reduce the uncertainty surrounding disaster. Usually, during a disaster event, communities feel uncertain with the knowledge that they have. Thus, through sharing information that is proven true, communities can be supported in ensuring the correctness of knowledge. Further, by sharing knowledge, communities can be supported and the uncertainty about disaster reduced. Therefore, based on the above discussions, the author of this study believes that social support is an important factor by which to predict knowledge-sharing intentions during the event of a disaster.

*H3. Knowledge sharing intention is positively influenced by social support*

Within previous knowledge-sharing literature concerning social recognition, understanding knowledge-sharing behavior has been the focus of previous researchers (Cabrera & Cabrera, 2002; Maholtra & Galletta, 2002; Kankanhalli et al., 2005; and Hsu et al., 2007). For instance, according to Cabrera and Cabrera (2002), an individual feels more meaningful by receiving social recognition from others rather than by pecuniary rewards. Kankanhalli et al. (2005) noted that, if members believe that they can obtain intrinsic benefits such as social recognition, they would be willing to share knowledge. Previous literature suggests that increased recognition by the community can be a primary factor in motivating an individual to contribute knowledge (Constant et al., 1994; Hall, 2001; Kollock, 1999). In Mathbor (2007), communities which voluntarily shared knowledge in the event of a disaster are thankful for the social recognition of their relentless efforts in helping troubled people in their communities. Volunteers show attitudes such as sincerity, commitment to the fundamental principles of humanity, voluntary service, unity and universality. In addition, the absence of recognition systems may frustrate individuals in sharing knowledge (Riege, 2005). Thus, they consider this as their net gain from society without hoping for any rewards. Therefore, based on the above discussions, the author of this study believes that

social recognition is an important factor by which to predict knowledge-sharing intentions during the event of a disaster.

*H4. Knowledge sharing intention is positively influenced by social recognition*

## III    CURRENT RESEARCH DIRECTION

The authors choose sample population which are 200 respondents from flood victim that sharing their knowledge when disaster occurs. The respondents are going to be individual that involved in disaster. The authors will using quantitative research method and data collection instrument that will focus on observing what type of knowledge they sharing and what factors that make them sharing their knowledge through questionnaire. This research will use random sampling technique. The respondent shall fill out a survey questionnaire by measure each latent variable (hypothesis) using a likert scale of 1 to 7 which means each respondent will be given seven response choices. This study will use a Structural Equation Modeling (SEM) approach. SEM is a one methodology that takes a confirmatory (i.e., hypothesis testing) approach to the analysis of a structural theory on some research (Marcoulides & Schumacker, 2001). To be specific Partial Least Squares will be used as analysis technique to analyze the collected data. SmartPLS 2.0 and SPSS 19.0 will be used as the analysis tools to analyze the data.

## IV    RESEARCH CONTRIBUTION

This study proposes a theoretical model from the perspective social cognitive theory. This study contributes by providing practical suggestions on how to promote knowledge sharing behavior among victims involved in flood related disaster. Being able to promote willingness among victims to voluntarily share knowledge can help disseminate effective knowledge during the occurrence of disaster in Malaysia. As we known, voluntary is a main factors for victim in sharing their knowledge. So, by using social cognitive theory by Bandura (1986) that focus on voluntary motivation as main reference in develop theoretical model for disaster management context, this theory help the authors research more detailed and compact.

## V    CONCLUSION AND FUTURE WORK

The authors have to attempt to distinguish the differences between the factors that motivate people in sharing knowledge during the occurrence of disaster. Sharing knowledge during the occurrence of a disaster usually occurs on a voluntary basis. In the event of a disaster, victims usually try to help not only

themselves, but also the surrounding community. During the occurrence of disaster, the victims always intend to share information and experience in an attempt to reduce the uncertainty surrounding disaster. Thus, in this situation, a victim's behavior of sharing knowledge is heavily directed by their willingness to act voluntarily.By using social cognitive theory, it is identify of knowledge sharing Intention. The Intention of self-efficacy, reciprocity, social support, and social recognition are factors that motivate people in sharing their knowledge.

Our proposed future work on this study is to get data from respondents that had experience in sharing knowledge during the flood. We will use the data to evaluate the reliability and validity of the research hypotheses. Hopefully through this research it can provide additional insight on what influence knowledge sharing behavior within disaster management context.

## ACKNOWLEDGMENT

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