

Social Media Enabled Social Movements in Information Systems Research: A Lakatos Approach to Literature Review

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Abstract

Information Systems scholarship is increasingly focused on the role of social media in social movements. In this study, we synthesize the existing research by drawing on Boell's (2014) hermeneutic framework to conduct a literature review. We adopt the Lakatos (1970) model as a theoretical framework to organize the current scholarship into hard core and protective belt components, where the former represents the theoretical or conceptual lens adopted in the papers, and the latter represents empirical studies. In doing so, we assess the current state of knowledge in this research program and identify opportunities and avenues to build on this body of knowledge. Our research will assist scholars in this field to identify the core theories in the research program and the protective belt in which they can position their work and make contributions. It also suggests avenues for future development.

Keywords: Social media, social movements, literature review, Lakatos approach, hermeneutics

1. Introduction

Digital activism refers to the use of digital technologies in social movements to promote change (George and Leidner, 2019; Bennett and Segerberg, 2013). It has attracted significant attention in the wake of movements like the Arab Spring and Occupy Wall Street, which leveraged digital tools to accentuate awareness of social issues and bring about social change (Leong et al., 2019).

Social movements are networks of interactions among individuals, groups, and organizations that are involved in conflict, based on a shared collective identity (Diani, 1992). They display some measure of organization, temporal continuity or sustenance, and collectivity. Social movements are mobilized and maintained long-term by social movement organizations (SMOs), which seek to restructure and

change societies, industries, and individuals (McCarthy and Zald, 1977). These SMOs represent formal organizations that operate based on hierarchies, rules, and lines of communication.

Social media is particularly important for digital activism. Social media are information and communication technology (ICT) tools that provide an opportunity to link varied, unconnected entities through human-machine interfaces (Venkatesan et al., 2021). They are networks comprising two main mechanisms – the structure that represents how users are connected to one another, and the content that represents the messages shared over the network (Zhang and Venkatesh, 2013).

Although social movements have existed for a long time, digital activism is a relatively new phenomenon (Venkatesan et al., 2021). In their exploratory literature review on digital activism, George and Leidner (2019) noted that digital activism was still in its infancy, with little empirical work available. They recommended conducting a traditional literature review when more empirical work is available. We also acknowledge and build on the work of Young et al. (2019), who synthesized the existing scholarship at the time according to actors, technologies, and information flows. However, several studies examining the role of social media in social movements have emerged since the calls made by George and Leidner (2019) and Young et al. (2019). Thus, we are motivated to explore extant scholarship on social movement applications of social media, however, with a focus on the theories and concepts that have been adopted. Our aim is to organize the research program with respect to the core theories and protective belt of concepts and empirical studies that have utilized these core theories. We utilize the Lakatos (1970) approach for organizing research programs. We selected this approach above others because it offers an opportunity to organize the digital activism body of knowledge in a way that can help its progression into the future. By organizing the research program with the Lakatos framework, scholars gain

insights into the program's research core theories and concepts, identify paths to contribute to its significant progress, and determine the specific directions for future research. We discuss the Lakatos approach in the next section.

2. The Lakatos Approach: A Theoretical Lens to Analyze Research Programs

As noted, we base our organization of literature on the philosophy of science, in particular on the work of Lakatos (1970), who recommended that researchers study a phenomenon using many different theories. Lakatos (1970) proposed that these theories operate within what is called a research program (Burgess et al., 2006) and also presented a model for organizing research programs into hard core and protective belt components. The hard core of a research program represents the theoretical assumptions that cannot be discarded or changed without abandoning the research program altogether. In addition, the core theories, concepts, and assumptions of a research program are not typically challenged from within the research program. The protective belt represents auxiliary concepts or hypotheses that are empirically tested on the foundation of the core theories. Although the core cannot be altered without abandoning the research program, the auxiliary concepts and hypotheses that represent the protective belt should be subject to change (Burgess et al., 2006).

Lakatos (1970) also notes that the value of a research program is not only determined by its empirical success in relation to other research programs but also based on whether it is progressive or degenerative. In progressive research programs, new theoretical insights, novel and bold predictions are generated in their belts, some of which are confirmed by empirical findings. These lead to further insights and hypotheses. Thus, background assumptions in the core help researchers generate new knowledge and testable hypotheses in the belt, leading to a noticeable continuity of novel empirical findings. In degenerative research programs however, there is a lack of new theoretical insights and novel predictions. Rather the research program devolves into confirmation of similar ideas leading to stagnation or a failure of the research program (Doerig et al., 2023). Here, theoretical growth lags behind empirical growth, for instance, by only giving post-hoc explanations of accidental findings.

A research program, especially a progressive one, needs to be taken in its entirety, considering both the core and belt components (Lakatos, 1970), hence, it is important for researchers to position their contributions within a body of knowledge (Shankman et al., 1984).

In this study, we operationalize the hard core as the foundational theories in the social movement or other

literature that the papers have applied on which to base new concepts and hypotheses. Further, we operationalize protective belt as the components of literature that builds on or applies the theories or concepts from hard core through empirical analysis.

Given that there have been a number of empirical studies in addition to conceptual research since the time Young et al. (2019) and George and Leidner (2019) published their seminal studies, we are motivated to answer the questions:

RQ1: What theories and concepts represent the hard core of digital activism scholarship?

RQ2: What new concepts have been built on these core theories and concepts through empirical analysis in IS?

While we utilize the Lakatos approach to organize the research program, we adopt Boell's (2014) hermeneutic framework to guide our literature review process. This framework is deemed appropriate for our work as it outlines steps involved in finding relevant texts, interpreting them, and developing a broad understanding of the literature to critically assess the state of knowledge in a field. We discuss the framework in the next section.

3. Methodology: Boell's Hermeneutic Framework

The hermeneutic framework for the literature review process proposed by Boell (2014) describes two major intertwined hermeneutic circles, as shown in Figure 1.

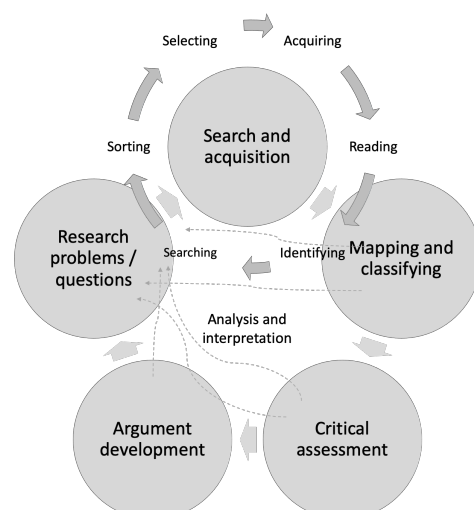


Figure 1. A hermeneutic framework for the literature review process (Boell, 2014).

The process begins with a search and acquisition phase which comprises a cycle of acquiring, reading, identifying, refining, searching, sorting, and selecting relevant literature. The analysis and interpretation comprise the searching and acquisition process (circle), mapping and classifying, critical assessment, argument development, research problems, and questions which may lead to a new round of searching and acquisition. While these phases do not necessarily follow one another in a linear pattern, together, they support an ongoing engagement with and a progressive development of a body of literature or research program that enhances understanding and insights.

3.1. Searching and Acquisition

Our first step started with searching, sorting, selecting sources, and acquiring papers of interest. This entailed a search for papers on Google Scholar, AIS e-library, and the ACM Digital Library for each of the AIS Senior Scholars' List of Premier Journals and the Australian Business Dean's Council (ABDC) journals with an A* rating on Information Systems. The keywords used were "social media," "social movements," "digital activism," "collective action," and "connective action." We also included conference papers from the *Proceedings of the Hawaii International Conference on System Sciences (HICSS)*, *European Conference on Information Systems (ECIS) Proceedings*, and *International Conference on Information Systems (ICIS) Proceedings*. The initial search resulted in 546 articles.

For each search query outcome, we scanned the titles and abstracts to include only articles that particularly cover social media applications in the context of social movements. We excluded articles that cover other social media applications closely related to social movements but not directly relevant, such as politics. We also eliminated unrelated articles in which the search terms featured only in the references. This resulted in 39 eligible articles. Figure 2 depicts the literature selection process.

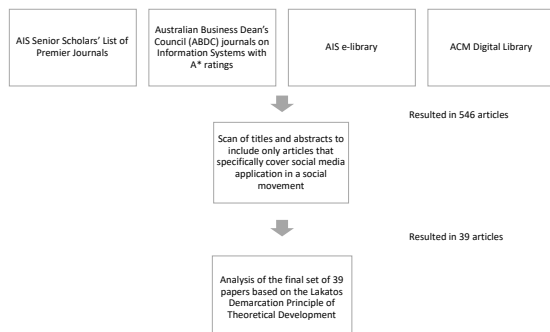


Figure 2. Process for selection of articles.

3.2. Mapping and Classifying

According to Boell (2014), mapping and classifying can adopt a number of possible means, including research approach and methodology, unit of analysis, unit of observation, level of analysis, major concepts, theoretical lens, conceptual framework, discipline, or historical development. We adopt the conceptual and theoretical lens in this study since our aim is to organize the digital activism research program according to the hard core of theories and concepts and the protective belt of empirical studies that have been based on the core theories.

We analyzed the final set of 39 papers based on Lakatos' demarcation principle of theoretical development (Lakatos, 1970) described in section 2 to delineate the hard core from the protective belt of digital activism literature. We discuss these in the next section.

4. Results

In this section, we discuss the core theories and concepts identified, giving their brief descriptions. We also discuss the concepts that have built on these core theories and concepts forming a protective belt.

4.1. The Logic of Collective Action (Olson, 1965)

The logic of collective action was formulated originally within the field of economics by Olson (1965). Olson theorized that when a number of individuals have a common or collective interest, individual, unorganized action will either not be able to advance that common interest at all or adequately. Therefore, organizations are needed to advance common group interests. Even though organizations often serve individual interests, their characteristic and primary function is to advance the common interests of the group, leading to collective actions. These collective actions are "actions taken by two or more people in pursuit of the same collective good" (Marwell & Oliver, 1993, p.4). They involve participants coming together in cooperative solutions that attain a significant degree of institutional support and community empowerment (Della Porta & Diani, 2020). Olson (1971), however, notes that collective actions suffer from a free-rider problem in which actors weigh the costs of participation against marginal gains, resulting in non-participation. Furthermore, unless in situations where the number of members in a group is small or there is coercion to make individuals act in a common interest, rational and self-interested members will not act in the interest of the group (Olson, 1965). Therefore, organized action needs

to consider incentives and penalties to combat the problem (Langer et al., 2020).

In spite of this drawback, the logic of collective action has been applied extensively in social movement research. Most IS studies applied the logic of collective action in combination with other IS or social movement theories. For instance, Zheng and Yu (2016) drew upon the collective action model and theory of affordances (Gibson, 1977) to elaborate on socialized affordances. Sæbø et al. (2020) combined the logic of collective action with the theory of affordances to identify a typology of affordances supporting collective action. Similarly, Harindranath et al. (2015) adopted the logic of collective action and the theory of affordances to identify a range of functional social media affordances impacting online activism. They identified nine affordances of social media instrumental during the social media transformation movements that impacted mobilization for social change. These are information validation, information supplementation, perpetual self-updating, perpetual mass-updating, self-reportage, monitoring and influencing, self-organization, interactive communication, and self-presentation. Seo (2019) developed a multilevel model for examining collective actions for social change in a social network. The model has three levels of affordance (application, network infrastructure, and socio-political system) and four levels of agency (individual, group, organizational, and bot) to analyze social change dynamics that have become more decentralized.

Outside the IS literature, scholars have derived two other theoretical constructs from the collective action logic – collective action space model and consensual collective action. These concepts, as we discuss in the following subsections have also been used in the empirical IS literature.

4.1.1. Collective Action Space Model (Flanagin et al., 2006). The collective action space model advances the theory of collective action by providing a two-dimensional space model for theorizing and understanding communication in collective actions. This model comprises the dimensions of the mode of interpersonal interaction and the mode of engagement that shapes the interactions. The mode of interaction ranges from personal to impersonal, while the mode of engagement ranges from entrepreneurial to institutional among participants in collective action efforts. These two dimensions form two axes of the collective action space model that incorporate how people interact with one another and the opportunities provided to them as a collective entity. These two dimensions can facilitate or hinder collective action.

Selander & Jarvenpaa (2016) applied this model in addition to Resource Mobilization Theory to provide a

value-based model on the antecedents and effects of new digital action repertoires. They elaborate on how new action repertoires in social movements both challenged and stabilized the values of a social movement organization.

4.1.2. Consensual Collective Action (Della Porta & Diani, 2020). Another concept that is an extension of the collective action logic utilized in IS literature is the concept of consensual collective actions (Cardoso et al., 2019; Della Porta & Diani, 2020). Participants in consensual collective action focus on cooperative solutions that achieve popular and institutional support, unlike in conflictual collective action, where they aim at the redistribution of power or changes in social structure.

Cardoso et al. (2019) applied the concept of consensual collective actions by exploring how digital technology combines the use of multiple digital tools through the organizing functions and requirements of collective actions. They derived five broad effects of ICTs on organizing functions and requirements of collective actions: communication, connectivity, coordination, legitimacy, and organizing costs. They found that with consensus, the extent to which collective actions are concretized depends on the capacities and intents of the users of the tools.

While collective actions refer to actions taken collectively by actors to achieve a common goal, theorists have proposed a new form of collective engagement called connective action. In connective actions, actors spontaneously and without formal organization create content and enable action through digital technologies (Bennett and Segerberg, 2012). We discuss the logic of connective action in the next section.

4.2. The Logic of Connective Action (Bennett & Segerberg, 2012, 2013)

Social media, alongside other ICTs, have transformed ways of organizing collective action and has given rise to the concept of “connective action” (Bennett & Segerberg, 2012, 2013), which has, at its core, the recognition of digital media as organizing agents. Connective action is based on personalized content and loose connections across media networks. In connective action logic, taking public action or contributing to a common good is an act of personal expression or self-validation achieved by sharing ideas and actions in trusted relationships. A key difference between the logic of collective action and the logic of connective action is that communication technologies do not change the action dynamics in large-scale networks characterized by the logic of collective action. However, in networks characterized by connective

action, they do.

Grounded in the logic of connective action and in combination with the theories of affordance and interdependence, Vaast et al. (2017) derived the concept of connective affordances as collective-level affordances actualized by actors as they take interdependent roles. Leong et al. (2019) combined the logic of connective action with the empowerment perspective to propose a theory of social media empowerment while providing a temporal analysis of connective actions in social movements.

Much of IS literature on connective action has explored this logic in conjunction with or in relation to the logic of collective action. For instance, Leong et al. (2020) explored how social movements transcend connective actions to build organizing capacity that can support successful and sustainable mobilization. They focus on understanding the mechanisms underlying the shift from connective action to collective action, denoted as clustering and structuring emergences. Braccini et al. (2019) explore the dynamics between the logic of connective and collective action and develop a process model of organization for social movements. In addition, Langer et al. (2020), through the logic of connective action investigated the temporality of social media-enabled social movement and suggested that social movements exhibit the pattern of connective actions at the beginning of a social movement, which evolve into more collective actions as the movement evolves. Finally, Syed and Silva (2023) applied connective action and framing theory to investigate how connective action sustains long-term social movement and found that through message framings, users adopted varying connective action tactics to scale and sustain a movement.

Next, we discuss the theory of affordances which has been used extensively in conjunction with the logics of collective and connective action.

4.3. The Theory of Affordances (Gibson, 1977)

The concept of affordances originated from Gibson (1977)'s work in ecological psychology and has been influential in Human-Computer Interaction and technology design (Gaver, 1991; Norman, 1999). The affordances of an object are the properties that allow it to function. The notion of affordances was introduced to explain how intrinsic values and meanings of things in an environment can be perceived and how this information can be linked to possibilities offered to an organism by the environment. According to Gibson, an organism and its environment complement each other, and studies on organisms should be conducted in relation to their environment and not in isolation. Affordances are viewed from the standpoints of an

agent, an observer, or an environment.

Several studies in IS literature focused on digital activism have their foundation in the theory of affordances, for example, connective affordances (Vaast et al., 2017), socialized affordances (Zheng and Yu, 2016), combined affordances (Sæbø et al., 2020), and convivial affordances (McKenna, 2020). As mentioned before, Vaast et al. (2017) developed the concept of connective affordances as a relational concept by considering the relationships between technology and users as well as the interdependence among users. This interdependence is also noted to have effects on what users can do with technology. McKenna (2020) further builds on the concept of connective affordances to introduce the notion of convivial affordances, which takes the position that understanding affordances is required for users to be able to create convivial outcomes such as social support and community building.

In a similar vein, Zheng and Yu (2016) argue that affordances are both functional and socialized since they offer opportunities for meaningful social action involving artifacts in a social context. They developed the notion of socialized affordances of social media in the process of collective action. Sæbø et al. (2020) identified a typology of organizational affordances supporting collective actions, termed combined affordances, and explored how the actualization of these combined affordances provides antecedents upon which collective actions depend. These combined affordances are: adapting rules and processes, making decisions collectively, circulating information, crossing boundaries, (de)constructing the community, ubiquitous acting, delimiting actions, connecting members, and triggering actions.

In another study, Tim et al. (2018) draw on the concept of technology affordances to theorize the process of affordance actualization, shedding light on the enabling power and unintended consequences of social media in social movements. The unintended consequences are information cluttering, social group exclusion, and disorganization among communities. Finally, as mentioned before, Harindranath et al. (2015) draw on the theory of affordances to identify nine perceived affordances of social media that were instrumental during social movements. These affordances interact with and complement each other, thereby impacting mobilization for social change.

4.4. Resource Mobilization Theory (McCarthy & Zald, 1977)

Effective collective action typically involves varying levels of organizational resources deployed to organize, lead, and develop common action frames that bridge

organizational or individual differences (Bennett & Segerberg, 2012). Hence, the earlier application of the logic of collective action to contentious action was exemplified in resource mobilization theory (RMT), in which social movement scholars adopted Olson (1965)'s collective action and organization-centered approach. RMT scholars acknowledge that the problem of rational free-riders is a challenge and regard organizations and their ability to mobilize resources as critical to social movement success. McCarthy and Zald (1973, 1977) theorized about the rise of external support and resources available to social movement organizations and focused on the professionalization of the organizations and the leaders enabling more resource-intensive mobilization efforts.

In IS, Selander & Jarvenpaa (2016) drew on RMT to explicate how new action repertoires stabilized and challenged the values of an SMO as well as gradually broadened the interactions of supporters and deepened their modes of engagement. They developed a value-based model on the antecedents and effects of new action repertoires from the SMO perspective and build a new theory on social media and digital activism at the organizational level. Recently, Venkatesan et al. (2021) extended the resource mobilization theory to analyze the perspective of mobilizing structure. They offered an extended model of sustained social influence as a function of the duality of social actions and the underlying network structure.

While RMT offers interesting theoretical elements for successful mobilization, it does not consider ideological elements and the waxing and waning of social movements. These theoretical considerations are the tenets of framing processes which we discuss in the next section.

4.5. Framing Processes (Zald, 1996; Snow & Benford, 1998)

Zald (1996) defines framing processes as the narratives for describing, disseminating, supporting, and challenging social movements. Movements are seen as carriers or transmitters of mobilizing beliefs and ideas but are actively engaged in the production of meaning for participants, antagonists, and observers (Snow & Benford, 1998). The term framing is used to conceptualize this notion. Movements frame or assign meaning to and interpret relevant events and conditions in ways that are intended to support the movement and demobilize antagonists. Gamson (1992) defined frames as communication devices that diagnose, evaluate and prescribe issues.

Benford (1997) expounded on collective actions and how they influence social movement mobilization through framing processes. Furthermore, Snow et al.

(1986) and Benford & Snow (2000) delineate framing processes as diagnostic, prognostic, and motivational. Diagnostic framing entails identifying the bone of contention in a social movement and attributing blame, causality, or a diagnosis of some event or aspect of social life as problematic and in need of alteration. Prognostic framing refers to the articulation of a proposed solution to the diagnosed problem that specifies what needs to be done, while motivational framing issues a call to action alongside a rationale to encourage engagement in improving the situation or taking ameliorative or corrective action.

In IS literature, Miranda et al. (2016) adopted framing processes in their studies on the comparison of the hegemony vs. emancipation capacities of traditional mass media and digital media in social movements and delineated prevalent structural and content constraints. Silva and Syed (2019) applied the framing processes to understand how messaging of social movements contributes to mobilization. They found that most messages are used to motivate and mobilize social movement participants. Furthermore, Tarafdar and Ray (2021) applied framing processes, alongside the concept of socio-material assemblages, to identify intra-actions that serve as organizing mechanisms for social protest cycles. Finally, Syed and Silva (2023) applied framing theory to understand how social media messages allow movement continuity beyond a specific protest. They found that most of the messages analyzed are used to motivate and mobilize participants. However, connective action tactics employed through the messages gave the movement breadth and sustenance.

While the aforementioned literature has examined meanings through framing processes, the theory of social movement networks offers insights into the use of social media to connect disparate actors and the diffusion of movement ideas. We discuss this theory in the next section.

4.6. Network Structure (Borgatti & Everett, 2000)

Social networks comprise actors who aim to create and share distinct collective identities, are engaged in some social, political, or cultural conflicts, and exchange resources over the network (Della Porta & Diani, 2020; Diani, 1992). In extant literature, social networks have been operationalized as core-periphery structures, which suggests that a network comprises a dense, cohesive core and a sparse periphery (Borgatti & Everett, 2000). The core represents central users who actively contribute by generating movement messages and are connected to other core and peripheral users. The periphery encompasses the large majority of users connected to a small set of core users.

Through our review of this research program, we find that scholarship has explored digital activism along some key dimensions: users, technology, content, organization and process. We broadly categorize the stages of a movement as movement emergence, movement growth and movement outcome / impact (Figure 4). We propose that a social media enabled movement emerges as a result of the interaction among users, technology and content, and grows through effective organization and process to produce the intended or some unintended social outcome or impact. We explore each of these dimensions to propose areas in which researchers can make contributions.



Figure 4. Stages and dimensions of movement progression.

The users dimension has been explored through the theories of collective action, connective action and network or core-periphery structure (Syed and Silva, 2020; Langer et al., 2020). We believe this area offers further opportunities for research in terms of cultural, legal, personality and trust considerations.

The technology dimension has also been studied extensively through the lens of theory of affordance, with studies such as connective affordances (Vaast et al., 2017), socialized affordances (Zheng and Yu, 2016), combined affordances (Sæbø et al., 2020) and convivial affordances (McKenna, 2020). Through a different lens other than the theory of affordances, it would be beneficial to explore how varying design features of respective social media platforms can influence the mobilization of a social movement online. For example, using design theory in a cross-platform analysis would further enlighten how different offerings of social media affect movement mobilization on social media.

We have drawn some understanding of content and information flow through the application of theories such as framing theory and the theory of collective sensemaking. These give insight into how narratives and ideologies are disseminated in social movements and serve as a springboard to action. We observe that much of the literature has analyzed content from Twitter and Facebook. This highlights potential for analysis of other forms and sources of data such as data from YouTube, Instagram, TikTok, Pinterest etc.

In terms of organization, the theories of collective action, resource mobilization and empowerment give insight into how movements harness collective resources to achieve collective good. This dimension offers potential for research in cross-movement and

cross-country analysis to understand if and how these lead to better results e.g. the Women’s March (Syed and Silva, 2023) and the #MeToo movement (Langer et al., 2020) which occurred around the same time.

Furthermore, the processes by which movements scale and grow have been explored through temporal analysis and sustenance of social movements. While all these studies have gone beyond providing an understanding of how movements emerge into how movements grow, we still lack studies that highlight whether or how movements achieve their objectives. Thus far, the understanding of impacts is based on anecdotal evidence, news reports, and a thin body of scholarly research (Tan et al., 2013), while research on the dimensions of emergence – users, technology and content have seen significant attention. Thus, the research program is ripe for studies on measuring the impacts, success and effectiveness social movements especially in relation with each of the stated dimensions.

We summarize potential research questions in each dimension in Figure 5 below.



Figure 5. Potential research questions.

6. Conclusion

This research utilized a Lakatos (1970) approach to assess the state of research in social media applications

to social movements in information systems research. We adopted Boell's (2014) hermeneutic framework to systematically review the literature. The Lakatos approach helps us identify the hard core or foundational theories in the research program which several empirical studies build on, representing the protective belt. Based on the state of the research program, we identified potential research themes and questions to expand the research program on social media-enabled social movements further. We hope that this method could be applied to classify other research programs into their core and peripheral components, and to identify areas of further research.

7. References

- Benford, R. D. (1997). An insider's critique of the social movement framing perspective. *Sociological Inquiry*, 67(4), 409-430.
- Benford, R. D., & Snow, D. A. (2000). Framing processes and social movements: An overview and assessment. *Annual Review of Sociology*, 26(1), 611-639.
- Bennett, W. L., & Segerberg, A. (2013). *The logic of connective action: Digital media and the personalization of contentious politics*. Cambridge University Press.
- Bennett, W. L., & Segerberg, A. (2012). The logic of connective action: Digital media and the personalization of contentious politics. *Information, Communication & Society*, 15(5), 739-768.
- Boell, S. K. (2014). A hermeneutic approach for conducting literature reviews and literature searches. *Communications of the Association for Information Systems*, 34(1), 12.
- Borgatti, S. P., & Everett, M. G. (2000). Models of core/periphery structures. *Social Networks*, 21(4), 375-395.
- Braccini, A. M., Sæbø, Ø., & Federici, T. (2019). From the blogosphere into the parliament: The role of digital technologies in organizing social movements. *Information and Organization*, 29(3), 1-21.
- Burgess, K., Singh, P. J., & Koroglu, R. (2006). Supply chain management: A structured literature review and implications for future research. *International Journal of Operations & Production Management*, 26(7), 703-729.
- Cardoso, A., Boudreau, M. C., & Carvalho, J. Á. (2019). Organizing collective action: Does information and communication technology matter? *Information and Organization*, 29(3), 100256.
- De Zúñiga, H. G. (2012). Social media use for news and individuals' social capital, civic engagement and political participation. *Journal of Computer-Mediated Communication*, 17(3), 319-336.
- Della Porta, D., & Diani, M. (2020). *Social movements: An introduction*. John Wiley & Sons.
- Diani, M. (1992). The concept of social movement. *The Sociological Review*, 40(1), 1-25.
- Doerig, A., Sommers, R. P., Seeliger, K., Richards, B., Ismael, J., Lindsay, G. W., Kording, K.P., Konkle T, Van Gerven, M.A., Kriegeskorte N & Kietzmann, T. C. (2023). The neuroconnectionist research programme. *Nature Reviews Neuroscience*, 1-20.
- Drury, J., & Reicher, S. (2009). Collective psychological empowerment as a model of social change: Researching crowds and power. *Journal of Social Issues*, 65(4), 707-725.
- Flanagin, A. J., Stohl, C., & Bimber, B. (2006). Modeling the structure of collective action. *Communication Monographs*, 73(1), 29-54.
- Gamson, W. A. (1992). *Talking politics*. Cambridge University Press.
- Gaver, W. W. (1991). Technology affordances. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 79-84.
- George, J. J., & Leidner, D. E. (2019). From clicktivism to hacktivism: Understanding digital activism. *Information and Organization*, 29(3), 100249.
- Gibson, J. J. (1977). *The theory of affordances*. Hilldale, USA, 1(2), 67-82.
- Gioia, D. A., Thomas, J. B., Clark, S. M., & Chittipeddi, K. (1994). Symbolism and strategic change in academia: The dynamics of sensemaking and influence. *Organization Science*, 5(3), 363-383.
- Harindranath, G., Bernroider, E.W., & Kamel, S.H. (2015). Social media and social transformation movements: The role of affordances and platforms. *European Conference on Information Systems*, 1-12.
- Lakatos, I. (1970). History of science and its rational reconstructions. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, 91-136.
- Langer, N., Khurana, S., & Vaast, E. (2020). Activating the sisterhood: A structural and temporal analysis of sustained connective action in #MeTooIndia. *ICIS 2020 Proceedings*.
- Leong, C., Faik, I., Tan, F. T., Tan, B., & Khoo, Y. H. (2020). Digital organizing of a global social movement: From connective to collective action. *Information and Organization*, 30(4), 100324.
- Leong, C., Pan, S. L., Bahri, S., & Fauzi, A. (2019). Social media empowerment in social movements: Power activation and power accrual in digital activism. *European Journal of Information Systems*, 28(2), 173-204.
- Marwell, G., & Oliver, P. (1993). *The critical mass in collective action*. Cambridge University Press.
- McCarthy, J. D., & Zald, M. N. (1977). Resource mobilization and social movements: A partial theory. *American Journal of Sociology*, 82(6), 1212-1241.
- McCarthy, J. D., & Zald, M. N. (1973). *The trend of social movements in America: Resource mobilization and professionalization*. Morristown, New Jersey: General Learning Press.
- McKenna, B. (2020). Creating convivial affordances: A study of virtual world social movements. *Information Systems Journal*, 30(1), 185-214.
- Miranda, Young, A., & Yetgin, E. (2016). Are social media emancipatory or hegemonic? Societal effects of mass media digitization in the case of the SOPA discourse. *MIS Quarterly*, 40(2), 303-330.
- Norman, D.A. (1999). Affordance, conventions, and

- design. *Interactions*, 6, 38-43.
- Oh, O., Eom, C., & Rao, H. R. (2015). Research note—Role of social media in social change: An analysis of collective sense making during the 2011 Egypt revolution. *Information Systems Research*, 26(1), 210-223.
- Olson Jr, M. (1971). *The logic of collective action: Public goods and the theory of groups, with a new preface and appendix* (Vol. 124). Harvard University Press.
- Olson, M. (1965). *The logic of collective action* (Vol. 124). Harvard University Press.
- Perkins, D. D., & Zimmerman, M. A. (1995). Empowerment theory, research, and application. *American Journal of Community Psychology*, 23(5), 569-579.
- Rappaport, J. (1987). Terms of empowerment/exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology*, 15(2), 121.
- Rappaport, J. (1981). In praise of paradox: A social policy of empowerment over prevention. *American Journal of Community Psychology*, 9(1), 1-25.
- Sæbø, Ø., Federici, T., & Braccini, A. M. (2020). Combining social media affordances for organising collective action. *Information Systems Journal*, 30(4), 699-732.
- Selander, L., & Jarvenpaa, S. L. (2016). Digital action repertoires and transforming a social movement organization. *MIS Quarterly*, 40(2), 331-352.
- Seo, H. (2019). Collective action in digital age: A multilevel approach. *Proceedings of the 52nd Hawaii International Conference on System Sciences*, 2753-2762.
- Shankman, P., Ágh, A., Bourguignon, E.E., Brintnall, D.E., Cole, J.R., Connor, L.H., Darnell, R., de Ruijter, A., Dutton, D., Fabian, J., Farrer, C.R., Fisher, A.D., Howe, L.E., Richardson, M., Ridington, R., & Wilk, S. (1984). The thick and the thin: On the interpretive theoretical program of Clifford Geertz [and comments and reply]. *Current Anthropology*, 25, 261 - 280.
- Silva, L., & Syed, R. (2019). Social media and social movements: A case of Women's March. *Proceedings of the 27th European Conference on Information Systems (ECIS)*.
- Snow, D., & Benford, R. (1998). Ideology, frame resonance, and participant mobilization. *International Social Movement Research*, 97-217.
- Snow, D. A., Rochford Jr, E. B., Worden, S. K., & Benford, R. D. (1986). Frame alignment processes, micromobilization, and movement participation. *American Sociological Review*, 464-481.
- Syed, R., & Silva, L. (2023). Social movement sustainability on social media: An analysis of the Women's March movement on Twitter. *Journal of the Association for Information Systems*, 24(1), 249-293.
- Syed, R., & Silva, L. (2020). Core and peripheral users and social movement mobilization. *ICIS 2020 Proceedings*.
- Tan, L., Ponnamp, S., Gillham, P., Edwards, B., & Johnson, E. (2013). Analyzing the impact of social media on social movements: A computational study on Twitter and the Occupy Wall Street movement. *Proceedings of the 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, 1259-1266.
- Tarafdar, M., & Kajal Ray, D. (2021). Role of social media in social protest cycles: A sociomaterial examination. *Information Systems Research*, 32(3), 1066-1090.
- Tim, Y., Pan, S. L., Bahri, S., & Fauzi, A. (2018). Digitally enabled affordances for community-driven environmental movement in rural Malaysia. *Information Systems Journal*, 28(1), 48-75.
- Turner, R. H., & Killian, L. M. (1957). *Collective behavior* (Vol. 3). Englewood Cliffs, NJ: Prentice-Hall.
- Tye, M., Leong, C., Tan, F., Tan, B., & Khoo, Y. H. (2018). Social media for empowerment in social movements: The case of Malaysia's grassroots activism. *Communications of the Association for Information Systems*, 42(1), 15.
- Vaast, E., Safadi, H., Lapointe, L., & Negoita, B. (2017). Social media affordances for connective action: An examination of microblogging use during the Gulf of Mexico oil spill. *MIS Quarterly*, 41(4).
- Venkatesan, S., Valecha, R., Yaraghi, N., Oh, O., & Rao, H. R. (2021). Influence in social media: An investigation of tweets spanning the 2011 Egyptian Revolution. *MIS Quarterly*, 45(4).
- Weick, Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science (Providence, R.I.)*, 16(4), 409-421.
- Young, A., Selander, L., & Vaast, E. (2019). Digital organizing for social impact: Current insights and future research avenues on collective action, social movements, and digital technologies. *Information and Organization*, 29(3), 100257.
- Zald, M. N. (1996). Culture, ideology, and strategic framing. In McAdam, D., McCarthy, J. D., & Zald, M. N. (Eds.), *Comparative perspectives on social movements: Political opportunities, mobilizing structures, and cultural framings* (Vol. 261). Cambridge University Press.
- Zhang, X., & Venkatesh, V. (2013). Explaining employee job performance: The role of online and offline workplace communication networks. *MIS Quarterly*, 695-722.
- Zheng, Y., & Yu, A. (2016). Affordances of social media in collective action: The case of Free Lunch for Children in China. *Information Systems Journal*, 26(3), 289-313.