

Mobile Social Media Applications among Chinese Environmental Non-Governmental Organizations (ENGOS): A Case Study Approach

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Abstract: Restricted by its top-down political structure, the efficient management of social capital as a community-based resource is vital to the success of environmental non-governmental organizations in China. Based on both the Resource Mobilization Theory and the Social Capital Theory, this case study research describes and explores the role of mobile-enabled social media in assembling social capital resources among environmental communication organizations in China. Using a case study of two Chinese ENGOS, this study aims to demonstrate the benefits and limitations of mobile-enabled social media as cross-boundary mobilization platforms to mobilize social capital in promoting environmental causes and generating social changes. Discussion, implications, research limitations, and future research directions are presented.

Keywords: Case study method, China, environmental communication, ENGOS, Mobile-enabled social media, resource mobilization theory, social capital theory

1. Introduction

China's fragile environment has been severely impacted after decades of rapid industrialization, population pressure, urbanization, and "unsustainable production practices" (Morton, 2003, p. 54). Multiple reports have found the severity of environmental impacts on China's ecosystem because of its fast-economic development (MarketLine, 2013). In November 2010, China officially admitted that it was the largest emitter of greenhouse gas (MarketLine, 2013). Environmental issues would become President Xi's biggest problem after the Chinese Communist Party's 19th Congress in October (Wang, 2017). The World Bank (2007) found that health costs of severe air and water pollution account for about 4.3 percent of China's GDP. Over 70% of the rivers in China have been found polluted and not suitable for human consumption (Kaiman, 2013). Recent statistics continue to point out the negative impacts of environmental depredations in China and, according to China's Ministry of Environmental Protection, the costs of pollution have been estimated to be about \$227 billion (about 3.5% of China's GDP in 2010 (Albert & Xu, 2016).

Other alarming statistics have confirmed the severity of environmental complications in China. Cancer mortality rates have grown 80% because of rampant water pollution in the rural area, and air pollution in the urban area in the past 30 years (Kaiman, 2013). Carcinogens, such as nitrosodimethylamine (NDMA), are found in tap water after a study of water quality in 23 provinces and 155 cities in China (Cendrowski, 2016). Life expectancy among

residents in the heavily polluted areas (such as the northern part of Huai River in Northern China) are 5.5 years lower than the average (75.3 years for Chinese people) (Albert & Xu, 2016). Despite the increasing awareness among the public, how Chinese government shapes its environmental policies is determined by the tension between economic development and conservation (He, Zhuang & Xie, 2014). Protests related to environmental concerns rose to 712 cases in 2013 (31% increase from 2012) (Albert & Xu, 2016). Due to the severity of these environmental problems, The World Bank has allocated US\$1 billion to help China with air quality improvement projects through the improvement of energy efficiency and air quality reduction in its capital region (The World Bank, 2016).

Environmental non-governmental organizations (henceforth, ENGOs) constitute an important part of China's emerging civil society. However, due to President Xi's ubiquitous control over China's political and social structures, China's ENGOs continue to "struggle for support" (Sha, 2012), their involvement in the policy-making process "ephemeral" (Li, 2012, p. 26). These challenges are likely to be caused by the absence of resources in China (Francesch-Huidobro & Mai, 2014). Like those in other societies, the success of ENGOs in China will also rely on their capacity to mobilize resources to take part in government's policy-making processes to conserve its environment (Francesch-Huidobro & Mai, 2014). The case study by Francesch-Huidobro and Mai (2014) found that advocacy groups in Guangdong Province accomplished their conservation objectives through consensus building in creating an advocacy coalition system, forming coalitions among organizations, grassroots movements to create demands, and pursuit of government recognition and endorsement. These approaches reflect the importance of efficiently managing social capital resources to accomplish the conservation objectives of these ENGOs. The abilities to build capacity through mobilizing various resources is particularly critical at the time of the recent pervasive control of 7,000 foreign ENGOs in China, by means of its *2016 PRC Law on the Management of Foreign NGOs*. This new law is likely to affect fund-raising, volunteer recruitment, and other operations of ENGOs in this country (Beech, 2016; Wong, 2016), further straining the access to resources instrumental to the success of ENGOs in China.

Using a case study approach commonly found in past environmental communication literature to provide a thorough analysis of cases and best practices (Francesch-Huidobro, & Mai, 2012; Li, 2012; Li, 2017), we analyzed the role of mobile-enabled social media as enabling platforms to mobilize social capital by two ENGOs in China. This case study aims to describe how these emerging platforms have helped ENGOs in China to accomplish their conservation objectives in a society where civil society sector is still developing. This study begins by providing an overview of two main theoretical frameworks, followed by the research method to provide case study data to answer the following research questions:

RQ1: What is the role of mobile-enabled social media in mobilizing social capital resources by ENGOs in China?

RQ2: How have mobile-enabled social media helped ENGOs to mobilize resources to accomplish conservation objectives for social change in China?

RQ3: What are the challenges and difficulties in employing mobile-enabled social media as resource mobilization platforms by ENGOs in China?

2. Literature Review

The advent of new media has impacted many non-governmental organizations (henceforth, NGOs) in China (Li, Tang & Lo, 2018; Saxton & Guo, 2014). For example, Saxton and Guo (2014) analyze the role of Twitter in targeting core stakeholders among 117 community foundations in the U.S. Their quantitative study confirms the importance of Twitter in building social media capital for these non-profit organizations. While the use of social media has been found to generate positive benefits for many NGOs (Saxton & Guo, 2012), to what extent these new media will be integrated into NGOs' organizational activities depends on government affiliation, government work experiences, and regulatory environment in China (Li et al., 2018). Emerging areas of research on the use of new media by NGOs or ENGOs have begun to address their benefits of mobilizing resources (Li et al., 2018), social media capital (Saxton & Guo, 2014), or actual financial resources such as donations (Saxton & Guo, 2012). This study aims to provide a first attempt to integrate both Resource Mobilization Theory and Social Capital Theory to better conceptualize the role of mobile social media in mobilizing resources for Chinese ENGOs, as demonstrated in the analysis of their best practices to accomplish ENGOs' conservation objectives.

2.1. Resource Mobilization Theory (RMT)

Resource Mobilization Theory (henceforth, RMT) has been applied to study social movements since 1970s (See McCarthy & Zald, 1977, for review). Recently, RMT has been used to study the strategies employed by these social movement organizations to study the roles of communication media (Carroll & Hackett, 2006) and emerging media (such as Internet) (Kropczynski & Nah, 2010). Kropczynski and Nah (2010) elaborate that RMT emphasizes "the importance of acquiring a variety of resources, such as trust, authority, and connective public goods, to mobilize members toward the completion of movement goals" (pp. 691-692). These intangible resources, in addition to many tangible resources, are critical to the success of any NGOs or ENOGs (Saxton & Guo, 2014). Many ENGOs have objectives similar to social movement organizations; that is, to mobilize the society for positive social changes through "the effective use of resources, including money, facilities, labour, legitimacy, land, and technical expertise" (Hara & Estrada, 2005, p. 504). Therefore, it is viable to extend RMT to study ENGOs in China, given its tightening of centralized controls after several decades of the "Open Door Policy" (Fincher, 2018).

Past literature has identified at least five types of resources instrumental to the success of NGOs in general, and ENGOs in particular: cultural, human, material, moral, and social organizational (Edwards & McCarthy, 2004; cited in Corte, 2013, p. 29). Social media contribute to seeking for human resources that refer to experience, expertise, labor, or skills a social movement organization has (Edwards & McCarthy, 2004; Li et al., 2018). Li et al. (2018) found that leaders of ENGOs who have previous government work experience tend to employ social

media to maintain relationships with government to seek for resources. Similarly, Saxton and Guo (2012) found the strategic use of social media can lead to better financial outcomes, which are defined as a type of material resources, among other tangible artefacts such as equipment or supplies (Edwards & McCarthy, 2004). Yang, Kang, and Wang (2019) similarly observed that the use of mobile platforms help Chinese ENGOS to share their organizational visions with outside communities to build moral resources, commonly defined as solidarity and sympathetic support from the public (Edwards & McCarthy, 2004). Well-established and successful ENGOS (such as *WildAid*) also attempt to change people's culinary habit by not eating shark fin soup, as an example of cultural social capital which is defined as "shared norms, values, attitudes, and beliefs" (Ballet, Sirven & Requieres-Desjardins, 2007).

Overall, ENGOS' abilities to coordinate and mobilize these resources are important to accomplish their organizational objectives for social changes in China. The access and generation of cultural social capital will lead to the intended behavioral changes in society to better protect the environment. In the process of resource mobilization, scholars often ignore the role of communication (Edwards & McCarthy, 2004). However, increasingly, communication scholars have paid attention to the relationships among people's communication behaviors (including media usage behaviors), social capital, and social/civic actions (Jeffres, Jian & Yoon, 2013; Rojas, Shah & Friedland, 2011; Quinn, 2012; Tian, 2015). Therefore, we speculate that mobile-enabled social media will play an equally important role in mobilizing social capital resources for ENGOS in China. Saxton and Guo (2014) similarly argued that sending Twitter messages to NGOs' core stakeholders contributes to organizations' "social media capital" (p. 289). Other scholars also found social media play an important role in generating human resource capital by encouraging, informing, and recruiting young people to take part in recycling campaigns through SMS messages (Buil, Roger-Loppacher & Marimon, 2014). In Hara and Estrada's (2005) case study, they further examined the role of the Internet in the mobilization of grassroots activities and concluded that this technology can capitalize on moral and cultural capital resources such as credibility and legitimacy building, knowledge, identity support, interpersonal interactions, etc. (Hara & Estrada, 2005).

ENGOS in China may use mobile-enabled social media for a variety of purposes such as informing the public and stakeholders, recruiting volunteering, soliciting financial support, generating relationships with other ENGOS, social groups, or individuals as discussed in the studies in the Western contexts (Chung, Nam & Koo, 2016; Lodhia, 2014; Stein, 2011). Saxton and Guo (2014) coined the term, social media capital, to refer to social media-based capital, which is vaguely equated with cultural, financial, and symbolic capital. Their study seems to assume that sending out Twitter messages will generate some form of social media capital without differentiating what types of resources will be generated. Given that the concept of social capital has been used ambiguously (Saxton & Guo, 2014), in the following section, we will briefly review previous studies on the concept of social capital in the context of Chinese ENGOS.

2.2. Social Capital Theory

Bourdieu (1986) defines social capital as "the aggregate of the actual or potential resources

which are linked to possession of a durable network of institutionalized relationships of mutual acquaintance or recognition” (pp. 248-249). Other scholars have defined social capital as “connections among individual social networks and the norms of reciprocity and trustworthiness that arise from them” (Putman, 2000, p. 19). In the study of ENGOs, social capital is a useful concept because it refers to “social networks, the reciprocities that arise from them and the value of these for achieving mutual goals” (Schuller, Barron & Field, 2000, p. 1). The emphasis on collective action (i.e., to protect the environment) is particularly relevant to examine how mobile-enabled social media help accomplish conservation objectives through reaching out to the public to mobilize a variety of social capital resources to facilitate social changes.

Existing non-profit organization literature (such as Saxton & Guo, 2012, 2014) often ignores the multi-dimensionality and complexity of the social capital concept. The term, social media capital, was coined (Saxton & Guo, 2014) to describe social media-based activities by U.S. community foundations; however, their study does not differentiate various types of social capital due to their social media activities. However, rapid developments of mobile-enabled social media have allowed the generation, maintenance, and mobilization of social capital resources to exist virtually in many social networking media. These technological developments have transformed social media from merely connecting with core stakeholders, to mobilizing their material, human, culture social capital that demand scholars to better study the impacts of these media platforms. For example, ENGOs may not be able to use social media to seek for material social capital (such as donations) in China, but through frequently connecting with the outside communities, these ENGOs are likely to build trust such that local communities/stakeholders might perceive their participation is essential to result in positive social changes (Glenane-Antoniadis et al., 2003).

Social capital theorists help environmental communication researchers to understand social capital can have bonding and bridging functions (Chung et al., 2016; Foster et al., 2017; Williams, 2006). In a collectivistic culture like China where *guan-xi*, or interpersonal relationship, plays an important role, these two functions are likely to affect how social capital will be generated from closely-knit interpersonal social networks. For example, sharing campaign information through individuals’ social media, or word of mouth, may generate more powerful persuasive results than through less personal mass media advertising. In addition to the bridging form of social capital described above, the presence of pro-environmental social norms, an example of bonding form and cultural social capital, may also be important to alter behaviors among local villagers or fishermen in China.

Mobile-enabled social media platforms have created a particularly interesting situation for ENGOs in China. These platforms allow these ENGOS to mobilize many resources easily and effectively within the existing social relationships in the Chinese society to accomplish conservation objectives. Furthermore, the omni-present mobile platforms further enhance ENGOs’ capabilities to “improve the efficiency of society by facilitating coordinated action” (Putnam, Leondardi & Raffaella, 1993, p. 167). Furthermore, Foster et al. (2017) observes that the introduction of these emerging media platforms is likely to affect how people develop social ties among themselves and generate new and more social capital resources (p. 6).

3. Research Method

3.1. Case Study Method

As a popular qualitative research method, case study has been widely used in environmental communication research (Jarreau, Altinay & Reynolds, 2015; Yang et al., 2019). Merriam (1998) defines the case study method as “an intensive, holistic description and analysis of a single instance, phenomenon, or social unit” (p. 21). Yin (2009) identifies three case study methods: descriptive, explanatory, and exploratory. Unlike an exploratory case study that merely identifies patterns in the data, this study employs a combination of descriptive and explanatory case study methods to provide a thorough description of the selected ENGOs to explain three theoretically-framed research questions (Hamilton & Corbett-Whittier, 2013). Based on the intent of a case study, Merriam (1998) points out three types of case studies: descriptive, evaluative, and interpretive. This study aims to describe and evaluate the best practices of these two ENGOs in terms of their mobile-enabled social media applications.

The case study method is a suitable method to offer researchers “an understanding of a complex issue or object and [can] extend experience or add strength to what is already known through previous research” (Jarreau et al., 2015; Soy, 1997; Yang et al., 2019). Past studies on environmental communications have often employed this method to provide a thorough exploration of how the Internet helps the Australian mining companies for sustainability communication (Lodhia, 2016), effectiveness of environmental projects in China (Subedi, Hocking, Fullen, McCrea & Milne, 2011), and the role of climate advocacy groups in China (Francesch-Huidobro & Mai, 2012). This research method can be combined with other quantitative and qualitative methods to provide more in-depth analysis of a particular phenomenon interesting to researchers or policy-makers (Jarreau et al., 2015). Furthermore, the case study research approach allows researchers to focus on “detailed contextual analysis of a limited number of events or conditions and their relationships” (Soy, 1997; Yang et al., 2019). To provide data to answer our research questions, we employed a case study approach to examine and assess two ENGOs and their campaigns in China (Yin, 1994). We attempt to provide a thorough description about what social capital has been mobilized by these emerging platforms to help Chinese ENGOs accomplish their conservation objectives.

Defining a case as a unit of analysis is a critical step in a case study approach to allow researchers to answer questions and issues relevant to a research project (Xiao, 2010). To select our study cases, we have followed the case study strategies and procedures, such as typical, diverse, extreme, deviant, influential, most similar, and most different (Gerring, 2008; Seawright & Gerring, 2008). We have employed the typical and most similar case selection strategies to choose representative cases that can provide the strongest foundation to generalize to other ENGOs in China (Gerring, 2008; Seawright & Gerring, 2008).

The selection of two Chinese ENGOs in this study is based on the Directory of Environmental Organizations and Environmental Government Agencies in China (<https://www.earthdirectory.net/china>). We reviewed all ENGOs' websites to identify their mobile-enabled social media applications in recruiting volunteers, soliciting donations, informing stakeholders and the public, and other activities related to social capital mobilization. The following two

ENGOS were selected on the basis of the extent and creative applications of technologies and practices that are likely to be representative and similar to other ENGOS in China. ENGOS were chosen because of their mobilization of different types of social capital to demonstrate how mobile-enabled social media have helped Chinese ENGOS in accomplishing their conservation objectives. Because the present research is not a quantitative content analysis study of ENGOS' websites, no numeric data on the above categories are provided to justify the selection of two ENGOS. Our selection of these two ENGOS below is based on extensive discussions between the two authors to abide by the case selection methods by Gerring (2008) and Seawright and Gerring (2008). -

4. Findings and Discussion

In this section, we discuss two ENGOS in China that demonstrate their use of mobile-enabled social media to mobilize different types of social capital resources in China. We also explain how ENGOS' new media applications reveal the processes and outcomes of social capital mobilization to accomplish their conservation objectives in response to China's changing political and social milieu.

The emergence of mobile-enabled social media has fostered a new generation of civil society leaders in China (Hook, 2016). Among them, environmental communication leaders are among the forerunners to use these communication technologies. Many of them have employed these platforms to mobilize resources to accomplish their conservation objectives (Yang et al., 2019). Their decisions to embrace these new technological innovations are partially due to the changing political and regulatory environment in China, where the development of ENGO's organizational capacities has been restricted by China's new policies and regulations (Li et al., 2018; Tang & Zhang, 2008). Contrary to state-owned media, mobile-enabled social media are less regulated in China and more open to innovations. Emerging media platforms have historically played a vital role in fostering civic organizations in China. For example, in August 2013, the environmental activist, Deng Fei, set up his own social media accounts and encouraged users of China's *Sina Weibo* (equivalent to Twitter in most of the world) to share photos of contaminated rivers in their hometowns (Custer, 2013). Even though the river contamination problem may be local, social media help spread the news to become a national focus when other users share their own photos (Custer, 2013). Mobilizing national support of this important issue is critical to the success of any water conservation campaign in China. Emerging media platforms have made this possible through raising public awareness, increasing engagement, and generating donation and volunteer activities. The easy sharing of photos in Deng Fei's Weibo account supports social media's capabilities to amass "social media capital" (as coined by Saxton & Guo, 2014) from previously-isolated pockets of concerned citizens all over China to generate culture, human, and material social capitals.

4.1. Case Study #1: China Water Safety Foundation (henceforth, CWSF) (<http://blog.163.com/special/0012sp/shuianquan.html>)

CWSF represents a close collaboration among ENGOS, civil society organizations, universities,

and business enterprises. CWSF's website, accessible through mobile-enabled social media (such as *Weibo* and mobile devices), demonstrates a variety of resource mobilization functions, ranging from online donations to e-Commerce and information-sharing functions to garner capitals available in the society (Yang et al., 2019). Its website also includes an online donation link and a real-time water safety inquiry link. The water safety inquiry function is particularly noteworthy because it exemplifies social media's roles to facilitate the mobilization of material social capital without the needs of reporting to local governments and mass media. For example, its water quality reporting link and real-time water quality map share and exchange water quality information reported by concerned citizens in China. The visualization of data is also made accessible through four QR codes linking to water quality monitoring and testing data across China. The application of mobile-enabled social media by CWSF demonstrates that these emerging media platforms can efficiently enable ENGOS to bridge different stakeholders by establishing weak ties with the public through sharing and exchanging water contamination information. The information-sharing capabilities are critical to the success of ENGOS in China because many local governments have often kept water safety and quality monitoring data secret to avoid public oversights (Liu, 2015). Informed citizens are also likely to prompt national and local governments to reform their water management systems (Liu, 2015). Cooperation, openness, reciprocity, social cohesion, and trust among ENGOS and the public help generate bridging social capital to accomplish intended behavioral changes (Chung et al., 2016; Leonard & Pelling, 2010) at the levels of both local community and governments.

Krasner (1978) points out that a state (or its sub-state actor) is often constrained by its capacity to focus on the most urgent issues. Therefore, mobile-enabled social media has served the important function of networking with ENGOS' peer, government, and business organizations to mobilize social capital from the society after alerting various stakeholders of pressing environmental issues. Li et al. (2018) argue that managerial networking with these entities will enable ENGOS to strengthen their organizational capacities by facilitating interorganizational learning, taking advantage of environment opportunities, reducing environmental uncertainty, and protecting against environmental threats. These findings concur with similar social media research (Chug et al., 2016; Ellison, Steinfield & Lampe, 2007; Valenzeula, Park & Kee, 2009) that found Facebook users utilize this social media platform for bridging social capital and their usage behaviors to affect their political and civil society participation. Before the advent of mobile-enabled social media, it would be cost inhibitive for CWSF and other similar ENGOS in China to bond and bridge different stakeholders in a geographically dispersed country of 1.4 billion people (Yang et al., 2019). Existing bureaucratic and centralized structure in China have made a timely response to these urgent environmental problems less feasible (Schwartz, 2004).

On the basis of social capital literature, mobile-enabled social media is also capable of enhancing trust of ENGOS. The construction of trust between ENGOS and their stakeholders depends on whether ENGOS can employ these emerging technologies to facilitate communication, information diffusion, and social relationship/tie development among individuals and ENGOS (Durant, 2011). Past research on problems and challenges facing ENGOS in China has often cited that "the lack of trust throughout society" has affected the recruitment of volunteers and the sustainability of their existing programs (Ewon & Rollins, 2011, p. 57). To build trust with its stakeholders, CWSF relies on the general public's abilities to access the most updated water

quality and mobilize people's participation in helping to monitor and report any potential water pollution incidents across any parts of China. Trust in CWSF is established through impartial and non-censored information, and openness to report and share information. For example, CWSF's blog page provides a real-time water quality monitoring map and water pollution incident reporting (indicated by 📍) to read and share information (Refer to Figure 1). Users are able to employ different color notations (indicated by 📍📍📍📍📍) to show whether any pollution incident has been reported and subsequently resolved (Yang et al., 2019). Chinese netizens are also encouraged to share any information through other social media platforms such as *RenRen* (like *Facebook*), *Sina Weibo* (equivalent to *Twitter*), or *QZone* (like blogging) (Yang et al., 2019). The blog page (as seen in Figure 1) also includes a section that allows users to interact with each other through existing *Weibo* platforms to maintain the involvement of the concerned citizens through which bonding and bridging social capital can be mobilized to shape government's policy-making process. What is demonstrated in Figure 1 can further establish bonding social capital among users of CWSF's platforms by creating a virtual community of concerned citizens. This networking opportunity is likely to produce what Geber et al. (2016) refer to as *participatory capital* that is generated among "associational memberships that afford opportunities for people to bond and articulate their demands" (p. 495).



Figure 1. Real-Time Water Quality and Pollution Incident Map Enabled by Mobile Social Media (by China Water Safety Foundation)

Source: <http://blog.163.com/special/0012sp/shuiquanquan.html>

To take advantage of the popularity and pervasiveness of mobile devices in China where penetration is expected to reach 51.1% in 2018 (eMarketer, 2014), CWSF also uses four QR codes to allow concerned citizens to download water pollution maps by reading these QR codes. As a strategy to mobilize social capital through easy access to pertinent information, mobile-enabled social media has the advantage of facilitating the dissemination of information to build more social capital for many NGOs (Trivedi & Vyas, 2014). Mobile-enabled social media will similarly help ENGOs in China to reach their target audiences and generate greater impacts on government policies (Trivedi & Vyas, 2014). The dissemination of information through these networking tools is likely to reduce public distrust of ENGOs in China (Li et al., 2018). Among the tech-savvy middle class in China, the inclusion of QR codes does contribute to the generation of social capital for conservation objectives (Yang et al., 2019). Leonard and Pelling (2010) point out that “social capital can be inclusive or exclusive depending on a social actor’s socio-economic status, capacities, opportunities and strategies for networking to engage, organize and respond to industrial risk” (p. 582). Nevertheless, it should be cautioned that the application of QR codes could generate unanticipated negative consequences by excluding certain less technology-savvy groups while bridging social capital by offering “informational advantages” (Glenane-Antoniadis et al., 2003; Leonard & Pelling, 2010).

4.2. Case Study #2: Institute for Public and Environmental Affairs (henceforth, IPE) (<http://www.ipe.org.cn/>)

IPE was founded in June 2006 to monitor whether China’s corporations are responsible for the air pollution in China (Hook, 2016; IPE, n.d., <http://www.ipe.org.cn/about/about.aspx>). Chinese citizens can retrieve available information about the possible environmental impacts of any registered corporations by entering their stock code to search IPE’s database (Hook, 2016). According to its website, IPE is “a non-profit environmental research organization registered and based in Beijing, China.....dedicated itself to collecting, collating and analyzing government and corporate environmental information to build a database of environmental information” (IPE, n.d.). IPE’s website, social and mobile platforms provide thorough collection of government-published data on environmental quality, emissions and pollution records from 31 provinces and 338 cities (IPE, n.d.; Yang et al., 2019). Information disclosed by corporations to meet social responsibility requirements and relevant regulations are made available through these platforms to educate the public about the importance of air pollution in China (IPE, n.d.; Yang et al., 2019).

As demonstrated in this ENGO’s website, mobile-enabled social media have been incorporated into the promotion of IPE’s missions to the general public by converting less accessible and comprehensive government data into actionable information that can help Chinese citizens to influence corporations’ conservation efforts (Yang et al., 2019). Sharing the missions of ENGOs help the building of what is known as “cultural social capital” (Ballet, Sirven & Requiers-Desjardins, 2007). The mobilization of “cultural social capital” (e.g., norms, values, and shared beliefs to support conservation) (Ballet et al., 2007) enables ENGOs in China to influence the operations of corporations and become “green”. Different from Case #1 that CWSF utilizes social capital from its grassroots involvement to collaborate with the

Chinese government to address water pollution problems through managerial networking to build bridging social capital (Li et al., 2018), IPE mobilizes the same social capital to influence corporation stakeholders to participate actively in conservation through their social responsibility initiative.

As demonstrated in this case study, mobile-enabled social media have helped mobilize different social capital resources to solve China's environmental problems (Yang et al., 2019). There are two mobile-enabled platforms to help promote the protection of air quality in China: the Blue Map website and the Blue Map app that aims to "integrate environmental data to serve green procurement, green finance and government environmental policymaking, using cooperation between companies, government, NGOs, research organizations and other stakeholders and leveraging the power of a wide range of enterprises to achieve environmental transformation, promote environmental information disclosure and improve environmental governance mechanisms" (IPE, n.d.). Furthermore, QR code as an emerging platform also allows users to access IPE's *Sina Weibo* and *WeChat* and mobile Blue Map App through their mobile devices (Refer to Figure 2).



Figure 2. IPE's QR Code to Access Multi-Platforms to Interact with the Public

Source: <http://wwwwen.ipe.org.cn/about/about.aspx>

The utilization of mobile-enabled social media to bond and bridge different ENGOS' stakeholders through their networking capabilities (Li et al., 2018; Trivedi & Vyas, 2014) is likely to produce what Foster et al. (2017) has called, "civic organization-based social capital," that are produced by many individuals who are organized by "norms and rules of behaviors" (p. 8) to generate the resources that help accomplish environmental communication objectives. The heavy use of these mobile platforms by ENGOS in China are likely to produce what Jeffres et al. (2013) have called, "communication capital" that is defined as "persistent communication patterns that facilitate social problem solving in the community" (p. 545). The benefits of communication (social) capital as the generation, mobilization, and maintenance of useful resources are most related to ENGOS in the environmental communication context. One of the theoretical contributions of this study is to integrate RMT and social capital theories to examine the communication activities facilitated by mobile-enabled social media by focusing the mobilization of various types of social capital among ENGOS in China. Unlike previous ENGO research that employs either resource dependence theory or institutional theory (Refer to Li et al., 2018 for a complete review), this study further demonstrates that ENGOS in China have taken advantage of the capacity-building potential of new technologies to mobilize resources essential to their organizations, in spite of the "coercive, mimetic, and normative pressures"

in China (Li et al., 2018, p. 328). This type of “network social capital” is a product of these emerging media platforms in which interpersonal interactions are made possible, and social relations are generated easily and effectively among individuals that belong to geographically dispersed neighborhoods, communities, workplaces, civic organizations.

As demonstrated in this case study, the integration of mobile-enabled social media into environmental communications has also helped ENGOs in many ways. First, mobile-enabled social media platforms offer low-cost alternatives to deliver campaign messages to mobilize the public. The global expansion of social networking media has even allowed local ENGOs to communicate with a global audience (Trivedi & Meghna, 2014). Even China’s social media are local in nature (with the banning of *Facebook*, *YouTube*, *Instagram*, *Twitter*, *WhatsApp*, etc) (BBC, 2017), and alternatives such as *WeChat*, *Weibo*, *YouKu*, *WeiXin* can be accessed from outside of China to reach many Chinese citizens living overseas.

Secondly, as early as 2006, Pan Yue, Vice Minister for The Ministry of Environmental Protection in China, pointed out “[p]ublic participation is the key to solving China’s environmental issues. Using these highly-penetrated mobile and social media will be in line with what China’s *Environmental Protection Law* of 1989 states, “All units and individuals shall have the obligation to protect the environment and shall have the right to report on or file charges against units or individuals that cause pollution or damage to the environment” (cited in Yue, 2006). Thirdly, the involvement of grassroots and stakeholders at various levels of the Chinese society is likely to accomplish what China’s *Law on Evaluation of Environmental Effects* (2003) emphasizes, that the government should hold “consultative meetings and public hearings to protect environment interests of the public before approving any projects that may have environmental impacts” (cited in Yue, 2006). Mobile-enabled social media will help educate, mobilize, and motivate the public to become engaged stakeholders in making decisions about environment protection. As a result, more social capital resources can be mobilized to help with China’s worsening environmental problems.

5. Conclusion

Emerging media are rapidly changing the conservation of nature (Büscher, 2014). Mobile-enabled social media and their ever-changing applications have clearly opened many opportunities for ENGOs to interact with their stakeholders and audiences in their environmental communications activities. As shown in these two case studies, ENGOs in China have greatly benefited from the mobilization of social capital resources enabled by these emerging platforms to accomplish their conservation objectives to promote their causes and to educate their stakeholders. These emerging platforms have demonstrated their important roles in a country where free flow of information is sometimes impeded. However, environmental communication activists as discussed in this study seem to have found a balancing act with the government’s increasingly tight control of the technologies. Our findings might also pose challenges to claims by many existing institutional theorists by demonstrating that the ingenuity of ENGOs and their managers may alleviate these restrictions on their organizations.

Mobile-enabled social media, as part of the emerging multi-platform marketing communications ecosystem, welcome the opportunities to reach much larger and more

diverse audiences (Doyle, 2010; Neijens & Voorveld, 2015). But, at the same time, future environmental communications professionals are also expected to encounter similar challenges, such as how to tailor their communication activities for increasingly diverse and fragmented audiences (Fulgoni, 2015; Yang et al., 2019). Therefore, to succeed in this micro-segmented communication environment, these environmental communication groups are required to enhance their understanding of micro-segment audience behaviors (Fulgoni, 2015; Yang et al., 2019).

5.1. Limitations of This Study and Future Research Directions

First, one of the major criticisms about social capital research is its lack of conceptual clarity and consensus among scholars (Leonard & Pelling, 2010; Lin, 2001; Saxton & Guo, 2014). Many embedded resources in social networks are often ignored and subsequently cause confusion among scholars about the validity of the findings (Lin, 2001). Durant (2011) summarized problems and limitations in social capital research, including how to best measure the social capital concept, whether social capital works best at the individual or group level, or inside or outside a relationship, if the closure or density of social capital has any effects, etc. Chung et al. (2016) also argue that social capital is made up of the cognitive, relational, and structural factors. Future study will benefit from these concerns.

Secondly, this study is also limited because only two Chinese ENGOS and their environmental communications activities were analyzed. Future research should further study ENGOS with different organization sizes, financial resources, mission statements, conservation types, relationships with the government, etc. to shed more light on these important topics.

Thirdly, the present study focuses on whether and in what ways mobile-enabled social media helps mobilize resources for ENGOS in China through informing and connecting with the stakeholders to generate social capital for environmental conservation. This type of “mediated” communication through these emerging platforms should also consider other cultural, economic, and political factors in determining the participation of these stakeholders (Hansen, 2011). Future study may need to explore how these ecological factors could affect the effectiveness of mobile and social media in the resource mobilization process among ENGOS in China.

Fourthly, the generation and mobilization of social capital are likely to be affected by the strength of ties in the social relationship. The strength of ties has also been empirically found to affect the opinion formation process (Refer to Williams, 2006, for review). Bonding or bridging in either online or offline contexts is likely to affect how social capital will be measured and studied (Williams, 2006). As Williams (2006) points out, the type of social relationships within the social network can predict what types of social capital will be produced. Future research may explore whether social ties could affect social capital among ENGOS in China.

Lastly, scholars in non-profit marketing literature (Li et al., 2018; Saxton & Guo, 2012, 2014) have used quantitative methods to analyze the role of emerging social media in ENGOS' resource mobilization activities. For example, Li et al. (2018) studied 267 Chinese ENGOS to understand the impacts of political environment on their networking activities. Similarly, Saxton and Guo (2014) examined Twitter usage to reach the core stakeholders among 117 U.S.

community foundations. Their quantitative approach may help expand the study by examining how various types of social capital can be mobilized by these emerging media platforms.

References

- Albert, Eleanor. (2017, May 11). China's big bet on soft power. *Council on Foreign Relations*, Retrieved on October 4, 2017 from <https://www.cfr.org/backgrounder/chinas-big-bet-soft-power>
- Albert, Eleanor & Xu, Beina. (2016, January 18). *China's environmental crisis*. Council on Foreign Relations. Retrieved on August 5, 2017 from <https://www.cfr.org/backgrounder/chinas-environmental-crisis>
- Ballet, Jérôme; Sirven, Nicholas & Roquiers-Desjardins, Mélanie. (2007, December). Social capital and natural resource management: A critical perspective. *The Journal of Environment and Development*, 16(4), 355-374.
- BBC. (2017, September 26). Social media and censorship in China: How is it different to the West? *BBC News Beat*, Retrieved on April 29, 2019 from <http://www.bbc.co.uk/newsbeat/article/41398423/social-media-and-censorship-in-china-how-is-it-different-to-the-west>.
- BBC News. (2013, June 6). What does Xi Jinping's China dream mean? *BBC News*, Retrieved on August 5, 2017 from <http://www.bbc.com/news/world-asia-china-22726375>.
- Beech, Hannah. (2016, April 29). China campaigns against 'Western values,' but does Beijing really think they're that bad? *Time*, Retrieved on December 1, 2016 from <http://time.com/4312082/china-textbooks-western-values-foreign-ngo/>.
- Buil, Pilar; Roger-Loppacher, Olga & Marimon, Frederic. (2014). The impact of SMS messages on young people's participation in recycling campaigns. *Communication & Society*, 27(1), 161-182.
- Büscher, Bram. (2014). Nature 2.0: Exploring and theorizing the links between new media and nature conservation. *New Media & Society*, 1-18.
- Carroll, William K. & Hackett, Robert A. (2006). Democratic media activism through the lens of social movement theory. *Media, Culture, & Society*, 28(1), 83-104.
- Cendrowski, Scott. (2016, October 17). China's tap water is scaring people after study finds a known carcinogen. *Fortune*, Retrieved on April 29, 2019 from <http://fortune.com/2016/2010/2017/china-tap-water-scaring-people-study-dangerous-carcinogen/>.
- Chung, Namho; Nam, Kichan & Koo, Chulmo. (2016). Examining information sharing in social networking communities: Applying theories of social capital and attachment. *Telematics and Informatics*, 33, 77-91.
- Cole, Clarke. (2014, June). *Social media best practices for nonprofit organizations: A guide*. Canadian Coalition for Global Health Research. Retrieved on August 5, 2017 from <http://videa.ca/wp-content/uploads/2015/08/Social-Media-Best-Practices-for-Non-profit-Organizations.pdf>
- Corte, Ugo. (2013). A refinement of collaborative circles theory: Resource mobilization and innovation in an emerging sport. *Social Psychology Quarterly*, 76(1), 25-51.
- Custer, Charlie. (2013, February 13). Deng Fei launches Weibo campaign to share images of

- water pollution. Retrieved on March 29, 2018 from <https://www.techinasia.com/deng-fei-launches-weibo-campaign-share-images-water-pollution>
- Custer, Charlie. (2015, May 19). China has almost 1.3 billion mobile users, and half of them are on 3G or 4G. *TechInAsia*, Retrieved on August 5, 2017 from <https://www.techinasia.com/china-2013-billion-mobile-users-2013g-2014g>.
- Doyle, Gillian. (2010). From television to multi-platform: Less from more or more for less? *Convergence: The International Journal of Research into New Media Technologies*, 16(4), 431-449. DOI: 410.1177/1354856510375145
- Durant, Thomas J. (2011). The utility of vulnerability and social capital theories in studying the impact of Hurricane Katrina on the elderly. *Journal of Family Issues*, 32(10), 1285-1302.
- Ellison, Nicole B.; Steinfield, Charles & Lampe, Cliff. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- eMarketer. (2014, December 22). *Majority of China's mobile phone users will use smartphones next year*. Retrieved on October 25, 2017 from <https://www.Emarketer.Com/article/majority-of-chinas-mobile-phone-users-will-use-smartphones-next-year/1011749>.
- Ewoh, Andrew I. E. & Rollins, Melissa. (2011, June). The role of environmental NGOs in Chinese public policy. *Journal of Global Initiatives: Policy, Pedagogy, Perspective*, 6(1), 45-60.
- Fincher, Leta H. (2018, March 1). Xi Jinping's authoritarian rise in China has been powered by sexism. *The Washington Post*, Retrieved on October 18, 2018 from https://www.washingtonpost.com/news/global-opinions/wp/2018/2003/2001/xi-jinpings-authoritarian-rise-in-china-has-been-powered-by-sexism/?noredirect=on&utm_term=.a2081d2066d2016a2014.
- Foster, Kirk A.; Smith, Richard J.; Bell, Bethany A. & Shaw, Todd C. (2017). Testing the importance of geographic distance for social capital resource. *Urban Affairs Review*, 1-26.
- Francesch-Huidobro, Maria & Mai, Qianqing. (2012). Climate advocacy coalitions in Guangdong, China. *Administration & Society*, 44(6S), 43-64.
- Fulgoni, Gian M. (2015, December). Is the GRP really dead in a cross-platform ecosystem? Why the gross rating point metric should thrive in today's fragmented media world. *Journal of Advertising Research*, 358-361. D3501: 310.2501/JAR-2015-2019.
- Gerring, John. (2008, August). Case selection for case study analysis: Qualitative and quantitative techniques. In J. M. Box-Steffensmeier, H. E. Brady & D. Collier (Eds.), *The Oxford handbook of political methodology* (pp. 645-684). New York, NY: Oxford University Press.
- Glenane-Antoniadis, Alicia; Whitewell, Gregory; Bell, Simon J. & Menguc, Bulent. (2003). Extending the vision of social marketing through social capital theory: Marketing in the context of intricate exchange and market failure. *Marketing Theory*, 3(3), 323-343.
- Hansen, Andrew. (2011). Communication, media and environment: Towards reconnecting research on the production, content and social implications of environmental communication. *The International Communication Gazette*, 73(1-2), 7-25.
- Hara, Noriko & Estrada, Zila. (2005). Analyzing the mobilization of grassroots activities via the internet: A case study. *Journal of Information Science*, 31(6), 503-514.

- Hamilton, Lorna & Corbett-Whittier, Connie. (2013). *Using case study in education research*. London: Sage Publications.
- He, Jianxin; Zhuang, Tianhui & Xie, Xingmei. (2014). Energy consumption, economic development and environmental improvement in China. *Energy & Environment*, 25(8), 1345-1358.
- Hook, Lislle. (2016). China special report: Environmental conservation leaders in China. *Financial Times*, Retrieved on August 5, 2017 from <http://www.ftchinese.com/story/001052775/en?archive>
- International Telecommunication Union. (ITU). (2016). *ICT development index 2016: IDI 2016 rank*. International Telecommunication Union (ITU). Retrieved on August 5, 2017 from <http://www.itu.int/net4/ITU-D/idi/2016/#idi2016countrycard-tab&CHN>
- IPE. (n.d.). Retrieved from <http://www.ipe.org.cn/about/about.aspx>
- Jarreau, Page B.; Altinay, Zeynep & Reynolds, Amy. (2015, October). Best practices in environmental communication: A case study of Louisiana's coastal crisis. *Environmental Communication*, 11(2), 143-165.
- Jeffers, Leo W.; Jian, Guowei & Yoon, Sukki. (2013, December). Conceptualizing communication capital for a changing environment. *Communication Quarterly*, 61(5), 539-563.
- Kaiman, Jonathan. (2013, June 4). Inside China's 'cancer villages'. *The Guardian*, Retrieved on August 5, 2017 from <https://www.theguardian.com/world/2013/jun/2004/china-villages-cancer-deaths>.
- Krasner, Stephen D. (1978). *Defending the national interest: Raw materials investments and U.S. foreign policy*. Princeton, N.J.: Princeton University Press.
- Kropczynski, Jessica & Nah, Seugahn. (2010). Virtually networked housing movement: Hyperlink network structure of housing social movement organizations. *New Media & Society*, 13(5), 689-703.
- Li, Hui; Tang, Shuiyan & Lo, Carlos W-H. (2018). The institutional antecedents of managerial networking in Chinese environmental NGOs. *Nonprofit and Voluntary Sector Quarterly*, 47(2), 325-346.
- Li, Yanwei. (2017, September). Governing environmental conflicts in China: Lessons learned from the case of the Liulitun waste incineration power plant in Beijing. *Public Policy and Administration*, 1-22. DOI <http://dx.doi.org/10.1080/03003930.03002017.01375409>
- Li, Wangxin. (2012). Advocating environmental interests in China. *Administration & Society*, 44(6S), 26-42.
- Li, Xiaofan. (2006, January). Environmental concerns in China: Problems, policies, and global implications. *International Social Science Review*, 81(1&2), 43-57.
- Lin, Nan. (2001). *Social capital: A theory of social structure and action*. New York, N.Y.: Cambridge University Press.
- Lin, Nan & Erickson, Bonnie. (Eds.). (2008). *Social capital: An international research program*. Oxford, M.A.: Oxford University Press.
- Liu, Coco. (2014, November 6). China will limit pollution from steel and cement. *Scientific American*, Retrieved on August 5, 2017 from <https://www.scientificamerican.com/article/china-will-limit-pollution-from-steel-and-cement/>

- Liu, Hongqiao. (2015, February 13). China's drinking water safety faces scrutiny in 2015. *China Dialogue*, Retrieved on April 7, 2019 from <https://www.chinadialogue.net/article/show/single/en/7722-China-s-drinking-water-safety-faces-scrutiny-in-2012-2015>
- Liu, Tao & Bates, Benjamin J. (2009, November). What's behind public trust in news media: A comparative study of America and China. *Chinese Journal of Communication*, 2(3), 307-329.
- Lodhia, Sumit. (2014). Factors influencing the use of the world wide web for sustainability communication: An Australian mining perspective. *Journal of Cleaner Production*, 84, 142-154.
- MarketLine. (2013, May). *Pestle country analysis report: China*. MarketLine, a trading name of Progressive Digital Media Ltd. London.
- McCarthy, John D. & Zald, Mayer N. (1977, May). Resource mobilization and social movement: A partial theory. *American Journal of Sociology*, 82(6), 1212-1241.
- Merriam, Sharah. (1998). *Qualitative research and case study applications in education*. San Francisco, USA: Jossey-Bass.
- Putnam, Robert D.; Leonardi, Robert & Raffaella, Nanetti Y. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- Quinn, Kelly. (2016). Contextual social capital: Linking the contexts of social media use to its outcomes. *Information, Communication & Society*, 19(5), 582-600.
- Rojas, Hernando; Shah, Dhavan V. & Friedland, Lewis A. (2011). A communicative approach to social capital. *Journal of Communication*, 61, 689-712.
- Saxton, Gregory D. & Guo, C. (2014). Online stakeholder targeting and the acquisition of social media capital. *International Journal of Nonprofit and Voluntary Sector Marketing*, 19(4), 286-300.
- Saxton, Gregory D. & Guo, C. (2012, December 18). Conceptualizing web based stakeholder communication: The organizational website as a stakeholder relations tool. *Communication & Science Journal*, Retrieved on October 18, 2018 from <http://www.galileoco.com/comSciJliteration/saxtonGuo12.pdf>
- Schwartz, Jonathan. (2004, Spring). Environmental NGOs in China: Roles and limits. *Pacific Affairs*, 77(1), 28-49.
- Sha, Liu. (2012, June 12). Environmental NGOs grow across China but still struggle for support. *Global Times*, Retrieved on August 5, 2017 from <http://www.globaltimes.cn/content/714330.shtml>
- Schuller, Tom; Baron, Stephen & Field, John. (Eds.). (2000). *Social capital: A review and critique* (pp. 1-38). Oxford, U.K.: Oxford University Press.
- Soy, Sue K. (1997). *The case study as a research method*. Retrieved on July 26, 2017 from <https://www.ischool.utexas.edu/~ssoy/usesusers/1391d1b.htm>
- Stein, Laura. (2011). Environmental website production: A structuration approach. *Media, Culture & Society*, 33(3), 363-384.
- Subedi, Madahu; Hocking, Trevor J.; Fullen, Michael A.; McCrea, Alison R. & Milne, Eleanor. (2011). Factors influencing the effectiveness of an agro-environmental project in China. *Outlook on Agriculture*, 40(2), 157-163.
- Tang, Shui-Yuan & Zhan, Xueyong. (2006, March). Civic environmental NGOs, civil society,

- and democratisation in China. *Journal of Development Studies*, 44(3), 425-448.
- Tian, Xiaoli. (2016). Network domains in social networking sites: Expectations, meanings, and social capital. *Information, Communication & Society*, 19(2), 188-202.
- Trivedi, Mayank & Vyas, Meghna. (2014, July). Dissemination of information at Smt. Hansa Mehta library. *Social Science Research*, 2(9), 1-9.
- US Global Investor. (2013, June 14). Going to a digital extreme in China. *US Global Investor*; Retrieved on August 5, 2017 from <http://www.usfunds.com/investor-library/frank-talk/going-to-a-digital-extreme-in-china/#.WYiqoYjyIV>
- Wang, Xiangwei. (2017, August 27). Xi faces one of his greatest tests yet - China's environment. Retrieved on October 25, 2017 from <http://www.scmp.com/week-asia/opinion/article/2108336/xi-faces-one-his-greatest-tests-yet-chinas-environment>
- Wong, Edward. (2016, April 8). Clampdown in China restricts 7,000 foreign organizations. *The New York Times*, Retrieved on November 22, 2016 from http://www.nytimes.com/2016/2004/2029/world/asia/china-foreign-ngo-law.html?_r=2010
- Wei, Lingling. (2017, July 17). China's growth masks unresolved debt and real-estate problems. *The Wall Street Journal*, Retrieved on August 5, 2017 from <https://www.wsj.com/articles/the-problem-with-chinas-economic-growth-1500303789>
- Williams, Dimitri. (2006). On and off the 'net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11, 593-628.
- Yang, Kenneth C. C.; Kang, Yowei & Wang, Ren-Ping. (2019). Integrating social and mobile media in environmental marketing communications in China: Opportunities and challenges. In Narula, S.; Rai, S. & Sharma, A. (Eds.), *Environmental awareness and the role of social media* (pp.43-71). Hershey, P.A.: IGI-Global Publisher. DOI: 10.4018/978-1-5225-5291-8.ch003
- Yin, Robert K. (2009). *Case study research: Design and methods* (4th Ed.). Thousand Oaks, CA: Sage.
- Yin, Robert K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Yue, Pan. (2006, May 12). The environment needs public participation. *China Dialogue*, Retrieved on August 8, 2017 from <https://www.chinadialogue.net/article/show/single/en/2604-The-environment-needs-public-participation>
- Xiao, Honggen. (2010). Single-case designs. In Miller, A. J.; Durepos, G. & Wiebe, E. (Eds.), *Encyclopedia of Case Study Research* (pp. 868-870). Thousand Oaks, CA: Sage Publications. <https://0-dx-doi-org.lib.utep.edu/10.4135/9781412957397.n320>

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