

# **DIGITALLY ENABLED COMMUNITY EMPOWERMENT**

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## DECLARATION

I hereby declare that this thesis is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in the thesis.

This thesis has also not been submitted for any degree in any university previously.



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## **SUMMARY**

This thesis aims to examine the emerging use of Information Communication and Technology (ICT) in addressing complex social issues. It has been acknowledged that ICT is an important catalyst for social transformation. However, extant IS studies focus predominantly on ICT use from a centralized, top-down perspective, thereby undermining the role of community in resolving their own problems. By adopting an empowerment perspective, we focus on understanding how ICT empowers the disadvantaged community. Three qualitative case studies are presented.

The first study of the 2011 flooding in Thailand explores the use of ICT in a naturally disadvantaged community. In this flooding disaster, which is the world's fourth most severe natural disaster in terms of the economic consequences (as of 2011), the people of Thailand have leveraged social media for self-help actions in coping with the disaster, given the inefficiency of disaster response agencies. Hence, this study focuses on understanding how social media empowers a community in disaster response. Through an in-depth analysis of interviews and archival data in social media, three roles of social media, and the enactment process of these roles, are conceptualized.

The second study of China Taobao E-commerce Villages explores the use of ICT in a socio-economically disadvantaged community. The emergence of Alibaba's Taobao Villages in remote China has challenged the assumption that rural, underserved communities must always be the recipients of aid to stimulate ICT-enabled development. With locals driving the development of the use of ICT, these villages have witnessed a significant increase in income

and job opportunities. Hence, this study focuses on understanding how e-commerce empowers a community in rural development. Based on the examination of two villages in China, this study identifies and conceptualizes the key actors of a rural e-commerce ecosystem and their roles, the roles of ICT in empowering marginalized communities, and different approaches of ICT-enabled grassroots rural development.

The third study of Malaysia Environmental Movement explores the use of ICT in an environmentally disadvantaged community. In a grassroots movement against the establishment of a rare earth plant which arouses the concerns of radioactive pollution that might threaten the environment conservation, the community made use of social media to mobilize an environmental movement beginning in 2011. Hence, this study focuses on understanding how social media empowers a community in an environmental movement. The findings present the roles of social media in mobilizing the consensus and action of community, and unintended consequences of ICT use.

Taken together, these findings put forth the concept of digitally enabled community empowerment to explicate three contributions: 1) explores the emerging social consequences of ICT by illustrating the roles of ICT for social purposes, particularly in naturally, socio-economically, and environmentally disadvantaged communities; 2) challenges the dominant position of existing studies and practices by providing empirical evidence where the disadvantaged community drives its own social change using ICT; and 3) addresses the literature gap in empowerment by elucidating the actualization process of empowerment enabled by ICT as a mediating structure. This thesis concludes with suggestions as to potential areas for future research.



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# Chapter 1

## Introduction

### 1.1. Background and Motivation

Information and Communication Technology (ICT) has been recognized as an important catalyst for social transformation (Earl and Kimport 2011; Majchrzak et al. 2013a; Schmidt and Cohen 2013). As early as in 1985, in the report of the Independent Commission for Worldwide Telecommunications Development: The Missing Link, Sir Donald Maitland evinced this insight by highlighting that the lack of telephones worldwide was impeding the world's social development. Today, ICT continues to be used to resolve complex social problems like disaster management, poverty alleviation, crime fighting, and citizen engagement, especially with the emergence of new ICT tools such as social media. In most existing IS studies, the usage of ICT for social purposes is largely situated in a **top-down, command-and-control perspective** (e.g., Green 2010; Kretzmann and McKnight 1993; Leidner et al. 2009; Pan et al. 2012; Yang and Hsieh 2013). For instance, in disaster response, ICT is utilized in the resource management and decision making processes of governments and disaster response agencies such as via the geographical information systems (e.g., Grunfest and Weber 1998; Thomas et al. 2006), or is leveraged in the communication and coordination processes among agencies or between agency and other stakeholders (e.g., Chen et al. 2008; Day et al. 2009; Pan et al. 2012). In the context of rural development, most extant ICT-enabled development projects may be categorized as top-

down professional development (Green 2010; Mansuri and Rao 2004) when they focus on the roles of rural municipals (e.g., Bly 2013), provision of ICT access (e.g., Adria and Brown 2012; Newman et al. 2010) or telecenters (e.g., Amariles et al. 2007; Yusop et al. 2013) by government or NGOs, and the adoption of disadvantaged community (e.g., Mirani and Mirani 2012; van Stam 2013).

However, these IS studies, while largely situated in the top-down, command-and-control perspective, have inadvertently undermined the role of the community. Often, they investigate the role of ICT from the perspective of a central agency such as disaster response agency or rural development ministry (e.g., Leidner et al. 2009; Pan et al. 2012; Yang and Hsieh 2013). Although some have suggested community-based or participation-based development (Sheth 2009), which advocates involvement of the local community in decision making and resource management (Mansuri and Rao 2004) and thus allows the agencies involved to have a better understanding of the local context for higher program effectiveness, the community remains a participant or follower that is led by change agents or organizations originating from outside the community. In hindsight, this suggests that the community is a “victim” or “aid recipient” that can only play a “reactive” role in social transformation. This dominant view has been challenged by the recent phenomenal rise of the previously voiceless community who not only participates in, but also drives social change using ICT. In a few renowned examples like the disaster management in Haiti earthquake 2010, mobilization in Occupy Wall Street 2011 and Arab Spring 2011, and rural development in China Taobao E-commerce Villages, communities involve themselves

actively, not only in responding to calls, but also in organizing and managing self-help actions using ICT. These emergent IS phenomena reflects the concept of “**by the community for the community**” (Coetzee 2010). Given that researchers have been arguing for attention in bottom-up community-based ICT use but fall short in providing empirical evidence of “ICT by the community” or development driven by the community (Gurstein 2009), my thesis presents three case studies which exemplify the competent role of the community, enabled by the use of ICT.

The emergence of ICT use in the above social phenomenon, coupled with the recent call for papers in the *MIS Quarterly* special issue on “ICT and Societal Challenges”, indicates that this is a propitious time to “examine the role of ICT in complex social problems” (Majchrzak et al. 2013a) by assessing the evidence of ICT’s social consequences. It is evident in the above-mentioned examples that ICT has empowered the community in ways never before imagined (Schmidt and Cohen 2013). Hence, my thesis aims to examine digital empowerment in the community, with the following overarching research question: “How does ICT empower the disadvantaged people for community development?” In particular, this thesis has three purposes:

- 1) To understand the emerging role of ICT for social purposes (e.g., disaster response, rural development, and environmental movement)
- 2) To challenge the dominant position of existing IS studies that regard the community as aid-receiving victims in social issues
- 3) To unearth the process of how the community is empowered by ICT in assuming the role as the driver of change when resolving social problems

This thesis adopts **empowerment** as the theoretical perspective, for three reasons. First, empowerment is rooted in the principle of self-help (Gutierrez 1990), which is a key essence of a competent community in terms of resolving societal challenges. Second, empowerment buffers the community against impact in tough times (Sutcliffe and Vogus 2003) by dismissing helpless feelings and enhancing resilience. Since empowerment may moderate stress (Spreitzer and Doneson 2005), it is critical in helping the community to return to a state of calmness, and to accelerate the speed of betterment (Hur 2006). Third, empowerment counteracts the limitations of the community in discovering indigenous resources and helping each other (Zimmerman 2000). Empowerment rejects the notion of reliance on professionals or experts that reside outside the community. Instead, it encourages the community to build on its strength and resources in handling negative situations, thereby leading to possible social change (Drury and Reicher 2009; Van den Eynde and Veno 1999).

In order to achieve the three purposes of this thesis from empowerment perspective, three in-depth case studies are conducted to understand how ICT empowers disadvantaged communities. In my thesis, three cases are presented to illustrate three types of disadvantaged communities, i.e., naturally disadvantaged, socio-economically disadvantaged, and environmentally disadvantaged. A naturally disadvantaged community refers to a community that lives in a harsh environment with natural disasters; socio-economically disadvantaged refers to a community subjected to severe material deprivation and marginalization; and environmentally disadvantaged community represents a community subjected to exploitation of environment and

ecological degradation. Corresponding to the three types of disadvantaged communities, three case studies are selected and the use of ICT is examined in each case: Thailand Flooding 2011, China Taobao E-commerce Villages, and Malaysia Anti-Rare Earth Plant Environmental Movement. These three cases offer the opportunity to study the use of ICT in different social settings, i.e. ICT in disaster response, ICT in rural development, and ICT in environmental movement. The first study has been accepted as a research article by the *Journal of the Association for Information Systems*, and the second study is now under the second round of review with the *MIS Quarterly*. Next, a review of the theoretical lens adopted in this thesis is presented.

## **1.2. Literature Review: Empowerment**

The concept of empowerment emanates from the “social action” ideology of the 1960s and the “self-help” perspective of the 1970s in social studies (Kieffer 1984). From its radical beginnings in the civil and women’s rights movement, empowerment has been studied in diverse disciplines such as community psychology, management, political science, education, health studies, and sociology (Hur 2006). In principle, empowerment is concerned with alternative approaches to social development for underprivileged, disadvantaged or impoverished people (Parpart et al. 2003) in gaining greater control, efficacy, and social justice (Peterson et al. 2005). Based on the discipline of studies, different outcomes are studied such as organizational performance in management (e.g., Spreitzer et al. 1997), improved social position of the disadvantaged group in political science (e.g., Gallway and

Bernasek 2004) or a community that owns and controls its destiny in health studies (e.g., Minkler and Wallerstein 2008).

There are several important **characteristics** of empowerment. First, empowerment can be both a process and an outcome (e.g., Parpart et al. 2003; Spreitzer 1996). While some studies approach empowerment as both a process and an outcome (Spreitzer et al. 1997; Thomas and Velthouse 1990), most papers have examined empowerment as an outcome that is measurable (e.g., Parpart et al. 2003; Spreitzer 1996), despite the assertion that the study of process can be more specific, analytics and hence more instructive than the one studying outcome (Hur 2006). Second, empowerment is a multi-dimensional social process (Hur 2006). While some have associated it with participation and socio-political environment (Cornell Empowerment Group 1989), others have argued that the definition should include aspects of feeling, sense, control, and resources (Ersing 2003; Perkins and Zimmerman 1995). Empowerment is a process that occurs within socio-structural, psychological, political and economic dimensions, amongst others. Third, empowerment transpires at various levels, including individual, organization, and community (Hur 2006; Zimmerman 2000). Christens (2012), for instance, differentiates intra- and interpersonal empowerment, while Pigg (2002) argues that empowerment occurs through actions at individual, mutual, and social levels. In addition, there are a number of definitions of empowerment (e.g., Ersing 2003; Perkins and Zimmerman 1995; Rappaport 1987). This thesis defines empowerment as the process of enhancing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes. Empowered community has freedom of choice and action which



enables them to better influence the course of their lives and the decisions which affect them. In essence, empowerment speaks to self-determined change and it helps a community to build and capitalize on their own attributes, as well as to change the environment within which people live (World Bank 2012b). Ultimately, the purpose of community empowerment is to address imperative community needs (e.g., social, economic, justice, etc.) (Zimmerman 2000) that failed to be fulfilled by those institutions with authoritative power and formal systems, such as an inefficient central disaster response agency in disasters. In the same terrain, **power** is here referred to as the mastery or command that a community has over its affairs (adapted from Conger and Kanungo 1988; Rappaport 1987) yielded through elimination of barriers to participate, dismissal of helpless feeling, and the ownership or command over superior bargaining resources, when institutional or formal systems fail to address the imperative community needs and problems (Gaventa 1980; Speer and Hughey 1996).

While the adapted definition reveals the conceptualization of empowerment as a process, many studies have examined empowerment as an **outcome** (e.g., Parpart et al. 2003; Spreitzer 1996). In order to understand how ICT empowers the community, it is critical to ascertain what constitutes community empowerment as an outcome, in addition to understanding how the empowerment process can occur. This review shows that extant research has conceptualized community empowerment in terms of three different outcomes, i.e. collective participation, shared identification, and coordinative control (Table 1). In other words, the **power of a community, in the context of empowerment, can manifest in the community participation and**

engagement, collective belonging, and the possession of resources of a community, in the process of driving social changes that involves them.

<b>Table 1. Community Empowerment as an Outcome</b>	
<b>Community Empowerment as an Outcome</b>	<b>Sources</b>
<p><b>Collective Participation</b></p> <ul style="list-style-type: none"> <li>• Community takes part in processes that affect themselves (Breton 1994)</li> <li>• Community engages in the decision-making or change effectuating processes (Boehm and Staples 2004)</li> </ul>	<p>Baillie et al. (2004), Zaldin (2004), Hur (2006), Kieffer (1984), Boydell and Volpe (2004)</p>
<p><b>Shared Identification</b></p> <ul style="list-style-type: none"> <li>• Community alleviates the feeling of alienation and sustains activism (Zimmerman 2000)</li> <li>• Community shares a sense of collective belonging and social cohesion (Peterson et al. 2005)</li> </ul>	<p>Hur (2006), Boehm and Staples (2004), Peterson et al. (2005), Peterson and Reid (2003), Gutierrez (1990)</p>
<p><b>Coordinative Control</b></p> <ul style="list-style-type: none"> <li>• Community develops communal ability for problem ownership and role assumption (Conger and Kanungo 1988)</li> <li>• Community manages pooled resources and overcomes problems independently (Zimmerman 1990b)</li> </ul>	<p>Breton (1994), Zimmerman and Zahniser (1991), Itzhaky and York (2000), Bowen and Lawler (1992), Gist and Mitchell (1992)</p>

Next, we seek to understand how empowerment takes place as a process. This literature review indicates three key dimensions in empowerment i.e. structural, psychological, and resource. The basic tenet of **structural empowerment** is that power may be delegated or bestowed to the helpless (Kreisburg 1992; Lincoln et al. 2002). Underlying this argument is the presumption of inequity in social structures that leads to an uneven distribution of power, and hence the suppression of options and alternatives of one group by another e.g., government (Ersing 2003; Gutierrez 1990). A direct mechanism of structural empowerment is the removal of structural barriers that impede community access to information, opportunities, resources (Friedmann 1992). A straightforward example would be the removal of

physical barriers in empowering disabled citizens (Pigg 2002). The provision of a facilitating environment can also liberate members and lead to high involvement (Bowen and Lawler 1995). Other examples include providing empowering community settings (Maton 2008), changing policies and practices, installing a reward system (Conger and Kanungo 1988), expanding the level and area of involvement (Wandersman and Florin 2000), and affording a platform (such as social media) to establish the social network (Bertot et al. 2010).

Another dimension widely discussed is that of **psychological empowerment**. This emphasizes the feeling of empowerment sensed by the community, which could generate motivation. In a classic work on empowerment, Thomas and Velthouse (1990) illustrate the essence of psychological empowerment as a sense of meaning, competence, self-determination, and impact. Together with the efficacy theory of Bandura (1986), subsequent empowerment studies have enriched knowledge of psychological empowerment. Assuming an internal urge for confirmation and influence (McClelland 1975), psychological empowerment suggests actions that strengthen the values of self-sufficiency or weaken learned helplessness (Maier and Seligman 1976). Some examples of psychological empowerment include providing emotional support (Kieffer 1984), cultivating a supportive climate (Spreitzer 1996), bridging social divisions and facilitating others' empowerment (Christens 2012).

The last dimension is that of **resource empowerment**. Although less explicitly mentioned, this dimension is gaining increasing attention. It stems from Jacques's (1996) argument that "feeling empowered is not the same as being empowered" (p. 141). In other words, access to resources is different

from the possession or the control of resources, in the sense that the latter gives true power to the owner. Nonetheless, rather than looking at their power over resources, many empowerment studies are preoccupied with providing a facilitating environment and enhancing people's esteem, thereby depoliticizing the concept of empowerment (Riger 1993). Hence, empowerment from this dimension argues in favor of attention to identifying and capitalizing on local assets within the community (Van den Eynde and Veno 1999). More importantly, cultivating collective resources in a situational context may contribute to effective behavioral change and social action (Kieffer 1984). When the power over resources or the ability to control the resources grows, more innovative resources and capabilities may be developed, expanding the community's social capital (Ersing 2003). Here, resources include tangible or material resources, e.g., financial resources and human capital (Pigg 2002; Speer and Hughey 1996) and intangible resources e.g., knowledge, skills, competence, abilities, networks of relationships (Breton 1994; Narayan-Parker 2002; Pigg 2002). In Table 2, we summarize the differences between the three dimensions of empowerment.

**Table 2. Differences of the Three Empowerment Processes**

Empowerment Processes	Differences		
	Origin	Definition and Nature of process	Areas to be improved
Structural empowerment	Structural empowerment posits that power can be shared or delegated by changing the contextual conditions. This is situated within an objectivist view that assumes that provision of a facilitating environment will necessarily result in empowerment, or that structural antecedents are an indication of empowerment themselves (Spreitzer and Doneson 2005).	<u>Improving the objective external conditions</u> (such as organizational, institutional, social, economic, political, and cultural conditions) to give the power for actions (Spreitzer and Doneson 2005; Thomas and Velthouse 1990) <b>Nature: Facilitating-based</b>	External facilitating conditions (e.g., access, channel, policies, hierarchy)
Psychological empowerment	Structural empowerment is restricted only to the "behavior" aspect of superiors and overlooks the "perceptual" aspect of powerless (Conger and Kanungo 1988); it does not necessarily lead to the feeling of empowered (Spreitzer and Doneson 2005). This gives rise to psychological empowerment.	<u>Improving the subjective interpretation</u> by the individuals themselves (e.g., self-confidence, self-awareness, assertiveness) so that they feel in control of their own destiny (Spreitzer and Doneson 2005; Thomas and Velthouse 1990) <b>Nature: Motivating-based</b>	Social psychology and intrinsic motivation
Resource empowerment	The concept of structural empowerment (e.g., authority delegation) lacks the dimension of competence (Lee and Koh 2001). At the same time, "feeling empowered [psychological empowerment] is not the same as being empowered" (Jacques 1996 p. 141) given that the real ownership and control over resources remains in the hands of the powerful. These give rise to resource empowerment.	<u>Improving the competence and ability of the powerless in acquiring, controlling, and managing resource</u> (Hardy and Leiba-O'Sullivan 1998) <b>Nature: Equipping-based</b>	Control over resources

Despite the abundance of empowerment studies, there are two **limitations**. First, extant studies **fail to consider the multi-dimensional characteristics of empowerment** (Ersing 2003; Hur 2006). Most studies are situated in a uni-dimensional perspective like structural empowerment (e.g., Adamson 2010; Bowen and Lawler 1995) or psychological empowerment (e.g., Christens 2012; Drury and Reicher 2009; Gutierrez 1990; Spreitzer 1996; Zimmerman 1990b). Therefore, the longstanding limitations of these studies have remained. While structural empowerment assumes that the provision of empowering conditions will necessarily lead to empowered outcome (Conger and Kanungo 1988), it has been argued that the delegation of power (a form of structural empowerment) may not empower the employee psychologically (Spreitzer and Doneson 2005). More importantly, ultimate power (e.g., power over resources) often remains in the hands of authorities or top management, despite employees or citizens feeling empowered. For example, studies about psychological empowerment have always been challenged by the question “where is the power?” (Spreitzer and Doneson 2005). As such, we argue that these dimensions, when viewed independently, are insufficient to empower a community to achieve effective social change.

Second, extant studies **neglect the actualization of power in empowerment** (Perkins 2010). We argue for a need to return to a fundamental understanding, in which power is not something to be possessed, but rather, something that can only be *exercised* in and through relationship (Kieffer 1984; Wilke and Speer 2011). In other words, one is not empowered until the behavior to exert control is displayed (Zimmerman 1990a) or that power developed is exercised. In existing studies, this has been overshadowed by the focus on empowerment

as a *developmental process* such as enhancing people's feeling of control (Christens 2012). Since empowerment does not occur in a vacuum, but transpires in the relational spaces between individuals and groups (Jacques 1996; Patton 1998; Weber 1946), there is a need to place emphasis on the role of connectedness and community in human life (Christens 2012; Riger 1993). This is to avoid a situation where the exercise of power is conflated with the developmental process of power, or disregarded in empowerment studies.

One thing to note is that the level of analysis undertaken in this review of empowerment literature is community, in line with the application in this thesis. Although a number of IS studies have examined the concept of power, the majority are situated at an organization level of analysis and context (e.g. Avgerou and McGrath 2007; Azad and Faraj 2011; Dhillon et al. 2011; Howcroft and Light 2006; Silva and Fulk 2012). In a review of power by Jaspersen (2002), for instance, the 82 IS studies reviewed are conducted in the context of organization, be it at the level of individual, project or group within an organization, or between organizations. Due to the difference in context and level of analysis, we posit that it will be difficult to compare the findings of those that study power in organization with those that do so in the community.

Unlike the position of this thesis, the above IS studies often treated power as a moderating or independent variable: they discuss how power influences IT implementation, IS practice, and IT-enabled organizational change (e.g. Avgerou and McGrath 2007; Azad and Faraj 2011; Howcroft and Light 2006). Moreover, the IS elements involved in those studies (e.g., ERP system, customer relationship management package) are largely decided by the

management, and enforced in the organization for the benefits of the business, which often sparks off the issue of resistance, politics, and power in implementation process (Azad and Faraj 2011; Howcroft and Light 2006). In contrast, IS systems in this thesis (such as social media and e-commerce platform) are open systems that are adopted voluntarily by the community. In addition, although it is suggested that ICT may reinforce the power structures or the power of the already potent players (Jasperson et al. 2002), this contention stems from an organizational context where powerful players refer to owners or managers who have resource power. In the context of disadvantaged community in this thesis, the power structure transpires in the differences between the institutions like government, agencies, or NGOs and the community. It is unlikely that the use of ICT by the community in the attempt to override the power of those institutions will reinforce the existing power structure. For instance, the use of Facebook by the community to share information that will not be published by state-run media is unlikely to reinforce the power of those institutions.

Overall, the purpose of this thesis is to explore how ICT empowers the disadvantaged people for community development. We acknowledge the position of Christens (2012), and posit that the empowerment role of ICT is enacted only when the actualization of power takes place. This thesis incorporates the three dimensions of the empowerment process, in order to conduct a comprehensive analysis, since Kieffer (1984) has suggested that the simultaneous development of these intersecting dimensions will help us to go beyond the “limited way” of empowerment, moving towards power actualization. By applying empowerment as a theoretical lens in analyzing the



case of Thailand Flooding 2011, Taobao E-commerce Villages in rural China, and Malaysia Environmental Movement, our findings on digitally enabled community empowerment, or how ICT empowers the community, are derived. In Chapter 3, a literature review about the use of ICT in the contexts of three studies, i.e. disaster response, rural development, and environmental movement, will be provided.

### **1.3. Research Focus and Thesis Organization**

As mentioned in the Background and Motivation section (Section 1.1), three case studies are conducted to understand how ICT empowers disadvantaged communities. The communities studied in this thesis represent three types of disadvantaged community, i.e., naturally disadvantaged, socio-economically disadvantaged, and environmentally disadvantaged. Such a research design leverages the opportunities afforded by the emerging use of new ICT for various social problems (e.g., social media in Study 1 and 3) and the contemporary ICT-enabled development in the community (e.g., Study 2). Moreover, the three cases which are situated in a diversity of IS phenomenon allow findings in different IS contexts, i.e., ICT in disaster response, ICT in rural development, and ICT in environmental movement. This diversity of context is helpful in exploring the emerging role of community as a driver that is enabled by ICT. In addition to addressing gaps in the empowerment literature (Section 1.2), this design also allows us to address the gaps in different streams of IS studies (e.g., ICT4D in Study 2 – see Study 2 for more details). Table 3 summarizes the design of the thesis, contexts, and focus of the three studies.

<b>Table 3. Overview of Three Studies</b>			
<b>Case Studies</b>	<b>Study 1 Thailand Flooding 2011</b>	<b>Study 2 China Taobao E- commerce Village</b>	<b>Study 3 Malaysia Environmental Movement</b>
<b>Context of the studies</b>			
<b>Types of Disadvantaged Community</b>	<b>Naturally disadvantaged</b> Community living in harsh environment with natural disasters	<b>Socio-economically disadvantaged</b> Community subjected to severe material deprivation and marginalization	<b>Environmentally disadvantaged</b> Community subjected to exploitation of environment and ecological degradation
<b>Source of disadvantages</b>	Inefficiency of disaster response agencies	Rural underdevelopment	Environmental risk of development
<b>Outcomes from Empowerment</b>	<ul style="list-style-type: none"> <li>Community is able to self-organize crisis response efforts without relying on government</li> <li>Government's primary channel was changed from TV and website to social media (which began late)</li> </ul>	<ul style="list-style-type: none"> <li>Community is able to self-determine their economic change</li> <li>Government and businesses are paying increasing attention to rural e-commerce</li> </ul>	<ul style="list-style-type: none"> <li>Community is able to self-mobilize the collective effort to rally against government decision</li> <li>Government and the organization felt the instability and pressure, leading to the attention and reactions to public concerns</li> </ul>
<b>IS Element</b>	Social media	E-commerce	Social media
<b>Research Focus</b>			
<b>IS Phenomenon</b>	<b>ICT in Disaster Response</b>	<b>ICT in Rural Development</b>	<b>ICT in Environmental Movement</b>
<b>Overarching Research Question</b>	How does ICT empower the disadvantaged people for community development?		
<b>Specific Research Question(s)</b>	How does social media empower the community in crisis response?	How does ICT empower a marginalized community towards the emergence of an ecosystem for rural development?	How does social media enable grassroots mobilization towards the emergence of collective action for environmental conservation?

This thesis is structured as follows. Chapter 1 has offered an overview of this thesis including motivations, theoretical background, and research focus. In Chapter 2, an overview of the research methodology is provided, specifically those that are applicable to all three case studies. Details of the data collection and an analysis of each study are provided in Chapter 3. In Chapter 3, each of the three case studies is presented in greater detail, to include the motivations, literature review of the IS context, methodology, case descriptions, findings and contributions. Finally, Chapter 4 summarizes the findings of the three studies, presents the overall contribution of this thesis, and finally, concludes with potential directions for future studies.

## **Chapter 2**

### **Methodology**

#### **2.1. Case Study Methodology**

The focal phenomenon of this thesis is an emerging, intricate, yet rare occurrence of an event that has begun to attract the attention of IS researchers. Hence, the case study research methodology is adopted because it is appropriate for such an exploratory research (Siggelkow 2007). This qualitative method allows us to unearth operational processes (Gephart 2004) that are not easily separated from the contexts, providing a solution to the “how” question (Pan and Tan 2011; Walsham 1995).

Recognizing that there is no established theoretical model that is applicable to the investigation of ICT-enabled community empowerment process (Christens 2012), an interpretive approach is adopted (Klein and Myers 1999; Walsham 1995). In addition, societal challenges are complex and multi-faceted phenomena “that are shaped by dynamic and interdependent factors; that cannot be “solved” by simple interventions; about which little evidence or agreement about effective solutions exists” (Majchrzak et al. 2013a p. 1), which makes it more suitable to examine the phenomena through relevant stakeholders’ interpretations (Klein and Myers 1999), rather than a quantitative approach. By using the existing knowledge of the empowerment perspective as a theoretical lens that serves as a “sensitizing device to view the world in a certain way” (Klein and Myers 1999 p. 75), this interpretive approach not only allows us to conduct the study and data analysis with

certain expectations based on prior theory, but also allows new, unexpected findings that are not identifiable at the outset of the inquiry to emerge from the data (e.g., Ravishankar et al. 2011).

## **2.2. Case Selection**

To address the purposes of this thesis, the cases of the Thailand Flooding in 2011, China Taobao E-commerce Villages, and Malaysia Environmental Movement were selected, because they fit the context.

First, the three cases illustrate three types of disadvantaged community, i.e., naturally disadvantaged, socio-economically disadvantaged, and environmentally disadvantaged. The community of Thailand in case 1 is naturally disadvantaged, because they are helpless in the face of such natural disasters like flooding; the community of China rural villages is socio-economically disadvantaged because they have been marginalized or neglected in the development that is concentrated at urban areas; and the community of Malaysia is characterized as environmentally disadvantaged, because it is worried that the establishment of a rare earth refinery plant in the country could have emit radioactive pollution, threatening both human health and the environment.

Second, various grassroots members of community were involved in these cases, constituting a natural environment for a community study. In case of the Thailand Flooding 2011, the 7-month long deluge is known as the worst disaster of the country in the half-century in terms of water and the number of people affected: more than 80% of the provinces were inundated, 815 victims

were killed and more than 13 million people were affected. The scale of the disaster has triggered the active involvement of community members, including victims, volunteers, professionals, universities, community leaders, and emergent groups. In the third study, more than 20,000 Malaysian have reportedly participated in the assemblies, marching, and other environmental movements against the establishment and operation of a rare earth refinery plant in Malaysia since 2011. This green movement has triggered the active involvement of community members, including residents living near to the plant, activists, students, and working professionals.

Third, it has been asserted that empowerment is a response to impoverishment and marginalization (Gutierrez 1990; Perkins 2010), and that these characteristics define the state of the community in these cases. For instance, during Thailand's floods, social media use prospered because the community was disappointed and frustrated with the ineffectiveness of government, such as their slow response and inaccurate information updates in managing the natural disaster (Bland 2011; UPI 2011). At the same time, the villagers in the second study of China Taobao E-commerce Villages represent the community who suffers from marginalization as a result of rural underdevelopment. Many of them were living with an annual per capita net income of less than 2500 yuan (USD 400) which was below the poverty line of USD 1.25 a day defined by World Bank (World Bank 2008).

Fourth, the outcome of community empowerment is evident in the prevalence and effectiveness of self-organized actions using ICT, especially in three respects: 1) increased individual efficacy, 2) knowledge of how to empower others, and 3) recognition by the existing power structure (Pigg 2002). The

community is able to control its own affairs, be it in handling emergencies in disaster response, in improving its livelihood, or in mobilizing the strength of the crowd in addressing environmental concerns. For instance, during the Thailand flooding 2011 in Study 1, there is a widespread use of social media for disaster response, in view of the inefficient information dissemination through conventional channels. More than 50 self-organized Facebook groups were formed during the crisis, updating information like water levels in different areas, mobilizing volunteers, and coordinating the flow of donations (Kaewkitipong et al. 2012). More evidently, a volunteer-run Twitter account (@thaiflood) had more than 100,000 followers, which was 10 times higher than the number of followers in government-run FloodThailand Twitter account (OCHA 2012). In the second study of Taobao Villages, there is a significant improvement in the socioeconomic condition of China's rural villages as a result of these self-help efforts; about 1.5 million online stores from rural poor villages were registered on Taobao platform, and at least 60,000 job opportunities have been created as of end 2013. In his visit to one of the Taobao Village in November 2014, China's Premier Li Keqiang has likened e-commerce to a "new engine" of development (ifeng.com 2014). Finally, in Study 3, the environmental movement mobilized by the grassroots community has successfully attracted public attention and exerted pressure on the company and government who has once suspended the license of the plant to conduct further safety assessments.

In short, our case selection is based on the criterion of theoretical sampling (Mason 2002): the cases are chosen for their potential to generate an understanding of ICT's role in empowering the community.

### **2.3. Roles of Theoretical Lens**

Embracing the principle of theoretical engagement proposed by Sarker et al. (2013), the roles of theory utilized are explicated at the outset of the study. In applying empowerment as the theoretical lens, the uses of theory in an interpretive study by Walsham (1995) is closely observed.

First, the theoretical lens serves as an initial guide to design data collection (Walsham 1995). The theoretical lens takes account of previous knowledge, and creates a “sensible theoretical basis to inform the topics and approach of the early empirical work” (Walsham 1995 p.76). For instance, our awareness of the lack of studies that consider empowerment as a multi-dimensional construct has shaped the design of our research, and our knowledge about the three outcomes in an empowered community (collective participation, shared identification, and coordinative control) has directed the design of our data collection.

Second, the theoretical lens is involved as part of an iterative process of data collection and analysis (Walsham 1995). According to Walsham (1995), “although theory can provide a valuable initial guide as described above, there is a danger of the researcher only seeing what the theory suggests, and thus using the theory in a rigid way which stifles potential new issues and avenues of exploration. It is desirable in interpretive studies to preserve a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories. This results in an iterative process of data collection and analysis...(p.76)” In this study, the three dimensions of empowerment process (structural, psychological, and resource empowerment) serve as



categories of analysis that allow us to objectively study the empowerment process, while anticipating the emergence of the actualization process of empowerment in a scaffolding process of building new findings.

In Table 4, a summary of data collection for the three cases is provided. For the details about the data collection and data analysis of each study, it will be provided in Chapter 3.

**Table 4. Summary of Data Collection**

Data Collection	Study 1 Thailand Flooding 2011	Study 2 China Taobao E-commerce Villages	Study 3 Malaysia Environmental Movement
<b>Duration</b>	<ul style="list-style-type: none"> <li>Jan 2012–Oct 2013: <i>Secondary data collection</i></li> <li>Mar 2013: <i>Onsite visit</i></li> </ul>	<ul style="list-style-type: none"> <li>May 2013–Apr 2014: <i>Secondary data collection</i></li> <li>Jul–Aug 2013: <i>Onsite visit</i></li> </ul>	<ul style="list-style-type: none"> <li>Jan–Oct 2014: <i>Secondary data collection</i></li> <li>Feb 2014: Two <i>onsite visits</i></li> </ul>
<b>Primary Data Source</b> (Total number of subjects: 149)  (Appendix A shows the list of subjects)	<ul style="list-style-type: none"> <li>Semi-structured interviews and focus groups</li> <li><b>56 subjects in total</b> from different groups (victims, volunteers, university, flood-related experts, community leaders, and government agencies)</li> <li>17 interviewees and 39 participants in focus groups (victims, volunteers)</li> <li>Archival data in social media (25 top community-created groups in Facebook, 9 top Twitter accounts, and YouTube)</li> </ul>	<ul style="list-style-type: none"> <li>Semi-structured interviews and focus groups</li> <li><b>63 subjects in total</b> (villagers and administrators from the rural villages, including the key leaders of e-commerce, other online sellers, and government officials)</li> <li>31 interviewees and 32 participants in focus groups</li> </ul>	<ul style="list-style-type: none"> <li>Semi-structured interviews and focus groups</li> <li><b>30 subjects in total</b> from different groups (government officials, activists, victims)</li> <li>24 interviewees and 6 participants in focus groups</li> </ul>
<b>Secondary Data Source</b> (Appendix B)	Government websites, reports, news, articles, books, journals, and conference papers	Online articles, news, press releases, reports, and videos	Archival data in social media, online articles, news, press releases, reports, and videos
<b>Data</b> (Total: 1,533 pages)	648 pages of transcripts, field notes, and secondary data	551 pages of transcripts, field notes, and secondary data	334 pages of transcripts, field notes, and secondary data

## Chapter 3

### Case Description and Findings

#### 3.1. Study 1: Thailand Flooding 2011<sup>1</sup>

##### 3.1.1. Introduction

Recent decades have seen an intensification in the occurrence and impact of natural disasters (Noordegraaf and Newman 2011). According to the IMF (2012), damages inflicted by these catastrophic events have risen sharply, from about USD 20 billion a year in the 1990s to about USD 100 billion a year during 2000 to 2010. In last two years, more than 700 natural calamities have struck the world, affecting over 450 million people. Some of these remain a fresh wound in the world, like the 2004 Indian Ocean tsunami, the 2005 Hurricane Katrina, the 2010 Haiti earthquake, and the 2011 Japan tsunami. Besides physical destruction and economic loss, natural disasters bring about devastating human suffering and social impact. With the recognition that disasters are erratic and difficult to prevent (Yang and Hsieh 2013), and poor disaster response can result in a humanitarian catastrophe of far larger magnitude than the damage caused by the original event itself (Junglas and Ives 2007), a growing body of IS research has emphasized the importance of disaster response (Hiltz et al. 2010; Leidner et al. 2009; Pan et al. 2012). Often, the ability of ICT to facilitate information flow amidst the urgency of the crisis is highlighted (Majchrzak et al. 2007).

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<sup>1</sup> An earlier version of this study has been accepted as a research article by the *Journal of the Association for Information Systems*.

However, these IS studies are largely situated in the **top-down, command-and-control model** of disaster management, where the role of community is inadvertently undermined. Often, they investigate the role of ICT resources and capabilities from the disaster response agency perspective (e.g., Leidner et al. 2009; Pan et al. 2012; Yang and Hsieh 2013). Some studies, while incorporating the role of community stakeholders, tend to view them as a constituent in the command-and-control model (e.g., Gao et al. 2011; Grabowski and Roberts 2011; Sheth 2009), like citizen sensing. In hindsight, this insinuates that the community is a “victim” that can only play a “reactive” role in disaster response. Conversely, we argue for explicit attention to the competent role of the community. We posit that the community’s active role in disaster response has hitherto been constrained, due to a lack of “mediating structures” (Berger and Neuhaus 1977) that enables community action.

However, in recent years, this constraint has been surmounted through the emergence of **social media** as an alternative communication channel in disaster response (White 2012). According to the American Red Cross (2011), 33% of citizens have used social media to gain information about an emergency. With the prevalence of social media, the former National Incident Commander of the United States, Admiral Thad Allen, asserted that “there will never be a major disaster that won’t involve public participation” (Berinato 2010 p. 78). More importantly, social media has given rise to self-help communities in crisis. In a few renowned examples like the 2010 Haiti earthquake, 2011 Japan earthquake and tsunami, 2012 Hurricane Sandy, and 2013 China Lushan earthquake, communities involve themselves actively, not only in requesting help, but also in responding to pleas for help through social

media. Social media has empowered the community, allowing them to transform from a victim community to a competent community that may “use its own resources and abilities to manage the challenges through self-determination” (Van den Eynde and Veno 1999).

In Study 1, we illustrate how a victim community can appropriate ICT during disaster response without relying on central agencies. An in-depth case study was conducted into the 2011 Thailand flooding disaster, the world's fourth most severe natural disaster, in terms of the economic consequences as of 2011, with USD 45.7 billion losses (World Bank 2011). In the following, the case is presented to illustrate how social media empowers the community in disaster response. Specifically, we ask “how does social media empower the community in disaster response?”

### **3.1.2. Literature Review of ICT, Social Media, and Disaster Response**

Crisis management comprises three stages: crisis prevention, crisis response, and crisis recovery. We argue for attention to the **crisis response** stage in IS because this stage of crisis is characterized as a complex set of quick, unexpectedly occurring events that demand a rapid information flow and network management that often require intensive use of ICT (Pan et al. 2012). Moreover, effective crisis response can contain a worsening of indirect impact, and may form the basis for “starting to reverse the direct effects” (Albala-Bertrand 2007) in crisis recovery. In order to overturn these circumstances, three types of social support are critical (Orford 1992), i.e. informational, material, and emotional supports: informational support updates the

community on the latest crisis information, as well as guidance in unfamiliar situations (Endsley 1988); material support is important to channel the practical aids, goods, and services to the victims (Orford 1992); and emotional support acts as a buffer to stress (Kaniasty and Norris 1993). More importantly, this support has to be delivered within a short time frame, in order to alleviate the impact in the crisis response phase.

Given its efficiency in facilitating communication and coordination, **ICT** is adopted in crisis responses to enhance information processing and coordination. However, IS studies have conventionally focused on ICT's role from the perspective of crisis response agency. ICT is utilized to develop various types of management and decision making tools such as geographical information systems in the agencies (e.g., Grunfest and Weber 1998; Thomas et al. 2006). Moreover, Yang and Hsieh (2013) and Leidner et al. (2009) have examined IS resources and capabilities in agencies. In other studies, the role of ICT is extended to improve coordination among agencies or between agency and other stakeholders (e.g., Chen et al. 2008; Day et al. 2009; Pan et al. 2012). Day et al. (2009), for example, present the coordination challenges between agencies and supply chain partners, while Pan et al. (2012) examine the information network between agency, victims, and public. Implicitly, these studies adopt the traditional top-down, command-and-control model of crisis response (Moynihan 2008; Rosenthal and Kouzmin 1997; Turoff et al. 2010), emphasizing agency as a rational actor with the capacity to control chaos during crises and community as the passive recipients of aid. Even though some studies such as that of Sheth (2009) incorporate the community as being more than an information receiver, they view community as a "data sensor" on

the ground, or a constituent in their plan. In other words, the community remains an actor with limited capability in a larger command-and-control model. In our view, the role of community is largely undermined (Turoff et al. 2010).

The above-mentioned proclivity of IS research is likely to have stemmed from a widespread view of “**community as victim**” in the disaster research (Van den Eynde and Veno 1999). It suggests that a community is broken by the disaster, not only physically but also in terms of its capacity in managing its own problem. In line with the call to get past the conventional model of “state intervenes, citizen receives aid” (Lagadec 2006), we argue for explicit attention to the competent role of community for two reasons. First, it may be acknowledged that the command-and-control model of crisis response rooted in the victim community view is ineffective in the face of the unpredictability of disasters (Yates and Paquette 2011). Such crisis response plans are often based on an imaginary disaster which may not accommodate the reality in the field (Bonabeau 2009; Majchrzak et al. 2007). Moreover, ritualistic and inflexible execution may straightjacket the response team in volatile times, or result in failure when the authority structure breaks down, as occurred in Hurricane Katrina (GAO 2005). Second, the reserve of human capital in the diaspora communities is invaluable in tackling the disaster (Schmidt and Cohen 2013). Given its proximity to the disaster, the community possesses critical situational information (Liu et al. 2008). They are often the “real first responders” (Palen et al. 2007) to reach out to help those in danger or suffering (Turoff et al. 2010). Moreover, communities are the best judges of their own vulnerability and imperative needs (Yodmani 2001).

Our argument is corroborated through the recent rise of community in crisis response, enabled by the prevalent use of social media. During the 2007 California wildfires, the public turned to social media to seek event updates that were contributed to by the community on the ground, due to the slow response of traditional media and officials (Sutton et al. 2008). The creation of a crisis map in the magnitude 7.0 Haiti earthquake 2010 using citizen-provided information epitomizes the role of social media in expediting the flow of real-time, situational crisis information (Liu and Palen 2010; MacEachren et al. 2011). In the Japan Tsunami 2011, Twitter and Facebook were used by citizens to send warnings, to request help, to share disaster scene information, and to connect to families and loved ones (Skarda 2011). When a magnitude 7.0 earthquake flattened the villages of Lushan, China in Apr 2013, the victims reported their locations on social media in order to direct the responder team to rescue them.

Our review of the use of **social media in crisis response** shows that this area of IS research is still at a preliminary stage. Most studies have positioned social media as a channel in tapping the knowledge, capital, and collective strength of community (e.g., Cheng et al. 2011; Gao et al. 2011; Hui et al. 2012). For example, Gao et al. (2011) have focused on the information propagating capability of social media to gather and integrate data from the community. This is an exemplar of crowdsourcing in generating collective intelligence. At the same time, the information flow in social media is studied in great detail – Hui et al. (2012) and Cheng et al. (2011) have examined the information diffusion pattern in social media, in order to better extract useful information for crisis response effectiveness. In a recent attempt, Oh and his



colleagues (2013; 2010), in adopting the perspective of informational analysis, presented the duality of social media in rumor and informational convergence. By shifting away from information focus, Grabowski and Roberts (2011) delineate how social media is used in a bi-directional engagement between agency and community, thereby enhancing situation awareness and developing a shared culture in crisis. In our view, these studies have inherited the command-and-control view. Although they have moved away from viewing the community merely as helpless victims, there are few IS studies that advocate the competent community view that we have observed in reality. Community-driven approach in disaster management remains underexplored.

### **3.1.3. Methodology**

#### **Data Collection**

Primary data collection took place in two phases. The first phase started as soon as the flood subsided in early 2012. From January to May 2012, we collected the archival data in social media by screening for the community-created content in Facebook, Twitter, and YouTube. The source of this archival data included 25 community-established Facebook pages, a book containing the archival data on Facebook page created by Dr. Thanakorn, 9 community-created Twitter feeds, and 12 YouTube videos (see Appendix B). The second phase of data collection took place in March 2013, when we conducted an onsite visit comprised of semi-structured interviews and focus groups. We interviewed 56 subjects from different community groups, including victims, civil volunteers, flood-related professionals, non-profit organizations, university, community leaders, emergent groups, and

government agencies (see Appendix A). Each session lasted an average of one hour. Community members from different background (non-profit, private, governmental, academic etc.) were involved in providing specific contextual considerations in the use of social media during the flood. Our contextual understanding of the case was further enhanced by the knowledge of the collaborators who were the flood victims and had conducted an earlier study on the flood. Moreover, secondary data were collected from various sources, e.g., government websites, reports, news, articles, books, journals, and conference papers (see Appendix B). At the same time, we reviewed top management, sociology, and IS journals for concepts that could potentially form our theoretical lens (Walsham 2006). This led us to a set of pertinent constructs and arguments that were used to build our “sensitizing device” (Klein and Myers 1999). As mentioned, the theoretical lens served to guide our data collection; for example, we ensure that data relevant to the processes of attaining the three outcomes of community empowerment was elicited. Table 5 summarizes our key methodological guidelines.

<b>Table 5. Key Methodological Guidelines with Illustrations</b>		
<b>Aspect of study</b>	<b>Consideration</b>	<b>Application of the guideline</b>
<b>Field entry</b>	<b>Entering the field with credibility</b>	Entry was negotiated through the collaborators, who were from a reputable local university of Thailand. It granted the researchers an immediate “legitimacy and credibility” (Patton 1990 p. 254).
<b>Design of data collection</b>	<b>Gathering archival data of social media</b>	<p>The Facebook, Twitter, and YouTube page of community groups that were mentioned by our interviewees or reported in news were manually reviewed by two research assistants.</p> <p>We obtained a published book from one of the interviewees, which contained his Facebook archival data.</p> <p>These archival data afforded by social media contributed to alleviating the problem of ephemeral (Quarantelli 2002 p. 107) or perishable data (Bourque et al. 1997) in disaster-related studies. These freely-available data allowed the researchers to “observe” the events that occur in the immediate aftermath of crisis, even after the fact (Oh et al. 2013; Stallings 2007).</p>
	<b>Gathering data via interviews</b>	<p>We adopted a specialized role strategy (Dubé and Paré 2003) where one researcher led the interviews while other researchers made analytical notes so that the interviewees were not overwhelmed.</p> <p>The lead interviewer and moderators were native speakers of Thai.</p> <p>The researchers used the interviewees’ terms, whether in asking for clarification or for further elaboration. Academic terms or jargon were avoided during the interviews.</p> <p>To improve the quality of disclosure, we followed the guidelines by Myers and Newman (2007).</p>
	<b>Designing semi-structured interviews</b>	Every interview began with broad questions, and progressed to questions specific to our theoretical lens. Whenever new themes emerged during the interviews, new questions were formulated to elicit further information that could explain, deny, refine or enrich the arguments, or modify the theoretical lens.
	<b>Designing focus group interviews</b>	<p>Specific topics were discussed for each group, which were generally characterized as flood victims and volunteers.</p> <p>The experience of all participants was elicited in a semi-structured and open-ended format,</p>

<b>Table 5. Key Methodological Guidelines with Illustrations</b>		
<b>Aspect of study</b>	<b>Consideration</b>	<b>Application of the guideline</b>
		<p>in order to allow the talk of participants to stimulate other participants of the group (David and Sutton 2011).</p> <p>In order to avoid dominance of particular individuals (David and Sutton 2011) and group conformity (Babbie 2007) in the focus group, the moderators would ensure that everyone expressed their views and the sequence of reply may be randomized.</p>
<b>Choice of interviewees</b>	<b>Identifying suitable interviewees</b>	<p>Corresponding to our research topic and unit of analysis, various community groups were identified as our targeted interviewees, including citizens, victims, online social communities (initiators and followers), non-profit organizations (leaders and volunteers), and project leaders of government agencies.</p> <p>Based on these target groups, suitable interviewees were identified, based on the news reports which suggested well-known and impactful individuals and groups during crisis, as well as the insider knowledge of the collaborators.</p> <p>For focus group interviews with citizens and volunteers, the participants were recruited through intentional sampling (Grumbein and Lowe 2010). The target participants were the flood victims and student volunteers of flood of an evacuation center.</p>
	<b>Ensuring representativeness of interviewees</b>	<p>The interviewees were from different segments of a community in crisis, including victims, civil volunteers, flood-related professionals, non-profit organizations, university, community leaders, emergent groups, businesses, as well as government agencies (see Appendix A).</p>
<b>Recording of data</b>	<b>Various representations of data</b>	<p>All the interviews were recorded and transcribed in Thai and later translated into English by two research assistants who were present at the interviews. Photos of the session, site, whiteboard drawing, etc. were taken to capture the research team's observation.</p> <p>The data collected amounted to about 648 pages of transcripts, field notes, and secondary data, and 142 photos.</p>

## **Data Analysis**

Data analysis began at the time of the data collection (Eisenhardt 1989; Pan and Tan 2011). The empowerment perspective sensitized us to the related information on the process of attaining the three outcomes of community empowerment, i.e. participation, identification, and control. We summarized the narratives about social media's use and community involvement in tabular form, forming the main corpus of the data used for subsequent analysis. Descriptions related to different dimensions of the empowerment process, including structural, psychological, and resources, were highlighted. From the descriptions, we identified tentative explanations that depicted the practice of the community members in using social media to overcome their helplessness, and regain control during the crisis. In other words, we attempted to look for new "regularities in social life" (Babbie 2007 p. 11) driven by the use of social media. This was done independently for each of the outcomes of community empowerment.

Next, in order to identify the "underlying coherence" (Taylor 1976p. 153) through our interpretation, we juxtaposed the tentative explanations for each empowerment outcome. We focused on the further "abstraction" of the tentative explanations to derive the overarching empowerment process enabled by social media, as well as the use of social media by the community. At this stage, we focused on identifying the coherence within each outcome, rather than comparing them across the three outcomes. An example of the abstraction of the process was the identification of structural empowerment and resource empowerment in the process of attaining collective participation. As we proceeded, each cycle of the abstraction improved the clarity of explanations

as a better understanding of the data and the theory was developed in this inductive reasoning process. In addition, to better reflect our “renewed” interpretations of the fundamentals beneath the seemingly disparate actions, the tentative explanations were refined. These two steps – abstraction of the empowerment process and refinement of tentative explanations – were reiterated until all the tentative explanations were accounted for, and a temporal internal agreement was achieved.

Subsequently, we began to look for underlying patterns across different empowerment outcomes. In adopting the logic of constant comparative analysis (Charmaz 2000), we constantly compared the patterns of these empowerment processes in order to tease out their distinctiveness. For instance, although psychological empowerment might appear in the processes of attaining shared identification and coordinative control, differences in the nature of psychological empowerment in these two processes could be identified. During this comparison, the processes in previous paragraphs were repeated, in order to reveal and further refine the core element of the mechanism. With the emergence of our findings in the above stages, we consistently ensured alignment between data, theory, and findings (Klein and Myers 1999) until the findings were finalized. To ensure the convergence of interpretations by interviewees and to reduce recall bias, rule of triangulation (Dubé and Paré 2003) was applied – multiple data sources (interviews, focus groups, news report, and archival data) were used to filter “false preconceptions” of interviewees and researchers; this ensured the consistency of data. Throughout the data collection and analysis, we applied Klein and Myers’s (1999) principles to conduct interpretive work (see Appendix C).

### **3.1.4. Case Description**

In June 2011, Thailand was overwhelmed by heavy rain and tropical storms. Although the country was no stranger to annual flood season, it was caught off guard by the extended scale and widespread impact of this flooding crisis that began in northern Thailand and persisted until early January 2012. The prolonged inundation submerged 65 of Thailand's 77 provinces, turning the rich fields of the world's biggest rice-exporting nation into murky lakes, and damaging more than 7,510 industrial plants. Some notable companies affected included Toyota, Honda, Mazda, Nissan, Sony, etc. Many roads were washed away and Bangkok's secondary airport was forced to shut down. The UNESCO-listed Ayutthaya historical park was not spared either, as the floodwaters rose to almost 3 meters high. It was the worst flooding disaster of the country in five decades.

The enormity of the crisis revealed the helplessness experienced by a community. Since people could do little to prevent the impact of natural disaster, they were particularly concerned about accessing updated and accurate crisis information for survival, evacuation, and removal of valuables. Nonetheless, they were disappointed by the ineffectiveness of the government such as Flood Relief Operation Center (FROC) that was setup to coordinate with all ministries only after 25 provinces were submerged. There was a serious lack of clear, consistent, and updated information for the citizens. News via the traditional media like television, radio, and newspapers reached people with a time lag. Although an online website was used to provide

disaster information, citizens were confused and frustrated by the constantly changing information.

Despite the government having apologized to the citizens for its slow response (Bangkok Post 2011), the trust of the community in authorities has waned. The people soon discovered the social media to be an alternative channel to obtain information and organize on their own. During the flood, more than 50 flood-related Facebook pages were created to share information of the flood. A remarkable example was that of “Nam Kuen Hai Reeb Bok” (means “When water rises, quickly tell”), created by a 23-year old girl with the intention of providing a space for ordinary people like her to share the flood situation. In a fortnight, the number of “Likes” surged to 200,000 (Bangkok Post 2012). Another volunteer-run website, [Thaiflood.com](http://Thaiflood.com), was widely embraced by the community. Its Twitter account (@thaiflood) had more than 100,000 followers, which was 10 times higher than the number of followers in government-run FloodThailand Twitter account (OCHA 2012). In addition, individuals with professional knowledge like Arjarn Sarawut (a pseudonym, as are all names), an environmentalist and the Secretary General of a nature conservation foundation, Dr. Thanakorn, the ex-Deputy Bangkok Governor, were able to share their knowledge with the public via social media. In the following sections, we provide details of how social media has given rise to an empowered community that demonstrates collective participation, shared identification, and coordinative control.



## **Collective Participation**

The 2011 flooding crisis caught the people by surprise on account of its exceptional scale and impact. The water that lingered in more than 80% of Thailand provinces severely disrupted livelihoods and threatened the survival of the people. In such a critical situation, they depended heavily on the news from the government, the de facto trustworthy source of information that was expected to protect the lives of the citizens. Nonetheless, the community was disappointed by the inaccessibility of traditional media and even more so by the inability of government in providing information on time with assurance. For instance, the director general of the Royal Irrigation Department told Reuters news on 14 October that "I can confirm that Bangkok is going to be spared from the flood." (Reuters 2011). Yet parts of Bangkok were flooded days after that.

With loss of confidence in the government and the availability of information in social media, more and more people were attracted to the use of social media. Social media provided an open space for everyone to "speak and act", whether it involved sharing their knowledge, voicing their opinion or searching for information. These platforms afforded the opportunity to reach not only their friends, but also world audiences. For instance, Dr. Thanakorn, the ex-Deputy Bangkok Governor, was able to share his insider knowledge, such as the reasons of the flood, without having to go through the much restricted traditional channel.

*"I used Facebook because I have been forced to not going to the television program, but I think I have to say something to let the Bangkok people know. So I choose Facebook... It is a fact that many newspapers are supported by some*

*politicians. When we send the information to them, they just won't put it in the newspaper.” – Dr. Thanakorn (Interview)*

In another example, two girls in their 20s created a Facebook page, Charun Fight Flood, to disseminate and gather flood-related information. Their action was triggered by the lack of availability of flood news in their area (Charun), as the media focused their attention on Bangkok.

*“The school was closed down and the exam was postponed. I had nothing to do but to watch TV all day and keep trying to find the information of the flood in my area. There was no news about the flood in my area – Charun, only the area of Bangkok. So I thought I could help by creating a Facebook page of the flood information near Charun area. I was so surprised that my page had more than 1000 “Likes” after one day.” – Founder of Charun Fight Flood (Interview)*

As long as one posted information that was of use to others amidst the confusing news from the government, he/she could be “found” and followed on social media. When the followers began to share this information, they would further push the information to their own network of friends in social media. The information would spread virally, and further enticed more people to use social media. As Dr. Thanakorn illustrated,

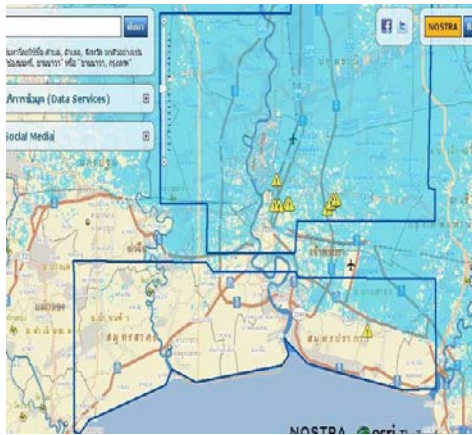
*“The people who came to my Facebook were looking for information at the beginning. Once they got the information, they started sharing. So sharing helped my page to become more active. I would say that starting from 500 views a day, it became 10,000 views a day. At that time, it went up very quick and it came from sharing. Once people trust the information, they just share.” (Interview)*

As a result of the active sharing, more people became aware of the availability of useful flood information in social media, and subsequently changed to using social media as the information channel. According to a poll result (Tech in

Asia 2011), social media has surpassed newspapers as a source of information during the Thailand floods, with usage increasing from roughly 19 percent to 25 percent. In this period, the number of social media users also increased drastically in Thailand: from 600,000 Twitter users in September to 720,000 in October 2011 (OCHA 2012) and from just over 7 million Facebook users to more than 12 million within 2011 (AFP News 2011).

When more people began using social media for information access, they also made active contributions in various forms. For example, the victims shared the photos of their homes and flood, and the knowledgeable ones uploaded their advices and analysis about the situation. In the example of Charun Fight Flood page, the 50,000 members participated actively, by contributing flood information in different areas of Charun. In the following, we show an excerpt from the “When water rises, quickly tell” Facebook page that demonstrated the active contribution of followers.

"When water rises, quickly tell" posted on November 12, 2011:



This is the information for your decision making only. This is the real situation from various Bangkok areas where the flood level had decreased. However, this situation is only temporary due to the Big Sandbag operation and the Bangkok municipal had sped up their water trafficking process. Please be warned that there is still a lot of water coming towards Bangkok, so it is advisable that you do not move all of your belonging from the upper floor or shelf.

Yupha  
Srisajalertwaja:

Thank you very much sir. I'll take this into account and I'll share with my friends and family on my Facebook page.

Kulnaththa  
Kauwwichienlaphi:

I want to confirm the situation in Pahonyothing Area.  
The water level is still pretty high, almost 2 meters high.  
The Big sandbag help to decrease the water level a bit, but I hear that more water are coming soon. Stay tune folks. Don't let your guard down just yet.

Likes: 124 | Shares: 12 | Comments: 50

<https://www.facebook.com/photo.php?fbid=313788605313564&set=a.293829117309513.92356.293796897312735&type=1&theater>

(Facebook post)

In another case, Arjarn Sarawut, an environmentalist and the Secretary General of a nature conservation foundation, put together a few YouTube videos with his knowledge of geology to explain the occurrence and situation of flood without jargons. His most popular video has been watched more than 440,000 times.

*"Social media is good... It gives people an outlet to talk to one another in any topic. My tool was Map and picture. I usually combined the two to get the most accurate information. Only a picture alone may be misleading. I gathered all of the information from various sources; I even use a lot of GISTDA (Geoinformatics and Space Technology Development Agency of the government) and then explained the flood situation in layman's terms via social media. I used all the resources to make it easy to understand. I guess one of the advantages I have is that I am very knowledgeable about the land and forest. Therefore I was able*

*to integrate the flood information I found from GISTDA and other places with the map. The way I explained it was easily understandable.” – Arjarn Sarawut (Interview)*

<Some replies to Arjain Sarawut on his Facebook page>

<i>Amornrut Songserm:</i>	Thank you for sharing this information. I really appreciated your thoughtful mind. Keep it up. I love you 😊
<i>Annie Handicraft:</i>	<u>I really like your information. It's simple and very understandable. The warning messages I hear from TV are really gibberish with difficult concepts and wordings.</u> I'll share your information to others
<i>Virat Ratna:</i>	<u>Your information is straightforward. Thank you so much.</u>
<i>(Facebook post)</i>	

More importantly, social media could accommodate a diversity of reports that were likely to be missing in the controlled traditional media. As suggested by a student volunteer at an evacuation center, newscasters often came in to the evacuation center to look for “sellable” stories that featured dramatic victims crying in front of the camera although things were going fine. Relatively speaking, information shared by the community in social media were more transparent, open and personal, since the information contributors were from the ground. In addition, social media allowed everybody who wished to help to work collectively in enhancing the value of the information in social media. This is demonstrated in an example of the Charun Fight Flood.

*“I think social media was very useful in helping others during the flood... but it can also be bad if the information is mismanaged... For example, I once posted a picture about poisonous snake that might be floating near Charun. I misunderstood that it wasn't poisonous. Luckily a snake expert sent me a message informing us that the snake was very poisonous. I took down the post on Facebook immediately. Luckily no one got bitten or died from it, or I would have got into trouble... But the good thing about Facebook is that the members will come in and try to correct the wrong information by contributing their*

*knowledge. That's why our page is a bit special; we value information accuracy highly and we organize the information very systematically. We got a lot of people in the community who sent us the material and we tried to verify them before we post on our FB. We, the administrator, were the facilitator of the information gathering.” – Founder of Charun Fight Flood (Interview)*

Therefore, when more individuals contributed their local knowledge and information, the publicized and useful information formed a pool of resources in social media, attracting more people to participate in using social media.

### **Shared Identification**

As the water continued to shift southwards to Bangkok during October 2011, people were stranded. Water levels in 470 locations of Bangkok rose to a minimum of 80cm, and some central provinces were 2 meters underneath the water. About 1.96 million houses were affected, 19,000 of which were totally damaged (World Bank 2012a). Many were forced to stay in temporary shelters or evacuation centers at stadiums, universities, temples, and government buildings. In addition, some were isolated by the sea of water that submerged their homes and relied on the relief supplies sent by boat or airdropped by helicopters. Living in the condition of lost families and a prolonged period of deprivation, people increasingly felt alienated and helpless in the face of this disaster. At least 700 contemplated suicide. A stressed-out man even fired gunshots into the air near a medical team in Ayutthaya province (The Nation 2011).

People felt alienated, as they were disconnected from others. In the past, they had few effective options to stay in touch with others during disaster. In Parichart Village in the outskirts of Bangkok, for example, the community

leaders had failed to spread the flood-related news to the villagers via SMS and email. The web portal, too, merely served as a passive way of connecting less than 100 people from 2,000 households with 8,000 villagers. Feeling the frustration, one of the residents, Arjarn Wattana, initiated a Facebook group called “345 Parichart”, in order to look for information and help in vicinity. In the first week, almost 2,000 people joined group, including people outside Parichart Village. Although they did not know everyone in the group, they shared stories, consoling and supporting each other who were living in the same village or experiencing similar difficulties. Besides extending emotional support to each other virtually, they became involved physically in recreational group activities organized via social media. For example, they organized water-based recreational activities like boat racing, snorkeling, and scuba diving. Not only did it relieve the stress and tensions of living with water, but positive attitude was spread in coping with the disaster. Gradually, the collaborative efforts and companionship shifted attention away from isolation and helplessness. This was illustrated by the committee member of the group,

*“We posted a lot of pictures and videos on Facebook and YouTube. We made a couple of funny videos that went viral [They made a video called Water Park Parichart, with villagers pretending to have fun at the “Water Park” – their flooded village]. We even have short clip of “Daily Report” on YouTube to give information to others. At one point, we decided to make things less stressful by making it funny instead of being depressed about the flood. We even created our theme song: “water world, water park, it looks so nice. There was like sunset and sunrise over the roofs...” (Interview)*

As mentioned by the committee member, Parichart Village group posted a few funny videos; one featured the old folklore of a guy paddling a boat to woo the

girl with the classical music background, and another one themed as the “Parichart Water Park”, imitating the Water Park Fun Land, where everyone in the village was having fun with the flood. The videos were well-received in the community, as shown in the YouTube comments below:

Panom Parichat (the Parichart village member) posted folk song video on Oct 17, 2011:  
[http://www.youtube.com/watch?v=5UfmLj7a\\_sM](http://www.youtube.com/watch?v=5UfmLj7a_sM)

*Gammez69:* this is great!.. so funny haha

*Jaigai Ratigaan:* Now that is very romantic way of looking at our village under water haha

*PongPang666:* hahaha... it's so creative and funny. Big Thanks... it is sad to see my house in the video underwater but this is a bit of relief for me. Good job creating the YouTube video.

*MooAuy Somruedee:* Less stress... Great job! ^^

*Siripong Ekmaharaj:* I laughed until I broke down in tear. This is very funny hehe

Views: 16,395 | Likes: 104 | Comments: 24  
 (YouTube post)

Panom Parichat (the Parichart village member) posted water park video on Oct 26, 2011:  
<http://www.youtube.com/watch?v=xCNryBgpy3o>

*somprach wungnatun:* haha... the Thailand biggest water park (Suan Siam) can't compare to our Parichart Water Land hehe.. we are better ☺

*Siamrath Thaweesak:* hahaha... our village become the Water Park... we should charge an entrance fee. Haha

*Somchai Supa:* I don't live in Partichart but live in the nearby Village. You guys are so funny with the video haha... Parichart Water park... classic!

*Maewdoi:* Ahh... I see my own home under water haha

Views: 3,721 | Likes: 25 | Comments: 4  
 (YouTube post)

Similarly, the student volunteers of Thammasat University were motivated by their Rector, Dr. Somrak. During the floods, Thammasat University served as one of the largest evacuation centers. Through social media, Dr. Somrak



influenced the students of Thammasat. He constantly updated the flood situations around the campus via Facebook by posting texts and photos. Even when some parts of the campus were submerged under 2 meters of water, he went around checking the situation in bigfoot truck. His commitment to the university motto of “To love and help people” affected the students who followed him on Facebook. Inspired, many of these students stepped forward as volunteers at the evacuation center. As Dr. Somrak proudly mentioned in the interview, “The volunteers who participated will have the people in mind. They were very proud of helping the people.” In addition, his followers responded actively to his Facebook by sharing information and suggestions about the management of the evacuation center. This reinforced the belief of not only Dr. Somrak, but also other followers. The following excerpts from the interview show that the commitment of Dr. Somrak influenced his students.

*“When I started using Facebook, many people criticized me. Facebook has something good something bad. But during the flood, I knew that everyone would like to know about their university. They want to know how high the flood is, their hostel rooms, and the dogs that they feed it in the science building. I would go to the science building where we have about 10 dogs to find out. I am doing this because people are eager to know.” – Dr. Somrak (Interview)*

*“We had to keep checking the information on the news as well as reporting what is going on in the center to the outside world. People were hungry for accurate information. People needed help sending requests to our Facebook page or Twitter. A lot of people did not believe in information from TV or the government sources. We also followed Dr. Somrak’s page. We were the real fans of Dr. Somrak. He is our Social media hero.” – Volunteer S (Focus group)*

When the people were freed from the feeling of vulnerability and adopted a positive attitude in dealing with dire situations, positive energy accumulated

and attracted more people of a similar mindset. In the case of Parichart Village, a villager from a nearby village joined their Facebook group and was deeply moved and inspired by the action of the community. Besides helping the Parichart people, she also provided advices and lessons learnt from Parichart to another village that also made use of Facebook to communicate with fellow villagers.

*“Some might say that Facebook is a good tool to get city-folk like us to ‘connect’, since our lifestyle is very individualistic. It was like we were in a virtual deserted island together on Facebook and we had to help one another to survive. One of the admin doesn’t actually live in the village. She lives in a close by area, but she joined the group and helped out.” – Committee member of Parichart Village Group (Interview)*

Similarly, in the example of the evacuation center at Thammasat University, people who wished to contribute in the flood could reach out to influential figures like Dr. Somrak, who was otherwise difficult to access. This would facilitate the connection among the people who shared the eagerness to help the victims. As mentioned by Dr. Somrak, some useful ideas could not have reached him without social media.

*“To fight the flood, we must use the sandbags. At that time, some people recommend to me via Facebook to get the sand from Nakornsawan Province. They gave me the contact of the person, and I did contact him. It was helpful because few people have our [management of Thammasat University] telephone number. They cannot call me. As the director of Thammasat University, I receive many phone calls but I don’t pick up them because I don’t know who it was. It could to up to about one hundred, two hundred or three hundred per day. But now you post in the Facebook. You can contact me by the Facebook.” – Dr. Somrak (Interview)*

Besides expanding relations with different community members, social media also allowed the deepening of ties with a selected group. Although social media was an open platform, it was up to the community how they managed the use of social media. In the example of Parichart Village Group, it was evident that they could strengthen the relations with the group of people who shared a similar mindset in the floods. According to a committee member of Parichart Village Group,

*“At our peak, we had more than 2,000 members in the group. At some point, the discussion turns political. Many political related groups try to come in to the community and try to do political favor that mess up some dynamic of the group. The founding committee set up another closed group to work among ourselves, because if we were to work in the Open Group with 2,000 people, thing can turn political real quick. We needed to make many important decisions about what to post and not to post, so we had our own Facebook group to do that. It was like a group under a community type. We used it to communicate privately shared information before we could share them with others in the community.”*  
(Interview)

Therefore, when more individuals were connected to people of a similar mindset and positive attitude, the networked community gave rise to a sense of togetherness and collective energy in social media, encouraging more people to believe in their inner strength.

### **Coordinative Control**

In the 2011 flooding, people were forced to face threats to life and extensive inconvenience for months. They were no longer able to study, work, travel or live the way they used to. Property loss and separation from others also deprived them of the basics of life. Everything turned out to be uncertain –

they were not sure when the flood would end, whether their homes would be flooded, what they could do or whether help would come to them. There was little that they could do to change the situation, other than waiting for help. Such uncertainties may persist even with help. For example, some of the victims taking shelter in evacuation centers were moved twice or more. “One boy I spoke to had already moved twice in one week, and now might have to move again as families are being evacuated from his current shelter,” a manager of Save the Children foundation told the press (Thomson Reuters Foundation 2011).

With social media, collaborations among the individuals were made possible, and people were encouraged to contribute in their own capacity. It may be as simple as the physical presence like what happened in Charun Fight Flood Facebook group; people who were informed via social media of the sorry plight of a stranded mother and baby waded through the water to bring milk to them. In addition, the Flood Relief Volunteer Centers formed by Democrat Party (the non-ruling party during the floods) made heavy use of Facebook to gather volunteers for relief activities. Through their wide network of community leaders and volunteers on the ground, they were able to verify information in Facebook and then issue accurate flood warnings to Bangkok people and industry, even before the government did. Social media helped to mobilize resources, as described by Mr. Virote, Director of the Flood Relief Volunteer Centers,

*“We could call a lot of people very quickly. For example, if we wanted to pack 2000 survival bags on Thursday, we could gather like 500 to 1000 people within 2 days by calling for help via our Facebook page. During the flood, more than 700 people came to help us pack survival bags. Eventually we had more people*

*than bags and items we needed to pack, and we had to buy more supplies so that people could pack the bags... We also validated the information we received before sharing anything. We validated it with our team who was in or around an area. We have our team (party members) almost everywhere, so we could cross-check with them whether the area really needed help. Sometimes we asked our people who were in the area to investigate the real situation and report the kind of helps that were actually needed.” (Interview)*

An excerpt from Democrat Party Facebook page:

Democrat Party posted on October 17, 2011:

We have to make the dike along “Hok-wa” canal 0.5 meters higher to prevent flood. Please come out and help fill up sandbags for the dike at “Ritthiwannalai 2 School” in Saimai district all night. Those who live in the areas of Saimai, Donmeung, and Bangkhen, please come out and help.

*Beer Varatchaphon:* How to get there. Please provide me a direction and map.

*NuAng Zilla:* If just around 100,000 people (around 1% of Bangkok population) fill 15 sandbags each, we will be able to protect Bangkok.

*Mec Supply:* Trucks filled with sand and empty bags heading to “Hok-wa” canal. Let's help protect the area...let's go.

*Suhatcha Wonganusorn:* My son went there to help twice. We are glad and proud to take part in this

Likes: 253 | Shares: 100 | Comments: 34  
(Facebook post)

On the other hand, the founder of Roo-Soo-Flood Group, Kriangkrai “Ping” Wachirathamporn, while volunteering to make sandbags and packing stuff, was wondering: “Can’t we do something more than this?” We studied communication arts and we have potential to help people who are drowning in a flood of information.” Eventually, a team of volunteers assembled, and contributed their skills in graphic design, marketing, technology and filming to develop a creative solution – an infographics video which explained the flood data using graphics. The members of Roo-Soo-Flood Group made use of the whale as a character in the video to represent the 10,000 million cubic meters

of water that needed to be drained to the sea. The representation of whale made the number that was announced by the authorities more easily comprehensible. After it was uploaded in Oct 2011, the video was viewed more than 750,000 times in a week, and this helped people to understand the flood as well as what to do when it came (see Appendix D for the number of views, shares, and subscribers). As one of the key member of Roo-Soo-Flood Group recalled,

*“A lot of people liked our video. It is easy to understand and they said it is fun to watch. We addressed the ‘need’ of our target customer... There were more than 300,000 views in just a few days. It went viral very fast.” (Interview)*

From the initial group of 10 persons, the group expanded and resources, advices, knowledge, and information were pouring in, further supporting the efforts of the group in developing the subsequent 11 videos.

*“After the video went viral, a lot of people lent a hand. Famous academics from all over Bangkok lent their knowledge to us and we produced other videos. Basically, we gathered all the useful information from various people and made sure the message was processed and distributed in an easy-to-understand way.”  
– Key member of Roo-Soo-Flood Group (Interview)*

When the collaborative efforts generated outcomes that were visible on social media, people became more convinced about the use of social media in resolving issues in floods. It made the community realize that they were capable of solving its own problems, without being totally dependent on government. In other words, social media helped to reduce the feeling of passiveness and reliance, by encouraging the community to believe in their capacity. This included initiators like the Roo-Soo-Flood Group and other community members. For the initiators, they needed to be acknowledged for

their efforts. In this sense, the number of “likes”, “sharing” or “views” of a posting in social media which served as an indicator of the popularity could generate a sense of recognition to the initiators. For Roo-Soo-Flood Group, the widespread sharing and acknowledgement of their first YouTube video served as a recognition of the contributors. Hence, they were encouraged to develop 11 more videos, giving advice on dealing with flood, evacuation, water treatment etc. This was shown in the interview excerpts and Facebook page below:

*“We have to say that it was beyond our expectation that we had such a good response initially and the popularity grew so quickly. We kept producing the episode and broadcasted them through social media. It was such an effective tool.” – Key member of Roo-Soo-Flood Group (Interview)*

*“We were just citizens that got together via social media, but we created a huge impact by spreading the right information. We got the chance to apply our skills to real projects or crises. We learnt a lot from it and we felt good too.” – Key member of Roo-Soo-Flood Group (Interview)*

An excerpt from Roo-Soo-Flood Facebook page:

Roo-Soo-Flood posted on October 29, 2011:



Good practices for everyone who stay at temporary evacuation centers... well... actually this is for everyone no matter where you are. If you can follow these practices, you will stay healthy and be able to survive. Let's have a look.

- Somchai Pongkasem: Oh...this is great. Thank you very much
- Nithima Lorsubkong: Many thanks
- Porrawan Doungrat: Thanks for sharing. This is helpful.
- Chawetsan Namwat: Many thanks to the Roo-Soo-Flood team for sharing this. I can see the power of social network and the young bloods that care about our society.

Likes: 814 | Shares: 551 | Comments: 57  
<https://www.facebook.com/photo.php?fbid=278068965567412&set=a.275202462520729.72229.274866165887692&type=1&theater>  
 (Facebook post)

The successful use of “infographics” in Roo-Soo-Flood videos became a model for community who wished to contribute. With a reference, they felt less uncertain about what they could do during the flood. This was evident when people tried to replicate the “infographics” way of conveying message, as illustrated by one of the key member of the Roo-Soo-Flood Group:

*“We used infographics to explain the data and change it to digestible information. It was very effective. After that, it seems like a lot of people tried to do the same thing... The good side is that people can understand the information easily through infographics. The use of infographics through social media can*



*really help our society during the crisis. We are very proud of that. People can understand and believe in themselves that they are a small piece of the puzzle. When they use social media, they can help others with the press of a button.”*  
(Interview)

Therefore, when more individuals believed in their potential in overcoming issues during the flood, their collective efficacy led to the expansion of their confidence and capacity, facilitating actions from more people in contributing and organizing resources.

### **3.1.5. Findings**

The previous section illustrates how social media was used by the people of Thailand during the flooding crisis in order to overcome their reactive stance as victims. Subsequently, we provide an analysis of how social media empowers the community during disaster response. Table 6 summarizes our analysis and findings.

#### **Role 1: Social Media Enables the Community to Attain Collective Participation**

Our analysis shows that social media empowers the community in disaster response by **enabling the community to attain collective participation**. Before social media is used, the community is helpless due to the ineffectiveness of disaster response agencies and authorities. In times of disaster, the community depends heavily on agencies that legitimately hold the position and resources, as well as control the access to decision-making and disaster response processes (i.e. a government who monopolizes broadcast

channel). This means that institutional conditions constrain the community from taking a larger part or even participating in disaster response, and thus containing them as people who need help from outsiders. They are confronted by structural inequalities (Christens 2012) that prevent the withdrawal of the sufferer's role.

From the empowerment perspective, it is suggested that circumstances may be improved by overcoming obstacles that hinder the community's access (Ersing 2003) thereby delegating the power to the community. Our analysis demonstrates that social media affords access to the process of participation and access to resources, and thus enabling the community to participate in disaster response. As such, the power that is previously contained in the hands of the agencies and denied to the community is granted to the people. In particular, our data reveals that two types of empowerment process are salient in enabling community's participation, i.e. structural empowerment and resource empowerment. It is through the interaction of these two processes that the community is empowered.

**Structural Empowerment:** From the perspective of structural empowerment, social media removes the hindrance of participation by affording an avenue for the performance of behavior by community (Torbert 1991). In contrast to the command-and-control disaster management model with closed space, social media creates an open space (Gaventa 2006) for the disadvantaged actors to take part in the disaster response. This overturns the inherent communication and information network structure in the disaster response, because the community has the option to engage proactively as an information sender, rather than remaining a recipient. With social media, the community

may be involved in disaster response activities that are exclusive to the agencies or authorities in the past, by posting photos of the flood at one's neighborhood, "like" or sharing of others' post, following or subscribing one's page. Moreover, the variety of social media (e.g., Facebook, Twitter, YouTube) and different options of participation (e.g., follow, share, post) generate alternatives for the people to choose their level and area of involvement (Wandersman and Florin 2000), according to their capacity. Hence, community participation can be scaled up (Adamson 2010), neutralizing the authoritative position of the government and traditional media. More importantly, this initial participation can scale up the connections in social media, engaging more people to take part in community activities. Our findings show that this is realized in two ways; first, the underlying social network of community members that is already established in social media serves to radiate the participation behavior of one and informs others about the possibility of exercising their rights. Second, the openness and transparency of social media allows for the searching and accessing of useful resources or information. This extends the usage of social media, and attracts more people to hook onto the platform.

**Resource Empowerment:** From the perspective of resource empowerment, social media reduces the dependency of the community on disaster response agency by providing a holding place for resources contributed by community.

As a result of structural empowerment, the diversity of community members and the resources that they can contribute increases. Compared with traditional sources, information in social media is often more contextualized (Majchrzak et al. 2013b), localized, and up-to-the-minute. When the community benefits

from these information, they are likely to reciprocate by creating resources such as flood information at the vicinity, specialized knowledge, and supportive messages and then channeling them onto social media. This is made possible because social media creates the conditions under which people can “take from” as well as “give to” the community” (Breton 1994). When these resources are channeled onto social media, a force multiplier is formed that leverages the resources of the entire community (White 2012).

At the same time, the community contributes to filtering the resources. Social media, as a two-way communication channel, allows the community to process, refine, and act on the resources (Crowe 2012). Resources, especially information, flow through people who contribute or share resources, and is filtered by human intelligence in social media (White 2012). Everyone is involved in influencing and shaping the existing resources pooled in social media (Breton 1994) such that it becomes more useful for the community in counteracting the negative impact of crisis. When the value of the resources increases, it becomes more appealing to those who have not engaged in social media. As a result, the participation of the community escalates, reinforcing the process of structural empowerment where the community network is expanded.

## **Role 2: Social Media Enables the Community to Attain Shared Identification**

Our analysis also shows that social media empowers the community in disaster response by **enabling the community to attain shared identification**. Disasters “debond” (Van den Eynde and Veno 1999) a community by disrupting the daily norms and disconnecting people from the

established social network. People constantly worry about their safety and basic life needs, such as shelter, food, and water. The anxiety for their own livelihood, coupled with physical separation, leads to a sense of detachment in the community. As a consequence, the inherent strength of a community remains intrinsic at the individual level, resulting in feeling of isolation, alienation, and helplessness. Reinforced by the traditional victim community view, this feeling of weakness can self-perpetuate, leading to social impotence in the community (Kieffer 1984). In other words, the psychological limitation places a restraint on the community, holding them back from self-help action.

From the empowerment perspective, it is suggested that psychological restraint can be alleviated by acknowledging and releasing the latent strength within the community (Hur 2006). Our analysis demonstrates that social media connects individuals, releases and amplifies their collective inner energy, thus enabling the community to identify within themselves in crisis. As such, the power or energy that is previously fragmented and constrained within the individuals of the community can be unleashed. In particular, our data reveals that two types of empowerment process are salient in enabling community's identification, i.e. psychological empowerment and structural empowerment. It is through the interaction of these two processes that the community is empowered.

**Psychological Empowerment:** From the perspective of psychological empowerment, social media enhances emotional resilience by diffusing the expression and sharing of the masses. Social media allows for free expression. Through social media, community members can share their ideology, thoughts, opinions, and feelings. In a helpless community that has been denied

the right to have a voice, these speeches or actions that are expressed and shared freely challenge the existing situation of dominance (Drury and Reicher 2009). While some community members express their devastation, there are others who show their emotional support and positive mentality during the flood. When community members provide emotional support to each other through social media, they become interdependent and attached to each other (VeneKlasen and Miller 2002). Moreover, the visibility of the outcome in social media augments the effect of learned helpfulness (Zimmerman 1990b). Even under conditions of unsatisfactory result (like the student volunteers that came across accusations from the public), the community's conviction of their own effectiveness in taking proactive action may be raised (Conger and Kanungo 1988).

At the same time, participants become more effective agents of civic action (Christens 2012) that can influence others. This is evident in the case of community leaders like Dr. Somrak and Arjarn Wattana. Through social media, the expressions or the influence of effective agents can be broadcasted to an entire community (Crowe 2012), motivating them through social persuasion and emotional arousal (Bandura 1986) and freeing them from a constraining mindset. In addition to one's existing social network, which serves as a personal invitation for others to participate (Ospina and Foldy 2010), the relevance of the content, affiliation, and reputation of the contributors as well as popularity of the content (such as number of likes or views) can propagate the dissemination of these expressions and inspire more people (Freire 1973) regarding the possibility of depending on the community itself during disaster response. Together, these bring about a new form of

social solidarity (Boehm and Staples 2004) that can “dispel the oppressive social values and practices” (Watts et al. 2003 p. 187), thus enhancing the community’s resilience.

**Structural Empowerment:** From the perspective of structural empowerment, social media overcomes the distance and alienation in a community by bridging the gap between displaced community members. As a result of psychological empowerment, people are emancipated from the constraining environment. They are further encouraged to connect to those whom they would otherwise be unable to reach out to without social media. Hence, while the connectivity of social media enables the reconstruction of community’s social network in a short time, it also allows for the establishment of new relations in the community. In the example of Parichart Village, other than people from the village, their YouTube videos are shared by people from outside the village and their key Facebook group administrators consist of a non-Parichart villager. Although they are not from the same village, all of them suffer from the disaster. Through social media, various members are connected, thus reducing the feeling of separation in this disaster-stricken community. When people of similar plight are connected, mutuality and a sense of togetherness develop, leading to temporary relief from intense anxiety in crisis.

In addition, triggered by altruism, many people that are influenced by new values dispersed through social media will adopt a similar mindset to help others. In accordance with the self-categorization theory (Turner et al. 1987), inspired community members will associate themselves with those of similar intentions. Likewise, they will attract others of a similar mindset. Gradually,

the interactions and relationship among the community are intensified. On the other hand, it is very likely that social ramifications will take place (White 2012). In the example of Parichart Village Facebook Group, the discussion of the community is perturbed by the irrelevant imposition of political views from some participants. This is suppressed by an intentional disregard for the discussion, coupled with the separation of important discussions in a closed group. By diverting the attention of those who share similar intentions, the community shows how they make a conscious effort to select who to engage with. This process eventually leads to strengthening ties in the community, which subsequently expand the sphere of influence to more people. With the expansion of influence and connections to various members, community's network in the social media grows. Since this structural network serves as a conduit where conscientizing (Freire 1973) can occur and spread, messages especially those of hopefulness, can ripple through and influence the people, stimulating people to challenge the deeply rooted assumptions in victim community (Van den Eynde and Veno 1999), thus fueling the psychological empowerment process.

### **Role 3: Social Media Enables the Community to Attain Coordinative Control**

Finally, our analysis shows that social media empowers the community in disaster responses by **enabling the community to attain coordinative control**. Disaster devastates a community, causing it to be unable to manage its own problem (Van den Eynde and Veno 1999). Due to the unavailability of mediating structures (Berger and Neuhaus 1977) and broken relational network in disaster, their ability to organize community action is



circumscribed. Hence, resources remain intrinsic to the individual level, and have little impact on widespread events like disasters. In addition, the absence of capabilities and capacity in handling the crisis could also render the community unable to control its own lives. Since the community cannot be involved in effecting changes in the disaster (Boehm and Staples 2004), it is alienated from the construction of social reality (Freire 1970). This process of victimization causes the community to surrender to the reality, a phenomenon which Gaventa (1980) terms “acquiescence”.

From the empowerment perspective, it is suggested that this incompetence can be reversed by cultivating and increasing the capacity of the community (Follett 1941), going against the view where power will remain in the hands of the powerful unless they give it up (Lips 1991). Our analysis demonstrates that social media cultivates the self-efficacy and capabilities of the community, thus enabling the community to regain control in disaster response. As such, the power that is previously non-existent in community is developed. In particular, our data reveals that two types of empowerment process are salient in enabling community’s control, i.e. resource empowerment and psychological empowerment. It is through the interaction of these two processes that the community is being empowered.

**Resource Empowerment:** From the perspective of resource empowerment, social media expands the capability and capacity of the community by facilitating the capitalization, development, and evolution of local resources in addressing issues of common interest. Being in control is strongly related to the acquisition of resources, as well as the independence in managing them. In the conventional disaster response model, control is widely regarded as being

possessed by the disaster response agency, who has control over the resources as well as the ability to manage them. The use of social media challenges this view. When the community network is established in social media, resources of individuals, such as their knowledge, expertise, and skills, can be externalized, organized, and integrated for the purposes of solving a communal problem in crisis. This mobilization of local assets generates influence beyond that which is available at an individual level (Pigg 2002), harnessing and directing the capacity of the grassroots (Bonabeau 2009; Majchrzak and More 2011).

Besides collective strength, the new features afforded by social media (e.g., video, location tagging, timestamp) allow the emergence of innovative resources such as the infographics video by Roo-Soo-Flood Group. Local assets of the community are capitalized and developed to construct creative solutions (Ersing 2003). In Roo-Soo-Flood, it is evident how local resources within the community can be integrated and transformed in creating a new solution for the issue of information overload. Simultaneously, the community learns how to tackle an issue on its own. This strengthens the ownership of the problem, resulting in the independence of the community in finding their own solutions. These expand the capacity of the community, which continues to direct and sharpen its innate skills and knowledge (Adamson 2010) in order to “address a problem or challenge that would not be possible by the individual parts” (Crowe 2012 p. 202).

**Psychological Empowerment:** From the perspective of psychological empowerment, social media induces the self-esteem of the community (Orford 1992) by showcasing the collective self-help action and its effectiveness. As a

result of resource empowerment, the status quo of the community's helpless mentality in disaster response is challenged. Through social media, successful self-help actions and resources of the community can be made known to the entire community through posting of events, photos, and videos, thus evoking changes in behavior (Drury and Reicher 2009). When a community-initiated effort like the Roo-Soo-Flood YouTube videos turns out to be beneficial, it gains the acceptance of the people, which is manifested in the number of views, likes, and sharing in social media. These manifestations of community acceptance are also visible on social media, serving as an acknowledgement of the efforts of the initiators or leaders. This will not only affirm the belief and efficacy of the leaders, but also help the other community members to realize that they could assume the role of a "subject" acting in and on the world, rather than being an "object" acted upon by the environment (Freire 1970; Freire 1973).

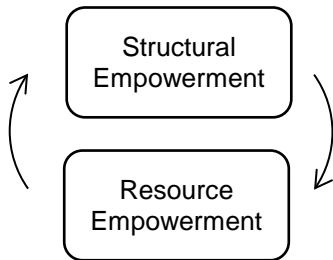
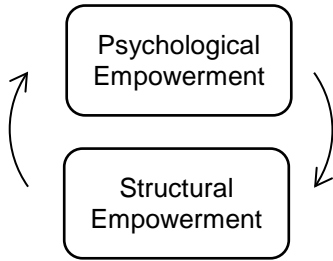
Moreover, the demonstration of these self-help actions and results encourages community members to adopt similar behaviors. In accordance with the social validation argument (Crowe 2012), people look to others to guide them when they are uncertain. When they are convinced by the examples shown in the social media that the community is competent in managing a disaster, it is likely that they will follow suit. In this sense, one's own experience or the vicarious experience of others serves as a reference for social modeling (Bandura 1986) in the community. As such, a "can do" attitude germinates, overcoming the insecurity about one's limitation of ability. Thus, people are encouraged to "search inside" for resources by which they could contribute to alleviate the disaster (Conger and Kanungo 1988). Gradually, the values and

practices of a victim community fade away, and the competent community norm grows to be widely accepted through the acknowledgement and adoption of community actions. When community action emerges as legitimate, members are further encouraged to contribute and organize resources among themselves.

In Table 6 and Figure 1, we summarize our findings with regard to how social media empowers the community during disaster response.

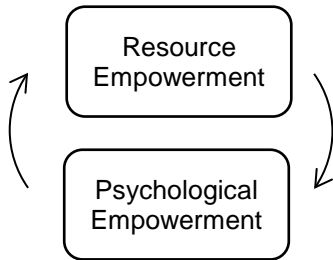
**Table 6. Social Media’s Role in Empowering the Community during Disaster Response**

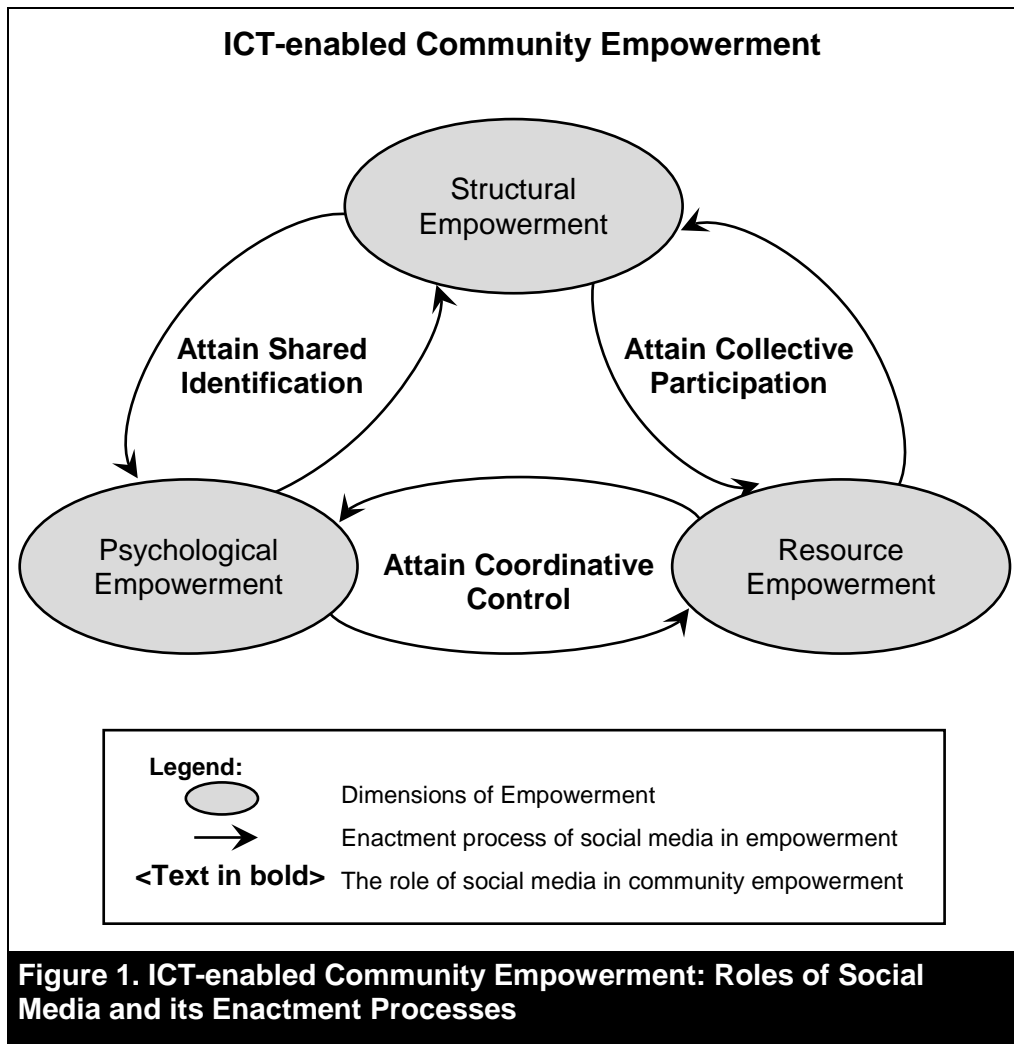
**Research Question: How does social media empower the community in disaster response?**

Roles of social media and Definition	Enactment of social media’s roles through the interaction of empowerment process (actualization of power)	
<p>Social media enables the community to attain <b>Collective Participation</b></p> <p><i>Definition:</i> Social media allows the masses to take part and engage the decision-making process that affects themselves (Breton 1994), and also in the change effectuating process (Boehm and Staples 2004).</p>		<p><b>Structural Empowerment</b> Social media removes the hindrance of participation by affording an avenue for the performance of behavior by community (Torbert 1991). The community, through their initial participation in social media, scales up the connections, thereby engaging more people to take part in the community activities. Their participation in different forms (such as posting of information, click of “Like”, sharing) leads to accumulation of resources.</p> <p><b>Resource Empowerment</b> Social media reduces the dependency of the community on the disaster response agency by providing a holding place for resources contributed by community. The community, through different forms of participation in social media, channels their resources such as localized information onto the platform, thereby increasing the value of the resource pool. Their contribution then attracts even more people to participate as the value of the platform becomes more significant.</p>
<p>Social media enables the community to attain <b>Shared Identification</b></p> <p><i>Definition:</i> Social media allows the community members</p>		<p><b>Psychological Empowerment</b> Social media enhances emotional resilience by diffusing the expression and sharing of the masses. The community, through free expression in social media, influences other members of the community, thereby unfreezing them from a constraining mindset that limits them from self-help. Their sharing attracts more like-minded people in terms of community activities.</p>

**Table 6. Social Media’s Role in Empowering the Community during Disaster Response**

**Research Question: How does social media empower the community in disaster response?**

Roles of social media and Definition	Enactment of social media’s roles through the interaction of empowerment process (actualization of power)	
<p>to connect with each other and to develop a sense of collective belonging and social cohesion (Peterson et al. 2005).</p>	<p><b>Structural Empowerment</b>                      Social media overcomes the distance and alienation in a community by bridging the gap between displaced community members.                      The community, through self-categorization in social media, associates themselves with those of similar situation and intentions, thereby expanding and intensifying the relations in the community. Their engagement expands the sphere of influence of the change agents, and reinforces their belief in self-help.</p>	
<p>Social media enables the community to attain <b>Coordinative Control</b></p> <p><i>Definition:</i> Social media allows the community to collaborate and leverage each other’s capacity, competence and ability, in order to overcome a problem of common interest independently (Zimmerman 1990b).</p>		<p><b>Resource Empowerment</b>                      Social media expands the capability and capacity of the community by facilitating the capitalization, development, and evolution of local resources in addressing issues of common interest.                      The community, through integration and transformation of collective resources in social media, resolves a community issue in disaster response and thereby regaining the control within the community. Their creative solution invites endorsement of other community members.</p> <p><b>Psychological Empowerment</b>                      Social media induces the self-esteem of the community (Orford 1992) by showcasing the collective self-help action and its effectiveness.                      The community, through different forms of acknowledgement in social media (such as “Like” and supportive message), validates the efforts of collective solution, thereby providing a social model. Their endorsement encourages a greater creative organization of community resources.</p>



### 3.1.6. Contributions and Limitations

Our research offers two key theoretical contributions. First, the study explores the emerging, yet underexplored social consequences of ICT by illustrating the roles of social media in empowering the community during crisis response. Extant IS studies about crisis response are dominated by the victim community view (Moynihan 2008; Rosenthal and Kouzmin 1997; Turoff et al. 2010). Several recent studies of social media in crisis, though shifting away from viewing the community as helpless victims, have yet to capture the novel affordances of social media in escalating the victim community to a competent

community (Van den Eynde and Veno 1999). Given the potential of the community to tackle disaster on its own (Schmidt and Cohen 2013; Turoff et al. 2010), this paper examines social media's community empowerment roles in the context of crisis response. Our findings suggest three roles of social media in enabling the community to attain collective participation, shared identification, and coordinative control. By elucidating how social media empowers the community, the findings contribute to an understanding of how ICT can help to solve social problems, such as that of disasters.

Second, this study addresses the literature gap in empowerment by elucidating the actualization process of empowerment, enabled by social media as a mediating structure. Empowerment is adopted as the theoretical lens in our study. Although it has been stressed that power is not something to be possessed, but instead, something that can only be exercised (Kieffer 1984; Wilke and Speer 2011), this actualization process has been overshadowed by the dominant focus on viewing empowerment as a provisional or developmental process of power (Christens 2012). This may be due to the void of mediating structure (Berger and Neuhaus 1977) for community action, which can be filled in by social media. By simultaneously incorporating the three dimensions of empowerment (Kieffer 1984), our study examines the communal processes that occur in the interactions among these dimensions, in order to capture the community actions that involve the exercise of power (Christens 2012). Our findings suggest that social media enables the community to attain collective action through an interaction of structural empowerment and resource empowerment, that social media enables the community to attain shared identification through an interaction of



psychological empowerment and structural empowerment, and that social media enables the community to attain coordinative control through an interaction of resource empowerment and psychological empowerment.

This study also generates practical insights. For the community (including community leaders and NGOs), our findings suggest the practical considerations of engaging the community. By explicating the communal processes, the community can envision what is likely to take place and better devise their response. For instance, since we understand from the study that the community will be more convinced of their potential competence via the experience of successful cases, community leaders on social media may take the initiative by posting photos and evidences that showcase their actions and outcomes. For the crisis response agencies, our findings offer the basis to devise appropriate facilitative actions in order to improve the effectiveness of community self-help action. As advocated by practitioners such as Mr. Roger Wilkins AO, the Co-Chair of Australia's National Emergency Management Committee, it is becoming necessary for agencies to learn to use social media for better community engagement. From the empowerment perspective, it is suggested that empowerment cannot be imposed by outsiders, but "appropriate external support and intervention can speed up and encourage it" (Rowlands 1996). For instance, crisis response agencies can contribute to the empowerment process by recovering the telecommunication network immediately after the crisis, or working with online community leaders by broadcasting their Facebook page as a valid source of information.

The findings of this study should be viewed within the context of its limitation. This study is conducted in the context of one type of natural

disaster i.e. a flood. Natural disasters are differentiated in terms of eight aspects: exposure, destructive potential, scope of impact, duration of the disaster, controllability, predictability (in terms of time and/or location), speed of onset, and length of forewarning (Dynes 1970). Compared to other disasters like an earthquake or a hurricane, a flood is characterized as one with high predictability and slow speed of onset (Chengalur-Smith et al. 1999). These inherent characteristics of a flood thus allow the community some buffer to react during the crisis response, as evident in the case of the Thailand flood where the community was able to organize collective action by leveraging social media. Our findings, situated in the analysis of flood, therefore require discreet use or application in the crisis response of other types of disasters. Nonetheless, we posit that our findings may serve as the basis for validation or further exploration in future studies.

## 3.2. Study 2: China Taobao E-commerce Village<sup>2</sup>

### 3.2.1. Introduction

Today, many rural residents, especially in developing countries, continue to live in deprived conditions, with limited access to education, healthcare, and economic opportunities (IFAD 2011). Such deprivation that excludes rural communities often results in out-migration to cities for better opportunities. This not only results in societal impacts like rural hollowing and empty nest family issues (United Nations 2013), but also perpetuates the vicious cycle whereby growth concentrates in urban areas and social cleavage deepens between rural-urban areas. Since the 1990s, ICT has been promoted as a way out of such deprivation (Njihia and Merali 2013), for example by offering isolated communities access to education (e.g., distant learning), healthcare (e.g., telemedicine), and markets (e.g., e-commerce).

Most of these **ICT-enabled development** projects fall into two categories. The first is the top-down professional development approach, which views the community as a list of problems and needs (Kretzmann and McKnight 1993). To address the local deficiencies, governments, NGOs, and social enterprises play a key role in driving the development by providing leadership, financial resources, and technical assistance. However, some commentators have expressed concern that the growing dependency of a disadvantaged community on these external actors may threaten development that should be freedom-enhancing and sustainable (Sen 2008). Moreover, it is posited that long-term social change requires the emergence of local leaders (Ersing 2003).

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<sup>2</sup> An earlier version of this study has been accepted as a research article by the *MIS Quarterly*.

Hence, the second approach – **community-driven development** is proposed (Mansuri and Rao 2004). This approach, whereby the community drives its own development, has several advantages, e.g., grassroots movements will gain momentum more rapidly, and the community is less likely to feel it is being forced into participation (Coetzee 2010). Despite its benefits, little empirical evidence of such an approach is available.

The recent emergence of e-commerce villages in rural China offers an exemplar of ICT-enabled development driven by a community. In China, rural underdevelopment is a top priority, because it has led to a series of social issues such as the migration of 260 million workers to cities, elder-care issues, and education problems of 61 million “left-behind” children (CCR 2013). Despite the remarkable progress made by the government, these issues persist. Programs such as the Integrated Village Development are marred by shortcomings of the top-down approach, including poor targeting and low participation (World Bank 2009). Moreover, the reliance of China on macroeconomic growth to raise rural income is hard to sustain (Sicular 2013). The rise of e-commerce villages in remote China, better known collectively as Taobao Villages, offers a potential solution. Taobao is a Chinese online marketplace, equivalent to eBay. Operated by Alibaba (NYSE:BABA) which is China’s largest e-commerce company, three out of four online sales in China occur on Taobao. With this consumer-to-consumer site, Alibaba facilitates the participation of underprivileged villagers in micro and small businesses and many of them have become successful, just like the online store-owners who rang Alibaba’s IPO opening bell in September 2014. Coined by Alibaba, Taobao Village refers to a village in which at least 10 percent of

its residents operate an online store, generating annual sales of at least 10 million RMB (USD 1.6 million). To date, approximately 60,000 job opportunities have been created in rural China.

Nonetheless, little is known about ICT-enabled development driven by a community other than the need for local leaders (Ersing 2003). In exploring the emergence of e-commerce villages, we take an inclusive view by studying the ecosystem of rural e-commerce (Krause et al. 2009) in order to identify the interdependent players who help to create social change. Typically, the concept of ecosystem provides a basis for understanding how different roles emerge, adapt, and align over time (Moore 1993). Simultaneously, in responding to the concern of “much less explicit connection between the technology construct and the development construct” (Brown and Grant 2010 p. 100) in IS studies, we also examine the roles of ICT in rural development. In a nutshell, we present two cases of e-commerce villages in rural China to address the research question of “how does ICT empower a marginalized community towards the emergence of an ecosystem for rural development?”

### **3.2.2. Literature Review of ICT and Rural Development**

Beginning in the 1990s, ICT emerges as a way out of deprivation to “development” (Njihia and Merali 2013) because it enables previously isolated communities access to education (distant learning), healthcare (telemedicine, early warning for epidemics), political involvement (e-government service delivery), and information for higher incomes (e.g., market pricing) (Narayan-Parker 2002; UNDP 2001). Most of the extant **ICT-enabled development** projects can be categorized as top-down professional

development (Green 2010; Mansuri and Rao 2004). Top-down professional development, which is also recognized as an authoritative interventional model (Summers 1986) or exogenous development (Bosworth and Atterton 2012), views the community as a list of problems and needs (Green 2010; Kretzmann and McKnight 1993). To address the local deficiencies, external agencies such as government, NGOs, and social enterprises would provide resources such as financial assistance and technical expertise, offering the potential of a “quick fix” (Green 2010). Later, local participation in decision making and resource management is emphasized in order to allow the agencies to have a better understanding of the local context for higher program effectiveness (Mansuri and Rao 2004).

However, it remains that the **change agents** of this development originate from outside of the community. For example, rural development in China is led by the government, and e-Choupal in Indian villages is undertaken by a business conglomerate. Some researchers are concerned that the dependency of the marginalized community on external change agents may threaten the development that should be freedom-enhancing and sustainable (Sen 2008; Tambulasi and Kayuni 2005). Moreover, it is posited that long-term social change requires the emergence of local leaders (Ersing 2003). Therefore, a community-driven approach that advocates the role of the community as the driver of its own development has been proposed (Mansuri and Rao 2004; Wei 2011). This approach presents several advantages, e.g., grassroots movements will gain momentum more rapidly, and the community is less likely to feel as if it is being forced into participation (Coetzee 2010). Despite its benefits, few empirical evidence exists to support this concept of “by the community for the

community” (Coetzee 2010).

Additionally, there is a lack of understanding of the **impacts of ICT use on development** (Brown and Grant 2010; Dewan and Riggins 2005). A review by Brown and Grant (2010) revealed that IS researchers have been focusing on studying *ICT in developing contexts*, rather than *ICT for development*. Studies on *ICT in developing contexts* emphasizes the core IS issues (such as IT investment, implementation, and management) in developing contexts (Walsham and Sahay 2006). Some examples include Montealegre’s (1996) study of the challenges of e-commerce managers in less-developed countries, Lubbe’s (2000) paper on how organizations manage their IT investment in Namibia, and Dobson et al.’s (2013) examination of broadband adoption in rural Australia. Consequently, there is a “much less explicit connection between the technology construct and the development construct” (Brown and Grant 2010 p. 100), which is the focus of *ICT for development*. Indeed, few have addressed directly the call to study the transformative potential of ICT of improving life conditions in a particular locality amidst the global socio-economic order (Avgerou 2008). Similar limitations are expressed concerning current “digital divide” studies that predominantly focus on ICT access and adoption, neglecting the patterns of ICT use and their consequences (Dewan and Riggins 2005). For example, Hsieh et al. (2008) study the factors that influence the continued ICT use of disadvantaged users, and several others have studied ICT access and adoption (e.g., Agarwal et al. 2009; Chaudhuri 2012; Dewan et al. 2010; Kankanhalli and Pee 2010), without examining how ICT use can lead to development. Towards this end, this study offers the opportunity to focus on the relationship between ICT and the community, in

order to move away from the technological or social determinism view (Heeks 2012).

### **3.2.3. Methodology**

In this study, two villages in Zhejiang Province – Suichang and Jinyun – were selected from the twenty one Taobao Villages identified by Alibaba. Besides location, the twenty one villages are different in terms of their product dependency on the natural advantage of the villages. While some rely heavily on the conducive natural environment in producing quality agricultural products for sales (e.g., Suichang Villages), some leverage on the traditional or cultural skills of the villagers (e.g., Wantou Village that sells straw-made hand-woven craft) and other villages depend on their geographical advantage (e.g., Qingyanliu Village that is near to Yiwu, a famous wholesale city of China). At the same time, there are also villages that offer products without leveraging natural resource or environment (e.g., Jinyun Villages that sell outdoor equipment). Suichang and Jinyun Villages are chosen because they form a good contrast of such dependency within the same province. Suichang is one of the few e-commerce villages that offer agricultural product, which is the dominant resource-based product of a rural village. On the other hand, the retailing of outdoor equipment is totally new to the farming villages of Jinyun: this does not involve the inherited skills of the villagers such as Wantou Village, or the geographical advantages such as Qingyanliu Village. While their similarities can enhance the reliability of our findings, their differences can potentially generate insights related to our research questions.

### **Data Collection**



Our data were collected from two primary sources: interviews and archival data. At the end of April 2013, we read about news regarding Taobao Villages in “weibo”, China’s most popular Twitter-like microblog. After contacting key leaders and government officials of Suichang and Jinyun counties, we visited the villages in July and August 2013, and conducted semi-structured interviews and focus group interviews. During the trip, we travelled more than 700 km by land after we had arrived in Yiwu airport in Zhejiang to visit the homes, farms, offices and factories of online sellers in the villages. In total, 63 villagers and administrators were interviewed, including the grassroots leaders of e-commerce, e-tailers, e-commerce service providers, telecommunication companies, and government officials (see Appendix A). The interviewees were primarily identified by the grassroots leaders and officials, such as the head of the county, after understanding our research purpose. The interviews were led by one lead interviewer who was a native speaker in the local language. Whenever the interviews were conducted in focus groups, the interviewer would ensure that everyone expressed their views, to avoid dominance of particular individuals (David and Sutton 2011) and group conformity (Babbie 2007). All of the interviews were recorded and transcribed, amounting to 199 pages of transcripts and more than 1,000 photos.

Additionally, we collected archival data such as online articles, news, reports, and videos. Appendix B summarizes the sources of secondary data. We relied on the Internet and weibo as primary channels, and we searched for archival data dated from January 2006 to September 2014, primarily with the search term “Suichang Taobao Village” and “Jinyun Taobao Village”. We attempted to look for archival data as early as in 2006, because the e-commerce adoption

in one of the villages (Suichang) began then, according to the interviewees. Nonetheless, most of the archival data was published in 2013 and 2014 after the Taobao Village took shape, and the Ali Research Center, which was operated by Alibaba, published a report that populated the concept of Taobao Village in late 2013 (i.e. “Taobao Village Investigation Report” in Appendix B). In particular, the archival data were included in our analysis only when it was relevant to the development of Taobao Village as a general phenomenon, or when it was relevant to the development of Suichang and Jinyun Villages. In total, 352 pages of archival data were collected. Additionally, we participated in the first Taobao Village Forum organized by Alibaba in Zhejiang on December 27, 2013 to exchange views with representatives from other Taobao Villages, China experts in rural development, and government representatives. We further reviewed top IS and sociology journals for relevant constructs and arguments that could form the “sensitizing device” (Klein and Myers 1999) with reference to the phenomenon of interest in this study.

### **Data Analysis**

Data analysis began during the data collection (Eisenhardt 1989; Pan and Tan 2011). The empowerment literature sensitized us to the related information regarding the three dimensions of empowerment i.e., structural, psychological, and resource empowerment (Jacques 1996; Lee and Koh 2001; Spreitzer and Doneson 2005) which correspond to different aspects of challenge in rural development. We summarized in tabular form the relevant information on the actions taken by the community with respect to the development of the two villages and the changes that have occurred. Using the summary table as the

primary corpus of data, we proceeded to identify the key actors in the development of Suichang and Jinyun Villages, and tentative concepts that could explain the roles of ICT in empowering the underserved community. This was done independently for each village, with the three dimensions of the empowerment serving the categories of analysis. In doing so, we attempted to search for and explicate the new “regularities in social life” (Babbie 2007 p. 11) from an emerging phenomenon, along the lines of enquiry offered by our sensitizing concepts.

Next, in order to examine and identify the “underlying coherence” (Taylor 1976p. 153) through our interpretation, we juxtaposed tentative explanations for each village, in preparation for further “abstraction” of tentative concepts that might explain overall the actors of the ecosystem, and the empowerment enabled by ICT. The integrated analysis allowed us to derive concepts that were closely related to the context of the village. At this stage, we focused on identifying coherence across the villages, rather than comparing them across. An example of the abstraction was the identification of grassroots leaders as a key ecosystem actor that exists in both villages (i.e. association established by natives of Suichang, and Mr. Lv in Jinyun). A further illustration was the conceptualization of the role of ICT in allowing for substitutability of product. This was evident through the success of selling both cultivator-based product of Suichang and non-cultivator-based outdoor equipment of Jinyun via e-commerce. As we proceeded, each cycle of the abstraction and visitation of the empirical data improved the clarity of explanations as a better understanding of the data and the theory was developed in this inductive

reasoning process. The cycle was reiterated until all the tentative explanations were accounted for, and a temporal internal agreement was achieved.

Subsequently, we began to identify the underlying patterns that differentiated the nature of ICT-enabled development in the two villages. In adopting the logic of constant comparative analysis (Charmaz 2000), we constantly compared patterns of empowerment in order to tease out their distinctiveness. For instance, although community in both villages has obtained knowledge in e-commerce, the dominant learning approach of the community differs across villages. In other words, the nature of resource (capability) empowerment in the two villages differs: while Suichang's people attended training organized by the association, residents of Jinyun mastered Taobao through observation, self-learning, and peer sharing. With the emergence of our findings, we consistently ensured the alignment between data, theory, and findings (Klein and Myers 1999) until the findings were finalized. To ensure the convergence of interpretations by interviewees, the rule of triangulation (Dubé and Paré 2003) was applied – multiple data sources (interviews, focus groups, and archival data) were used to filter “false preconceptions” of interviewees and researchers; this ensured consistency of data and reduced recall bias. Throughout the data collection and analysis, we applied Klein and Myers's (1999) principles to conduct interpretive work (see Appendix C).

#### **3.2.4. Case Description**

The two Taobao Villages in our case study are located in two counties within Lishui City, Zhejiang Province, China. Lishui is the poorest among the eleven

prefecture-level city in Zhejiang province. It has been recognized as the economically under-developed area. In 2009, the per capita income of rural residents is 5,703 yuan (USD 900), which is close to the nation's average rural per capita income of 5,153 yuan (USD 822). This is only half of Zhejiang's average rural per capita income of 10,007 yuan (USD 1,597). At the national level, Lishui is known as Zhejiang's Tibet for its poverty and backwardness. It has been lagging behind industrial and infrastructural development over the years partly due to its environmental disadvantages: more than 80 percent of Lishui are covered with mountains and forest.

Suichang County is one of the 26 less developed counties in Zhejiang with more than 80 percent of the land covered by forest and mountains and is to-date not yet accessible by train. Suichang is also the county of the lowest population density in the province. Additionally, of the 50,000 population, more than 70 percent are in agricultural industry with only a high school education. As of the end 2009, 18,564 rural residents are living with annual per capita net income of less than 2500 yuan (USD 400).

Although less developed, Suichang is bestowed with a natural environment that is amenable to the production of agricultural products. Hence, a majority of the online sellers sell products such as bamboo shoots, tea, rice wine, sweet potatoes, and wild herbs, forming a cultivator-based e-commerce. As of June 2013, there are more than 1,500 online stores in Suichang, generating annual sales of 110 million yuan (USD 17.7 million). More than 20 of these online stores are at the crown level (see Appendix E for the different levels of Taobao stores). In Appendix F, the details of Suichang individuals whose lives were improved by e-commerce are provided.

Another less developed area in Zhejiang is Jinyun County, which spans across an area of 580 square miles with 80 percent of the land covered with mountains. More than 92 percent of the population is working in the agricultural industry. With nearly half of the population living with an annual per capita net income of less than 2500 yuan (USD 400), Jinyun is a county with the highest number of poor villages within Zhejiang. Since 2006, villagers of Jinyun have begun e-commerce and primarily sell outdoor equipment such as tents, backpacks, barbeque pits, etc., forming a non-cultivator-based e-commerce. As of June 2013, approximately 1,300 online stores operate in Jinyun. In 2013, the total sales achieved 450 million yuan (USD 72.4 million). Appendix G summarizes the details of Jinyun individuals whose lives were improved from e-commerce. Table 7 summarizes the socio-economic conditions and e-commerce of the villages.

<b>Table 7. Suichang and Jinyun Villages</b>		
<b>Villages</b>	<b>Suichang</b>	<b>Jinyun</b>
<b>Initial Economic Conditions</b>	<ul style="list-style-type: none"> <li>• One of the 26 less developed counties in Zhejiang Province</li> <li>• More than 70% of the 50,000 population are farmers and have not attended high school</li> <li>• 18,564 rural residents were living with annual per capita net income of less than 2500 yuan (USD 400) (as of 2009)</li> </ul>	<ul style="list-style-type: none"> <li>• A county with the highest number of poor villages in the province</li> <li>• More than 92 percent of the population work in the agricultural industry</li> <li>• Half of the population lives with an annual per capita per income of less than 2500 yuan (USD 400)</li> </ul>
<b>Product Offerings on Taobao and Increased Income</b>	<ul style="list-style-type: none"> <li>• Villagers sell agricultural products such as bamboo shoots, tea, sweet potatoes, and wild herbs online</li> <li>• More than 1,500 online stores in Suichang, generating annual sales of 110 million yuan (USD 17.7 million) in 2013</li> </ul>	<ul style="list-style-type: none"> <li>• Villagers sell outdoor equipment such as tents, backpacks, sleeping bags, barbeque pits, etc. online</li> <li>• About 1,300 online stores, generating annual sales of 450 million yuan (USD 72.4 million) in 2013</li> </ul>

## **Suichang Villages**

E-commerce in Suichang began in 2006 and gained its popularity after the establishment of the grassroots Suichang Online Shop Association in March 2010. One of the key promoters was Mr. Pan (a pseudonym, as are all names), the first Chairman of the association, who returned to his hometown after working in Shanghai for more than 10 years. Back in 2006, local governments in other areas were promoting e-commerce to rural farmers in the hope that it would improve the sales of agricultural products. Pan thought that it would be difficult for his low-skilled neighbors to transform into e-tailers, “Other than basic computer skills, they still need to master online marketing strategies. Besides, they have low bargaining power in getting supplies: they could hardly convince the suppliers that they would be able to sell well, let alone negotiating for a lower purchase price. Subsequent problems like logistics also lead to the failure of many e-tailers (*interview*).” In addition, Pan realized that it would be difficult for a villager to simultaneously be a farmer and e-tailer, given the challenges in matching online orders and the yield. Therefore, the association aimed to provide intermediary services. Villagers were first offered free training in e-commerce, covering issues such as pricing, photo shooting and editing, and marketing strategies. More than 3,000 people were trained by the association. Within a year, the number of online stores in Suichang increased from 300 to nearly 1,000.

More importantly, the association served as a platform for consolidating and coordinating the demands of e-tailers and the supply of producers like farmers and agricultural cooperatives. Mr. Yue, Deputy Chairman of the association, explained that “Suppliers [the farmers] only need to focus on production and

the e-tailers can count on us to negotiate with big suppliers. We help the sellers to bargain for a better price since we purchase in large quantity from the producers (*interview*).” Through such intermediation, novice e-tailers could obtain product supplies from the association in a smaller quantity, yet at a low cost, thereby reducing their risks. At the same time, the consolidation of orders by the association alleviated farmers’ previous frustrations in regards to limited sales outlets and low profit, due to layers of middlemen. As illustrated by Mr. Wu, a young owner of a cooperative that supplied flower tea to the association, “I used to think that being a farmer had no future. But with the help of the association, the 1,200 association members are just like my 1,200 sales agents. While they focus on selling the products, I will spend my energy on producing (*secondary data*).”

In 2011, with the support of the municipal government (i.e. Lishui Municipal Committee of the Communist Youth League), the association set up MyStore, a shopfront of about 1,000 local agricultural products offering supply-chain services. With MyStore, e-tailers need not make any upfront investment in goods and storage. As and when an order is received, these sellers can send information to MyStore, who then delivers the items on their behalf. All they have to provide is the customer service. The association also provides photography services, data sharing and market analysis, advice on product development and packaging, and online helpdesk services. This support alleviated the feeling of uncertainty in the community, as expressed by Mrs. Zhou, a 43-year-old pig farmer who participated in the online pork-selling event organized by the association in 2013, “In the past, it was impossible to sell three pigs in one day! I had to maintain a part-time job. Now, I can focus



on my pig farm. I don't have to worry about the sales (*secondary data*).” In addition, the association showcases the success cases of e-tailers to the villagers. For instance, Mr. Huang, a 26-year-old university graduate who owns four online stores, often shares his experience with other members of the association.

Given the abundance of new job opportunities, many migrant workers have returned home. For example, Mrs. Liu, who previously worked in Hangzhou (the provincial capital of Zhejiang), returned home in 2010 to sell bamboo charcoal online. She was able to take care of her mother and send her daughter to the best school in town. Others like Mr. Wang (who had previously worked in Shanghai) could work for emerging companies like Yunda Logistics, which was established alongside the development of e-commerce. As of June 2013, the members of the association comprised 1,268 e-tailers, 164 product suppliers, 45 third party service providers such as logistics companies, design shops, and photography studios, and e-commerce has generated annual sales of 110 million yuan (USD 17.7 million) for Suichang. The prosperity has hastened infrastructure improvement, supported by local government and telecommunication operators. By 2012, nearly all villages had broadband or mobile Internet access and a cheaper Internet access rate was given to villagers who ventured into e-commerce.

### **Jinyun Villages**

In Jinyun, a significant number of e-tailers are selling similar products, i.e., outdoor equipment such as tents, sleeping bags, backpacks, outdoor clothes, and shoes provided by BSWolf, the online store owned by Mr. Lv. Since 1999,

Lv had been selling clay oven bread, making a humble living. In 2006, he learned that one of his friends was operating an online business. With his hard-earned savings of 4,000 yuan (USD 640) and a computer, he opened an online store with his younger brother. Initially, he obtained supplies of outdoor equipment from the wholesale market and made money from the price difference. As Lv recalled, “In the beginning, we only managed to get one order a week. As the sales slowly picked up, we continued to explore how to manage the online store. Our relatives and neighbors were curious about what we were doing at home. Our working hours are also very different from theirs; we worked until midnight and this is so that we can serve late night shoppers... Later, some people asked us how to start an online store. We felt embarrassed to turn them away, so we showed them how to register (*interview*).”

Since 2007, Lv has been frequently approached by the villagers. However, many of them faced capital issues. After spending a few thousand yuan on a computer, they still needed to purchase goods. Many were hesitant, concerned that they might not be able to sell goods after their investment. Sympathizing with his fellow villagers, Lv offered them the option of obtaining goods from him because he would have some stock available. This allowed villagers to obtain orders first and then to purchase items from Lv, who earned a marginal amount selling to these e-tailers. Later, in 2008, Lv decided to establish his own brand, i.e. the BSWolf of today, and manufacture his own products. From this point in time, the distributor-agent model began to take shape. He was not only the e-tailer, but also the supplier of products to many e-tailers in his village. One of the sellers is Mr. Yang, a military veteran who was able to

make 4 million yuan (USD 640,000) sales in 2013 selling BSWolf products, while taking care of a parent and two children at home. The product source and subsequent services such as the website design template and photos provided by BSWolf have made e-tailing easy, even for disabled people like 35-year-old Mr. You, who could “talk” to his customers with his only active left thumb due to muscular atrophy. By engaging these e-tailers as his agents, Lv’s sales network expanded. In 2013, BSWolf’s total sales were about 50 million yuan (USD 8 million).

The successful transformation of Mr. Lv from a clay oven bread seller to an online entrepreneur driving a BMW car has inspired many people. For example, Mr. Rui, who previously worked as a lathe machine operator, saw the success of Lv as his possible future. “I had a tough time when I first started with online selling. I almost gave up. However, the success of Lv gave me confidence. I told myself to persist, and I really made it (*focus group*),” recalled Mr. Rui whose online store generated about 10 million yuan (USD 1.6 million) of sales in 2013. Given the success of BSWolf, the distributor-agent model was imitated by another group led by Mr. Fu. “During a trip back home to Jinyun, I learnt about Lv’s distributor-agent model. I think this is a good business model. Coincidentally, I have a friend selling car accessories. So we thought we could try it out (*focus group*)”, said Fu, who made 50 million yuan (USD 8 million) sales in 2013. He gathered a few good friends to pool together their orders, and to negotiate a better price from the supplier. Thereafter, each of them focused on selling certain products in their online store to avoid competition, and to help establish a brand. According to one of the e-tailers, Mr. Jie, who made 2 million yuan (USD 322,000) sales in 2013:

“In the big cities, people may know each other after they have started online stores. We are different: we know each other and we have worked together to build up an online business (*interview*).”

The entrepreneurial opportunities offered by Taobao e-commerce have propelled the development of Jinyun. Mr. Wei, a 24-year-old graduate from a Hangzhou college, for instance, joined Lv’s company for a half-year internship in 2012. After that, he started his own online store with his wife, earning a decent income of 10,000 yuan (USD 1,600) a month by selling outdoor equipment supplied by BSWolf. Young people working in cities like Ms. Ling also felt encouraged. In 2013, the 26-year-old design graduate returned home to Jinyun and worked for an online store as a graphic designer. She earned approximately 3,000 yuan (USD 480) a month, which was acceptable to her because the standard of living in rural areas is lower. She planned to open her own store in the future. As the Deputy Secretary of Lishui Municipal Committee of the Communist Youth League recalled: “When I first visited this village in 2011, it was covered with muddy and gravel roads. Not only has the infrastructure improved now, the economic performance is remarkable (*focus group*).” As the competition heightened, Jinyun emerged to become one of the areas with the cheapest delivery rates, further lowering the entry barrier for subsequent followers. Such prosperity also encouraged investments in the Internet infrastructure, and the villagers now enjoy a 100 MB broadband.

### 3.2.5. Findings

The previous section illustrates how ICT has given rise to a rural e-commerce ecosystem in the villages. Based on an integrated analysis of the two villages, we provide the findings. Firstly, besides local leaders, the two cases reveal key actors whose activities shape the fate of the whole community in the rural e-commerce ecosystem, as summarized in Table 8. Secondly, in addition to actors, we examine the roles of ICT in empowering a marginalized community towards the emergence of an ecosystem for rural development. Corresponding to the challenges of rural development, we conceptualize digital empowerment based on resource (capability), structural, and psychological dimensions (Spreitzer and Doneson 2005). One of the critical issues in rural development is the lack of education, skills, and capacity in the peasant community. Often, they are dependent on natural resource-based extractive industries. From the aspect of resource (capability) empowerment, it is evident that **ICT allows for quick experimentation** in the two villages. Once villagers pick up basic computer skills, they learn quickly about e-commerce by observing and consulting others. The low entry barrier of e-commerce also attracts villagers to venture into e-tailing, where they can learn from practice and explore ideas such as improving website design and establishing a brand. Sales volume and customer feedback captured on the Taobao platform serves as an indicator to let them know how their trials have worked, thus helping them to further refine their strategy. This efficient learning process leads to a quick diffusion of knowledge in the ecosystem, bridging the capability gap in a rural community. **ICT also allows for**

<b>Table 8. Critical Actors of Rural E-Commerce Ecosystem</b>	
<b>Actors</b>	<b>Roles and <i>Examples</i> from the case</b>
<b>Grassroots Leaders</b>	Villagers or grassroot organizations who initiate, lead, and shape the development of an ecosystem. They are key actors who provide initial support for the emergence of e-tailers (e.g., training, product supplies).
	<i>E.g., Suichang Online Association led by the Chairman, Deputy Chairman, and others staff (Suichang), Mr. Lv (Jinyun)</i>
<b>E-tailers</b>	Villagers who sell products through e-commerce.
	<i>E.g., Mr. Huang, Mrs. Liu (Suichang), Mr. Lv, Mr. Yang, Mr. You, Mr. Rui, Mr. Jie, Mr. Wei (Jinyun)</i>
<b>Third-Party E-Commerce Service Providers</b>	Villagers who provide services to support e-commerce operations in villages, making it easier for e-tailers to do business. Services include logistics and delivery, product packaging, marketing services, website and graphic design, photography, and online customer service outsourcing.
	<i>E.g., Mr. Wang, employee of Yunda Logistics company (Suichang), Ms. Ling, graphic designer (Jinyun)</i>
<b>E-Supply Chain Partners</b>	Villagers who produce, supply or distribute products that are sold via e-commerce.
	<i>E.g., Mr. Wu, owner of an agricultural cooperative, Mrs. Zhou, pig farmer (Suichang), Mr. Lv, manufacturer and distributor, Mr. Fu, distributor (Jinyun)</i>
<b>Digital Platform Sponsor</b>	Providers of the technological infrastructure for the e-commerce, such as product display, searching, transaction processing, payment, reports, etc.
	<i>E.g., Alibaba</i>
<b>Institutional Supporters</b>	Institutional stakeholders such as government and telecommunication providers who play a functional role in improving infrastructures such as road transport and telecommunication services, and a symbolic role in providing legitimacy for entrepreneurial risk taking.
	<i>E.g., Lishui Municipal Committee of the Communist Youth League (Suichang), Jinyun County Committee the Communist Youth League (Jinyun), China Mobile (telecommunication company)</i>
<b>Online Consumers</b>	Buyers, including those from urban areas, who purchase products offered by the villages through e-commerce.

**substitutability of products.** From the agricultural products in Suichang to outdoor equipment in Jinyun, it is clear that villagers engaged in e-commerce can tailor to the resources and needs when deciding products to be sold in Taobao. They are no longer limited by the cultivator-based industry in product offerings. This enables the diversification of products and industries, thus enhancing the ecosystem resilience to external change and internal tensions (Krause et al. 2009).

Rural residents are also confronted with environmental constraints in impoverished regions, such as distance to market and poor infrastructure. From the aspect of structural empowerment, we argue that **ICT allows for reconfiguration of interdependencies.** With e-commerce, the once-isolated villagers can access consumers directly, without layers of middlemen. As described by Mr. Lin, the President of the Lakeside Agricultural Cooperative, “The same product will be sold for 15-20 yuan per catty in the city, but the farmers can only sell it at 2-3 yuan. With e-commerce and the help of the association, the market is expanded.” The disintermediation and reconstruction of networks have led to a new fitness landscape that allows for the participation of villagers. **ICT also provides a platform that encourages generativity.** In this regard, ICT provides a dynamic operational platform or infrastructure which allows the continuous evolution of ecosystem actors. With the heterogeneity of resources connected on the platform, opportunities generated by ICT grow, enabling the ecosystem actors to take up new or different roles. For instance, an e-tailer like Lv evolved into a grassroots leader and distributor when the number of e-tailers reached a critical mass. Mr. Wei, once an intern of BSWolf, was able to start his online store when the logistic

costs came down. In other words, ICT provides a basis for actors to constantly adapt to changes such that they can cooperatively and competitively sustain an ecosystem (den Hartigh and Tol 2008).

Persistent marginalization also has adverse effects on social-cultural values: rural villagers are characterized as being resistant to change, due to little exposure to the outside world, and having low efficacy due to poverty. From the point of view of psychological empowerment, we assert that ICT empowers the community because **ICT allows for visibility of involvement**. The initial spread of e-commerce in Jinyun best exemplifies the effect of this affordance. Upon noticing that someone is making a living from home, villagers are exposed to a new opportunity from e-commerce. This transparency, coupled with the significant improvement in the livelihood of those who are engaged in e-commerce, gradually gives rise to an entrepreneurial climate in the villages. **ICT also allows for diversification of participation**. In an open e-commerce platform, villagers can participate based on their capacity. In the two cases, many villagers are e-tailers while others are producers or e-commerce service providers. E-commerce generates options for them, as described by Mr. Huang, an employee of Yunda Logistics, “Although many people around me are selling products online, I choose to go into the logistics industry. I took a differentiate strategy.” Likewise, a farmer like Mrs. Zhou can choose to focus on her pig farm, and e-tailers like Mr. Fu can replicate the model of Lv by selling car accessories. This vast opportunity space afforded by e-commerce leads to a sense of autonomy, enhancing the belief in their efficacy (Thomas and Velthouse 1990).



What is interesting, in addition to the general notion of digital empowerment, is that our cases illustrate different approaches to empowerment. We suggest that villagers of Suichang are empowered via an **Orchestrated** approach. Orchestrated approach represents a series of systematic actions, which are planned, strategized and implemented by the community (or the association in the example of Suichang). Based on the grassroots leaders' (the association) understanding of the limited capacities and needs of the villagers, systematic actions are taken. For instance, free training was first offered in order to help the people to venture into online retailing. Suichang villagers also enjoyed the resources and support provided by the leaders, such as marketing advice, product sourcing, and supply chain solutions. As well as building capability, structural challenges (e.g., distance from market and existence of middlemen) are alleviated, with the association acting as a mediator that coordinates supply and demand in the ecosystem. The leaders serve to pool and exchange resources, thus creating a better sales outlet for farmers and a greater price bargaining power for e-tailers. Through the provision of various services such as the MyStore supply chain services, feelings of uncertainty in exploring e-commerce among the community were relieved. In addition, to provide a sense of assurance to the community, the association has been involved in initiatives such as organizing online sales campaigns to encourage participation and to showcase successful examples of e-tailers. With such coordinated mobilizing efforts, grassroots leaders of Suichang direct the collective power of the villagers towards resolving community issues (Ersing 2003).

In contrast, Jinyun villagers are empowered via an **Organic** approach. Organic approach represents a series of actions that emerge from the learning and discovery of the community, such as what have been done by Mr. Lv in Jinyun. Unlike the organized actions in Suichang, the grassroots leader (Mr. Lv) guides other villagers through a process of discovery and learning. When the villagers noticed that the Lv brothers could make a living working from home, they approached the two for advice. Realizing that the people would encounter problems in meeting upfront costs for purchasing supplies, Lv offered to be their supplier. This gradually evolved into a distributor-agent model after Lv established his own brand and more people requested supplies from him. In other words, the grassroots leader co-evolves with followers when both continuously adapt to the opportunities and changes in the ecosystem. Besides stimulating capability development through self-learning and encouraging structural improvement through offering a distributor infrastructure, the success of the grassroots leader serves as a source of inspiration for the emergence of entrepreneurial verve in Jinyun. The remarkable transformation of Lv from being a bread seller to a successful entrepreneur has motivated other similarly disadvantaged individuals. A belief in self-sufficiency germinates and weakens the learned helplessness, thus increasing the confidence of Jinyun people in their own effectiveness, and giving rise to a “can do” attitude (Conger and Kanungo 1988). Table 9 and 10 summarizes our analysis.

**Table 9. Digital Empowerment in Developing Ecosystem for Rural Development**

<b>Challenges of Rural Development</b>	<b>Capability</b> <ul style="list-style-type: none"> <li>• Lack of education, skills, and capacity</li> <li>• Dependency on natural resource-based industry</li> </ul>	<b>Environment</b> <ul style="list-style-type: none"> <li>• Distance to market and value chains</li> <li>• Poor infrastructure (e.g., roads, Internet)</li> </ul>	<b>Socio-cultural</b> <ul style="list-style-type: none"> <li>• Resistance to change due to little exposure</li> <li>• Low self-efficacy due to persistent poverty</li> </ul>
<b>Empowerment</b>	<b>Resource (Capability) Empowerment</b>	<b>Structural Empowerment</b>	<b>Psychological Empowerment</b>
<b>Integrated Analysis of Suichang and Jinyun</b>			
<b>Digital Empowerment</b>	<ul style="list-style-type: none"> <li>• ICT allows for quick experimentation</li> <li>• ICT allows for substitutability of products</li> </ul>	<ul style="list-style-type: none"> <li>• ICT allows for reconfiguration of interdependencies</li> <li>• ICT allows for platform generativity</li> </ul>	<ul style="list-style-type: none"> <li>• ICT allows for visibility of involvement</li> <li>• ICT allows for diversification of participation</li> </ul>
<b>Cross-case Analysis of Suichang and Jinyun</b>			
<b>Orchestrated Approach (Suichang)</b>	<ul style="list-style-type: none"> <li>• Association organizes training and workshops</li> <li>• Association mobilizes the villagers</li> </ul>	<ul style="list-style-type: none"> <li>• Association provides an operational infrastructure that coordinates the supply and demand</li> </ul>	<ul style="list-style-type: none"> <li>• Association provides support to assure the villagers</li> <li>• Association showcases successful e-tailers</li> </ul>
<b>Organic Approach (Jinyun)</b>	<ul style="list-style-type: none"> <li>• Pioneer shows by doing; self-learning by villagers</li> <li>• Pioneer co-evolves with the villagers</li> </ul>	<ul style="list-style-type: none"> <li>• An operational infrastructure of distributor-agent model emerges from the co-evolution of the ecosystem actors</li> </ul>	<ul style="list-style-type: none"> <li>• Success of the pioneering e-tailer inspires the villagers</li> <li>• Mutual support through peer sharing and coalition</li> </ul>

<b>Table 10. Definitions of Features in Digital Empowerment</b>	
<b>Features of ICT in Digital Empowerment</b>	<b>Definition</b>
ICT allows for quick experimentation	ICT allows a quick diffusion of knowledge in the ecosystem by offering lower barriers of participation and enabling learning from practice.
ICT allows for substitutability of products	ICT allows people to tailor e-commerce to their needs by removing dependency on existing (natural) resources.
ICT allows for reconfiguration of interdependencies	ICT allows disintermediation in the conventional distribution channel by enabling villagers to replace the layers of supply chain middlemen.
ICT allows for platform generativity	ICT allows the evolution of work and roles of an ecosystem actor by enabling a dynamic operational infrastructure (platform).
ICT allows for visibility of involvement	ICT allows villagers to learn about e-commerce by enabling them to notice the participation of others, e.g. noticing that someone is working from home.
ICT allows for diversification of participation	ICT allows diversification of work by enabling the participation in different capacities, e.g. third party service providers.

### **3.2.6. Contributions and Limitations**

This paper presents a revelatory case of ICT-enabled rural development that demonstrates the principle of “by the community for the community” (Coetzee 2010). Specifically, this research offers two contributions. First, we explore the emerging phenomenon of ICT-enabled community-driven development by illustrating critical actors and their roles in a rural e-commerce ecosystem. Extant studies on community development are predominantly occupied with the top-down professional approach in which the community remains as a passive recipient of change. However, this approach may perpetuate the reliance of the rural community on external assistance and eventually threaten the development that should be freedom-enhancing and sustainable (Sen 1999;

Sen 2008; Tambulasi and Kayuni 2005). In contrast to aid recipients, the contemporaneous emergence of the e-commerce villages has shown that local communities, when empowered by ICT, can become the drivers of change. Besides local leaders, our study identifies that there are a number of interdependent players involved in creating social change, providing an inclusive view of a rural e-commerce ecosystem in the community-driven development.

Second, we address the literature gap in the connections between ICT and development by conceptualizing the roles of ICT in empowering a marginalized community to stimulate rural development through creating the necessary ecosystem. ICT4D research has traditionally emphasized investigation of core IS issues such as investment, implementation, and management of IT in the context of developing countries (e.g., Dobson et al. 2013; Montealegre 1996; Rajalekshmi 2007), or ICT access and adoption in underserved areas (e.g., Agarwal et al. 2009; Chaudhuri 2012; Dewan et al. 2010). In Brown and Grant's (2010) terms, these studies have helped us to understand *ICT in developing contexts* but did little in advancing the knowledge of *ICT for development*. Little is known regarding the consequences of ICT use on development-based constructs (Dewan et al. 2005; Dewan and Riggins 2005). In response to Brown and Grant (2010)'s call, we examine the roles of ICT in empowering the community towards attaining rural development. In addition, our findings suggest two different approaches to ICT-enabled rural development driven by a community, i.e., Orchestrated and Organic approaches.

Our findings also demonstrate the potential to inform practical interventions. To conventional change agents such as governments and NGOs, there is a need to look beyond the adoption of ICT as an outcome indicator of the digital divide; rather, the use of ICT should be emphasized in the efforts of closing the rural-urban gap (Luo and Zhu 2008). More importantly, to make effective use of ICT, they need to reconsider their role and move beyond emphasis on providing access and training. From the experience of Suichang and Jinyun Villages, rural regeneration that leverages e-commerce requires the emergence of grassroots leaders in order to showcase the viability of rural e-commerce. As indicated in both cases, government could play a supporting role by assisting the community to overcome structural barriers, which the community could not have achieved on its own. An example is the improvement of infrastructure such as electricity, telecommunication, and roads. Besides, concomitant unintended impacts from the rapid development of these villages draw attention to sustainability issues. For instance, practitioners have to consider solutions to rising competition among the villagers (due to product homogeneity) such as establishing a brand for the village.

Our study has its limitations. First, our findings may be applicable to only one of the many socioeconomic challenges facing rural community development. In our study, we examine how rural villagers are empowered by the use of ICT, which in turn leads to job creation, rising incomes, self-esteem, and family happiness. Therefore, we caution the direct application of our findings when other notions of development such as education, healthcare, safety, political freedom and participation, or human rights are under investigation (Burrell and Toyama 2009). Nevertheless, we posit that our findings may

serve as the foundation of future ICT-empowered rural community development studies, particularly with description of an emergent ecosystem. Second, our findings, while situated in the categories of analysis from empowerment literature, may be limited in providing practical advices from a process view. Future researchers could extend the study to examine the stages and process of e-commerce village development for the learning of other villages and rural municipals.

### 3.3. Study 3: Malaysia Environmental Movement

#### 3.3.1. Introduction

Environmental problems are a major global concern. With the disastrous long term impacts of mishaps such as the contamination at a waste dump site in the Love Canal neighborhood of Niagara Falls in 1978, explosion at Chernobyl nuclear power plant in 1986, Gulf of Mexico Oil Spill in 2010, and Fukushima Daiichi nuclear disaster of Japan in 2011, it is hard to deny that exploitative and careless human activity is harming the natural environment (Longazel 2008). Despite an increasing awareness and care for conservation of the environment, there is often a lack of formal and effective system for people to voice their concerns (Crossley 2003; Shigetomi 2009). Hence, informal, extra-institutional methods like the environmental movement becomes an alternative (Goodwin and Jasper 2003; Shigetomi 2009). Environmental movement is a social movement dedicated to the management and protection of the environment (Longazel 2008) through collective action (McKenna et al. 2012; Staggenborg 2011; van Zomeren and Iyer 2009). In order to achieve social change in conserving the environment, people have banded together, apply creative energies, express their opinions, and employ collective pressures (Goodwin and Jasper 2003; McKenna et al. 2012; Pilisuk et al. 1996). In IS communities, it has been acknowledged that **ICT is instrumental to various movements**, given that it changes the ways in which people communicate and collaborate, leading to greater citizen participation (Cardoso et al. 2013; Garrett 2006).



Existing studies are dominated by two views of ICT's role in social movements: ICT can facilitate traditional offline activism, or it can create new form of activism (Harlow 2012). From the prior view, ICT, such as that of the use of Internet, can amplify the size, speed, and reach of a movement because it allows for low-cost, fast, and widespread information broadcast across time and space (Castells 2001; Juris 2005). Some examples are the use of mass-copying print machines to duplicate Luther's pamphlets (Oh et al. 2012), faxes and video recording technologies during the Protests in China in 1989 (Ganley 1992), and the internet-based activism by the anti-globalization activists at the WTO Conference of 1999. While the use of ICT "supersizes" the movements in these cases, it has inflicted little change on the underlying mobilization process of the movement (Earl and Kimport 2011). We posit that these studies echo the conventional modes of organizing characterized as **organization-centered mobilization** (Rosenstone and Hansen 2003; Wittig and Schmitz 1996) whereby the community is largely a consumer in the movement, who forms a follower group to mobilizing agencies, such as environmental bodies.

However, with the emerging use of social media in social movement in recent years (such as the Arab Spring, the Occupy Wall Street movement, Spain's indignados), we argue that the second view of ICT's role in the social movement – creating new forms of activism – is growing significantly. More specifically, social media has given rise to the **grassroots mobilization** (Bennett and Segerberg 2012) where the community assumes the role of driver without relying on formal leadership. Compared to the organization-centered mobilization, it is firstly argued that social media may reduce and even eliminate the need for central movement leadership (Castells 2010; Schussman

and Earl 2004). Social media lowers the cost of collective action (Shirky 2008), thereby allowing citizens to play a more proactive role in mobilization without formal organizations or membership (Anduiza et al. 2013). This is evident in the leaderless, horizontal structure of the Occupy Wall Street movement (Hardt and Negri 2011). Secondly, from a command-and-control communication, a connect-and-coordinate model emerges (Agarwal et al. 2008). Social media allows a massive number of people to act in conjunction and to coordinate actions (Enjolras et al. 2013), thereby easing the centralized processes of information sharing and collaboration between mobilizing agencies and the larger community (Vicari 2013). This is demonstrated through the rise of smart mobs, whereby a number of individuals act coordinately for a collective purpose (Mora 2014). Lastly, the use of new ICTs like social media is no longer limited to informational functions. In mobilization, social media is used for multiple purposes in organizing (Segeberg and Bennett 2011), such as motivating individuals (Enjolras et al. 2013), gathering and transferring resources (Mora 2014), and group formation and management (Cardoso et al. 2013).

Despite the growing number of studies about ICT and social movement, there is a limited understanding of how ICTs enables the community to drive grassroots mobilization (Cardoso et al. 2013). Hence, in Study 3, we illustrate how social media allows the community to mobilize a social movement by themselves. An in-depth case study was conducted into the environmental movement in Malaysia, beginning in 2011. In the following, the case is presented to illustrate how social media empowers the community in an environmental movement. To address the above-mentioned literature gap, we

ask “how does social media enable grassroots mobilization towards the emergence of collective action for environmental conservation?” In this study, some unintended impacts of ICT use also emerge. In response to the call for attention to the constraining effect of ICT (Majchrzak et al. 2013a; Tarafdar et al. 2013), discussion on these impacts is provided.

### **3.3.2. Literature Review of ICT, Social Media, and Social Movement**

In the literature relating to social movements, researchers have developed key perspectives and arguments that underpin the success of collective action. From the traditional collective perspective developed in the 1950s, social movement is initially understood as spontaneous and uncoordinated bursts of action amid common grievances and system malfunction (Hannigan 1985). The self-organizing network literature echoes the focus on the purposive intention of alleviating a perceived grievance as a source of self-organizing collective action (Rashid 2011). Later, this deviant and irrational view of social movement has been challenged by the resource mobilization theory that is adopted widely in subsequent studies. Asserting that the movement is structured, resource mobilization theory argues that the rise of a social movement depends on the acquisition of resources by rational actors who are engaged through formal organization (McCarthy and Zald 1977; Tilly 1978). Moreover, in emphasizing the socio-cognitive process, the concept of framing is developed to explain the process of how social movement adherents and leaders “assign meaning to and interpret relevant events and conditions in ways that are intended to mobilize potential adherents and constituents, to garner bystander support, and to demobilize antagonists” (Snow and Benford

1988 p. 198). In the early 1980s, Klandermans (1984) proposed breaking the complicated process of mobilization down into conceptually distinct processes of consensus mobilization and action mobilization, in order to develop deeper understanding on the process of mobilization. While consensus mobilization refers to the process by which a social movement tries to obtain support for its viewpoint, action mobilization means the process by which people are called up to participate in a social movement. Although consensus mobilization does not necessarily go together with action mobilization, action mobilization seldom emerge without consensus mobilization (Klandermans 1984).

In studies about ICT use in social movements, we posit that the majority echo the conventional modes of organizing characterized as **organization-centered mobilization** (Rosenstone and Hansen 2003; Wittig and Schmitz 1996). Firstly, in this conventional mode of mobilization, mobilizing agencies such as social movement organizations, trade unions, voluntary associations, and formal leadership takes a central role in mobilizing the community (Rosenstone and Hansen 2003). Secondly, communication and collaboration can be characterized as command-and-control with the mobilizing agencies “broadcasting” to sympathetic others (Wittig and Schmitz 1996). Thirdly, ICT is narrowly regarded as an information dissemination channel (e.g., Van Laer 2010) that enhances a movement’s existing repertoire. In this regard, we argue that the community is largely a consumer in the movement, which forms a follower group to the mobilizing agencies. However, as mentioned in the Introduction chapter (Chapter 1), it may be difficult to explain the emerging phenomenon of **grassroots mobilization** enabled by social media with the

findings from organization-centered mobilization, considering that the community can assume the role of driver without relying on formal leadership. Although it is evident, through the recent real life examples, that social media has empowered the community by advancing its role from consumer to driver in social movement mobilization (Fuentes 2007), few studies have adopted a similar perspective. Our review has shown that many IS studies focus on examining and verifying the impact of social media on mobilization, activism, and social movement but they sideline the changes to the existing mobilizing agency (e.g., Anduiza et al. 2013; Kumar and Thapa 2014; Maghrabi and Salam 2013; McGrath et al. 2011). For instance, Maghrabi and Salam (2013) have proposed a variable model to understand the influence of social media on activism, social movement, and political change. On the other hand, some researchers focus on understanding types of online actions and the information that is posted in social media (e.g., Harlow 2012; Penney and Dadas 2014). There are also a few studies that look into the process or mechanisms of how the use of social media translates into movements (e.g., Bennett et al. 2014; Maghrabi and Salam 2013; Valenzuela 2013). However, these studies have yet to probe the fundamental change in community's role. While some researchers have only briefly suggested the concept of grassroots mobilization (e.g., Enjolras et al. 2013; Mora 2014; Segerberg and Bennett 2011), there is a limited understanding of how ICTs enables the community to drive grassroots mobilization (Cardoso et al. 2013). Moreover, there is a lack of research to explain the dynamic of virtual space and physical space as interdependent dimensions (Soon and Cho 2013). In contrast to the dichotomies of the virtual/real world (Meek 2012), the investigation of technology-enabled

network public in the social movement (Mora 2014) should include an examination of online and offline spheres that are becoming more closely interwoven (Meek 2012).

From the review, we may also summarize the key challenges in grassroots mobilization, when compared to organization-centered mobilization. First, there is a **lack of mobilizing structure** in the community self-driven mobilization. The absence of central organization and formal leadership, and represents a lack of social structures and tactical repertoires that can enable individuals to engage in collective action (McCarthy 1996). More specifically, the lack of availability of mobilizing structures results in a high participation cost to the community. Second, it is uncertain that a **collective identity** which is critical in encouraging collective action can emerge from a dispersed population without formal leadership. It has been suggested that the mobilizing agency is an important source of identity (Della Porta and Diani 2006). Without a central and influential leader that can frame the understanding and stimulate the emotions of the crowd, it may become more challenging for the community to associate themselves to the movement (Selander and Jarvenpaa 2013). Third, without a legitimate mobilizing agency, the drivers of grassroots movement need to build the trust of the community before soliciting for **resources** that are crucial for the movement. Besides aggregating resources, mobilizing agency also has organizational capacities (such as skills and networks) which may be missing in grassroots movement (Klandermans and Roggeband 2010). Drawing on the concept of self-organization, grassroots mobilization can be seen as a networked, cooperative, synergetic production of the community (Fuchs 2006).

### **3.3.3. Methodology**

#### **Data Collection**

Data was collected from January to October 2014. After arranging for the trips with the local collaborators from University of Malaya, we scanned for secondary data via various sources, such as the website, news articles, press releases, magazines, books, and journals, and most importantly, social media including Facebook, Twitter, and YouTube. This secondary data was useful in enabling us to become acquainted with the case and to prepare the entry in the field especially with regards to the preparation of the interviews because it broadened the understanding of the case background and facilitated the elicitation of relevant and insightful questions. The secondary data provide an additional source for our data triangulation. Appendix B lists the sources of secondary data. Our contextual understanding was further enhanced by the knowledge of native collaborators. In February 2014, we made two trips to Kuala Lumpur and Kuantan. In Kuala Lumpur, we conducted interviews with state representatives, activists, and student representatives who were active in the environmental movement. In Kuantan, we interviewed more state representatives based in the Pahang state, the residents living nearby to the plant, and volunteers who have been involved actively in the movement. In total, 30 subjects were interviewed. The interviews were led by one lead interviewer, who was a native speaker in the local language or English (based on the preference of subjects). Whenever the interviews were conducted in the focus groups, the interviewer would ensure that everyone expressed their views, to avoid the dominance of particular individuals (David and Sutton 2011) and group conformity (Babbie 2007). All of the interviews were

recorded, transcribed verbatim, and translated, if they were not conducted in English. The data collected amounted to about 334 pages of transcripts, field notes, and secondary data, and 127 photos. What should be noted was that the timeline of this case study lasted from March 2011 to the October 2014. This timeline was identified because it was a critical period that mirrored the emergence of grassroots movement and the roles of social media in sharpening that change (Maghrabi and Salam 2011): March 2011 was the time where the establishment of the plant was widely made known to the public through an article that appeared in the international media, and the cut-off point of October was decided on because the latest activity of the movement took place three months ago in July 2014. While the movement was ongoing, it created significant impacts in the society, which would be elaborated in the following section.

### **Data Analysis**

The data analysis began with data organization (Eisenhardt 1989; Pan and Tan 2011). Narratives regarding the environmental movement, the use of social media, and community involvement were chronicled. Next, drawing on the different dimensions of empowerment, i.e. structural, psychological, and resource empowerment, relevant narratives were organized into tabular form. To generate deeper insights into the process of grassroots mobilization, the data was further dissected leveraging the two components of mobilization, i.e. consensus mobilization and action mobilization (Klandermans 1984). During the data organization, attention was also paid to the interplay between online and offline actions facilitated by social media, rather than focusing exclusively



on online actions. This formed the main corpus of data used for subsequent analysis.

From organized descriptions, we then developed tentative explanations that illustrate the affordances of social media in helping the local community to band together and make their voices and concerns heard. More specifically, tentative explanations were developed corresponding to the three dimensions of empowerment. In other words, we attempted to look for new “regularities in social life” (Babbie 2007 p. 11) that were driven by the use of social media. This was done independently for each component’s mobilization (consensus mobilization and action mobilization). In order to derive the “underlying coherence” (Taylor 1976p. 153) through our interpretation, we juxtaposed the tentative explanations of each empowerment dimensions. We focused on the further “abstraction” of the tentative explanations to derive the overarching empowerment process enabled by social media. At this stage, we focused on identifying the coherence within each component of mobilization, rather than comparing them across consensus and action mobilization. An example of the abstraction of the process was the identification of *self-propagation mechanism in consensus mobilization*. As we proceeded, each cycle of abstraction improved the clarity of explanations as a better understanding of the data was developed in this inductive reasoning process. In addition, to better reflect our “renewed” interpretations, the tentative explanations (e.g., social media for *open aggregation*) were also refined. These two steps – abstraction of the empowerment process and refinement of tentative explanations – were reiterated until all the tentative explanations were accounted for, and a temporal internal agreement was achieved.

Subsequently, we began to seek underlying patterns across the two components of mobilization. In adopting the logic of constant comparative analysis (Charmaz 2000), we constantly compared the patterns of these mechanisms to tease out their distinctiveness. For instance, while resource empowerment was critical for consensus and action mobilization, the underlying roles of social media in serving the purposes of these two components of mobilization were different. For instance, in consensus mobilization, social media served more as an open platform to gather the resources, such that the viewpoints of the movement could be spread and adopted widely. On the other hand, the affordance of social media in enabling decentralized coordination was more critical in organizing the movement and mobilizing actions. During the comparison, the processes in previous paragraphs were repeated to reveal and further refine the core element of the mechanism. With the emergence of our findings, we consistently ensured alignment among data, theory, and findings (Klein and Myers 1999) until the findings were finalized. To ensure the convergence of interpretations by the interviewees, the rule of triangulation (Dubé and Paré 2003) was applied; multiple data sources (interviews, focus groups, news reports, and archival data) were used to filter the “false preconceptions” of interviewees and researchers, thus ensuring the consistency of data. The multiple sources of data also reduce recall bias. Throughout the data collection and analysis, we applied the principles of Klein and Myers (1999) to conduct interpretive work (see Appendix C).

### 3.3.4. Case Description

*“For Malaysia and the world’s most advanced technology companies, the plant is a gamble that the processing can be done safely enough to make the local environmental risks worth the promised global rewards.” (The New York Times 2011)*

On Mar 8, 2011, the New York Times published an article entitled “Taking a Risk for Rare Earth”, which concerned the construction of the Lynas Advance Materials Plant (LAMP) in Kuantan, the state capital of Pahang state in Malaysia; the photo showing the already-began construction of the plant was published (Figure 2). Lynas Corporation, Ltd. is an Australian rare earths mining company that has two major operations: a mining and concentration plant at Mount Weld, Western Australia, and a refining facility at Kuantan, Malaysia (which was under construction then in 2011). When the 2.5 billion ringgit (USD 748 million) construction finished, the plant was expected to meet over 30% of global demand for rare earth materials outside of China, making it the world’s largest rare earth refinery and the first in nearly three decades to be finished outside China, where barely regulated factories have left a polluting industry that China is trying to clean up (BBC News 2012). In January 2013, the plant went into operation after obtaining a two-year temporary operating license amid the public controversies. Rare earth elements are often used in the production of electronic equipment like computers, mobile phones, flat-screen televisions, green technology including wind turbines and hybrid cars, medical devices, and military applications such as missiles, jet engines, and satellites. What is worrying is that the rare earth

element is always found in conjunction with significant radioactivity that is harmful to the environment and health.



When the news about the Malaysian government's approval for the plant was publicly made known through this article, it aroused widespread controversy or public debate in the local communities of Malaysia, especially those in Kuantan. They worried that the plant would emit radioactive pollution, threatening both human health and the environment. Besides the fear that the plant would leak radioactive and toxic materials, the plan for final disposal of the radioactive, processed waste was also among the key concerns of the public. Although Lynas has insisted that the plant is safe, saying any radioactive waste would be low-level and safely disposed of, the opposing residents claimed that the plant did not meet with industry's best practice standards, because it was too close to heavily populated areas and in a place where the ground water level was high; it put 700,000 people living within a 30km radius from the plant directly at risk from toxic leaks and emissions. By comparison, Molycorp's plant in California was situated far from residential

areas (Reuters 2012). The people have reason to be cautious. An earlier rare earth plant, owned by Mitsubishi Chemicals in Bukit Merah in the state of Perak, neighboring state of Pahang, has been linked to unusually high numbers of fatal leukemia cases, birth defects, and a range of other ailments in surrounding villages as a result of exposure to radioactive waste. Amid acrimony over radioactive contamination, strong public protest and court action, Mitsubishi was forced to close down the plant in 1992 and allocated USD 100 million to the clean-up operation. Nonetheless, the surviving residents of Bukit Merah are still plagued with severe health problems. Although Lynas said comparisons with Bukit Merah were unfair because the raw material there was over 40 times more radioactive than the concentrate to be used at its plant (Reuters 2012), public outrage prevailed. The citizens were angered by the lack of consent in regards to the plant construction, and they felt that their concerns have been ignored. In the midst of opposing voice, a "temporary operating license" has been granted to Lynas in February 2012. It was only one month later that the official inquiries and safety assessment of the plant by International Atomic Energy Agency (IAEA) were initiated after the people protested (BBC News 2012).

Leveraging on social media, the enraged people have attempted to raise public awareness and mobilize the actions of the community since 2011. Facebook groups and pages were created to spread the news, educate the public on the hazards of the plant, share individual technical and professional knowledge, and organize actions in this green movement. Appendix B shows some of the Facebook groups initiated by the community. Many grassroots campaigns emerged from the self-organized efforts of concerned citizens of Malaysia,

including social activists, environmentalist, government officials, working professionals, nearby residents, and students. By using social media as a communication and coordination channel, various activities are organized. For instance, 7,000 people have attended the Green Assembly movement at the Kuantan beach that protested against the establishment of the plant. In February 2012, about 20,000 people from all over the country gathered at the Kuantan Municipal Council field as the news for the peaceful gathering spread in Facebook. In November 2012, a 300km Green Walk from Kuantan to Kuala Lumpur, Malaysia capital created the peak for this movement. During the 14-day walk, pictures of the participants were shared through Facebook, amplifying the influence of the initiative. From 70 participants, they gradually gained momentum and by the time the group reached Kuala Lumpur, an estimated 20,000 people had joined in. Appendix H shows the situation of the Green Walk. As the green movement unfolded in Malaysia, grassroots groups such as Save Malaysia Stop Lynas (SMSL), Himpunan Hijau group, and Stop Lynas Coalition (SLC) emerged. They showed the characteristics of grassroots groups, whereby they were locally mobilized and primarily single-issue based. More importantly, they organized themselves, and any simple structure or roles in the groups “are not appointed, elected or recruited except by themselves” (Zander 1990 p. 22).

The grassroots environmental movement led to two important results. First, the social movement created a sense of instability and pressure, leading to the attention and actions of institutions in reacting to public concerns. For instance, in responding to the lobbying of the citizens, the government set up a committee in March 2012 to look into the safety of the plant, barely one

month after halting a conditional temporary operating license granted to Lynas in February 2012 (Reuters 2012). CEO of Lynas, Nicholas Curtis also made a public acknowledgement, stating that he “would have dealt with the emerging community debate by the social media a little bit more intensely, a little bit earlier” (Bloomberg 2012). Every month of delay in approval for the plant has cost about USD 10 million, because the company did not have other means or backup plan to process the elements until the plant was allowed to operate (Bloomberg 2012). Second, the grassroots actions have enhanced the environmental awareness in the locals. As illustrated by one of the interviewee who is the state assemblymen of Pahang, Mr. Adi, “Our people began to talk about it [environment issues] and also practice it. They began to pay attention to environmental check in every economic activity, including industrial, agricultural, and fisheries. The public are becoming critical now. For every activity they saw, they started to think about the impacts to environment, the impacts to the air, the impacts to the water and sea... For example, the extraction and transportation of iron ore caused the issue of heavy dust and people would pick up a phone and call the government agencies to look into the problems... They [the local residents] are getting more aware of the changes in the environment.” In the following sections, we provide details of how social media has given rise to an empowered community in consensus mobilization and action mobilization.

### **Social Media in Consensus Mobilization**

#### **Structural empowerment**

According to the Member of Parliament of Kuantan, Ms. Nadia (a pseudonym, as are all names), who opposed strongly to the construction of the rare earth

plant, Lynas' earlier proposal to build a plant in another state (Terengganu) was turned down by the state authority in 2007 before the company moved to Pahang. Since then, Ms. Nadia has been trying to raise the awareness in the local citizens. In November 2008, "Concerned Citizen of Kuantan", a civil group was formed by Ms. Nadia to discuss actions that the community should take against the project. It was difficult to raise awareness then, despite that campaigns had been organized between 2008 and 2010 because they relied on distribution of flyers, seminars in the villages, and informal talks. Furthermore, it was difficult to get media coverage in the newspaper or television that was largely state-controlled. As a result, most Kuantan locals do not know about Lynas or rare earth and its potential risks, and citizens from other states had little idea about the project. "People are really not well informed about the hazards that the plant may bring..." said Mr. Adi. More worryingly, Ms. Nadia contended that mainstream media took a biased stand in publishing information about the rare earth plant:

*"They [state-controlled mainstream media] only talk about radiation because they know that it is the only issue or the only perspective where they are safe since the [radiation level of] the waste is low-level. [However], it is low-level but lasting. Yes, Fukushima [nuclear disaster] is high level but then they spin and twist the story. This is not Fukushima, this is not a nuclear plant; nobody has said that it is a nuclear plant. Right from the beginning, I have been talking about the radioactive waste management. This (the environment pollution) is what we are concerned about..." (Interview)*

Social media fills this gap by providing a channel for information sharing. Faced with a constraint in spreading their views, opinions, and knowledge, the community had to take it to the social media. As described by Mr. See, who emerged the leader of one of the largest grassroots group – Save Malaysia



Stop Lynas (SMSL) in the environmental movement, “we have to publish [the rebuttal of the statement made by ministers and from Lynas] through social media because the main stream media would not accept or publish such statement.” It is only through social media that every member of the community, including that of Mr. Yong, a working employee of training company in Kuala Lumpur (the capital of Malaysia), could share relevant news and his personal views in order to influence others. The Facebook group that he created – “I’m from Malaysia! I say Stop Lynas!” had garnered the attention of more than 10,000 members. As such, social media serves to complement the information provided by the primary media, as illustrated by Mr. Adi:

*“Primary media does not cover the whole picture of what is happening. So, by using the social media, we expect that we can give second opinion to the people. They can read newspaper and they can listen to radio and TV. [At the same time], they have balanced inputs from the other side [i.e. social media]. We expect the people to be well informed and to be able to get more information.”*  
(Interview)

At the same time, social media allows easy access to information with its open nature. Information was no longer restricted to people who has the insider knowledge or the experts. Local residents of the nearby villages, who only used to read and listen to news via local newspaper and television channel, felt that they were able to access information that was not covered by the mainstream media via social media, whether directly or indirectly through their children or student volunteers who learned about the potential risks of the plant also through social media. “My failing eyesight does not allow me to look at screens for long time. But my children will tell me if there is new

information [about the plant] in Facebook,” an elderly nearby residents shared. Through Facebook, Mr. Yong also found a lot of information related to green activities. Among them was a trip to Bukit Merah, where the aborted rare earth project was believed to have left irrevocable ecological impacts. He joined the trip later and saw for himself the conditions of the place. Compared to the limiting face-to-face campaigns, information spread much faster to a larger crowd. For instance, one of the grassroots group in Facebook, i.e. Pahang Don't Need "Hazardous" Project group has more than 40,000 members and the Facebook page for the Green Walk event “Himpunan Hijau 2.0: Langkah Lestari” has more than 16,000 “likes”. As the audience base expanded from Malaysia to other countries like Singapore and Thailand, this helped to escalate the community concerns to a national issue. Mr. Teo, the Treasurer of another large grassroots group – Himpunan Hijau Group (means green assembly group in Malay language), shared his observation during his trip to Australia to participate in a week-long occupation at Lynas headquarters in November 2013:

*“We see that even the Malaysian in Sydney read our story in Facebook. They follow all our events. One of them still calls me now. He migrated from Malacca to Sydney. They are really concerned about what is happening in Malaysia. Then we ask how they know about the project because it wasn't advertise there... They said it was through Facebook. They also keep sharing with their friends.”*  
(Interview)

### **Psychological empowerment**

One of the challenges in mobilizing a social movement is whether the community may identify themselves with the purpose of the movement and share the similar feeling of grievances as the affected residents. Being closest

to the plant, many of the nearby residents were against the entry of plant into the neighborhood because of the concerns for their homeland and future generations; being the representatives of the community, Ms. Nadia raised her opposition out of concern for the public health. Nonetheless, it would be difficult for the same feelings to arise among other community members who were not affected, even though they might be aware of the incident. As Mr. Ho, a social activist in his early 30s explained:

*“Because people are... not to say selfish... but they only pay attention to the things that are related to them. If it has nothing to do with me, why should I pay attention to or take care of it? For example, there is a major earthquake in the United States. Since I do not go there, why should I think much about it? Unless you have family members over there, then you may pay attention.” (Focus group)*

In social media, contributors or whoever posted on social media have the autonomy to craft or package the messages to be posted. It allowed them to make the environmental movement relevant to different community groups. For example, in Facebook, there was a series of groups that adopted a similar naming pattern, i.e. “I’m from <the residing town>, I say Stop Lynas!” At least 32 such groups have been created by different users to gather the collective strength of their community defined by geographical locations. In addition, social media also allowed for the sharing of “sad stories”: everyone could write and share their own stories, including the helpless nearby residents or those who has participated in the social movement. Compared to a top-down calling for action, these stories (often with photos and videos) could better create a feeling of empathy in the community, thus multiplying the sphere of influence. Moreover, the personal network in social media also played a part in scaling the spread of awareness. A group member was often invited to join

or was added to a group by his/her friend in social media; when a social media user shared information about the movement, it was also being pushed to his/her network of connection. The effect of this social network reinforced the feeling of relevance in the community. As Mr. Ho stated,

*“It depends on whether it [the message] touches the feeling of the people. If you just write that the government intends to build the plant and the court does not approve, then nobody is going to read. You have to know what happens inside, and relate the stories to the people. You must have some linking point for them. For example, if you want to lead other people to pay attention to the plant, you can say that although this thing is now built in Pahang, it may be that one day it will be built in Penang (another state of Malaysia). If there is going to be one in Penang, then what do you do? So you need to throw some questions out to get them to think: what if this situation happens to me? Will it be my turn someday? You must make them think whether the topic (problem) will one day be my problem.” (Focus group)*

Social media also contributes to sustaining the emotions of the people by reducing the “distance” among community members. This was evident in the major, peaceful offline movement. In the Green Assemblies 1.0 and 2.0 on 9 October 2011 and 26 February 2012, photos, videos, personal experiences and feedback were shared in Facebook and YouTube by those who attended, reducing the perceived distance for those who were not able to make it to the events. This effect of social media was even more significant in the 14-day long, 300km Green Walk from Kuantan to Kuala Lumpur. The event in November 2012 reportedly gained momentum, with participants increasing from 70 to 20,000 by the time the group approached the destination. The snowball effect was partly attributed to the live reporting of the event via social media. Mr. Lim, the state assemblymen of Pahang and also the chief of

publicity of Green Walk event, described the live reporting as a drama that the audience (social media users) had enjoyed watching.

*“The turnout at the Green Walk was beyond our expectations. I think it was because of the stories that we spread through Facebook. Throughout the event, it was difficult to get media coverage every day. The only way was to snap and upload the photos [in social media] every day throughout the campaign. Maybe every half to two hours, we will post the picture and then tell a story about what we are doing. When someone sent food to the participants, we also posted the photos. So I think maybe a lot of people felt that they should join because they saw the spirit of the group of people...” Mr. Yuan, assistant of Mr. Lim (Interview)*

### **Resource empowerment**

In a social movement, especially a grassroots movement, resource acquisition posed a significant challenge. While a social movement organization could depend on the organizational resources and formal, charismatic leadership in mobilizing the awareness of the community, a grassroots movement has no material resources or organizational capacities to begin with. Yet the availability of resources was important in the rise and fall of a movement, and it determined the speed and rate of the movement. Although it might be argued that the community possesses the resources within, it is the pooling of these scattered resources that was critical. As Mr. Teo, the Treasurer of another large grassroots group – Himpunan Hijau Group said,

*“You’ll have to be responsible for yourself. If you love your country, you need to come up with something to do for your country by yourself... Ordinary people coming together can do extraordinary things.” (Interview)*

The above was made possible with the existence of social media. Through social media, it was easier, in relative terms, for one to source for resources or

to proactively provide his/her resources. For example, Ms. Nadia had a volunteer to help her manage her blogs for the campaign, and she also mobilized nearby residents to take photos of the plant when flood hit Kuantan in December 2013 (it was worried that radioactive material might dissolve in the flood and spread all over the city). Some graphic designers also volunteered their help to the Facebook group administrators or social activists who needed a good picture or poster on their Facebook group to garner more attention of the public. Some people have composed songs and made videos to be uploaded in YouTube as a support of the green movement (see Appendix B). As a veteran writer for social issues, Mr. Ho has contributed to an increase in public awareness and concern by writing articles and posting on his own webpage that has more than 2,000 friends. According to Ms. May, an activist and friend of Mr. Ho, who has been actively involved in organizing the Green Walk:

*“I have no personal charm. If you visit my Facebook, you will see nobody “likes”. But there are a lot of writer friends who are really charming online. They can easily get five hundred “likes”, one thousand “likes”, or five hundred “shares”. So we contact them in the hope that they would help to promote this issue. In fact, we have probably contacted most of our writer friends online in this circle of Chinese writing in Facebook.” (Focus group)*

One critical concern about promoting via an online channel was the legitimacy. While social network might serve as a basis of trust, a national environmental issue that was likely to be a long-term fight required a higher level of trust. This was especially so when it required the community’s contribution of time and money. In this regard, social media allowed the creation and organization of activities across the online and offline presence,

such that people could verify the authenticity of an online group, message, or event. For instance, the people might creatively organize a get-together for breakfast where all attendees wore a Save Malaysia Stop Lynas t-shirt. It became a trend whereby people would wear a t-shirt to show their support for the campaign. Indirectly, this also established the legitimacy of the group and further spread the awareness. The openness of the platform also allows public governance. For example, the information about a donation drive can be made known to everyone through social media through the posting of a bank statement. In addition to the direct donation drive on the Facebook page, social media facilitated fundraising through an indirect promotion of offline fundraising event such as that was shared by Mr. Lim:

*“I remember that one or two days before the Green Assembly event on 26 Feb 2012, people started to come to Kuantan. We broadcast through Facebook, saying that we are selling the green T-shirt at Teluk Chempedak (a beach in Kuantan). People received the news and they went to look for our store and to buy T-shirts. It [Social media] seems really responsive.”(Interview)*

## **Social Media in Action Mobilization**

### **Structural empowerment**

*“My point of view is that in this country, everybody needs to work in order to survive. We are not in some countries where the social welfare is so good that they can afford to be a full time activist. We cannot do that,” Mr. Yong. (Interview)*

Mr. Yong’s worries reflected the concern about the cost of participation or action in the environment movement. While people might grow to understand the environmental concerns, it might not translate into action. This was especially so during the time where community participation was dominantly defined only by their involvement and presence in offline movement such as

protests or demonstrations. These involvements were time and effort consuming. Given that an offline movement took place at a specific location and a fixed time, some people may not have been able to attend. Moreover, the majority of community members could only react passively to the movements or other activities organized by the movement agencies or groups, despite their heightened interest in the issue and desire to contribute.

In this regard, social media provided a platform for the open, proactive participation of community in various forms. By lowering the costs and alleviating the barriers of involvement, social media allowed people to take the initiative in mobilizing the movement other than participating as a follower by browsing information, “liking” or “sharing” post in social media. Mr. Yong, for instance, who was enraged by the establishment of the plant, has taken his action by starting the Facebook group, “I’m from Malaysia! I say Stop Lynas!” for people to post events that were related to the environmental movement. At the same time, many have changed their profile picture to a green color as an act of support for the movement. The logo of a student organization, Malaysia Youth & Student Democratic Movement (DEMA) was also changed to green in Facebook, while other Facebook groups have used green as the theme color in their home page cover photo. Leveraging on their familiarity with social media, young people from the SMSL group spontaneously decided to create the Pahang Don't Need "Hazardous" Project group in Facebook, in order to facilitate discussion regarding ways to stop the operation of the plant. Simultaneously, a lot of self-initiated groups emerged, as a result of the availability of an unrestricted platform:



*“I remember after Himpunan Hijau 2.0 (Green Assembly 2.0 on 26 February 2012), people started to form groups [through social media]. In Ipoh city, a group of veterans fought for Bukit Merah. There was one [group] in Penang state called Green Youth another one in Johor state called Johor Yellow Flame where they had a sub group focusing on the environmental movement. Probably they got empowered and they get charged up after the event.” said Mr. Lim, the state assemblymen of Pahang (Interview)*

Although much of these self-initiated efforts took place in the 13 different states and various cities across Malaysia, they are not fragmented efforts, because of the network connections enabled by social media. The connections via social media enabled the emerging groups on the ground to play a role in moving towards a common goal. At a high level, the Himpunan Hijau group focused on mobilizing people movement, SMSL group focused on making judicial review against Lynas, and Stop Lynas Coalition (SLC) focused on collecting and analyzing data about the plant and environment impacts. Through social media, these three largest groups of the movement were loosely coupled, complementing each other's' initiatives. Mr. Chun, a student representative from DEMA, also illustrated the connections between their group and others:

*“We are also helping other groups like Stop Lynas Coalition to promote mobilization in the university since we are from the universities... We have about 1,500 followers in our Facebook group and after that, the followers will pass [the message] to other people. At the same time, we also share this information to other student groups like Solidarity Mahasiswa. They have an even bigger crowd....” (Interview)*

Another example was the linkages created by Mr. Yong. When he established the Facebook group, “I'm from Malaysia! I say Stop Lynas!”, he encouraged

others to create groups for their own cities/town in a message on his group introduction page, and later to send the page link to him such that he could collate the pages. More importantly, he urged every administrator of the group to cross share the details of their local events and photo in order to increase the spread. These were shown in the excerpts of his Facebook group.

**Message by Mr. Yong on the group introduction page of “I'm from Malaysia! I say Stop Lynas!”**

ARE YOU READY TO MAKE A DIFFERENCE?

- 1) If there's an existing group for your town, do join the group. e.g., 'I'm from Cheras, I say Stop Lynas!' (To check whether your town already has a group, click '1 Doc' on the top right corner of the Group's main page)
- 2) If your town does not have an existing group, you can Start an FB group using this group name format (I'm from \_\_\_\_\_, I say Stop Lynas!) and then PM your group URL to our Admins
- 3) Once you get in touch with people in your town, plan and create peaceful, non-violent, non-hatred yet educational, informing, and meaningful events. Here's an example of what the Klang group organized on March 4:  
<https://www.facebook.com/events/252775234805452>
- 4) Once your event invitation is ready, please do share it on the wall of our Group. Who knows, some of us might be interested to join your activity on that particular weekend!
- 5) After the event, kindly share a link to your event photos, so that other Malaysians can see your meaningful event!

<https://www.facebook.com/groups/120600834735112/files/>

**List of groups collated by Mr. Yong**

f Search for people, places and things 🔍 👤

## List of groups and events within/ beyond Malaysia

By Yongjue Tan on Friday, March 2, 2012 at 8:01pm

# WITHIN MALAYSIA #

JOHOR

- **I'm from Johor! I say Stop Lynas!**
- <https://www.facebook.com/groups/383926814952583/>
- Event 1:
- Event 2:
- Event 3:

- **I'm from Kota Tinggi ! I say Stop Lynas!**
- <http://www.facebook.com/groups/259778004100985/>
- Event 1:
- Event 2:
- Event 3:

- **I'm from Kulai ! I say Stop Lynas!**
- <http://www.facebook.com/groups/372637716089148/>
- Event 1: 康乃馨, 献爱心
- <https://www.facebook.com/events/364246396939868/>
- Event 2:
- Event 3:

- **I'm from Pontian ! I say Stop Lynas!**
- <http://www.facebook.com/groups/262629090483949/>
- Event 1:
- Event 2:
- Event 3:

- **I'm from Skudai ! I say Stop Lynas!**
- <http://www.facebook.com/groups/352525664788441/>
- Event 1:

<https://www.facebook.com/notes/im-from-malaysia-i-say-stop-lynas/list-of-groups-and-events-within-beyond-malaysia/121761441285718>

*(Facebook post)*

### **Psychological empowerment**

While social media allowed everyone to take action in their own capacity, there was a risk of community members or groups pursuing different agendas (such as political agenda). Without a shared objective, the movement might evolve into a dispersed series of actions that failed to aggregate the strength of the people. At the same time, given that trust was relatively lower in a virtual

community, the confidence of the people in the grassroots groups on Facebook and the trust among the myriad groups took time to accumulate. Ms. May, in organizing the Green Walk together with other activists and groups, found that:

*“Some people might distort the meaning of the activities to his own will. While we may find things totally unacceptable, the person still insists to do publicity in his way. We even “unfriend” him [in Facebook]. We have to unfriend him even if he wants to help us for activities... [Their] agenda can be different... There were [once] two administrators of two pages that quarreled online because they have different ideas about promoting an activity. We went in and tried to mediate among them, pull down the post [in Facebook] and then continue the activities...” (Focus group)*

During the green movement, a common goal was established, i.e. to stop the operation of the plant. In mobilizing the efforts of community towards this goal, community members and groups attempted to steer others to focus collectively on the environmental issues. In Ms. Nadia’s words, “For me, it is not the political issues. It is about the environment and about the future, about protecting our industry, our people, our health, our environment.” As an example of navigating the efforts of Malaysians, Mr. Yong shared his rationale for the name of his well-received Facebook group.

*“I think this Facebook group of “Pahang Don't Need ‘Hazardous’ Project” suggests that the discussion is only about Pahang state. I thought that for people who are coming from other places of Malaysia, they might not find it so relevant to them. What people really focus on this time is the rare earth plant issue. So I decided to come with something that unites us all. We are from Malaysia and we share the common mission to stop the plant operation. Besides, no one at that time was doing something solely on the plant issue. That is why I decided to create a new page [named “I'm from Malaysia! I say Stop Lynas!”]” (Interview)*

While the green movement was often reportedly said to have been exploited for political gains, grassroots groups have been trying to consciously emphasize the environmental concerns of the movement so that the public focus on a shared, common goal. In a message to the newcomers of the group by Mr. Yong, it was made clear that no discussion about political issue was allowed, as shown in the Facebook page excerpt below. Besides, Mr. Yong has been closely monitoring the posts in his group and deleting whatever that was not relevant to the green movement. He said,

*“I allow people to post anything that are relevant to the environmental movement. The first criterion is that it should be relevant to the plant or other green activities or green event. The second is that there should be no commercial purpose behind it. For example, there was one honey seller trying to make use of the Lynas incident as an opportunity to promote the product. They posted an image saying that XXX product supports the movement. It was clearly a promotional post. So I talked to the person also through Facebook and the person was obliging and removed it. The third thing is that it has to be without any personal agenda. So it has to be something for everyone to participate in, without being sponsored and without any personal agenda behind it... We don't want to disappoint people who like us and we want to make people continue to believe in us, so that the page really delivers its value of unifying as its core mission.”*

*(Interview)*

**Files in the Facebook group Pahang Don't Need "Hazardous" Project**

**About the Group - newcomer please read**

Dear ladies and gentlemen, friends and family,

Due to overwhelming support and postings, some of the key articles/reports were buried deep in the archives. Retrieving them is a hassle and new members always missed the important files and hence the question - what's this Group about?

To facilitate new members to better understand the group and what's happening in Kuantan, I have summarize the points as below, and I shall bump up this posting new times a day.

1. The purpose for the Group is to increase public awareness on the Kuantan Lynas plant, and discuss ways / suggestions to stop the project, or to better understand it if we missed out some important points.

2. This Group is NOT about politic, we shall refrain ourselves from discussions on politics or other non-essential topics.

<https://www.facebook.com/notes/pahang-dont-need-hazardous-project/about-the-group-newcomer-please-read/118366061570929>

*(Facebook post)*

Through social media, the relationships among the active community members were reinforced, contributing to a higher degree of trust in their further cooperation and coordination in the green movement mobilization. As described by Ms. May, “In one of the activity in Kuantan, I have met a lot of online friends face-to-face. When this is brought back to the Facebook, you will see this effect because there is trust after face-to-face contact. You have seen this person, and then realized that, through Facebook, his friend is also my friend...So, we have a trusted point of contact.” Mr. Yong added that the process of trust building could continue by checking whether what a person has posted in Facebook was consistent with what he/she said in their previous encounters, online or offline. Furthermore, virtual connections were arguably more sustaining because this allowed the community members to contact more frequently and more conveniently even though there was no offline activity. The trust and connections helped improve the coordination among the dispersed groups. For instance, as Ms. May shared, it would be easier to communicate with and convince a page administrator, whom she has established relationship with, when she found that the person was posting some misleading information on his/her page. In illustrating the sustaining

relationship enabled by social media, Ms. Cui, a student representative from DEMA, said:

*“Social media can connect people and give us confidence and encouragement. This is the progress of the new era. Unlike the previous organization whereby people pay attention to the issues that interest them today and they disappear the next day. This is the difference in the new force of power [in social media].”*  
(Focus group)

### **Resource empowerment**

Unlike a centrally-organized movement where the crowd depended mainly on the mobilizing agency in gathering resources such as funds, volunteers, transportations etc., the social media-enabled community was more proactive not only in contributing and gathering, but also managing and organizing the resources for an event. Mr. Lim described the self-driven efforts by the community:

*“A lot of people say that the Himpunan Hijau Group should be assisted by different branches, because so many people have come forward to help. Actually, it is an organic development... You will be surprised that they also help to clean up the places after the event and we don't know who they are. They help to clean the rubbish and all that is left over and some offer help to remove the stage. We do not know who they are...”* (Interview)

During the green movement, community members and groups offered and coordinated their capability in trying to complement each other's strength and to amplify the effect of the events and activities. As mentioned, the Himpunan Hijau group focused on mobilizing people movement, SMSL group focused on making judicial review against Lynas, and Stop Lynas Coalition (SLC) focused on collecting and analyzing data about the plant and environment impacts. Besides, groups like DEMA and “I'm from Malaysia! I say Stop

Lynas!” served to publicize the events while SLC group served as a technical expert advisor to other groups. The synergy of the community capability was also manifested in the diverse types of activities organized such as the photo competition and the cycling campaign, because the community suggested and initiated activities based on their personal interests and capabilities. The process of coordination was enabled by the availability of social media, as described by Mr. Adi and Ms. May:

*“We are connecting each other via electronic means as well. So we know and we are informed of what the other group is doing and what support we can give them... Social media plays a very important role when we mobilize for the Green Walk. Once we published that in social media, we got response. People started asking questions like when the event is.” Mr. Adi (Interview)*

*“In Facebook, we saw a mother who was very good at cooking. So if there is not enough food during the event, we will ask if they can offer a little food. The mothers have a group that can provide food,” Ms. May (Focus group)*

Social media also served well as a real-time coordination on the ground when an event was taking place. According to Ms. May, “our coordination is very voluntarily spontaneous. There is no need for a president. No one needs to tell you that you are responsible for this, you are responsible for that. Nobody wants to follow other’s instruction. They can make the decision on their own action.” This was particularly evident in the 14-day Green Walk where resources requested via social media were responded overwhelmingly by social media users. Ms. May and Mr. Yuan shared a few instances:

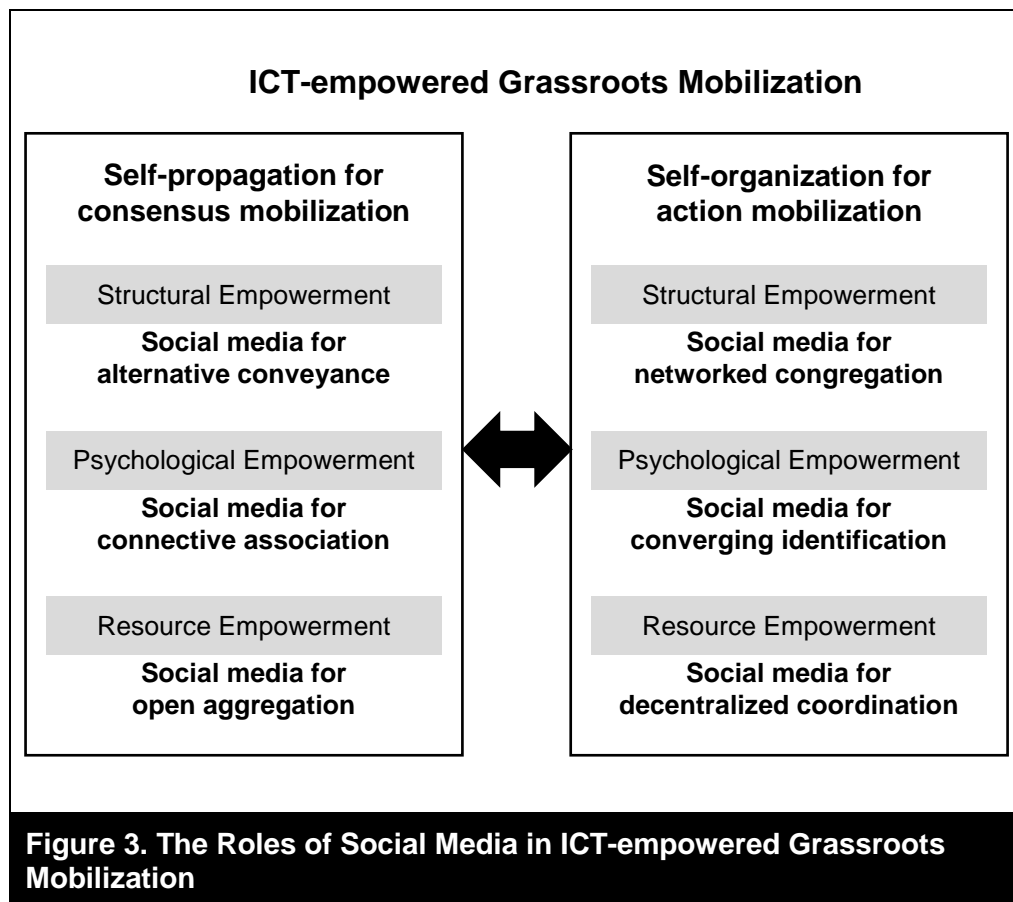
*“When there is not enough water to drink, people will request through social media. It was like ‘praying to God’. [But] we must specify the quantity. Otherwise, the resource will continue to flow in... Once there was not enough socks, and someone sponsored 200 pairs of socks,” Ms. May (Focus group)*



*“We just said we want coconut [in Facebook] and from that day onwards, we got coconut every day. Because more than one person has read and reacted to our request,” Mr. Yuan (Interview)*

### 3.3.5. Findings

The previous section illustrates how social media were used by the people of Malaysia during the environmental movement, in reaction to their lack of faith in traditional political and commercial institutions to adequately address pressing environmental concerns. Subsequently, we provide an analysis of how social media empowers the community during an environmental movement, specifically in mobilizing consensus and action. The findings are summarized in Figure 3 and Table 11.



<b>Table 11. Mechanisms in ICT-empowered Grassroots Mobilization</b>	
<b>Constructs</b>	<b>Definition</b>
Social media for alternative conveyance	Social media allows for an alternative channel of information sharing, including giving to and taking from, against the structural inequalities facing the community, in order to raise community awareness.
Social media for connective association	Social media allows for the development of identification within the community through various connection points, including the sharing of a common vision/concerns (e.g. environmental impact), sharing of acquaintances or common referents, and the reduced emotional distance with replication of offline scenes via online means (e.g. photos and videos of the movement).
Social media for open aggregation	Social media allows the community to contribute their resources freely and these resources (including graphics, writing, and photos) are retained and accumulate on social media.
Social media for networked congregation	Social media allows the community to easily locate each other and to form a loosely connected network in order to act in accordance, to focus their energy and to amplify the scale of participation and influence when they organize an activity.
Social media for converging identification	Social media allows the community to shape the shared understandings and values of the followers, as well as to sustain the continuity of relationship such that the collective activism can be sustained.
Social media for decentralized coordination	Social media allows everyone in the community to have the autonomy and freedom in making a request for resources and in fulfilling a request for resources in a movement activity, such that they could complement the strength of each other, and even more so in real time.

### **Social Media Enables Self-propagation in Consensus Mobilization**

In a social movement such as that of the environmental movement in Malaysia, consensus mobilization is critical in disseminating the cause of the movement, so as to turn bystanders and opponents into adherents of the goals of a social movement (Klandermans 1984). The spread of information about the movement and viewpoints of the concerned community will popularize the incident, and raise the awareness of the people. This in turn will mobilize the support from the potentially-sympathetic others (Yetgin et al. 2012), thus leading to a large scale advocacy from the multitude of crowds. More

importantly, consensus mobilization contributes to generating available human resources for the entire movement eventually (Edwards and McCarthy 2004). In the case of Malaysia environmental movement, it is evident how the awareness of the local community has spread contagiously, from the concerned residents of nearby city of the plant to other cities and states of Malaysia. For instance, a single Facebook group (Pahang Don't Need "Hazardous" Project group) has attracted more than 40,000 members. The relatively lowly-educated villagers living near to the plant are also able to understand more about the plant and its potential risks claimed by the opponents, through social media. Furthermore, through social media, the international community has paid attention to the development of the movement and has shown its support, including people from Singapore, Thailand, and Australia. In this case, consensus mobilization is driven by the community. Through case analysis, it is argued that social media enables self-propagation in consensus mobilization, given that it allows for alternative conveyance (structural empowerment), connective association (psychological empowerment) and open aggregation (resource empowerment).

### **Social media for Alternative Conveyance**

Our analysis shows that in order to achieve self-propagation in consensus mobilization, social media empowers the community in the environmental movement by allowing for an alternative conveyance. Without social media, the community has no access to a broadcasting information channel that can spread their information, concerns, and desires because the mainstream media is largely state-controlled. This means that people continue to be constrained by structural inequalities (Christens 2012) that limit their understanding of a

community issue, and this prevents them from sharing information among themselves. In other words, an awareness of the community's environmental issue may continue to be bounded to a small group of citizens who will have a hard time in getting widespread support in making any changes. Drawing on the studies of social movement, it may be argued that there is an absence of mobilizing structure that can enable the individuals to engage in actions in getting the movement off the ground (McAdam et al. 1996). From the perspective of structural empowerment, social media offers an **alternative conveyance** structure alongside the mainstream media in developing community awareness.

Social media gives rise to an **alternative channel of information sharing** for the community. Through social media, the community can bypass traditional media gatekeepers by sharing openly the information which, they find, is underrepresented in the state-controlled media. In order to build an awareness of community, the obstacles to share and broadcast information widely is lowered because anyone, activists or supporters, working professionals or students, affected or disaffected citizens can be the senders of information in social media. They can express their opinions and concerns in an open, public space (Qu et al. 2011) which was not possible in the past. This means that information that is not available in the mainstream media can now be unveiled through the availability of a mobilizing structure (i.e. social media), thereby leading to a democratization of content (Kumar and Thapa 2014) and a better-informed community.

Simultaneously, social media allows **easy access** to information. Through social media, the community can overcome the spatial constraints in searching

and locating information unavailable in conventional media. In order to build an awareness of community, the openness and transparency of social media allows information to reach different segments of population, including the local residents, students, working professionals and disaffected but concerned citizens such as activists and mother's group. Indeed, the social movement literature has highlighted that the most deprived groups seldom engage in the actions, because they are often denied equal capacity to influence the process (Klandermans and Roggeband 2010), such as a lack of information access. The local residents in our case, however, are able to understand and follow the development of the movement, directly or indirectly through social media. Furthermore, the online groups eliminate the need for physical co-presence in mobilizing consensus through face-to-face conversation and persuasion. This explains the widening base of the audience and far-reaching support as a result of the "dramatically increasing publicity through diffusion of information to regional and global publics" (Kumar and Thapa 2014 p. 3).

### **Social media for Connective Association**

Our analysis shows that to achieve self-propagation in consensus mobilization, social media empowers the community in the environmental movement by enabling connective association. Without social media, it is difficult to expand awareness among the community, especially the disaffected citizens and distant observers, because the relevance of the issue and distress of the local residents are scarcely felt by these people (Enjolras et al. 2013). In this regard, we acknowledge the argument of Bennett and Segerberg (2012) that it may be difficult to stimulate the emotional attachment and support of the fragmented, individualized populations with a common group or ideological identification,

especially during consensus mobilization. Drawing on the findings of Bennett and Segerberg (2012), we posit that the diffusion of awareness and influence relies on the proximity of the relational networks in social media and the integration of virtual and offline space. From the perspective of **psychological empowerment**, social media allows for a connective association in expanding community awareness.

Social media enables **proximal diffusion** in mobilizing advocacy from the community. Through social media, the dependence on a club, a party, or a shared ideological frame to make a connection between bystanders and supporters of the movement is weakened (Bennett and Segerberg 2012). In order to expand the awareness and garner the support of community, social media enables the community to engage with the issue by allowing them to find a common ground between themselves and the affected community, based on their diverse understandings of the common problem to be solved (Bennett and Segerberg 2013). For example, through the naming of the online groups created by the community, other users of social media derive their identity reference (e.g., based on the place of their origins or residence) which engenders a sense of attachment to the groups. In other instances, proximal referents such as an affected villagers and an adherent relative or friend, could also serve as a salient cue which individuals can relate to (Selander and Jarvenpaa 2013). Such proximity, which can easily be established or made known in social media, increases the likelihood that the individuals view themselves as part of the same in-group as those who are confronted with environmental risk in their neighborhood (Brewer and Brown 1998). In other

words, the community is able to draw relevance from the movement which motivates their support (Enjolras et al. 2013).

Simultaneously, social media enhances the relevance of the community by **enabling offline scene construction in online space**. While offline movements continue to take place in the digital age, community participation has become more inclusive with the possibility of technology-based verbal, graphical, and experiential representations of the offline movement (Yetgin et al. 2012). In order to expand the awareness of community, social media allows the participant of the offline movement to replicate the scenes via online means (such as posting of updates, photos, and video) in order to bring the “incident” closer to distant, online observers. These eye-witness accounts of photos, videos, and expression of the participants can serve a few purposes. They can promote the attendance of the movement (Penney and Dadas 2014), such as that of the Green Walk campaign. They may also sustain the commitment of the supporters who may not be able to attend the event by reducing the perceived distance. More importantly, the construction of the scene serves to stimulate the feeling and collective efficacy of the bystanders or distant observers, such that more people are emotionally engaged with the movement.

### **Social media for Open Aggregation**

Our analysis also shows that to achieve self-propagation in consensus mobilization, social media empowers the community in the environmental movement by enabling a mass of resource contribution. Resource mobilization theory in the social movement studies has emphasized the importance of resources. The absence of central leadership, however, has deprived the

grassroots movement of legitimacy in soliciting for support from the community. Considering that resources are distributed unequally in society and contained within the individuals or groups, these resources have to be made “available” for the use of collective groups and constituents for the initiation of collective action. With social media, these resources may be made present and accessible to potential actors (Edwards and McCarthy 2004). It is also through social media that more individuals and groups can contribute their competencies or knowledge, which may be of value to a movement. From the perspective of resource empowerment, social media allows for **open aggregation** of resources in sustaining and amplifying community awareness. Social media affords a platform for **resource pooling** among the community in the movement. Through social media, the community need not join or contact a central mobilizing agency in order to contribute. This also means that their contributions are not limited to the specific requirement of the agency. In order to sustain and amplify the awareness of the movement, social media expands the resource base because the community members can volunteer in various capacities (Snow and Moss 2014) in order to elaborate the central message of the movement and facilitate the engagement of the community for collective action. In order to continuously publicize the event and amplify the voice of the people, people can also publicly source for relevant expertise such as graphic design, writing, and photo taking through social media. In other words, social media affords an open platform that mobilizes the assemblage of resources from diverse individuals and groups in the community.



Simultaneously, social media allows for the **development of legitimacy** in the movement. Legitimation is an important process in grassroots action (Willie et al. 2008) because it entails the acknowledgement and approval of the community in mobilizing the movement. In addition to personal social networks (Enjolras et al. 2013), social media also facilitates legitimacy by cross-referencing and validating between online and offline space. The authenticity of an activity, along with the movement, can be verified through the interplay of online promotion and offline event. More importantly, the open peer governance facilitated by social media can increase the confidence and trust of the community in grassroots initiated actions. This, in turn, encourages further activation of the recruitment network and the resource contributions of the adherents.

### **Social Media Enables Self-organization in Action Mobilization**

Besides consensus mobilization, action mobilization in social movement is important in order to engage the adherents or the people who adopt the view of the movement in actions, and to turn them into active participants of the movement (Klandermans 1984). Motivated by an individual's grievances and a lack of institutionalized means to address their concerns, people come together in order to lobby for change through their collective action (Staggenborg 2011). It is hoped that such efforts might lead to the attention and action of political and commercial institutions, as well as an increase the community's collective self-efficacy (Pilisuk et al. 1996). In the case of Malaysia's environmental movement, it is evident that the community has taken action to drive and support the movement through social media. For instance, more than 40 Facebook groups and pages have been created by the

community members, including activists and working professionals. They also take the initiative to organize offline actions, such as the Green Assemblies and Green Walk. Furthermore, through social media, administrators, members, and visitors of these online groups and pages support the movement by sharing their personal resources: different activities were organized such as photography competition and cycling campaign, and people on the ground made use of social media to coordinate and cooperate while the events were on-going. Through the case analysis, we argue that that social media enables self-organization in action mobilization, given that it allows for networked congregation (structural empowerment), converging identification (psychological empowerment), and decentralized coordination (resource empowerment).

### **Social media for Networked Congregation**

Our analysis shows that to achieve self-organization in action mobilization, social media empowers the community in the environmental movement by allowing for networked congregation. Prior to social media and even the Internet, environmental movement or other movement are shaped mainly through the physical assemblies of people in public space. However, the participation of the community can be limited by physical constraints and the requirement for co-presence. More importantly, the community is constrained by a few options whereby they can show their solidarity and support. With social media, it adds to the pool of options (Konieczny 2014) different types of activities that the community can take. Again, the availability of social media resonates the idea of mobilizing structure, i.e. the collective vehicle through which people engage in collective action (McAdam et al. 1996). From the

perspective of structural empowerment, social media enables **networked congregation** in the initiation of community collective actions.

Social media allows for **flexible participation** that encourages the simultaneous involvement of the community. It contributes to collective action by offering a platform that diversifies the options of participation, thus making it easier for citizens to act (Lynch 2011). Towards initiating the actions of the community, the cost of participation is lowered (Earl and Kimport 2011) because any community members can act proactively by initiating actions in social media, such as creating an online group that gathers the supporters and change their profile photo. Indeed, as they “like” or “share” a post, the community’s participation is also enhanced. This means that multiple avenues for community actions emerge, lowering the dependence on the offline movement. More importantly, it allows for the simultaneous participation of a wider community who may not be able to attend physical events at a specific time. As a result, self-initiated efforts are intensified.

Simultaneously, the network connection in social media allows for the **formation of coalition** between separate grassroots groups (Bettencourt 1996). Through social media, people are able to organize and form associations which are previously impossible or require much more effort to establish, particularly on a large scale (Kane et al. 2014). Towards initiating the collective actions of the community, the fluid form of association allows many people to coordinate actions which cohere and aggregate into mass mobilization (Enjolras et al. 2013; van de Donk et al. 2004). With a shared superordinate goal (i.e., to appeal for changes in the decision of the rare earth plant), these groups may share resources and take concerted actions to

organize a large scale campaign such as that of the Green Walk. This resonates with the concept of a stitching mechanism (Bennett et al. 2014) that can connect many separate, self-initiated online groups into a coherent organization, in order to make their claims in environmental conservation.

### **Social media for Converging Identification**

Our analysis further demonstrates that to achieve self-organization in action mobilization, social media empowers the community in the environmental movement by allowing for converging identification. Compared to organization-centered mobilization, which begins with a central leadership, grassroots actions may be diffused with different agendas or purposes (such as political or commercial purposes). While proximal diffusion may be helpful in expanding the awareness and attention of the community, given that it allows people to draw relevance of the movement to their personal experience or agenda, a sense of collectivity with a common goal is needed to drive the actual actions of the community. In this regard, social media allows for the emergence of collective identity across the dispersed population (Garrett 2006), as people are engaged in shaping orientations, values, and beliefs for collective good. Social media also enables the process of trust building. From the perspective of psychological empowerment, social media allows for **converging identification** in scaling the community's collective actions.

Social media allows the focus of the community to be **steered collectively** on the key issue, i.e. environmental concerns, amid the different purposes and agenda of individuals and groups. The literature of framing in the social movement (Snow and Benford 1988) suggests that the process of assigning meaning to and interpreting relevant events is often a key role for central

leaders in leading to a collective understanding in a movement. However, through social media, which allows for community action and interpersonal feedback, even new adherents of the movement may be involved in constructing a collective identity (Valenzuela 2013). By clearly stipulating the motivation and objective, for instance, online group administrators can shape the understandings and values of the followers, such that they focus on a collectively shared goal when they are taking actions. The removal of non-relevant information or posts in the group actions by the group administrators is also transparent to the community members, thus further aligning the actions of the people to the ideology of the movement.

Simultaneously, social media gives rise to **relational solidification**. Some scholars have questioned the low level of trust among the online participants of a movement, since virtual ties have been classified as weak ties (Diani 2000). Nonetheless, these studies may be situated within the assumption that there is no real face-to-face interaction. In line with the argument of Mora (2014), we posit that social media can contribute to strengthening the relationships among the community who shared a common goal in the environmental movement because of the interplay of offline and online relationship building. While Mora (2014) suggests that virtual relationships can be enhanced with offline meetings, our study shows that this relationship can also be strengthened via the subsequent connection that is enabled by social media. Furthermore, information posted by a person and maintained in social media may serve as evidence of his/her commitment to the movement to others. The deepened and sustained relationships may thereby lead to a better coordination in the community's collective action.

### **Social media for Decentralized Coordination**

This study also shows that to achieve self-organization in action mobilization, social media empowers the community in the environmental movement by enabling decentralized coordination. Without social media, the success of a movement relies on the central role of the mobilizing agency not only in gathering, but more importantly in coordinating resources. The agency often decides what resources are needed in the movement, and thus has a better idea of what resources are already acquired (or not). However, in grassroots movements, there is an absence of leadership, organizational structure, and organizing capacities. In this regard, social media not only allows individuals and groups to contribute in their capacity, but also enables the community to be autonomous in coordinating the resources among them (Rosen et al. 2010). Given the transparency and the network connections enabled in social media, community actions may be built on “self-selection and decentralization rather than coercion and hierarchically assigned tasks” (Benkler 2006 p. 59). From the perspective of resource empowerment, social media enables the **decentralized coordination** of resources in sustaining and amplifying the community action.

Social media allows for **resource synergy** in the community. Through social media, individuals and groups have the autonomy to take lead in areas which they are stronger in (e.g., legal, research, and people movement). At the same time, connection in social media allows these autonomous individuals and groups to identify and work with others to complement their strength. With the emergence of multiple self-coordinated groups, constellations of tactics, strategies, and resources are developed over time and used by the community

to act collectively (Tilly 2006). In other words, action repertoires are enriched with the heterogeneous capabilities and creativity of the community members. More importantly, leadership can shift within a decentralized organization when different groups are allowed to take lead in successive moves by leveraging social media, and this is helpful to avoid the situation whereby a leader's energy is exhausted in the movement (Rosen et al. 2010). Some examples are the photo competition and the cycling campaign.

At the same time, social media also allows for the **real-time coordination** of resources on the ground. Through social media, the community overcomes a “boots to the ground” mentality by requesting or providing resources through online means while the movement activities are on-going (Gardner 2011), such as logistical assistance. With the affordance of mobile technology, the needs of the offline action participants may be disseminated in real time from the ground. As such, the dispersed network of online community sharing resources through virtual channel can supplement the efforts of offline actions by channeling the resources to offline participants. In this regard, the hybridity between online and offline space of movement is enhanced (Penney and Dadas 2014), leading to a synchronization of resources that continue to support community action.

### **Unintended Consequences of ICT Use**

While the key findings of the study clearly show that ICT can empower the community in addressing social problem, it is also observed that the use of ICT has some unintended consequences, from the perspective of community empowerment. In order to present a comprehensive view of ICT use in social

context, unintended consequences, which are often also unexpected, are delineated.

In this study, the open sharing of unfiltered information by the community in social media can result in the **spread of misinformation during the movement**. With social media becoming an important alternative channel of information, there is a risk that incorrect information supplied by the community will spread widely and may mislead other people. Worse, these may become slanderous remarks. For instance, during the flood of 2013 in Kuantan, a photograph that allegedly showed an employee rowing a blue fiber-glass boat in floodwaters inside the plant spread on Facebook. It sparked off much discussion about whether the radioactive material would have dissolved in the flood and spread all over the neighborhood. However, the management of the plant responded that the plant was not affected because it was built on high ground. In addition, the management reported that the two deaths involving the plant staff were not caused by the plant operations or safety standard, as claimed in the social media – one was killed in a road accident and one fell into a pond in the plant and drowned after suffering a heart attack (New Straits Times 2013). This risk of spread of misinformation is corroborated by Mr. See, “you must be very careful with what you post on social media or they may be interpreted as slanderous. You must be able to prove what you say. Recently, there was a case where an engineer drowned in the waste pool. Some of our people advocate us spinning it, I said, no. we don’t spin it.” In other words, while the use of social media encourages the abundance and diversity of real-time, on-the-ground information provided by



the community, it gives rise to the issue of information accuracy which may degenerate social media into collective rumor mills (Oh et al. 2013).

The use of social media in grassroots mobilization may also engender a **weak strength of commitment in community activism**. While social media diversifies the form of participation by enabling active virtual participation like group formation, opinion sharing, information exchange, and activity organization, it also enables involvement that can be characterized as relatively passive or reactive, through features like “share” and “like”. Compared to offline movements and active virtual participation, this involvement is more comfortable, effortless, and even lazy (Mora 2014). As Mr. Yong, the founder of a Facebook group for the green movement stated, “A lot of the members are very loud and they don't mind sharing on the Facebook page. It is just that when it comes to attending the movement, they don't do so... They suddenly have some other consideration, or they feel lazy and don't want to go...” While this “clicktivism” or “slacktivism”(Morozov 2011) may expand the spread of awareness, there is a high chance that it may not convert into actions that require more time and effort.

During the environmental movement, it may also be seen that the social media platform may be **misused for personal agenda in a collective effort for social purposes**. In a national issue like environmental conservation, there is a widespread attention in the citizens. In social media, people gather in groups or pages. In considering the heightened public attention, some people have exploited the opportunity to advance their personal goals, such as political or commercial goals, as described in the case. In the context of social media, it is much easier for the people to intervene with their selfish goals, given the open

nature of this ICT platform. For instance, a seller would post the information of his/her products in an active green movement Facebook page. Although social media also allows peer governance, such advertisements cause frustration in the followers of that page. Worse still, the purpose of the social media group or page may be distorted if such posts are left unattended.

### **3.3.6. Contributions and Limitations**

This study presents a case of ICT-enabled grassroots mobilization that offers two key theoretical contributions. First, this paper addresses the literature gap in IS by conceptualizing the roles of social media in empowering the community during grassroots mobilization for environmental purpose. Although it is evident through the contemporaneous collective actions (e.g., Arab Spring, the Occupy Wall Street movement, Spain's indignados) that social media has empowered the community by advancing its role from consumer to driver in social movement mobilization (Fuentes 2007), few studies have adopted a similar perspective in studying community self-organization. Hence, this study examines the social media's community empowerment roles in the context of grassroots mobilization (Bennett and Segerberg 2012). This context is also different from commonly studied self-organization environments, such as Wikipedia, because of an absence of structuring conditions like participant identification or reputation systems, moderation routines, and reward systems. Our findings suggest the two key roles of social media in enabling self-propagation and self-organization in mobilizing consensus and action respectively. By illustrating how social media

empowers the community from different dimensions of empowerment, the findings contribute to an understanding of how ICT enables the community to assume the role of driver without relying on formal leadership. In addition, the unintended consequences of ICT use in digital mobilization are identified, thereby enhancing our understanding on the constraining effect of ICT (Majchrzak et al. 2013a).

Second, this study addresses the gap in ICT-enabled social movement by illustrating the grassroots mobilization at the intersection of online and offline space. It has been suggested that previous dichotomies of the virtual/real lead to inaccuracy and impediments in the analyses of the relations between collective action and social media (Meek 2012). Few studies have presented the dynamics between online actions and network, and offline-based actions and network (Soon and Cho 2013). This study moves away from the exclusive attention of collective actions that occur on online space, and the narrow perspective of how online channels serve to spread and scale the offline-based movement. In other words, this case draws attention to the “increasing hybridity between online and offline spaces” (Penney and Dadas 2014) in ICT-enabled collective action and social movement.

Our findings also demonstrate the potential to inform practical interventions. First, the analysis suggests practical considerations for community in engaging the collective others for a shared purpose using social media. It expands the view whereby the community can be the driver in mobilization, when empowered by social media. Second, our study explains how social media facilitates self-propagation and self-organization in the community towards mobilizing the consensus and action of the community. By discussing

examples of how ICT is used for organizing purpose, it goes beyond the often discussed capacity of ICT in disseminating information and promoting a campaign (Van Laer 2010). Third, this study provides an integrated view of online and offline approach in ICT-enabled mobilization. By viewing online and offline spaces as interdependent and coherent domains, rather than opposed ones, our study presents the synergy of efforts in both world. Some examples include the development of a trusting relationships enabled by online connections and offline interactions, the real time coordination for resources acquisition, etc.

There are limitations with any research, and this study is no exception. Our study is conducted in the context of environmental movement, which we argue falls under the category of reformative social movements according to the typology defined by Aberle (1966) that differentiates social movements by two dimensions: 1) who is the movement attempting to change (specific individuals or everyone) and 2) how much change is being advocated (limited or radical). Reformative social movements target the whole population (as compared to alternative and redemptive social movements that target a selective part of population such as parents and religious sects. Nonetheless, reformative social movements seek a limited change, as compared to revolutionary social movements that aim to change the society radically (e.g., with communism ideology). Hence, the findings of this study which is an analysis of reformative social movement requires indiscriminate use in mobilizing other types of movements, especially one that involve radical change of the society such as political movements.

## **Chapter 4**

### **Conclusion**

The previous chapter illustrates the three case studies: Thailand Flooding 2011, China Taobao E-commerce Villages, and Malaysia Environmental Movement. In this chapter, a summary of the key findings and contributions specific to the three cases are provided. In addition, some emerging findings of the three studies are also offered. In particular, the unintended consequences of digital empowerment are illustrated in order to capture the observations of unexpected and undesirable impacts on the community that occur in addition to the desired effect of ICT. To conclude, contributions of this thesis are illustrated by taking an integrated view of the three studies in exemplifying digitally enabled community empowerment. At the end of this chapter, some potential research directions are offered.

#### **4.1. Summary of Key Findings**

From the three studies, the key findings and contributions are summarized in Table 12, providing an overview of the thesis findings.

**Table 12: Summary of Findings**

Disadvantaged Community	IS Phenomenon	Research Question(s)	Findings	Contributions
<b>Study 1: Thailand Flooding 2011</b>				
Naturally disadvantaged Community	ICT in Disaster Response	How does social media empower the community in crisis response?	<p><b>Roles of social media with the enactment process of social media's roles</b></p> <ol style="list-style-type: none"> <li>1. Social media enables the community to attain <u>Collective Participation</u> <ul style="list-style-type: none"> <li>- Interaction of structural and resource empowerment</li> </ul> </li> <li>2. Social media enables the community to attain <u>Shared Identification</u> <ul style="list-style-type: none"> <li>- Interaction of psychological and structural empowerment</li> </ul> </li> <li>3. Social media enables the community to attain <u>Coordinative Control</u> <ul style="list-style-type: none"> <li>- Interaction of resource and psychological empowerment</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Explore the emerging social consequence of ICT by illustrating the roles of social media in empowering the community during crisis response</li> <li>2. Address the literature gap in empowerment by elucidating the actualization process of empowerment enabled by social media as a mediating structure</li> </ol>
<b>Study 2: China Taobao E-commerce Villages</b>				
Socio-economically disadvantaged Community	ICT in Rural Development	How does ICT empower a marginalized community towards the emergence of an ecosystem for rural development?	<p><b>Critical Actors of Rural E-Commerce Ecosystem</b> Grassroots leaders, e-tailers, third-party e-commerce service providers, e-supply chain partners, digital platform sponsors, institutional supporters, online consumers</p> <p><b>Roles of ICT (e-commerce) in rural development</b> Resource (Capability) Empowerment</p> <ol style="list-style-type: none"> <li>1. ICT allows for quick experimentation</li> </ol>	<ol style="list-style-type: none"> <li>1. Explore the emerging phenomenon of ICT-enabled community-driven development by illustrating critical actors and their roles in a rural e-commerce ecosystem</li> <li>2. Address the literature gap in the connections between</li> </ol>

**Table 12: Summary of Findings**

Disadvantaged Community	IS Phenomenon	Research Question(s)	Findings	Contributions
			<p>2. ICT allows for substitutability of products</p> <p>Structural Empowerment</p> <p>3. ICT allows for reconfiguration of interdependencies</p> <p>4. ICT allows for platform generativity</p> <p>Psychological Empowerment</p> <p>5. ICT allows for visibility of involvement</p> <p>6. ICT allows for diversification of participation</p> <p><b>Approaches of ICT-enabled grassroots rural development</b></p> <p>Orchestrated and Organic approaches</p>	<p>ICT and development by conceptualizing the roles of ICT in empowering a marginalized community to stimulate rural development through creating the necessary ecosystem</p> <p>3. Explore the emerging phenomenon of ICT-enabled community-driven development by conceptualizing the approaches of ICT-enabled grassroots rural development</p>
<b>Study 3: Malaysia Environmental Movement</b>				
Environmentally disadvantaged Community	ICT in Environmental Movement	How does social media enable grassroots mobilization towards the emergence of collective action for environmental conservation?	<p><b>Roles of social media in digital mobilization</b></p> <p><u>ICT-enabled self-propagation for consensus mobilization</u></p> <p>(Structural empowerment) Social media for alternative conveyance</p> <p>(Psychological empowerment) Social media for connective association</p> <p>(Resource empowerment) Social media for</p>	<p>1. Explore the emerging phenomenon of ICT-enabled social movement by conceptualizing the roles of social media in empowering the community during grassroots mobilization for environmental purpose</p> <p>2. Address the literature gap in</p>

**Table 12: Summary of Findings**

Disadvantaged Community	IS Phenomenon	Research Question(s)	Findings	Contributions
			<p>open aggregation</p> <p><u>ICT-enabled self-organization for action mobilization</u>            (Structural empowerment) Social media for networked congregation            (Psychological empowerment) Social media for converging identification            (Resource empowerment) Social media for decentralized coordination</p> <p><b>Unintended consequences of ICT use in digital mobilization</b></p> <ul style="list-style-type: none"> <li>• Spread of misinformation</li> <li>• Weak strength of commitment in community activism</li> <li>• Misuse for personal agenda in a collective effort for social purposes</li> </ul>	<p>digital mobilization by illustrating ICT-empowered grassroots mobilization at the intersection of online and offline space</p> <p>3. Identify the unintended consequences of ICT use during grassroots mobilization</p>



## 4.2. Contributions of Thesis

In addition to the contributions and emerging findings that have arisen in the three studies, this thesis offers three overall theoretical contributions. First, the case studies explore the emerging social consequences of ICT by illustrating the **roles of ICT for social purposes**, particularly in disaster response, rural development, and environmental movement. With the emergence of new technologies such as social networking tools, crowdsourcing platforms, and collaborative sites, and the prevalence of the Internet, mobile network, and smartphones, there is a boom of digital connectivity in the daily lives of the world population. ICT's impact is no longer constrained to the improvement of efficiency, productivity, or innovation in businesses; it is increasingly being used by the community in resolving various complex social issues such as disaster response, rural development, and environmental movement. By examining up-close how ICT is being appropriated in addressing these social challenges, this thesis is envisioned to shed light on the emerging role of ICT for social purposes, in response to the call for papers in the *MIS Quarterly* special issue on "ICT and Societal Challenges" (Majchrzak et al. 2013a).

Second, this thesis challenges the dominant position of existing studies and practices by providing empirical evidence of where the **disadvantaged communities drive their own social change using ICT**. Existing IS studies are predominantly occupied with the perspective that posits the community as a helpless group who needs interventions from external agencies (Van den Eynde and Veno 1999). In these studies, ICT is positioned as an effective tool that is leveraged by external agencies such as government, disaster response

units, NGOs, or social enterprises for better efficiencies and coordination. Although some studies have put forth the community as a potential driver of change in resolving its own social challenges such as the community-driven development (Mansuri and Rao 2004) and the competent community perspective in disaster response (Van den Eynde and Veno 1999), few empirical evidence are available to advance our limited knowledge of the role of community in these context. As such, this thesis is envisioned to offer empirical examples that challenge the dominant position of existing IS studies that regard the community as passive aid-receiving victims in social issues.

Third, this thesis addresses the literature gap in empowerment by elucidating the **actualization process of empowerment enabled by ICT as a mediating structure** (Perkins 2010). The concept of digitally enabled community empowerment, which is enabled by the mediating structure of ICT (Berger and Neuhaus 1977), is proposed. The mediating structure “stands between the individual in his private life and the large institutions of public life” and is a necessary element that enables community action in the process of community empowerment process (Berger and Neuhaus 1977). In exploring the roles of ICT in empowering the community, the studies explicate the mediating structures enabled by ICT in the empowerment process, which are manifested in the self-help online groups (Study 1), e-commerce ecosystem (Study 2), and virtually networked public (Study 3). In doing so, this thesis also addresses the literature gap in empowerment studies in which the multi-dimensional characteristics of empowerment is not considered (Ersing 2003; Hur 2006). In this way, this thesis unearth the process of how the community is empowered

by ICT in assuming the role as the driver of change when resolving social problems (Perkins 2010).

### **4.3. Future Research**

In this section, some possible directions for future research are provided. First, future studies may serve to validate the findings of this thesis by applying them in other community-driven development using ICT. By using these findings as a point of departure, future researchers can further improve our nascent understanding of ICT-enabled development that is driven by the community itself. It is further suggested that these future studies may build on the underlying assumption adopted in this thesis, i.e. ICT access alone does not guarantee improved technology use (Ching et al. 2005; Li and Ranieri 2010).

Second, subsequent studies should tap into the emerging phenomenon whereby ICT is used to resolve various social issues, such as in crowdsourcing, crime prevention and fighting, and disaster relief. From Study 2, for instance, the emergence of the twenty one Taobao Villages in rural China offers a favorable opportunity for researchers to study the facilitating conditions, roles of different stakeholders, and stages of development amongst others, in the context of ICT-enabled rural development. In addition to the cultivator- and non-cultivator-based e-commerce development in our study, the Taobao Villages offer additional possibilities such as that of the Dajixiang Villages in Shandong Province, which relies on a traditional cultural industry of arts and crafts. An understanding of the development of these villages may

provide potential solutions for other rural villages, based on whether natural resources and traditional industries exist.

A third avenue for further research is other aspects of ICT-empowered development outcome. This thesis focuses on disaster resilience, socioeconomic well-being, and environmental conservation that constitute only a few of the many aspects of community development. Hence, future studies may examine other aspects of development such as healthcare, education, citizen right awareness, political participation, and cultural preservation, thus contributing to laying bare the social consequences of ICT.

Fourth, future researchers are encouraged to examine the necessary conditions for digital empowerment. The case studies in the thesis have shown that ICT is necessary, but not a sufficient condition for empowerment. It means that many other communities, while having the same access to ICT, do not become empowered like those in this thesis. Therefore, it would be interesting to examine up-close the conditions that make community empowerment work and how they interact. An example is grassroots leadership. The identification of the necessary conditions would definitely be helpful for the replication of success in other communities.

Fifth, in addition to the focus of this thesis on the single directional effect of ICT in empowering the community, more studies may be conducted to examine the effects of (new) power structures on the (further) use of ICT. Although it is demonstrated in this thesis that disadvantaged communities have resorted to the use of ICT as a result of the inequalities in power structures (existing power structure affects the use of ICT), the attention of the studies is largely focused on the role of ICT as a driver of change in

empowerment (single direction). More specifically, this thesis positions ICT as an operant resource, a resource capable of acting on other resources (i.e. the inherent competency of the community) to contribute to value creation, instead of simply a resource that requires action taken upon it (or operand resource) (Nambisan 2013). Notwithstanding, drawing on the argument about the directions of causality and emergent perspective in Jaspersen et al.'s (2002) study, future studies may seek to examine how existing or new power structure may affect the (further) appropriation of ICT in order to capture the dynamics of change.

Finally, in considering the undesirable consequences that we have identified, it is suggested that future undertaking of digitally empowered community development studies take a paradoxical view in studying the roles of ICT in order to move beyond an affirmative stance that has dominated the current IS studies. Undesirable consequences induced by the use of ICT may be manifest in drawbacks that occur simultaneously with the positive consequences, or constraints that inflict a specific segment of population. In order to preserve and strengthen the potential benefits of ICT, potential undesirable impacts have to be identified, mitigated, and managed. In doing so, researchers may consider adopting theoretical perspectives such as the paradox theory or the Technology Affordances and Constraints Theory (TACT) (Majchrzak and Markus 2013).

#### 4.4. Final Remarks

This thesis aims to answer the question “How does ICT empower the disadvantaged people for community development?” Through three in-depth qualitative studies of the Thailand Flooding Crisis, China Taobao E-commerce Villages, and Malaysia Environmental Movement, we put forth the concept of digitally enabled community empowerment. In particular, this thesis illustrates the roles of ICT in empowering the community. This thesis should be of interest to practitioners and researchers in the areas of ICT use for social purposes and community development, because it sheds light on three aspects. First, it helps us to understand the emerging use of ICT for social purposes (e.g., disaster response, rural development, environmental movement) (Majchrzak et al. 2013a). In response to the call for papers in the *MIS Quarterly* special issue on “ICT and Societal Challenges” that highlights the need to assess evidence about ICT’s social consequences, this study looks into some rare and unique phenomenon where ICT is appropriated creatively for the benefits of the society. Second, this thesis provides evidence to challenge the dominant position of existing IS studies that regard the community as aid-receiving victims in social issues (Van den Eynde and Veno 1999). From the perspective of empowerment, this thesis contends that the community is able to determine its own future and development without relying on the assistance of external agencies, by leveraging ICT. In other words, due to ICT, the internal capacity of the community is unleashed. Third, this thesis unearths the process of how the community is empowered by ICT in assuming the role as the driver of change when resolving social problems (Perkins 2010). The case studies in this thesis form the empirical bases to previously much discussed

concepts, such as the competent community in the disaster and community-driven development. Hence, the “how” question with regard to the occurrence of digitally enabled community empowerment could be addressed. Indeed, the time may have arrived for the digital community to make a difference in their own lives, thereby echoing Nelson Mandela’s words:

*“I am the master of my fate and the captain of my destiny.”*

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## Appendices

### Appendix A

<b>Exhibit A-1. List of Interviewees of Study 1 (Thailand Flooding 2011) (Number of Interviewees: 56)</b>				
<b>Community Group</b>	<b>Interviewees (Pseudonym)</b>	<b>Focus Group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Victim	Flood victims	Focus group	24	Flood victims were people who suffered from the crisis of the Thailand flooding 2011.
Volunteer	Student volunteers	Focus group	15	Student volunteers offered their help freely to others during the flood.
Volunteer	Roo-Soo-Flood Group's 3 key members	Interview	3	Roo-Soo-Flood (Know How to Cope with Flood) was a group of volunteer animators with technical skills who created the famous "Blue Whales" Flood Animation Series.
Volunteer	Founder and Cofounder of Charun Fight Flood	Interview	2	Charun Fight Flood was one of the largest Facebook group founded by two girls in their 20s who lived in the Charun area.
Community leader	Mr. Virote and his assistant	Interview	2	Mr. Virote was the Director of Flood Relief Volunteer Centers (established by Democrat Party, the opposition party). He was also the ex-Director of Flood Relief Center (when Democrat Party was the ruling party before the floods 2011).
Community leader	Dr. Thanakorn	Interview	1	Dr. Thanakorn was the ex-Deputy Bangkok Governor. He headed the disaster response department during the Bangkok flood.
Community leader, university	Dr. Somrak	Interview	1	Dr. Somrak was the Rector of Thammasat University. He was an influential social media user during the flood. Thammasat was the "Last Wall" before the flood went through Bangkok and Dr. Somrak was one of

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Community Group	Interviewees (Pseudonym)	Focus Group/Interview	Number of interviewees	Remarks
				the pioneer in sharing the information through Facebook page.
Community leader	Arjarn Wattana and 3 key committee members	Interview	4	Arjarn Wattana was the leader of 345 Parichart Village Group in Facebook. Parichart Village (with more than 2000 households) was at the center of the news during the flood. since they got hit really hard. The villagers have used social media to communicate among themselves.
Non-profit foundation	Arjarn Sarawut	Interview	1	Arjarn Sarawut was an environmentalist and the Secretary General of Seub Nakjasathien Foundation, a nature conservation foundation. He was the most influential academic who appeared frequently on TV during the flood and made active use of social media including YouTube, Facebook, and Twitter to communicate with the public.
Government agency	Mr. Werawat	Interview	1	Mr. Werawat was the Secretary to the Minister to the Office of the Prime Minister. He was the government spokesman for the flood relief operations center.
Government agency	Lieutenant-Colonel Jongjaroen	Interview	1	Lieutenant-Colonel Jongjaroen was the representative of Thai Army. He was the most active member during the flood from the Thai Army. He was also a famous movie star.
Private organization	Mr. Parin	Interview	1	Mr. Parin was the Vice President, Corporate Communication Department of PTT. PTT was an oil and gas company and one of the largest corporations in the country.

<b>Exhibit A-2: List of Interviewees of Study 2 (China Taobao Villages) (Number of Interviewees: 63)</b>				
<b>Government Unit/ Company/ Association</b>	<b>Position, Name (Pseudonym)</b>	<b>Focus Group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
<b>Suichang (Number of interviewees: 32)</b>				
Suichang Online Shop Association	Chairman, Mr. Pan	Interview	1	The association is established by the natives to promote e-commerce.
Suichang Online Shop Association	Deputy Chairman, Mr. Yue	Interview	1	
Suichang Online Shop Association	Project Manager	Interview	1	
Taobao online store	Owner	Interview	3	
Taobao online store	Manager	Interview	1	
Taobao online store	Owner and Head of operations	Interview	2	
Taobao online store	Staff	Interview	1	
Third-party operation service provider	Founder	Interview	1	
Yunda Logistics company	Employee, Mr. Wang	Interview	1	
Suichang WangCunKou Town Wuchu Village Rural Post Station	Staff	Interview	2	E-commerce service stations are established by Suichang Online Shop Association to help villagers with online purchasing.
Suichang WangCunKou Town ZhongGen Village Rural Post Station	Staff	Interview	1	
Villager	NA	Interview	1	Villager who use the services at the e-commerce service stations.



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<b>Government Unit/ Company/ Association</b>	<b>Position, Name (Pseudonym)</b>	<b>Focus Group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Lishui Rural E-Commerce Service Center	Director	Interview	1	This center offers training, technical support, marketing advice relevant to e-commerce
Lishui Municipal Committee of the Communist Youth League	Secretary	Focus group	1	
Lishui Municipal Committee of the Communist Youth League	Deputy Secretary	Focus group	1	
Lishui Administration for Industry and Commerce	Director of Marketing Division	Focus group	1	
Lishui Municipal Human Resources and Social Security Bureau	Employment Secretary	Focus group	1	
Lishui Municipal Commission of Economy and Informatization	Assistant Director	Focus group	1	
Lishui Municipal Commission of Commerce	Representative	Focus group	1	
Lishui Municipal Bureau of Agriculture	Deputy Director of the Agricultural Marketing Center	Focus group	1	
Lishui Municipal Office of Agriculture and Rural Work	Deputy Director of Department of Economic Development	Focus group	1	

**Exhibit A-2: List of Interviewees of Study 2 (China Taobao Villages) (Number of Interviewees: 63)**

<b>Government Unit/ Company/ Association</b>	<b>Position, Name (Pseudonym)</b>	<b>Focus Group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Lishui Municipal Finance Bureau	Representative	Focus group	1	
People's Bank of China Lishui	Representative	Focus group	1	
China Unicom Lishui	Representative	Focus group	1	Telecommunication Company
China Mobile	Representative	Focus group	1	Telecommunication Company
Suichang Administration	Head of Suichang County	Focus group	1	
Suichang Administration of Quality Supervision	Director	Focus group	1	
Suichang Bureau of Agriculture	Deputy Director	Focus group	1	
<b>Jinyun (Number of interviewees: 31)</b>				
Taobao online store - BSWolf Outdoor Products Co., Ltd. (outdoor equipment)	Owner, Mr. Lv	Interview	1	The grassroots leader who started the online business of outdoor equipment; main seller and distributor of outdoor equipment
Taobao online store (an agent of BSWolf selling outdoor equipment)	Owner and 3 staff	Interview	4	The owner is the younger brother of Mr. Lv
Taobao online store (an agent of BSWolf selling outdoor equipment)	Owner	Focus group	2	
Taobao online store (an agent of BSWolf selling outdoor equipment)	Owner and 2 staff	Interview	3	

**Exhibit A-2: List of Interviewees of Study 2 (China Taobao Villages) (Number of Interviewees: 63)**

<b>Government Unit/ Company/ Association</b>	<b>Position, Name (Pseudonym)</b>	<b>Focus Group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Taobao online store (an agent of BSWolf selling outdoor equipment)	Owner and staff	Interview	2	
Taobao online store (car accessories)	Owner, Mr. Fu, CEO, and staff	Focus group	3	Seller and distributor of car accessories
Taobao online store (car accessories)	Owner, Mr. Jie	Focus group	1	
Taobao online store (female shoe)	Owner	Focus group	1	
Taobao online store (rack)	Owner, Mr. Rui	Focus group	1	
Taobao online store (electrical appliances)	Manager and staff	Interview	2	
E-commerce training center	Founder	Focus group	1	
Jinyun County Committee the Communist Youth League	Secretary	Focus group	1	
Jinyun County Committee the Communist Youth League	Deputy Secretary	Focus group	1	
Party Committee of Huzhen Town	Member	Focus group	1	
Huzhen Town Commission of Commerce (E-commerce)	Director	Focus group	1	
Huzhen Town Administration for Industry and Commerce (E-commerce)	Supervisor	Focus group	1	
Jinyun Online Shop Association	Chairman	Focus group	1	

**Exhibit A-2: List of Interviewees of Study 2 (China Taobao Villages) (Number of Interviewees: 63)**

<b>Government Unit/ Company/ Association</b>	<b>Position, Name (Pseudonym)</b>	<b>Focus Group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Jinyun Online Shop Association	Deputy Chairman	Focus group	1	
Jinyun Online Shop Association	Secretary	Focus group	1	
Jinyun Online Shop Association	Member	Focus group	2	

**Exhibit A-3. List of Interviewees of Study 3 (Malaysia Environmental Movement) (Number of Interviewees: 30)**

<b>Community Group</b>	<b>Interviewees (Pseudonym)</b>	<b>Focus group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Government official	Yang Berhormat Ms. Nadia	Interview	1	Member of Parliament for Kuantan, state capital of Pahang, Malaysia (Pahang is the state where the rare earth refinery plant is built)
Government official	Yang Berhormat Mr. Adi	Interview	1	State assemblymen for Beserah constituency area of Pahang, Malaysia, and leader of Stop Lynas Coalition (SLC)
Government official	Yang Berhormat Mr. Lim	Interview	1	State assemblymen for Semambu constituency area of Pahang, Malaysia, and Publicity Chief, Himpunan Hijau Group
Government official	Mr. Yuan	Interview	1	Personal assistant of Yang Berhormat Mr. Lim, who was very involved in the environmental movement
Student	Mr. Chun	Interview	1	Member of Malaysia Youth & Student Democratic Movement (DEMA)
Activist	Social activists, including Mr. Ho, Ms. May, Ms. Cui (a student representative from DEMA)	Focus group	6	Facebook administrator of 300km Green Walk, activists and volunteers in the environmental movement
Activist	Mr. See	Interview	1	Chairman of Save Malaysia Stop Lynas (SMSL) coalition, campaigner of the environmental movement
Activist	Mr. Teo	Interview	1	Treasurer of Himpunan Hijau Group
Activist	Mr. Tan and Ms. Lim	Interview	2	Founder of a Facebook group "Pahlawan Hijau" and active participants in the environmental campaign

**Exhibit A-3. List of Interviewees of Study 3 (Malaysia Environmental Movement) (Number of Interviewees: 30)**

<b>Community Group</b>	<b>Interviewees (Pseudonym)</b>	<b>Focus group/Interview</b>	<b>Number of interviewees</b>	<b>Remarks</b>
Volunteer	Volunteers and residents	Interview	7	Volunteers of "Pahang Don't Need 'Hazardous' Project" Facebook group
Working Professional	Mr. Yong	Interview	1	Administrator of a Facebook group "I'm from Malaysia! I say Stop Lynas!"
Residents	Residents	Interview	7	Residents living near to the rare earth plant

## Appendix B

### **Study 1: Thailand Flooding 2011**

#### **Archival data in Social Media**

*Community-established Facebook page during the flood (number of “likes as at May 2012)*

<https://www.facebook.com/SiamFloodAdmin> (11,396)  
<https://www.facebook.com/bkkflood> (5,085)  
<https://www.facebook.com/room2680> (271,474)  
<https://www.facebook.com/HeartFeltHelpforFloodVictims> (308)  
<https://www.facebook.com/FloodConnect?sk=wall> (31,231)  
<https://www.facebook.com/MuslimThaiFlood> (1,444)  
<https://www.facebook.com/pages/Thailand-2011-After-Flood-Project/132533523513258> (57)  
<https://www.facebook.com/ThaiFlood.2554> (44,368)  
<https://www.facebook.com/FCHelp> (2,096)  
<https://www.facebook.com/arsajaidee> (3,580)  
<https://www.facebook.com/AsaThai> (30,014)  
<https://www.facebook.com/SiamArsa> (111,935)  
<https://www.facebook.com/PakkretRescueTeam> (4,106)  
<https://www.facebook.com/thaiflood> (60,998)  
<https://www.facebook.com/1111No5> (56,480)  
<https://www.facebook.com/bkk.best?sk=wall> (28,469)  
<https://www.facebook.com/mahidol.volunteer> (3,617)  
<https://www.facebook.com/lamu4thaiflood> (115)  
<https://www.facebook.com/pages/KMUTT-Fight-the-Flood/125419510896337> (2,542)  
<https://www.facebook.com/vetkuflood54> (1,822)  
<https://apps.facebook.com/iwipage/152347111523094?pid=1> (3,235)  
<https://www.facebook.com/k.sharing?sk=info#!/k.sharing?sk=wall> (99,379)  
<https://www.facebook.com/nidacharity> (158)  
<https://www.facebook.com/DollNationThailand> (174)  
<https://www.facebook.com/SOS.Animals.Thailand#!/SOS.Animals.Thailand?sk=info> (10,621)

*TwitName (number of followers as at May 2012)*

<http://twitter.com/thaiflood> (104,048 followers)  
<http://twitter.com#!/Rawangpai> (90,064 followers)  
<http://twitter.com/SiamArsa> (34,199 followers)  
[http://twitter.com/bkk\\_best](http://twitter.com/bkk_best) (31,630 followers)  
<http://twitter.com#!/floodcenter> (13,303 followers)  
<http://twitter.com/BKKFlood> (12,180 followers)  
[http://twitter.com#!/Asa\\_Thai](http://twitter.com#!/Asa_Thai) (4,727 followers)  
[http://twitter.com#!/help\\_thaiflood](http://twitter.com#!/help_thaiflood) (4,409 followers)  
<http://twitter.com#!/Aormortor> (10,171 followers)

*Books (contains the archival data on Facebook page created by Dr. Thanakorn)*

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## **Study 2: China Taobao Villages**

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### **Study 3: Malaysia Environmental Movement**

#### **Secondary Data**

*Community-established Facebook pages during the movement (number of “likes” or members as at Oct 2014)*

Pahang Don't Need "Hazardous" Project (40,793 members)

<https://www.facebook.com/groups/PDNHP/>

Himpunan Hijau 2.0: Langkah Lestari (16, 868 likes)

<https://www.facebook.com/pages/Himpunan-Hijau-20-Langkah-Lestari/156138757834195>

Stop Lynas! Save Kuantan (13,934 likes)

<https://www.facebook.com/pages/Stop-Lynas-Save-Kuantan/204890156205446>

I'm from Malaysia! I say Stop Lynas! (10,516 members)

<https://www.facebook.com/groups/120600834735112/>

Eco Warriors Malaysia (5,518 members)

<https://www.facebook.com/groups/ecowarriorsmalaysia/>

Petition to Stop Lynas from processing rare earth ore in Kuantan, Malaysia (4,947 likes)

<https://www.facebook.com/save.kuantan>

Stop Lynas Save Malaysia (4,103 likes)

[https://www.facebook.com/pages/Stop-Lynas-Save-Malaysia/198611483579242?ref=br\\_rs](https://www.facebook.com/pages/Stop-Lynas-Save-Malaysia/198611483579242?ref=br_rs)

Save Malaysia! Stop Lynas! (3,390 members)

<https://www.facebook.com/groups/savemalaysiastoplynas/>

Pahlawan Hijau (3,088 members)

<https://www.facebook.com/groups/pahlawanhijau/>

I'M FROM KULAI ! SAY STOP LYNAS! (2,130 members)

<https://www.facebook.com/groups/hijiaukulai/>

Himpunan Hijau 3.0 (Laman Rasmi) (1,964 likes)

<https://www.facebook.com/HimpunanHijau3.0>

I'm from Perak, I say stop Lynas! (1,322 members)

<https://www.facebook.com/groups/141101339345139/>

Stop Lynas Coalition (SLC) (1,220 likes)

<https://www.facebook.com/pages/Stop-Lynas-Coalition-SLC/269265829774813>

STOP LYNAS! Stop an Australian Corporation from Exporting a Toxic Legacy (1,058 members)

<https://www.facebook.com/groups/stoplynas/>

STOP LYNAS, SAVE MALAYSIA GATHERINGS IN EVERY TOWN AT EVERY WEEKENDS ! (1,306 members)

<https://www.facebook.com/groups/377970075565004/>

930 Himpunan Hijau Lestari Pengerang 930 (888 likes)

<https://www.facebook.com/930LestariPengerang>

I'm from Johor! I say Stop Lynas! (670 members)

<https://www.facebook.com/groups/johor.stoplynas/>

I'M FROM JB ! I SAY STOP LYNAS ! (542 members)

<https://www.facebook.com/groups/397588193600283/>



Himpunan Hijau-The Green Walk Photo Contest (390 likes)  
<https://www.facebook.com/greenwalkphotocontest>  
 I'm from Kuala Lumpur, I say Stop Lynas (357 members)  
<https://www.facebook.com/groups/304935276237350/>  
 Anti Lynas di MALAYSIA (211 members)  
<https://www.facebook.com/groups/antilynas/>  
 ~ StOp LyNaS - SaVe MaLaYsIA ~ (~ StOp LyNaS - SaVe MaLaYsIA ~)  
 (198 members)  
<https://www.facebook.com/groups/bantahanlynas/>  
 Bersih3.0+Himpunan Hijau3.0 (156 members)  
<https://www.facebook.com/groups/375046475869790/>  
 I'M FROM PONTIAN ! I SAY STOP LYNAS ! (133 members)  
<https://www.facebook.com/groups/262629090483949/>  
 I'm from KL Cheras, I say stop Lynas! (119 members)  
<https://www.facebook.com/groups/197852676981715/>  
 930 Himpunan Hijau Pengerang Support Group (113 members)  
<https://www.facebook.com/groups/176246452511343/>  
 I'M FROM KOTA TINGGI ! I SAY STOP LYNAS! (112 members)  
<https://www.facebook.com/groups/259778004100985/members/>  
 10,000 Malaysians Donate to Stop Lynas Legal Fund (104 likes)  
<https://www.facebook.com/pages/10000-Malaysians-Donate-to-Stop-Lynas-Legal-Fund/155861467870321>  
 Stop Lynas, Save Malaysia (77 members)  
<https://www.facebook.com/groups/stoplynassavemalaysia/>

***Youtube videos (number of views as at Oct 2014)***

<https://www.youtube.com/watch?v=1miUF433DFw> (Chinese version) (283,946 views)  
<https://www.youtube.com/watch?v=B1UvjqFaEAo> (183, 182 views)  
<https://www.youtube.com/watch?v=5T-T1pfhCAs> (129,916 views)  
<https://www.youtube.com/watch?v=aln-RsWRDn8> (108,808 views)  
<https://www.youtube.com/watch?v=LSPyVm2Zj5I> (English version) (106,846 views)  
<https://www.youtube.com/watch?v=iTjAZDnsbI> (47,732 views)  
[http://www.youtube.com/watch?v=RQP3EQ\\_xiPg](http://www.youtube.com/watch?v=RQP3EQ_xiPg) (Malay Version) (39,608 views)  
<https://www.youtube.com/watch?v=ZUVZ3-GspfE> (36,288 views)  
<https://www.youtube.com/watch?v=vC3iTbwm78g> (30,211 views)  
[https://www.youtube.com/watch?v=8Bue9\\_Wa8yY](https://www.youtube.com/watch?v=8Bue9_Wa8yY) (25,910 views)  
[https://www.youtube.com/watch?v=d5J\\_odIvBsk](https://www.youtube.com/watch?v=d5J_odIvBsk) (17,180 views)  
<https://www.youtube.com/watch?v=Gt6gwfB7BSc> (10,881 views)  
<https://www.youtube.com/watch?v=SowChe5IYB8> (8,885 views)  
<https://www.youtube.com/watch?v=wFfelc4fVfg> (5,051 views)  
<https://www.youtube.com/watch?v=MV17p4nYEFY> (2,575 views)  
<https://www.youtube.com/watch?v=TMd-nM9APro> (2,564 views)  
<https://www.youtube.com/watch?v=A635kO3A60M> (2,476 views)  
<https://www.youtube.com/watch?v=lcspEWaTi18> (1,057 views)



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2012. "The Green Movement" Gerakbudaya Enterprise

## Appendix C

<b>Exhibit C-1. Application of Klein and Myers's (1999) Seven Principles for Interpretive Field Research</b>		
<b>Principle</b>	<b>Evaluative criteria for principle [as summarized from Klein and Myers (1999 p.72)]</b>	<b>Application of the principle in our research methodology</b>
<b>Fundamental Principle of the Hermeneutic Circle</b>	“Requires that all human understanding is achieved by iterating between considering the interdependent meaning of parts and the whole that they form”	Interviews and focus groups were conducted with diverse community members and groups (see Appendix A) who played different roles in the use of ICT for addressing social issues, and thus held different standpoints in the focal phenomenon. For example, interviews with community leaders and volunteers provided the details from an initiator and organizer's perspective, while the sessions with victims or residents offered an understanding of the phenomenon from a user's point of view.  The replies elicited through generic questions to all subjects and the secondary data allowed the researchers to have an overall understanding of the whole context.
<b>Principle of Contextualization</b>	“Requires critical reflection of the social and historical background of the research setting, so that the intended audience can see how the current situation under investigation emerges”	The subjects were either significantly affected by the social issues (i.e., flooding, rural poverty, or environmental threats), and/or actively involved in community actions; they were able to illustrate the contemporary conditions of the cases. Community members from different background (non-profit, private, governmental, academic etc.) were involved in providing specific contextual considerations in the use of ICT for social challenges.
<b>Principle of Interaction Between Researchers and Subjects</b>	“Requires critical reflection on how the research materials (or 'data') were socially constructed through the interaction between the researchers and participants”	An iterative interview strategy was used, allowing new questions to be devised based on the findings from previous interviews.  During the interviews, researchers would suggest the conceptualization of the cases by leveraging academic concepts or metaphors, to stimulate discussion with the subjects.  In Study 1, being the victims themselves, collaborators of the study were able to “bring into consciousness

**Exhibit C-1. Application of Klein and Myers's (1999) Seven Principles for Interpretive Field Research**

Principle	Evaluative criteria for principle [as summarized from Klein and Myers (1999 p.72)]	Application of the principle in our research methodology
		<p>the emotional and intellectual reactions to experiences and observations" (Trauth 1997 p. 241). During the intensive internal discussion among the research team, they became self-conscious, and were able to question their own assumptions. Similarly in Study 3, I was able to bring in the contextual understanding as a native from the country.</p>
<p><b>Principle of Abstraction and Generalization</b></p>	<p>"Requires relating the idiographic details revealed by the data interpretation through the application of principles one and two to theoretical, general concepts that describe the nature of human understanding and social action"</p>	<p>The preconception that acted as a "sensitizing device" was formed using the theoretical lens, general concepts and arguments from the empowerment literature.</p> <p>Field notes were taken to relate the unique instances to more general ideas and concepts that apply to multiple situations.</p>
<p><b>Principle of Dialogical Reasoning</b></p>	<p>"Requires sensitivity to possible contradictions between the theoretical preconceptions guiding the research design and actual findings ('the story which the data tell') with subsequent cycles of revision"</p>	<p>Our preconceptions were constantly challenged during and after the on-site visit. The tentative findings made the assumptions transparent to the researchers, enabling the identification of conflicts and thus the modification of theoretical arguments.</p> <p>Our agenda for studying the empowerment process at the beginning was soon refined to zoom in on the community perspective, as the data presents a rich description of citizen-driven groups and initiatives.</p>
<p><b>Principle of Multiple Interpretations</b></p>	<p>"Requires sensitivity to possible differences in interpretations among the participants as are typically expressed in multiple narratives or stories of the same sequence of events under study; similar to multiple witness accounts even if all tell it as they saw it"</p>	<p>To ensure the convergence of interpretations by interviewees, rule of triangulation (Dubé and Paré 2003) was applied.</p> <p>Whenever contradicting interpretations were encountered in the interviews (as compared to previous interviewees), follow-up questions were devised on-site for clarification. Where possible, interviewees were requested to provide examples of critical events.</p>

**Exhibit C-1. Application of Klein and Myers's (1999) Seven Principles for Interpretive Field Research**

Principle	Evaluative criteria for principle [as summarized from Klein and Myers (1999 p.72)]	Application of the principle in our research methodology
<b>Principle of Suspicion</b>	"Requires sensitivity to possible 'biases' and systematic 'distortions' in the narratives collected from the participants"	Multiple data sources (semi-structured interviews, focus groups, news report, and archival data) (see Appendix A for archival secondary data) were used to filter "false preconceptions" of interviewees and researchers; this ensured the consistency of data.

## Appendix D

Videos uploaded by Roo-Soo-Flood Group and number of views

([https://www.youtube.com/user/roosuflood/videos?view=0&sort=dd&live\\_view=500&flow=grid](https://www.youtube.com/user/roosuflood/videos?view=0&sort=dd&live_view=500&flow=grid))

The screenshot shows the YouTube channel page for 'roosuflood'. The channel name is 'roosuflood' with a 'Subscribe' button showing 9,166 subscribers. The page displays a grid of 14 video thumbnails, each with a title in Thai and its view count. The videos are sorted by 'Date added (newest - oldest)'. The thumbnails feature various illustrations related to flooding and community support.




















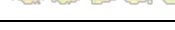
Video Title (Thai)	Views
👉 Flood อนุ "ผู้ ช่าง ลี"	10,434 views
👉 flood ep.10 : ผู้ ช่าง ทุ้ม	77,514 views
👉 flood ep.9 : ส้มตำ นุ่มน่า อด	132,705 views
👉 flood ep.8 : ร่มโพธิ์ร่ม ใจ	141,366 views
👉 flood ep.7 : ผู้โศกเศร้า ใจโศก	150,344 views
👉 flood ep.6 : ญาติพี่น้อง	223,227 views
👉 flood ep.5 : ใจดีกับคน ใจดี	327,813 views
👉 flood ep.4 : การช่วยเหลือ ภัยน้ำท่วม	300,555 views
👉 flood ep.3 : ผลิตน้ำดื่มแจก ญาติ(Full)	140,141 views
👉 flood ep.3 : ผลิตน้ำดื่มแจก ญาติ	244,350 views
👉 flood ep.2 : 360°ทำบุญลด ภัยน้ำท่วม	688,810 views
👉 flood ep.1 : ผู้ทำพวงมาลัย ใจดี	1,264,640 views

## Appendix E

### Levels of Online Stores in Taobao

There are four levels of Taobao online stores that represent the seller's reputation and sales volume. The levels from the lowest to the highest are as follows: Heart, Diamond, Blue Crown, and Golden Crown. Each level is additionally divided into five grades: 1 to 5. Therefore, the lowest level is 1 Heart, and the highest level is 5 Golden Crowns. A seller reputation of 5 Hearts is higher than that of 4 Hearts; however, 1 Diamond is higher than 5 Hearts, and so on.

For each transaction, the buyers can rate the seller. The seller receives 1 point for each positive rating and -1 for each negative rating. The table below shows the points required to reach each level.

Exhibit E-1: Levels of Online Stores in Taobao			
Level	Range of points	Indication on the seller's page	
Heart	4-250	4-10	
		11-40	
		41-90	
		91-150	
		151-250	
Diamond	251-10000	251-500	
		501-1000	
		1001-2000	
		2001-5000	
		5001-10000	
Blue crown	10001-500000	10001-20000	
		20001-50000	
		50001-100000	
		100001-200000	
		200001-500000	
Golden crown	>500000	500001-1000000	
		1000001-2000000	
		2000001-5000000	
		5000001-10000000	
		10000001 and above	

## Appendix F

### Exhibit F-1: Residents of Suichang who are involved in E-commerce

#### Ms. Wu

Wu is 27 years old. She previously worked as an accountant, earning approximately 1,000 yuan (USD 160) a month. She was once forced to quit school because of poverty.

Because of the low income earned as an accountant, Wu began to sell wild herbs and homemade rice wine through Taobao, with the assistance of her parent. Her store was at the blue crown level, earning annual sales of 600,000 yuan (USD 96,000). "Operating an online store is much more flexible in terms of working hours. The income is better, too," said Wu.

Source: <http://zj.people.com.cn/n/2013/0424/c187103-18531218.html>

#### Mrs. Liu

Mrs. Liu previously worked in Hangzhou with her husband.

While Mrs. Liu was working in Hangzhou, she has been selling a local agricultural specialty online. In 2010, Mrs. Liu returned to Suichang with her husband because the logistics services in Suichang had greatly improved. With the assistance of her mother and sister, her online store that sells bamboo charcoal was at the three-blue crown level, making an average of 200,000 yuan (USD 32,200) sales per month.

Source: Interview

#### Mr. Xiao

37-year-old Xiao is wheelchair-bound because of polio.

In 2010, Xiao opened an online store selling agricultural products from the association. He was a two-diamond level seller, leading a fulfilling life.

Source: [http://gzdaily.dayoo.com/html/2013-06/04/content\\_2271214.htm](http://gzdaily.dayoo.com/html/2013-06/04/content_2271214.htm)

#### Mrs. Zhu

Zhu is a 48-year-old female who was laid off from a state-owned enterprise. She did not even know how to turn on a computer prior to the training.

When Zhu first returned to Suichang after being laid off by the company, she could only setup roadside stalls to sell self-made shoe insoles. In 2010, Zhu learned from her friend that an organization (i.e. Suichang Online Shop Association) was offering free training to people who are interested in establishing online stores. Zhu attended the training and subsequently established her own store online. Within two years, she made more than 4,000 transactions, earning a monthly salary of 3,000-4,000 yuan (USD 480-640), which was a few times more than her income from a roadside stall.

Source: [http://www.youtube.com/watch?v=TZy\\_uotYErY](http://www.youtube.com/watch?v=TZy_uotYErY)



## Exhibit F-1: Residents of Suichang who are involved in E-commerce

### **Mrs. Zhou**

Zhou is a 43-year-old pig farmer.

In 2013, Zhou participated in a group selling event organized by the association. Her three pigs were sold in one day. "This is impossible in the past!" said Zhou. She was planning to give up her part-time job and focus on her pig farming because the market looked bright with Taobao.

Source: [http://whb.news365.com.cn/tx/201103/t20110331\\_2998189.htm](http://whb.news365.com.cn/tx/201103/t20110331_2998189.htm)

### **Mr. Wu**

Wu is a 25-year-old young man who previously worked as a construction worker in Hunan Province.

In 2010, Wu returned to his hometown. Over a conversation with the staff at the association, he learned that chrysanthemum flower tea, which was a specialty of Suichang, has sold well. Wu then established a cooperative with a few friends and worked with the association. In the first month, they sold 3,000 catty (1,500 kg) of chrysanthemum flower tea, which was equivalent to the annual sales of a farmer. In 2012, Wu's cooperative recorded total sales of 7 million yuan (USD 1.1 million). Wu was also working on a food processing factory to diversify his product supply.

Source: <http://zj.people.com.cn/n/2013/0424/c351153-18534704.html>

### **Ms. Chen**

Chen graduated from Wenzhou University, Zhejiang, in 2010.

Chen was earning 2,500 yuan (USD 400) a month but found it difficult to accumulate savings with this average salary in Wenzhou. In 2011, Chen quit her job and returned to Suichang. She decided to go into organic farming and sell her produce online. In September 2012, she has made 9 transactions, selling her homegrown organic potato online for 7.2 yuan (USD 1.2) per catty. She was happy, although operating an online store was more difficult than her previous office work. She was looking forward to expand her business.

Source: [http://newspaper.jfdaily.com/jfrb/html/2012-11/08/content\\_915560.htm#](http://newspaper.jfdaily.com/jfrb/html/2012-11/08/content_915560.htm#)

### **Mr. Huang**

Huang is a 26-year-old graduate from a university in Hangzhou, which is the capital of and largest city in Zhejiang Province.

He previously worked as a property agent. Although he found a well-paid job in Shanghai, he decided to return home because he was not accustomed to the lifestyle in Shanghai. After witnessing the prosperous development of e-commerce and attending a training session offered by the association, he opened his first online store in 2011. He owned four online stores selling agricultural products such as bamboo charcoal, vegetables, and baked sweet potato. One of his stores was at the 4-diamond level, and another store was at the 1-diamond level. He earned more than 5,000 yuan (USD 800) a month and has shared his experience with others at the training session organized by the association.

Source: <http://zj.people.com.cn/n/2013/0424/c351153-18534767.html>

## **Exhibit F-1: Residents of Suichang who are involved in E-commerce**

### **Ms. Deng**

Deng previously worked in a factory in the city.

Deng returned to Suichang and worked as a staff at one of the e-commerce service stations that were established by the association to provide online services to the rural villagers. She was currently able to take care of her children while earning a living.

Source: Interview

### **Mr. Huang**

Huang previously worked in Shanghai.

Huang worked at the Yunda Logistics company in Suichang, which was established with the development of e-commerce in Suichang. Although his salary in Shanghai was higher, he was contented that he could take care of his parents and children.

Source: Interview

## Appendix G

### Exhibit G-1: Residents of Jinyun who are involved in E-commerce

#### Mr. Lv

Lv is the younger brother of the founder of BSWolf and the grassroots leader of Jinyun. He worked in Hangzhou for a few years as a taxi driver before returning to Jinyun with his older brother.

He opened a Taobao online store in 2006, selling outdoor equipment like his brother. His store was well known for selling barbeque pits, and his revenue per day was approximately 20,000 to 30,000 yuan (USD 3,200-4,800). He also owned his own brand "Findtour".

Source: Interview

#### Mr. Fu

Fu graduated from Fudan University in Shanghai and hoped to have a career while staying with his family.

In 2009, Fu returned to Jinyun and opened his online store. His parent initially objected to his decision because they thought that he would have a better future working in the city. However, with his efforts and annual sales of 50 million yuan (USD 8 million), his parents' attitude changed. He has always shared his experiences with his college friends, some of whom have opened their online stores with his help.

Source: Interview

#### Mr. Wei

Wei is a 24-year-old graduate from a Hangzhou college. He previously was a salesman but was unsatisfied with the salary.

Wei joined Mr. Lv's company, BSWolf, for a half-year internship in 2012. Subsequently, he opened his own online store with his wife, selling outdoor equipment supplied by BSWolf. The pictures of products in his stores have also been provided by BSWolf. Within half a year, he was able to buy a Chevrolet sedan. On average, he earned approximately 10,000 yuan (USD 1,600) a month with his 3-diamond level store.

Source: <http://www.youtube.com/watch?v=6UUVizTAa-k>

#### Mr. Yang

Yang is military veteran. Prior to establishing his online business, he worked at a heavy machine plant in a city in Guangzhou.

Yang's online store primarily sold outdoor equipment supplied by Mr. Lv. He stored his stock at home. With assistance from his wife and two workers, he makes approximately 4 million yuan (USD 640,000) sales a year. His store was at the three-blue crown level. "I couldn't take care of my family last time because I have to be away to make a living. My wife was having a hard time taking care of the elderly and the children. So I decided to start a Taobao store at home. Now, I can take care of my parents and my two kids," said Lv.

Source: Interview

**Mr. You**

35-year-old You is unable to walk due to muscular atrophy. He did not have much hope or plans for his future, and he previously earned money through selling tokens earned through online games.

With the encouragement of his family, You opened his online store in Taobao. He sold outdoor equipment from BSWolf, Mr. Lv's company, and earns approximately 4,000 yuan (USD 640) a month. It was easy for him because the website design template and photos of the products were readily available from BSWolf. His mother, who assisted him with the packaging, did not even have to leave the village to collect the stocks. Using his only active left thumb, he enjoyed talking to his customers online. His mother was happy and relieved that he could earn his own living.

Source: <http://pic.people.com.cn/n/2013/0121/c1016-20272948-3.html>

**Mr. Zhao**

Zhao is 34 years old. He previously worked at a factory.

In 2008, Zhao began his online business selling outdoor equipment supplied by BSWolf. His 4-storey house has been converted into a warehouse, and his father helps him with packaging. His store has attained the three-blue crown level.

Source: Interview

**Mr. Rui**

Rui has been working since he was 17 years old after finishing high school. He previously worked as a lathe machine operator and a salesperson.

In 2010, Rui began selling outdoor equipment provided by BSWolf through his online store. Subsequently, with the help of his friend, he changed to selling shoe racks. In 2013, his annual sales have exceeded 10 million yuan (USD 1.6 million).

Source: Interview

**Ms. Lv**

Ms. Lv is the cousin of Mr. Lv, the owner of BSWolf.

Ms. Lv operated an online store that sells outdoor equipment supplied by BSWolf. She uses product photos provided by BSWolf. Additionally, she designed her own page to differentiate her stores from other stores that sell similar items. Her store was at the three-blue crown level.

Source: Interview

**Ms. Ling**

Ling is a 26-year-old graduate from design school. She has previously worked as a designer in other cities.

In 2013, Ling returned home to Jinyun and worked for an online store as a graphic designer. She earned approximately 3,000 yuan (USD 480) a month, which is acceptable to her because the standard of living in rural areas was lower. She planned to open her own store in the future.

Source: [http://hsb.hsw.cn/2013-03/21/content\\_8489901.htm](http://hsb.hsw.cn/2013-03/21/content_8489901.htm)

## Appendix H

The 14-day 300-km Green Walk organized via social media

