



Contents lists available at ScienceDirect

Information & Management

journal homepage: [www.elsevier.com/locate/im](http://www.elsevier.com/locate/im)



# Digitally enabled crime-fighting communities: Harnessing the boundary spanning competence of social media for civic engagement

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## ARTICLE INFO

### Article history:

Received 4 February 2015

Received in revised form 27 April 2016

Accepted 26 May 2016

Available online xxx

### Keywords:

Social consequences of ICT

Social media

Civic engagement

Boundary object

Case study

## ABSTRACT

Digital technology is increasingly being recognized as a catalyst for national progress and social transformation. Using an in-depth case study of social media-enabled crime-fighting communities in Malaysia, this paper explores the use of social media in bringing societal change through civic engagement. We adopt the notion of boundary object to conceptualize how social media could be enacted to serve different boundary spanning purposes toward facilitating civic involvement. Overall, this paper contributes to the growing literature that aims at exploring (1) the use of technologies in advancing civic engagement and, more generally, (2) the power of technologies in addressing societal challenges.

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## 1. Introduction

Recent development in information, communication, and connectivity technology is unleashing new possibilities in nearly every aspect of our lives [23,55]. This paper considers the digitally enabled (and more specifically, social media-enabled) change in the context of civic duties and public engagement. Today, digital technology is increasingly being recognized as an important catalyst for national progress and social transformation [50]. The emerging use of social media, in particular, is establishing new opportunities for citizens around the world to participate and contribute their power in solving important public issues [52]. Several recent events have highlighted the power of social media in supporting civic behaviors. In countries such as Egypt and Libya, for example, citizens rely heavily on social media such as Facebook and Twitter for civic expressions during times of dramatic political uprising [34,51]. The Occupy Wall Street and the Arab Spring are just few powerful exemplary initiatives in recent years that demonstrate how social media allows communities to spark debate, effect change, and build movements like never before [33,44].

Taken together, the eager adoption of social media in public sphere is bringing a new form of civic participation [52]. Unlike the traditional, restricted model of civic engagement, social media-enabled civic engagement fosters “openness, inclusivity and the opportunity to debate issues of common concern” [52]. Social media helps to stem the tide of civic disengagement by lowering the barriers to civil participation and collective action [10]. It allows the bridging of like-minded individuals [10] and provides a fertile context for the formation and expansion of networks [44]. Social media thus serves as a flexible means for large-scale, decentralized organizing, and represents a remarkable new opportunity for civic participation and collective actions [10].

However, despite the increasing use of social media in civic life in recent years and its demonstrated potential [39], research on social media-enabled civic engagement is still at a nascent stage [20]. Existing studies have so far tended to study the impacts of traditional media on civic engagement [20]. We know remarkably little about how emerging technology such as social media could be used to facilitate civic goals [52,53]. This study is motivated by this knowledge void and set forth to further an understanding of the civic use of social media. By using an in-depth case study of social media crime-fighting communities in Malaysia, this paper aims to contribute novel insights on how social media is being used to catalyze civic engagement and to accomplish civic goals.

To conceptualize the dynamic use of social media in civic engagement, this study adopts the notion of boundary object [73]. The theoretical concept of boundary object helps to capture the

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dynamic nature of technological artifact and its efficacy in enabling interaction and collaboration between disparate groups of individuals [12,73]. This concept emerged as an appropriate perspective that could capture the unique enactment of social media in alleviating challenges toward enabling civic engagement, that is, it helps to explore how technology acquires different boundary-spanning competences when it is enacted to serve different purposes in practice [17]. Taken together, the present study aims to address this research question: how does social media catalyze civic engagement?

The contribution of the study is twofold. First, we bring attention to the area of social media for civic engagement, which remains largely underexplored in information system (IS) research. Although social media has increasingly attracted the attention of researchers from a diversity of domains, questions regarding how social media might play a part in addressing difficult societal issues such as civic engagement are still largely unanswered [64]. Second, by delineating the utilization of social media as boundary objects, we unveil the underlying dynamics of practical enactment of social media. In this regard, we inform existing literature by portraying how social media can be flexibly enacted as boundary objects in practice to fulfill different situated needs.

This paper is organized as follows. First, we review the literature of civic engagement with a particular emphasis on the emerging roles of social media. Next, we present a review on the theoretical background – boundary object. Next, we provide details of our research methodology followed by a case description. Then, we present an in-depth discussion of our findings. Finally, we conclude the paper with theoretical and practical contributions, followed by limitations and suggestions for future research.

## 2. Literature review: digitally enabled civic engagement

Digital technologies are increasingly permeating a broad range of social and institutional contexts, unleashing new opportunities and avenue for research [55]. In recent times, a growing body of research has begun to explore the dynamics and implications stemmed from the continuing development of digital technologies in a plethora of contexts. On the one hand, a great part of these works explored changes brought about by the advancement of digital infrastructure in the context of organizations. These studies mainly focus on examining the organizational and technological complexities associated with the increasingly interconnected digital infrastructure found in contemporary firms today [31,55,82]. Digitization is seen to transform various aspects of organizational practices and norms, from knowledge creation and sharing within organizational innovation networks [48] to the coordination of interfaces among organizations [74]. On the other hand, a simultaneous body of research has started to explore the digitally enabled changes that unfold in the social context. In recent decades, “our society has experienced remarkable change because of digital technology” [83], p. 734). Digitization has brought about significant societal transformation, ranging from resolving poverty to achieving development outcomes [50]. These emerging phenomena of digitally enabled change are intriguing and warrant further research attention [50,80].

Against this backdrop, the focus of this paper encompasses the emerging digitally enabled changes in civic engagement arena. “Civic engagement” is an umbrella term referring to the process that stakeholders influence and share control over development initiatives, make important decisions, and orchestrate available resources [30]. It is the process in which citizens embrace the responsibilities to actively participate in public life to help shape or strengthen the local community [1]. People can participate in civic life in myriad ways, from spending time in volunteering work, working on community project, to participating in neighborhood

meeting [70]. The end goals of civic engagement often involve greater social cohesion, greater sense of empowerment, and an increased capacity for collective action [26].

Civic engagement has been an important yet difficult task for several reasons. First, resources to enable and manage large-scale civil participation are often scarce. Second, pathways for participation are generally limited. The voices of young generation, for example, are seldom heard in the conventional model of civic engagement given the lack of participation channel [13,46]. Fortunately, in recent years, technological advancement is creating new opportunities for civic engagement. The creative application of technologies in the public sphere to promote awareness and civic engagement has started to fill the void in conventional civic engagement model. This paper focuses on the rise of social media – an emerging technology that is bringing transformative implications in civil participation.

Social media – one of the emerging information, communication, and connectivity technologies – is generating far-reaching impacts in organizations and social worlds [2,54]. In recent years, social media has emerged as a participatory media that presents catalytic potential in overcoming the built-in barriers of social change and unlocking social progress [28]. Social media is “fundamentally changing the way we communicate, collaborate, consume and create” [2]; p. 3), giving rise to new forms of behaviors, activities, and engagement that are yet to be explored. More recently, an increasing body of work has contributed insights on the power of social media in transforming the dynamics of communication, participation, and connection in different contexts (e.g., [22,35,38,49,69,75]). For example, Sawyer and Winter [67] suggested that the increasingly ubiquitous technology could enable more voluntary and open participation. Leonardi [41] explored the implications of increasing communication visibility afforded by social media and suggested that such enablement could encourage collaboration and foster innovation. Furthermore, Huang et al. [35] proposed that the use of social media in supporting communication could widen participation and encourage interactive dialogue. Overall, social media is seen to afford new forms of association, to enable emergent connections and to support social connections [38].

Social media, with these unique affordances, is increasingly being recognized as an important resource that could enable and support civic participation [62]. In the context of civic engagement, social media empowers citizens to ignite and participate in civil actions. It helps to lower the entry barriers of civic participation by allowing, for example, individuals to “post, at minimal cost, messages and images that can be viewed instantly by global audiences” [47]; p. 316). This helps to overcome the long-standing barriers in knowledge sharing and coordination of actions in addressing joint concerns. In nations where leaders are struggling to meet development goals, social media helps to minimize requirements on resources and enable more effective and consistent social participation [64]. Social media also helps to digitally “blow the whistle,” amplify citizen interest, and create more pathways for participatory communication, networking, and development [10]. Indirectly, social media-enabled collective action allows citizens’ voice to be heard, and makes authorities more responsive to critical demands and therefore more accountable for their actions [26].

Taken together, social media serves to build people’s capacity in participatory processes, to gradually raise the collective consciousness, and to hold people accountable toward promoting a sustainable, civically engaged community [15,63]. However, the emerging, multifaceted role of social media in igniting social change is still largely under researched [27,64]. In the IS field, only a few studies have started to examine the roles of social media in civic engagement. For instance, Cecez-Kecmanovic et al. [13]

focused on civic engagement among the youth and examined how online games and social media could be used to engage young people in government decision making. Chung [14] examined the implications of social media in voluntary citizen engagement toward community building. More recently, Borrero et al. [9] uncovered the patterns and the mechanism behind social media-enabled activism using a case study of grassroots movement in Spain. Cardoso et al. [10] also examined the use of social media in enabling mobilization for a massive clean-up effort of littered forests.

Our research aims to contribute to this conversation. In recent times, the socially innovative effect of social media opens up new dynamics and complexity, calling for empirical examination on the new forms of relationships and interactions [54,58]. As previously discussed, in civic engagement arena, questions regarding how social media could play a part in citizen engagement still remain largely unanswered [52]. Our study adopts the notion of boundary object to examine the use of social media in managing one of the most important public issues, that is, the issue of crime. More specifically, we investigate the use of social media as boundary objects in enabling, empowering, and engaging communities in awareness building, counteraction, and the prevention of crimes toward developing a civil society. In the following section, we present our review of the notion of boundary object to further discuss how this theoretical scaffolding could be useful in explaining the phenomenon of social media-enabled civic engagement.

### 3. Theoretical background: boundary objects

Boundary objects are defined as a broad range of artifacts that are “plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” [73]; p. 393). A boundary object is adaptable, shareable across different problem-solving contexts [11], and capable of “inhabit several intersecting social worlds and satisfy the information requirements of each of them” [73]; p. 393). Many studies in the existing literature apply the concept of boundary objects to artifacts that possess the properties of modularity, abstraction, accommodation, and standardization [61,73,79]. Among these, technological artifacts such as knowledge sharing software, enterprise systems, virtual prototyping technologies, and project management tools are often suggested as boundary objects that are capable of facilitating interaction and collaboration between disparate groups of individuals [11,61]. For instance, Yakura et al. [81] suggested that project timelines could act as temporal boundary objects to allow collaboration in IS implementation. Gal et al. [25] examined the use of three-dimensional (3D) modeling technologies as boundary objects to facilitate cross-organizational communication and to form organizational identities. Besides, Nicolini et al. [57] proposed that software such as PowerPoint presentation could serve as boundary objects to mediate cross-disciplinary collaboration. More recently, Rosenkranz [66] explored the use of project management tools as boundary objects to develop shared understanding and facilitate successful knowledge sharing among diverse project stakeholders.

The existing literature on boundary objects has been primarily focused on classifying the types and properties of boundary objects [43] and the roles these objects may play [66]. Very little research has explored the dynamic nature of boundary objects. Nevertheless, reflecting on the theoretical concept of boundary object, a boundary object is not necessarily stable or static [11]. Instead, boundary objects are “subject to reflection and local tailoring” [72]; p. 603), and intended to be interpretively flexible [17]. In other words, boundary objects “may evolve or change as they are modified to address internal or external contingencies”

[17]; p. 572). Rather than being an artifact with a rigid, embodied structure, a boundary object is plastic and adaptable because it is capable of performing different roles in different settings or over time [4], and “their characteristics are hard to sustain as problems and people change” [11]; p. 452).

Thus, a limited but growing body of work seeks to call for more research to explore the dynamic nature of boundary objects. For instance Levina and Vaast [43], proposed that while a technological artifact that was designed with boundary-spanning properties could potentially serve as a boundary object, such technological artifact could only function as boundary object when it is meaningfully and usefully incorporated into the local practices. In other words, a technological artifact could emerge into and function as a boundary object only when its local usefulness was enacted and its common identity was developed in practice [43]. Similarly, in a reflection on the origin of boundary object concept [72], also pointed out that the dynamics where boundary object is tailored to local use in practice, while important, are often ignored in existing studies. Doolin and McLeod [17] also suggested that most of the existing boundary object studies focused predominantly on the material properties of boundary objects but do not consider how different boundary-spanning competences are constituted in practice.

Table 1 summarizes the above discussion. Overall, in line with the arguments from a few existing studies [8,43,66], our literature review suggests that most of the existing studies have mainly concentrated in the first, taxonomic perspective. Although these studies have revealed important insights on the properties, types, and roles of boundary objects, the mechanism whereby a boundary object is shaped and reshaped to fulfill different roles in practice remains underexplored [25,43,72]. Examining the emergence of boundary object is necessary to explore how unique, often unprecedented boundary-spanning competence could unfold in different contexts [45]. Given that the usefulness of boundary object is not fixed, understanding the dynamism and multiplicity of boundary objects is essential to generate insights on how and why boundary objects function the way they do [12,17].

This study will, therefore, focus on exploring the dynamism of boundary objects, with an aim to fill in the knowledge void in this aspect. More specifically, responding to the calls for more research from this perspective, this study explores the emerging, situated use of boundary objects. We conceptualize boundary object not as an independent technical object but as an object that could have different boundary-spanning competences constituted in practice [17]. In the later sections, we present insights and findings developed from our case study as informed by this theoretical perspective. Overall, our research has demonstrated that the enactment of social media allows social media to acquire different symbolic importance and identity in practice, thereby functioning as different boundary objects to overcome different barriers toward achieving civic engagement.

### 4. Research methodology

This study adopts the qualitative case research methodology for two reasons. First, a case research approach is particularly appropriate for an exploratory study that aims to answer a “how” research question [76]. Second, it provides an opportunity for deep insights and rich descriptions to be developed for new topical areas when an in-depth understanding of the phenomenon is needed [19]. Developing rich descriptions is essential as it allows researchers to distil nuances and complexities from the phenomenon under study [78]. As previously discussed, studying the use of social media in civic engagement requires an investigation of the recurrent enactment, complex constitution, and reconstitution of technological structure in practice. The case study approach is

**Table 1**  
Overview of existing research on boundary objects.

Perspective	Source	Research Insight into Boundary Object Literature
"What" – Properties, types, and roles of boundary object	[5]	A boundary object should have the capacity to invoke key differences between multiple groups
	[11,12]	A boundary object could be used as a means to resolve three types of knowledge boundaries: syntactic, semantic, and pragmatic boundaries
	[61]	A boundary object could serve as an infrastructure through which knowledge forms can be transformed and shared
	[7]	A boundary object should have the capacity for common representation, should be able to transform knowledge, to mobilize for action, and to legitimize knowledge across social worlds
	[12,24]	A boundary object could perform three roles: transfer knowledge to develop shared language, translate knowledge to create shared meaning, and transform knowledge to develop common interests
"How" – Emergence and enactment of boundary object	[36]	A boundary object could help individuals represent and reconcile differences (i.e., it could function as a conflict mediator)
	[43]	Propose that a designated boundary object could emerge into a functional boundary object only when it acquired a local usefulness and a common identity in practice
	[8]	Encourage future research to examine when and how do technological artifacts constitute effective boundary objects in a particular context
	[17]	Elaborate on the multiplicity of boundary object and propose a need to understand how and why boundary objects function the way they do
	[66]	Propose that the characteristics of boundary objects are not fixed, yet little research has investigated the dynamics or changes of boundary objects

suitable as it allows researchers to study the phenomenon in depth to capture significant details and insights, which can lead to theory development and derivation of meaningful practical insights [19].

The selection of a case study was based on two criteria. First, theoretical sampling was used to select theoretically useful case in which the process of interest (i.e., social media-enabled civic engagement) is "transparently observable" [19], p. 537). The case study of social media-enabled crime control in Malaysia is appropriate as it could offer valuable insights into the practical use of social media and its impact on citizen engagement. Second, we focus on selecting revelatory, interesting case study that has the potential to offer insights to novel, underexploited areas [3,60,71]. The digitalized crime-fighting effort in Malaysia captures the entanglement between the new media and communities in realizing a civic goal. This case study serves as a good opportunity to conceptualize how social media could assume important yet previously unconsidered roles in facilitating civic engagement.

#### 4.1. Data collection

The data collection process was started in late 2013. In the first phase of our data collection, we focused on collecting relevant documents and social media updates related to crime issues in Malaysia. These archival data allow us to "obtain a rich set of data surrounding the specific research issue, as well as capturing the contextual complexity" [6], p. 374). In the second phase of our data collection, we performed on-site semi-structured interviews in Malaysia. We have also conducted few online interviews with individuals who have expressed concern about meeting in person. In total, we have interviewed 28 individuals, ranging from founders to followers of four leading social media crime-fighting communities in the country (each on-site interview lasted an average 90 min). On-site interviews were open-ended and exploratory in nature, and occasionally guided by some rudimentary questions that were structured around the interviewee's role, involvement, and experiences in social media-enabled crime-fighting initiatives. Interviews were further customized along the way; new interview questions were devised based on the findings arising from previous interviews [40]. Each on-site interview was digitally recorded (with permission) and transcribed for data analysis. For interviewees who were more comfortable with expressing themselves in Malay, we engaged some native Malay speakers to help with translation and transcription. In sum, our interviews recorded around 148 pages of textual data. After attaining permission from our interviewees, we also review relevant

postings on their Facebook community pages. In addition, we requested relevant documentation from our interviewees and collected related data from online news reports, infographics, statistics, and crime-related statements published on the web as supporting evidence for triangulation. Table 2 outlines the details of our data collection efforts.

#### 4.2. Data analysis

Our research is exploratory and thus the data analysis process was inductive and iterative. We relied on the Klein and Myers [40] principle of interpretive research to guide our analysis. Data collection and data analysis go hand in hand in interpretive research, representing the interplay of theoretical concepts and empirical data. Data were assessed and reassessed several times, categorized into emerging themes. Consistent with guidelines on conducting interpretive case studies, we neither seek to impose hypotheses on our data nor seek to verify a theoretical framework [77]. Although we have identified aspects that are pertinent to the phenomenon under study (i.e., the use of social media in resolving challenges and enabling civic engagement), "a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories" [76]; p. 76) will be retained to ensure that we are not constrained in identifying new issues and insights.

More specific themes emerged in the research process as researcher's understanding of the phenomenon deepened. The unique interaction between social media and communities' practices led us to the notion of boundary objects. Upon choosing our theoretical lens that serves as the "sensitizing device" [40]; p. 75), we moved back and forth between our data and theory, interrogating the materials to verify whether the emerging claims were supported by the data, and conversely, whether the theory helps to deepen our understanding of the empirics. The initial analysis provided us with an overview of the phenomenon of interest [60], and allowed us to break down the civic engagement process into three stages, which reflect increasing levels of maturity in terms of focus, scale, and impact (as detailed in the Case Analysis section). Accordingly, we reevaluated the data to examine the use of social media in each occasion and the implications of its use; giving particular attention to the enactment process and boundary-spanning functions it performed. We highlighted descriptions related to each stages of engagement and summarized them in tabular form. By iterating between the theoretical perspective, relevant literature, data collected, and emerging findings, we were able to cluster our data into different



**Table 2**  
Data collected and its use in data analysis.

Types of Data		Use in Data Analysis
On-site semi-structured interviews	<p>Interviewees involved ranging from founders to followers of crime-fighting communities:</p> <p>The Royal Malaysia Police team (the national police force) which initiated social media presence as a barometer to help gauge public opinion and promote civic engagement</p> <p>A crime desk journalist from one of the largest circulating newspapers published in Malaysia, with a Facebook page that recorded &gt;890,000 "Likes"</p> <p>A community leader who founded a community policing association and used social media actively to fight crime</p> <p>A well-known crime analyst who is involved in various crime-fighting committees</p> <p>Social activist, active bloggers, and criminal lawyers who were also the founders or administrators of social media crime-fighting pages</p> <p>Developers of a mobile distress application.</p> <p>Followers of crime-fighting communities, including specific users who have been involved in, or benefited from some widely known cases (e.g., a car owner who tracked down her stolen car on Facebook by the help of the social media communities)</p>	<p>Interviews are used as the primary data source. It allows researchers to best access the interpretations of participants [76]</p> <p>Interviews were gathered from multiple levels to account for possible differences in interpretation among the participants [40], and also to ensure a comprehensive understanding on the context</p>
Online interviews	<p>Six interviews were conducted online using Facebook's messaging function. All six interviewees were followers of crime-fighting pages on Facebook. Interviews were conducted individually and asynchronously. Online interview is appropriate in this case because the absence of researchers makes it more comfortable for participants to discuss more sensitive topics (e.g., revealing their personal encounter with crime; [37].</p>	<p>Online interviews allow researcher to obtain information from more concerned informants, thereby help to ensure the representation of "a variety of voices" [56]; p. 22)</p>
Facebook postings	<p>Data (Facebook postings) were also collected from the communities' Facebook pages. Our aim is to take advantage of the significant amount of social media data to better understand the interactions among the communities and uncover the progress of civic engagement. The data collection was guided by input gathered from interviewees, which allowed us to screen and select influential postings such as stolen cars and murder cases that have attracted considerable digital attention or that have been successfully solved with the help of social media. Comments made by group members were carefully analyzed to investigate how social media impacts on communities' civic engagement</p>	<p>Social media data were used as a supplement for primary interview data (allows for triangulation and ensure the reliability of findings [40], and to enrich the data sources surrounding the phenomenon and to capture contextual complexity [6]</p>

themes and derive the overarching enactment process of social media as boundary objects in each stages. With these findings, we were able to develop a framework (Fig. 1) that captures the dynamics of social media in facilitating civic engagement.

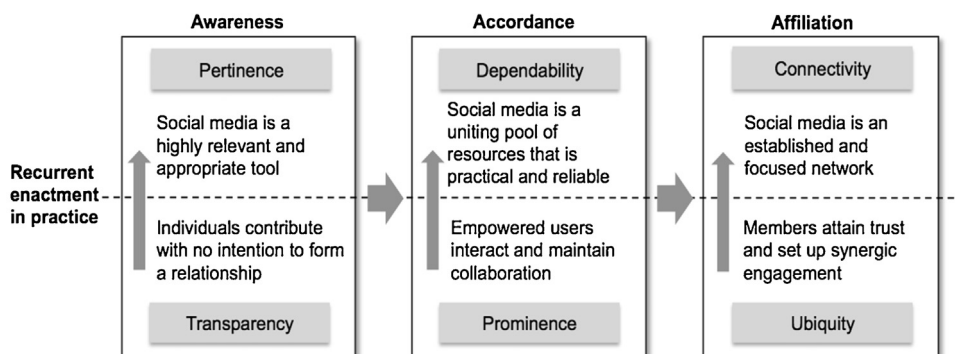
In short, given the exploratory nature of the research, our data analysis involved an ongoing dialogue with existing literature, the data collected, and the emerging interpretations, while gradually shaping the theoretical conceptualization [60]. The analysis process continued until we reached the state of theoretical saturation – that is, where it was possible to comprehensively explain the case research findings using the derived conceptualization and new data could neither dispute the conceptualization nor reveal new themes [19,60]. Overall, our analysis revealed how social media acquires different boundary-spanning competences when it was enacted to fulfill different needs in practice. In the

following sections, we present our case background and the findings of our analysis.

**5. Case description**

*"Looking at the statistics, a lot of us – someone who is close to you, your family perhaps, has become a victim of crime. If I take a stone and throw at anyone here, I am sure they have a story to tell"*  
– Administrator of a Facebook crime-fighting page

The issue of crime is one of the most topical discussions in Malaysia, and is often listed as one of the topmost serious problems threatening the country's developing strategy [29]. Across the country, cases such as snatch theft, burglary, and robbery have become increasingly common, leaving the residents in a constant



**Fig. 1.** Enactment of boundary object in practice.

vigilant state. The situation has become more alarming with the noticeable increase of violent and even high-profile crimes in recent years [18]. Given the rising crime numbers, the Overseas Security Advisory Council (OSAC) of the United States Department of State has designated a “high” crime rate for Malaysia in their 2015 Crime and Safety Report [59]. The severity of crime in the country was also constantly highlighted by our interviewees. For example, one follower of a Facebook crime-fighting page explained:

“I think Malaysia is at the juncture whereby this kind of posting [crime cases] people would like to share because they would like to help each other because everybody has friends or personal experience being snatched or robbed or broken into. Everyone we have spoken to has either first or second hand experience of crime. It’s not even third anymore.”

The soaring crime rates in the country have triggered the people of Malaysian to initiate a range of anticrime endeavors. In particular, social media has emerged as one of the most significant, all-embracing crime control initiative in this country. Social media was adopted to challenge the information restrictions, to cultivate awareness, and to mobilize collective intelligence, toward promoting a more active engagement among the citizens. Various digitalized crime-fighting communities have been emerging in social media, particularly on platforms such as Facebook. These collective voices and digital attention are also challenging the law enforcement authorities to keep pace; many of them thus turn to social media to approach the public and to promote civic engagement.

In order to understand this emerging use of social media in crime management, interviews were undertaken with the founders, administrators, and members from four leading crime-fighting communities that have spearheaded and that support the digitally enabled crime-fighting efforts in Malaysia: Crime Watch Malaysia (CWM) is a crime case-sharing community founded by a social activist in 2009. It is a community dedicated to news and activism regarding the safety and security of Malaysia. The community was first formed around the social activist’s personal blog and was transferred to Facebook as an open group in 2010. According to the founder, the aim of the group was “to highlight the horror of the rising crime rate and the brutality of crime” in the country, so as to raise awareness among citizens as well as to initiate deeper concerns among the authorities and the government. At the time of our interviews, CWM was monitored by two administrators, and consisted of >15,800 members. Most of the members in the group were passive information consumers, while a few active bloggers and social activists serve as the main content contributors.

Community Oriented Policing Strategies (COPS) is a nonprofit crime-fighting community founded by a former Royal Malaysian Police (RMP) constable in 2007. The community was first started as a neighborhood initiative; then it has rapidly grown into a statewide association that focuses on facilitating the collaboration between residents and local police to combat crime. COPS’ social media strategy, that is, its Facebook public group page, was initiated in 2011 “to encourage participation from the community,” as the founder explained. At the time of our interviews, the association had accumulated >80,000 members, 7000 of whom were connected on the Facebook group page. The aim of the community, as the founder revealed in the interview, was to “group together ordinary citizens, retired police officers and everyone who cares and concerns for the safety of the society.” Social media was used as the core platform to cultivate shared goals and understanding and to promote collaboration.

The RMP is a social media crime-fighting community initiated by the federal police team to create social media presence, to gauge

public opinion, and to promote civic engagement. The RMP Facebook page was launched in 2011 and, at the time of our interviews, had accumulated >629,000 “Likes” or followers. The RMP Facebook page was managed by 16 staff members in the federal police headquarter media team. The page has been widely regarded as an authority that provides credible information sources for the communities. It has also been regarded as a channel for the police to actualize their power and responsibility in crime control.

The Malaysian Crime Awareness Campaign (MCAC) is a grassroots crime-fighting community, founded by a group of citizens in 2012. Due to the alarming rise in crime rates, residents in Malaysia decided to launch a Facebook page to facilitate collective action. The founder of the MCAC revealed in the interview that getting Malaysians on social media is necessary because “there is no better way of getting the message across.” MCAC started as a news-sharing page on Facebook and has then rapidly developed into an accountable crime-fighting affiliation with >74,000 “Likes” or followers, at the time of our interviews. MCAC is managed by seven administrators who take turns to moderate the page. MCAC focuses on crowdsourcing first-hand information from victims and helps to gather and disseminate evidence to the police force. The community also shares the lessons learnt from each crime case on Facebook to alert and educate the communities.

Taken together, the four social media crime-fighting communities have harnessed the untapped power of social media to overcome the long-standing barriers in civic engagement. This rise of social media crime-fighting communities in Malaysia has provided scholars a valuable opportunity to understand the power of social media in serving important societal purposes. In the following section, we present our in-depth analysis of the rich case data, as informed by our theoretical scaffolding of boundary object in practice.

## 6. Case analysis

In presenting our analysis and thick description, we focus on illustrating how the four different Facebook communities enact different boundary-spanning competences of social media to facilitate crime control. We first discuss how social media could function as different types of boundary objects, spanning different boundaries when it is being recognized and enacted by human agents to serve different crime control needs. The second part of our analysis reflects how different boundary-spanning competences of social media could be constituted and reconstituted by its enactment in practice as the joint goal of the community changes over time. Finally, we synthesize our findings and summarize the emergence and enactment process of social media as boundary objects to further illustrate how our findings could inform existing research.

### 6.1. CWM: creating awareness

The first step toward igniting active civic participation is always in promoting awareness. Our analysis of CWM revealed how social media was enacted as a boundary object to serve this purpose. When the social activist founder first started CWM on a blog, the aim was to “get people to contribute their crime stories because there are a lot of crime happened but goes unreported.” At that time, raising awareness is particularly important because a large number of crimes often go unreported, as the founder of CWM explained:

“A lot of crime that happened just goes unreported because of the hassle of going to the police station. This is the state of affair in this country.”

Residents in the country have limited channels to stay informed. The mainstream media do not always provide timely and complete information about crimes that are happening in the country. The founder of CWM suggested that most residents in Malaysia “do not understand how and where the crime came from” and often failed to be prepared. Although CWM started a blog to promote awareness, the influence was minimal: “it [the blog] did not really kind of pull it out, the awareness we hope was not promoted enough.”

In 2010, the founder moved CWM to Facebook as an open group because “it is very much easier [to manage] on Facebook and the readership is very high.” Having established an open group on Facebook, CWM started to promote social media as the main information channel for crime-related issues. Being a social activist, the founder first drew on his established network – a small group of activists and bloggers who are passionate in contributing to public issues – for support. This group of activists started to collect crime-related information and news from their circles (e.g., news agency, other activists, and victims), and they disseminate the information to the public through Facebook. In this case, we observed that the activists were capitalizing on their informational competencies and the transparency of social media to achieve effective information sharing. With the abundant, timely information featured on the page, CWM has started to attract growing attention. Residents in the country have started to follow the group to access detailed, up-to-date crime stories, which they otherwise could not obtain. One of our interviewees, a follower of CWM, explained his motivation to join the community:

“Our newspaper in Malaysia sometimes does selective reporting, so social media does bringing some angles. I started following CWM not because of him [the founder] but because I thought the group was worth it. We live in Bangsar, it is quite a high crime area, one of the highest and a lot of cases that happened in PJ and Bangsar can be found on CWM page.”

Through the recurrent enactment of social media for the sharing of crime cases, social media started to acquire a local usefulness and a common identity. It has now become meaningful and useful for informational support and awareness building. In other words, it is now capable of functioning as an informational boundary object to span information boundary. This boundary-spanning competence emerged from the process in which the activists jointly recognized and valued the transparency of social media and enacted it for information-sharing purposes. In summary, in the case of CWM, the group of activists served as human agents who help to establish social media as a symbolically valuable boundary object. We observed that the transparency of social media allows activists to publish uncensored, situational, and timely information. This enactment of social media in turn allows social media to acquire a common identity as a reliable, go-to information channel for crime-related reports.

## 6.2. COPS: catalyzing accordance

Having established awareness, the next step toward civic engagement is to stimulate active participation and contribution. From our case study, we observed that social media was used as a boundary object to spark behavioral changes among the aware citizens. Our analysis of COPS revealed how social media was enacted to join people together and to encourage crime-battling initiatives that were difficult previously. Having established COPS for years, the founder firmly believes in the need to have a platform that binds concerned citizens together. As the founder explained in the interview, establishing a common ground for civic activities is particularly important in this country because “a lot of Malaysians do not have a platform to express themselves [about their crime

encounters].” Both platforms and pathways for civic participation have been limited. In other words, a relational boundary is restricting the coordination of communal effort and collective action among Malaysians.

The need to span the relational boundary to activate civil action was the main motivation for COPS to adopt social media. In particular, COPS leveraged on the prominence of social media to strengthen the engagement among concerned communities. As the founder explained, the prominence of social media provides openness and allows close ties to be developed:

“I started the association [on social media] to make it a channel for two-way communication. As a social media administrator, people tend to come to us for some problems that people feel do not warrant the attention of the police or if they feel they are not comfortable, they will ask us.”

More importantly, the founder of COPS drew on the prominence of social media to actualize his existing relational competence. As a former police constable and a well-acknowledged community leader, the founder of COPS has long established a trusting relationship with his followers. By capitalizing on the salient diffusion of social media, the founder is now able to actualize and expand his existing influence to direct a larger number of people toward a deeper level of civic engagement. For example, the prominence of social media has enabled an increasing number of residents to reach COPS, as one of our interviewees explained:

“I came to him [the founder of COPS] through Facebook. He is actively involved in crime prevention and awareness campaign. My work place is at Kuala Lumpur and it is actually a hotspot for snatch theft. So I was looking for out-of-the-box solution, you know. We can't be blaming police for not taking enough action – it is our role.”

The prominence of social media has allowed COPS to create visibility and exposure outside of traditional channel. As the founder explained, social media has expanded his reach and helped to attract a wide range of support:

“Using Facebook, we even managed to gain some [financial] support from what we call the faceless heroes. Social media is a tool to get support because people read what you are doing and they like what you are doing.”

Through the enactment of social media for community building, social media has become meaningfully and usefully incorporated in crime-fighting actions. In other words, social media has acquired a local usefulness and a common identity – it is now capable of spanning relational boundary and facilitates ongoing interactions and collaborations. The founder of COPS has cited several examples where the enactment of social media has empowered him and the community to embark on crime-fighting actions:

“Our members consist of ordinary citizens, retired police officers and everyone who cares and concerns about the safety of the society. This is a place where all Malaysian races stand together in one common agenda – crime fighting and crime prevention... We empower the community. It is quite heartening to see apparently personal fears uniting pools of like-minded individuals who share a communal purpose.”

The boundary-spanning competence of social media was emerged from the process in which the COPS community jointly recognized and valued the prominence of social media and enacted it to connect individuals for crime-fighting initiatives. More specifically, the actualization of the prominence of social media helps to expand COPS's relational competence toward establishing a larger network of concerned citizens for collective action. This enactment process in turn helps to establish social media as a symbolically valuable boundary object. As previously discussed,

for artifacts to emerge into a boundary object, human agents must recognize the usefulness of the object in practice [11,42]. In the case of COPS, the prominence of social media was recognized and enacted by the community to facilitate communication and collaboration. This enactment of social media has enabled social media to acquire a symbolic value and function as a relational boundary object.

6.3. RMP: confirming affiliation

The next challenge is to sustain the collective effort. Our case study showed how social media was used to develop a cohesive community toward sustaining an active engagement network. In particular, our analysis of RMP revealed how social media was enacted to enhance the power and strengthen the relationship of the online crime-fighting community. RMP emphasized that social media provides an opportunity to overcome significant barriers that have previously restricted the authority–citizen relationship. In particular, social media helps to close the gap between the authorities and citizens by serving as a channel to establish mutual connections. Before the adoption of social media, relationship building between authorities and citizens was difficult. Social boundary (i.e., the limited means of connection and engagement between different parties) has often restricted communication and collaboration. As one of the police officers explained in the interview, social media was adopted to span this boundary: “For us [RMP] to start using this social media is actually for us to break the glass ceiling.” More specifically, RMP recognized the ubiquity of social media and enacted it “to attract people attention and to create impact,” one police officer explained.

“RMP efforts have been successful because the Internet plays such a significant role in daily life here. Over 4.4 million Malaysians own a smartphone, and broadband penetration is now around 62.9 per cent. It is usually possible to be out and about, and still be in touch.”

Consistently, our analysis revealed how the competence of human agents could help to stimulate and promote the local usefulness of social media. We observed that RMP was able to capitalize on their social competence (i.e., their status of authority and social responsibility) together with the ubiquity of social media to explicate effective crime prevention strategies. As one of the police chiefs explained, social media helped RMP to leverage on the power of communities to, in turn, enforce RMP’s social competence as the law-enforcing authority:

“For social media, I always imagine that it’s a big eye in the sky, inside the big eye actually belongs to so many small eyes, which are actually the community. So the more fans we have, the more we are actually sending the fear that this is the strength of community and police. The more people join us, the better, because criminals will know that more people are working together with police, and it will send fear to the criminals.”

RMP also enacted the ubiquity of social media to unite multiple parties together to strengthen the digitalized crime-fighting effort. For instance, RMP embarked on the ubiquity of social media to work with a wide range of actors, including institutions and

communities toward establishing a synergic crime-fighting network. As one of the police officers explained, social media was used to gather the power of multiple parties to sustain an active crime management network:

“This big eye [social media] is also a platform for the community to communicate with police. We receive information in our inbox. Lately there was a case where 15 ladies under human trafficking being rescued, the first information was actually received in our Facebook inbox. So based on 1 person information, we rescue 15.”

Taken together, social media was enacted as boundary object to span the social boundary that has previously restricted civil collaboration. By capitalizing on their social competence and the ubiquity of social media, RMP enacted social media to enable involvement of all relevant crime-battling actors toward establishing a synergic crime-fighting network. Through the enactment of social media for network building, social media has acquired a common identity and symbolic importance in practice. In other words, social media has emerged as a boundary object, which is capable of resolving relational challenges that have previously restricted civic engagement.

To this point, we have discussed our analysis on the enactment of social media as boundary objects by three crime-fighting communities to achieve different civic engagement goals. Table 3 provides a summary for the first part of our analysis. Overall, our analysis revealed the emergence of a boundary object in practice. When human agents recognize and enact the value of a technological artifact, the enactment helps to reflect and establish a symbolic utility of the artifact. In other words, the artifact started acquiring a common identity and becoming symbolically valuable to span boundaries in practice.

6.4. MCAC: building civil society in practice

Moving forward, we present our analysis of the forth crime-fighting community – MCAC – to further discuss the dynamic nature of boundary object. More specifically, this section expands on the plasticity of social media and highlights how the enactment process could shape and reshape social media into different boundary objects to fulfill different goals that have unfolded in practice.

MCAC is a crime-fighting community that was started by a group of concerned citizens on Facebook in 2012. Initially, the motivation to start out this grassroots anticrime initiative on social media was to resolve the information barrier and to promote awareness, as the founder of MCAC explained:

“It’s the voice of people that we want to hear and a better ways to hear it is through social media. Facebook is one of the fastest modes of disseminating information in today’s era.”

At this early stage, MCAC enacted the transparency of social media to cultivate awareness. The community focused on contributing relevant information to the Facebook page. Our data analysis revealed that most of the postings at this stage were first-hand accounts or incident reports provided by crime victims. These postings often come with keywords, such as “attention” and “crime

**Table 3**  
The enactment of social media as boundary objects.

	CWM	COPS	RMP
Human Agency	Informational competence	Relational competence	Social competence
Boundary Object	Transparency	Prominence	Ubiquity
Boundary-Spanned	Informational boundary	Relational boundary	Social boundary
Impact	Awareness	Accordance	Affiliation



alert,” signaling MCAC’s intention in promoting awareness toward crime issues in the country. In other words; the first stage of MCAC’s crime-fighting initiative was a stage in which a critical mass of well-informed individuals contributes useful contents to entice more participation.

Through the recurrent enactment of social media for crowd-sourcing crime-related information, we observed that social media has started to acquire a symbolic importance as a comprehensive repertoire of information. An informational network that covers and captures crime cases of any scale in almost every neighborhood was established on MCAC’s page. This enactment in turn reflects the utility and symbolic importance of social media as a boundary object – social media has emerged as a pertinent source of information and a highly relevant space to incorporate crime-related information. Several examples illustrated how social media has acquired such common identity and symbolic value in practice. For instance, one of the followers explained how MCAC provides a sense of pertinence that attracts her to be part of the community:

“MCAC has been posting various incidents, and I kept seeing them in the Facebook newsfeed. Thought it will be better to be a member. I have 4 children and also nephews and nieces, and as a mother, I worry about them.”

As the pertinence of social media sparks increasing participation, the next step toward promoting civic engagement is to facilitate collaboration. At this stage, our data analysis revealed how MCAC shapes the use of social media to drive collaborative actions. MCAC started to capitalize on the prominence of social media to attract more concerned individuals and to promote a rich network that nurtures collective crime-fighting effort. There have been many success stories through the enactment of social media for collaborations among the empowered community. For instance, one follower managed to track down her lost car with the help from MCAC’s community:

“I had seen posts of stolen or missing vehicles on MCAC so I decided to give it a try by posting my lost car on the page. I know when a few people come together, it makes a lot of difference. Because of the sharing, we tend to ‘talk’ and somehow, someone is bound to know something. I suppose there is a sense of community with the crime-fighting group. I don’t know who Mr. S is [a follower who tracked down her lost car and reply to her post with photo and location], but he was instrumental in the recovery of our car.”

Moving beyond its identity as a repertoire of information, social media was recognized by the community as a common ground that cultivates and sustains collective crime-fighting effort. In other words, social media has acquired a new collective identity through the enactment process – it is now recognized as a practical and reliable crime-fighting space that provides a sense of dependability. Once the dependability of social media is recognized and usefully incorporated in practice, it was capable of spanning the boundary that restricts collaboration. In other words, at this stage, social media has emerged as a new boundary object in practice; it served as a reliable channel that unites resources and power of the community for crime control. The dependability of social media-enabled crime-fighting network has prompted individuals to actively engage in the initiative. For instance, one follower highlighted a successful example that has reaffirmed the dependability of MCAC network:

“Seriously, the recent case of baby Freddie [a kidnap case that goes viral on social media until it threatened the abductors to release the boy unharmed] is really impressive. Shows how effective social media is.”

As the dependability of social media stimulates active engagement, the next step is to sustain this synergic affiliation. At this

stage, MCAC enacted social media to attain cooperation among a wide spectrum of crime-fighting units. In particular, MCAC has enacted on the ubiquity of social media to establish synergic relationship with authorities in the country, as the founder of MCAC explained:

“A lot of police and officers from ministries follow our Facebook page. So, this page actually generates lots of insights because of the ideas, suggestions and debates among members. From there we can look into how the society works. Our role is to carry one step ahead to bring the voice of our people to the Parliament.”

The enactment of social media for synergic engagement has enabled social media to acquire a common identity as a widely recognized crime-fighting support network. In other words, a sense of connectivity was established through the enactment process as MCAC attained significant reach and a critical mass of user interaction. The community has now evolved into a widely recognized crime-fighting network that is working toward long-term civic goals. Taken together, our analysis of MCAC demonstrated the use of social media in supporting a grassroots civic initiative. Our analysis revealed that the recurrent enactment of social media could allow social media to acquire new boundary-spanning competence in practice, thereby functioning as a boundary object to span emerging boundaries. This recurrent enactment and appropriation of social media helps to facilitate civic engagement from one stage to another. Fig. 1 presents a summary of our analysis of MCAC.

## 7. Summary

The objective of this study was to explore how social media is being used to catalyze civic engagement. Our findings presented in the previous section addressed this research question. Specifically, our findings illustrated the enactment of social media in serving different civic goals, by drawing on the theoretical perspective of boundary object. We demonstrated that social media is adaptable to different emerging needs and yet robust enough to acquire a common identity to perform boundary-spanning tasks. In our case study, social media was being shaped and reshaped into different boundary objects to span emerging boundaries that restrict civic engagement. Overall, our in-depth analysis revealed the intriguing affordances of social media in enabling participation and in sustaining important civic engagement effort. These findings contributed several important insights that could help existing research. First, our findings suggested that social media presents interpretive flexibility, that is, the capacity to sustain divergent needs and interpretations [16] and could serve as a common schema with which to articulate particular boundary-spanning functionality. Our data analysis revealed how social media provides enough flexibility to allow for different interpretations, yet provides sufficient common structure for relevant actors to carry out boundary-spanning tasks. Second, our findings revealed rich insights on the dynamics of social media. In line with the conclusion drawn from a few existing studies (e.g., Levina [42] and Rezazade [65], our analysis showed how social media could function as a boundary object when it acquires a local usefulness and symbolic importance in practice. From our case study, we found that human agents could shape the symbolic utility of social media, thereby promoting it as a boundary object. For example, in our case study, we have seen how the federal police team in Malaysia recognized the ubiquity of social media and enacted it to span the social boundary that has previously confined the authority–citizen relationship. Through this enactment, social media has acquired a symbolic importance and a common identity as a boundary object that could bridge the gap between both parties and establish synergic affiliation. These findings illustrated

the process in which human agents recognize, value, and enact an artifact to promote it as a boundary object [42].

More importantly, our analysis contributed novel insights into the emerging nature of boundary object. We conceptualize boundary objects not in terms of their intrinsic technical features but as being embedded in the practices of the individuals using them [68]). Our analysis illustrated how social media could be used in ways that allow for different boundary-spanning competences to emerge. Fig. 1 captures the essence of our findings by illustrating how social media was enacted to serve different boundary-spanning roles in different stages of civic engagement. Our analysis takes into consideration the multifaceted, temporary, and provisional nature of boundary objects [21,57,68] to provide important insights into how the use of boundary object is constantly being negotiated in practice [4,36]. Overall, our case study has shown how social media, as a boundary object, was tailored in practical use to meet an emerging demand or to span an emerging boundary. In the case study, social media was not an independent technological artifact, but was constituted as a boundary object in the community's joint practice. We showed that the role of social media transformed, that is, it emerged as a new boundary object, as it was being used and reconfigured by the collectivities in response to particular need or contingencies. By unveiling the dynamics of social media in serving different boundary-spanning purposes, our findings contributed insights on how social media could be used to fulfill different needs in facilitating civic engagement. In the rest of the paper, we further discuss how this conceptualization could bring both theoretical and practical insights and inform future research.

## 8. Implications for research and practice

Overall, our research aims to contribute to IS literature in two ways. First, our research offered a rich understanding of the use of social media as boundary objects for civic engagement. As previously discussed, our study highlights the emergence and enactment of boundary objects. The first part of our analysis revealed how human agents could jointly recognize and value an object to coproduce it as a boundary object in practice. The second part of our analysis revealed how the recurrent enactment of a boundary object in practice could shape and reshape the symbolic value of the object, and lead to the emergence of a new boundary-spanning competence. Taken together, our findings extend existing boundary object literature that has been primarily concerned with the classification and inherent features of boundary objects [5,61], to further explore the multifaceted nature of boundary object in practice.

Second, our study documented important insights on how social media could serve important societal purposes such as civic engagement. In recent years, we have seen several calls for research that encourage scholars to examine the use of technologies in addressing critical societal challenges (e.g., [50,80]). The present study aims to contribute to this conversation by conceptualizing the use of social media in facilitating civic engagement. Our findings proposed novel insights on the use of social media in promoting awareness, facilitating collaboration, and sustaining collective action, toward nurturing civic involvement. Moving beyond the context of civic engagement, our bigger goal is to encourage a new wave of research into how social media could be used to solve important societal challenges. At present, there are limited studies that capture the use of emerging technologies in serving important societal purposes. We hope our research further ignites the discussion on the use of social media in addressing these issues.

Our research also generated important practical insights. Our study offered rich information on how social media could serve

purposes that go beyond personal interests, to a more serious application that could bring larger benefits to the society [52]. On a positive note, our study has demonstrated the potential of social media to function as a “civic media” – it can be used to promote awareness, strengthen the bonds of a community, and cultivate a sense of civic engagement. Toward this end, our research intends to provide applicable knowledge for practitioners and communities to effectively harness the powerful capabilities of social media for civic engagement. Based on our rich data, this paper offers an extended understanding on the situated use of social media. Our findings highlighted the unique challenges in different stages of civic engagement and explicate the enactment of social media in resolving these challenges. The thick description and in-depth analysis presented in the present paper could help guide practitioners in constructing their social media civic engagement agenda.

## 9. Limitations and conclusion

In summary, this paper explores the use of social media in civic engagement from a boundary object perspective. Using an in-depth case study on social media-enabled crime-fighting communities in Malaysia, this paper addressed the research question of how social media catalyze civic engagement by proposing that social media could be enacted as boundary objects to overcome several barriers that previously impede civic engagement. More specifically, this study uncovered the emergence and enactment of social media in practice and showed how social media could be enacted to span different boundaries that inherently restrict civic engagement.

Nevertheless, the implications of this research should be viewed within the context of its limitations. Although we have discussed how social media could effectively function as boundary objects and catalyze civic engagement, we do not examine the potential downsides of social media use. Few existing studies have recently commented on the potential negative implications of social media [32]). In the context of civic engagement, for instance, social media may be used to ignite unnecessary protests and chaos [64]. The introduction of technology-based civic participation may also amplify the problem of inequality such as the issue of digital divide [52]. Addressing the potential downsides of social media is beyond the scope of the paper, but questions related to such limitations and challenges of social media would remain as an important area for future research.

Moving forward, we encourage scholars to devote attention to the growing discourse of digitally enabled civic engagement [50,52]. More generally, we also hope that our research could stimulate greater interest among scholars and practitioners to explore both the challenges and opportunities associated with the use of emerging technologies in addressing important societal challenges [50,80]. “In the face of overwhelming changes in ICT and its role in society, the IS community cannot remain static and succeed” [67]; p. 97). Recent development in technologies has generated a broad range of new phenomena, presenting promising avenue for research [55,67]. Thus, we expect that this study will also serve as a reminder for scholars to further engage and explore questions related to the realm of emerging digitally enabled phenomena.

## Acknowledgments

This research paper was supported by the China's NSFC Joint Research Fund for Overseas Chinese Scholars and Scholars in Hong Kong and Macao (NSFC, Grant Number 71529001) and University of Malaya Research Grant (UMRG) RP004H-13ICT.

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