

Learning from E-Government: A Framework and an Agenda for Social Media Research in IS

Short paper

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Abstract

As the body of Information Systems (IS) research on social media grows, it faces increasing challenges of staying relevant to real world contexts. We analyze and contrast research on social media in the e-government field and in IS research, by reviewing and categorizing 63 studies published in key journal outlets, in order to identify and complement research foci and gaps. We find that, in comparison with e-government social media research, IS studies tend to adopt an abstract view of the individual user, focus on a monetary view of value added by social media, and overlook the role of contextual factors. We thus propose an extended framework for mapping social media research, by including a focus on the role of context and environment, and identify a research agenda for future studies on social media-related phenomena relevant to real world contexts.

Keywords: Social media, e-government, user diversity, IS context, public value.

Introduction

Information Systems (IS) research has long discussed the role of the Internet in driving the migration from *place* to *space*, especially in relation to the movement from traditional business to e-business (Wattal et al. 2010; Weill and Vitale 2001). The diffusion of social media potentially levels up such migration, and is bringing in potentially disruptive changes for virtually all stakeholders involved in the design, management, and implementation of information systems: managers, individual users, private and public organizations. IS research has now a consolidated record of research on social media, especially in the business context. The rapid accumulation of contributions in the IS field entails different perspectives and different foci, and thus calls for a systematization of current findings, in order to map strengths and gaps of the state of the art of IS research on social media, and outline a better informed research agenda that is relevant to real world context.

In systematizing such diverse perspectives and insights, recent contributions in the IS community have called for a clarification of some taken-for-granted key concepts such as ‘information’ and ‘organization’

(Lee 2010), as well as for a contextualization in researching IS (Avgerou 2001; Davison et al. 2008; Lee 2010; Li et al. 2014; Walsham et al. 2007), in order to “substantiate, extend or revise the extant theories and make them more generalizable” (Li et al. 2014, p. 208). Studies in e-business have been reinforcing the generalizability of existing theories without considering the adaptability of such theories in certain contexts, leading to a de-contextualized transfer of knowledge between practices and theories (Li et al. 2014). On the other hand, first attempts at mapping the body of social media research in the IS field have very recently started to emerge. These reviews either focus on impacts of the emergence of social media on established streams of research, such as Social Network Analysis (SNA) (Kane et al. 2014), or begin to aim at identifying research gaps to sketch a future research agenda (Berger et al. 2014), but without adopting a systematizing framework.

Along these lines, the uneven distribution of research foci, the persistence of research gaps, and the urge for contextualization and clarification in the field stand to say that IS research on social media can potentially benefit from the contribution of other, overlapping, research domains. Due to its very nature, IS research has continuously benefited from “lessons learned” from other disciplines (Baskerville and Myers 2002; Chiasson and Davidson 2004; Schwartz 2014). In understanding the role of social media in this migration from *place* to *space*, studies from the field of e-government, where information systems are studied for their transformative potential in specific cultural, institutional and political environments, can provide a complementary perspective (Bélanger and Carter 2012). Broadly defined as research on phenomena related to the management, adoption, and implementation of Information Technology in a public context, the e-government field has an untapped potential to provide key insights that can both complement the existing social media IS body of knowledge, and inform its future research agenda in a more comprehensive way (Bélanger and Carter 2012; Scholl 2007).

This research-in-progress paper aims at providing an input for discussing and furthering the current state of research on social media in IS, by systematically reviewing and contrasting research literature on social media in key outlets of the IS and e-government fields, and thus identifying venues of needed future research on social media in IS. The paper specifically tackles four research questions:

RQ1: What are the foci of research on social media in the IS literature?

RQ2: What are the foci of research on social media in the e-government literature?

RQ3: How can we better frame potential future research areas in social media that have not yet been covered by IS research?

RQ4: How can the foci of research on social media in the e-government literature complement the research gaps in the IS literature?

In beginning to answer these four research questions, the contribution of this paper is twofold: 1) to provide a more comprehensive framework for mapping social media research, by including a focus on the role of context; 2) to identify a research agenda for social media research in IS that draws on insights from the e-government body of research.

The next section presents the method and the choice of framework used to conduct our literature review on IS and e-government social media research. In the findings section, we answer RQ1 and RQ2 by presenting the results of the literature review. In the discussion section we answer RQ3 by presenting our extension to an analytical framework for IS research on social media, and answer RQ4 by proposing a research agenda to IS researchers focusing on social media. In the conclusion we highlight limitations of the study, summarize our contribution, and identify venues of future research.

Method and analytical framework

A thorough and rigorous analysis of a research field requires a systematic and structured literature review (Bandara et al. 2011; Webster and Watson 2002), and a comprehensive and replicable literature search strategy that includes selecting relevant publication outlets, relevant keywords, and a relevant period of time (Brocke et al. 2009). Following Bandara et al. (2011), we carried out the analysis in two main steps: 1) selecting the relevant sources to be searched, and 2) defining the search strategy in terms of time frame, search terms, and search fields.

We scouted the fields of IS and e-government by looking at the leading journal publications, since they are likely to include the major contributions (Webster and Watson 2002). To identify leading and high-quality journals, researchers commonly refer to journal rankings (Levy and Ellis 2006). In line with Baskerville and Myers (2002) and Sidorova et al. (2008), we selected the eight top IS journals indicated by the Senior Scholar's Basket of Journals of the Association for Information Systems (AIS), using the EBSCO database. For the e-government sample, we have used the latest version of the E-Government Reference Library (EGRL 10.5), a well-established, comprehensive database of 7,237 e-government references, maintained for now a decade at the University of Washington's Information School (Scholl 2015), in order to scan what can be argued to be the top three journals in the e-government field, namely *Government Information Quarterly*, *Information Polity*, and *Transforming Government: People, Process, and Policy*.

In order to identify all articles dealing with social media, we drew on the definition of social media by Kaplan and Haenlein (2010): "a group of Internet-based technologies that allows users to easily create, edit, evaluate and/or link to content or other creators of content" (Kaplan and Haenlein 2010, p. 61). We performed a search of the following keywords in either title or abstract, replicating the strategy of van Osch and Coursaris (2013): social medium, social media, social network site(s), social networking site(s), online social network(s). The search had no start date but had an end date of April 2015. This resulted in a total of 86 items. The main acceptance criteria for inclusion of an academic paper in this review were that each study would draw on an empirical data analysis, and that the term social media or any of the abovementioned terms is used as the core technology analyzed or as part of the core argument (van Osch and Coursaris 2013). Hence, we excluded full articles when not based on empirical studies (e.g. (Kreps 2010)), or research commentaries (e.g. (Jarvenpaa and Majchrzak 2010)), but we included research notes (e.g. (Dewan and Ramaprasad 2012)), when grounded on empirical data analysis. This second round of selection resulted in 63 unique research articles. While we expected some overlap between the IS and e-government samples – IS history does feature a stream of studies set in a public sector context (Bélanger and Carter 2012; Kankanhalli and Kohli 2009) – only one article in the IS sample (Ling et al. 2015) dealt with a public sector case.

Framework of analysis

For analyzing the sample of 63 research articles, we have drawn upon the organizing research framework for social media research recently published as introduction to the special issue on social media in the Information Systems Research journal (Aral et al. 2013) (see Figure 1). The intended broadness of the framework affords a range of adaptability that is compatible with this analysis, identifying social media as a "moving target", where technologies and concepts continuously evolve. It provides a flexible conceptualization of the social media landscape, with room to adjust in accordance with specific contexts. Though nominally aimed at conceptualizing the relationship between social media and business transformation, the original framework also explicitly includes activities of governmental actors (Aral et al. 2013, p. 4), making it suitable for analyzing both IS and e-government social media literature. As of April 2015, according to Google Scholar, the framework has been cited 85 times.

		Activities			
		Design and features	Strategy and tactics	Management and organization	Measurement and value
Levels of analysis	Users and society	How do users interact with social media features? How does feature design affect their use, interaction with one another, satisfaction, and ability to derive value from social media?	How can users optimize their use of social media? Which objectives do users pursue in using social media? How can they create relationships, curate information, broaden their reach, and maximize their influence?	How do users organize within communities and social media? How does community organization emerge? What are the effects of community organization and management on user contribution, participation, satisfaction, etc.	What are the benefits and costs of social media? How can we measure consumer surplus generated by social media? What is the nonmonetary value that social media create (e.g., equality, health, violence, civic engagement)?
	Platforms and intermediaries	How do platforms and intermediaries design social media features? How do specific features and designs help platforms attract users, create engagement, enable and constrain user behavior, and increase revenue?	How can platforms maximize their influence and revenue? What are the product development, pricing, partnership, marketing, and acquisition strategies that achieve the best results? Should platforms be open or closed, standardized or ad hoc?	How should platform operators organize internally? How should platforms create, manage, and instill culture within their ecosystems? Which skills, talent, or human resources should platform operators develop? How should platforms create incentives to guide social media activities?	What is the value added by platforms? What are sensible valuations for platforms? How can we measure the value of platform ecosystem partners and ecosystems? How can value be allocated across the ecosystem to optimize incentives?
	Firms and industries	How should firms interact with specific platform features to maximize their benefit? What features should firms design into their home-grown social media initiatives?	What types of social media initiatives work best for what firms? How should firms interact with public social media? What combinations of home-grown and public social media initiatives should firms pursue? How should firms respond to social media crises?	How should companies organize, govern, fund, and evolve their social media capabilities? What skill and culture changes are needed to best adapt to a social world? Which skills, talent, or human resources should firms develop? How should firms create incentives to guide social media activities?	How do we measure the short- and long-term bottom line and intermediate outcomes of social media for firms? How do social media add value to firms? What industry-wide efficiencies have been (can be) attained via social media?

Figure 1. An Organizing Framework for Social Media Research (Aral et al. 2013)

This framework distinguishes between three levels of analysis (Consumers and society, Platforms and intermediaries, Firms and industries) and four types of activities (Design and features, Strategy and tactics, Management and organization, Measurement and value). Since the framework has not been systematically used for classifying a wide sample of studies before, we first drew on the definition of its dimensions (the three levels of analysis and the four types of activities) provided by the authors. After carrying out an independent pilot-coding of 10 randomly chosen articles within our sample, the research team re-discussed and refined the operational definitions of each component, in order to complement them with further detail, and thus avoid ambiguity and overlaps in the coding phase.

This resulted in the following operational definitions of the levels of analysis – i.e. the main entities analyzed in each article: 1) *Consumers and society* include, on the one hand, individuals who use and co-create social media and, on the other hand, society as a recipient of social media impacts; 2) *Platforms and intermediaries* are the individual, firm, or governmental actors that build, operate, maintain, a social media platform (e.g. the Facebook corporation, or a government agency operating its own public website); 3) *Firms and industries* are interpreted as both private firms and public organizations, or industries that use and interact with social media (e.g. General Motors building a Facebook page for customer-relationship management, or Copenhagen municipality setting up a Twitter account).

Regarding the four activities, we have adopted the following operational definitions: a) *Design and features* includes studies primarily focusing on how specific social media features are designed, implemented, standardized by individual users and organizations. “Features” include not only social media interfaces, but also regulations, and policies (e.g. Facebook privacy policy); b) *Strategy and tactics* includes studies on how consumers, platforms, firms, and governments behave using social media and create social media strategies that best meet their needs (e.g. what motivates individuals to use social media, or how firms plan social media presence to achieve their goals); c) *Management and organization* includes studies on how consumers, platforms, firms, and governments structure, manage, and allocate the processes, human resources, financial assets, and technology needed to develop, deploy, use, and interact with social media (e.g. the structure and shape of networks of social media users, or how a

company establishes a social media department in its organization chart); d) *Measurement and value* includes studies on how value or welfare is generated by the use of social media, and how this value generation is measured. Studies in this category draw on normative assumptions on positive or negative impacts of social media (e.g. how social media provides user empowerment, or how the increases in revenue from social media for a firm can be measured).

In the second step of the article classification strategy, each article was read in its entirety and independently coded by two researchers that assigned each article to one category. In assigning an article to a category, the focus was put on each study’s main research question and main unit of analysis (not on each article’s intended audience, nor on the studies’ implications for stakeholders). Cases of disagreement in the coding were dealt through an informed discussion between coders, until consensus was reached.

Findings

Table 1 illustrates the outcome of the article classification in the body of IS research (N=33), and of e-government (N=30).

	<i>Design and features</i>		<i>Strategy and tactics</i>		<i>Management and organization</i>		<i>Measurement and value</i>		<i>TOTAL</i>	
	IS	E-gov	IS	E-gov	IS	E-gov	IS	E-gov	IS	E-gov
<i>Users and society</i>	2	0	12	4	5	1	1	4	20	9
<i>Platforms and intermediaries</i>	1	3	0	0	0	1	0	0	1	4
<i>Firms and industries</i>	3	0	2	12	1	3	6	2	12	17
TOTAL	6	3	14	16	6	5	7	6	33	30

Table 1. Raw Count of Articles on Social Media in the IS and E-Government Samples

The most investigated unit of analysis in the top IS outlets is largely the one of *users and society*, with 20 articles out of 33. While the framework by Aral et al. (2013) also includes studies on societal impacts in the same group, it should be noted that all studies categorized in this row have individual users, and not society, as the main entity analyzed, except for one (Ling et al. 2015).

The most focused on activity, on the other hand, is *strategy and tactics*, with 14 out of 33 studies. It is striking to observe that, by far, the least focused on unit of analysis is *platforms and intermediaries*: only one study has a platform as its primary focus, looking at Facebook rule changes and their impacts on the market for apps (Claussen et al. 2013). On *measurement and value*, articles in the IS literature have largely paid attention to financial rather than non-monetary value brought by social media for firms. This confirms similar findings by Berger et al. (2014). Among 7 articles discussing the added value brought by social media, there is only one article focusing on non-financial value benefits, such as community empowerment, and it is namely a study situated in a public sector context (Ling et al. 2015).

The most investigated unit of analysis in the e-government outlets is *firms and industries* (which also includes governmental organizations), with 17 out of 30 articles, followed by 9 on users and society, and 4 on platform and intermediaries. Interestingly, here the identities of individual users appear to be more diverse and nuanced. There are not only individual citizen users, but also other social actors, such as politicians, that are considered as the main unit of analysis (Hong 2013; Lampe et al. 2014).

The most focused on activity in e-government social media research is *strategy and tactics*, with 16 out of 30 articles, followed by an almost equally distributed focus on both *management and organization* and *measurement and value*. Among the articles on management and organization, 3 out of 5 have specifically focused on how the implementation of social media has changed the organizing structure of government (Lee and Kwak 2012; Lefkothea et al. 2014; Mergel 2013). On *measurement and value*, the majority of e-government studies on social media (4 out of 6) have paid attention to the impact on non-monetary/public value brought by individuals’ use of social media (Hong and Nadler 2012; Meijer et al.

2012; Sandoval-Almazan and Gil-Garcia 2014; Warren et al. 2014), showing a different interest in understanding the transformative potential of social media than in the core IS field.

One of the overarching differences observed between the IS and e-government studies is in the level of focus. While IS studies typically provide either a focus on one category of the framework only, or on a clearly dominant one among more, most of the e-government studies have multiple scopes within each study, albeit with a dominant one. This has resulted in a need for extra discussions among the research team to successfully convey each e-government study’s main focus within the interpretation of the provided framework. Most relevantly, we found that a number of studies’ secondary foci, and three e-government articles’ main foci (Alejandro et al. 2014; Bertot et al. 2012; Bonsón et al. 2012) could not be captured by the framework, namely foci on contextual factors. The following section draws on these challenges, and tackles some inherent ambiguities of the framework, by proposing a framework extension, and arguing for a renewed research agenda for social media research.

Discussion

The role of context: extending the research framework

IS research has been repeatedly calling for stronger efforts on contextualization (Avgerou 2001; Davidson and Chiasson 2005; Hong et al. 2014) such as, for instance, focusing on the role of industry (Chiasson and Davidson 2005). Our literature review identified contextual issues, including elements such as policy and legal issues, environmental issues and the political context, as a relevant focus of a large part of the research reported from the e-government area, but overlooked in IS-oriented research. While the framework by Aral et al. (2013) does include *industry* within with the firm level of analysis, it falls short of taking into consideration the many other aspects of context that affect social media-related phenomena, which go beyond the industry level. We therefore propose to include an additional dimension to Aral et al.’s framework, by including the unit of analysis of *Context and environment*.

	<i>Design and features</i>	<i>Strategy and tactics</i>	<i>Management and organization</i>	<i>Measurement and value</i>
<i>Context and environment</i>	E.g. How do the characteristic of a region’s IT infrastructure enable and constrain the design and use of social media features?	E.g. How does the macro-economic performance of a country affect social media strategies? How do government policies impact social media usage?	E.g. How do national policies and regulations enable and constrain the organization of social media-related resources?	E.g. How do the political context and dominant narratives affect the measurement criteria of social media-related value?

Table 2. Extension of the Organizing Framework for Social Media Research

The *context and environment* dimension provides a set of categories for studies on social media that focus on context and features of the environment external to, or transcending the behaviors of, individuals, organizations, and platforms, as the main entities analyzed. These include e.g. infrastructure, information availability, underlying technologies, accessibility, macro-level policy and legal issues, governmental organization, the natural environment, the political context, the macro-economic environment, and the distinctive socio-cultural structure of a society. In particular, we here conceptualize society as a level of analysis differently than in the *Users and society* level of analysis by Aral et al.: that is, as an *agent* of social media-related impacts, rather than as a *recipient* of changes, as in Aral et al. (2013, p. 4).

Table 2 illustrates some examples of possible research questions focusing on context and environment as a unit of analysis, and tackling each of the four activities. Furthermore, we have chosen one representative study from the article sample as an example to illustrate cases of empirical research foci falling into each of the four categories.

Focusing on *Design and features*, Bonsón et al. (2012) investigate the adoption of Web 2.0 technologies in 75 local governments in the European Union, in order to evaluate what contextual factors influence the

presence of specific social media features (podcasts, RSS feeds, widgets, etc.), including local government platforms to enhance transparency and create “corporate dialog” with citizens. The unit of analysis is the development of information society in each region, including indexes such as Internet penetration rates, the use of Web 2.0 by citizens, and e-government online availability at different administrative levels.

Focusing on *Strategy and tactics*, Bertot et al. (2012) examine the regulatory framework of the U.S. federal government in order to assess its impacts on social media strategies by public agencies. While they conclude identifying implications for strategies of public organizations, Bertot et al.’s unit of analysis and data sources are not organizations, managers, or individual users, but policy documents and laws.

Focusing on *Management and organization*, Zheng (2013) identifies external drivers and challenges for government agencies’ organization and resource allocation for using microblogging sites in China, from the civil servants and social-media managers’ point of view. With an inductive approach, individuals as a source of data are seen both as part of an organization and as a societal collective intelligence, contributing to an understanding of the cultural values and the social structures upon which the analysis is built. In this study, context and environment as a unit of analysis complements individual social media managers as a source of data.

Focusing on *Measurement and value*, Lee and Kwak (2012) investigate how U.S. federal agencies respond to the Open Government national Directive to develop social-media initiatives and, building on five case studies in the U.S. Healthcare Administration agencies, they propose a five-stage maturity model to measure levels of social media-based public engagement.

Complementing IS and e-government foci: a research agenda

Based on our analysis of the status of research on social media within the IS and e-government literature, we now turn to answer our fourth research question: how can the foci of research on social media in the e-government literature complement the research gaps in the IS literature? Our findings clearly indicate differences between the research bodies of these two strands of research. Here, we identify recurring themes and gaps, and develop them into a research agenda for social media in IS.

Expand the understanding of user diversity

As discussed above, research on social media from the IS field focuses on (individual) users’ behavior, on how social media is used by the users, and on the potential value of users’ behavior for the organizations (the firms). The entity of individual users is conceptualized at a very general level of abstraction and treated as homogenous groups with hardly any scholarly examination of what their differences imply, and of how different users may have different objectives that influence the use of social media. Research from the e-government field introduces a finer grained conceptualization of the entity of the user by discussing their various roles more in detail, for instance by discussing how politicians, constituents, disadvantaged users, and other types of users of public services influence and are influenced by the use of social media. For a field to mature, consensus is needed among the scholars of the field about concepts and definitions. Hence, more research is needed to understand the various roles of users and other stakeholders to further our understanding and achieve conceptual clarity of dynamics within the use of social media. Future research on social media within the IS field should thus aim at answering questions such as:

- What characterizes different users of social media?
- How do different users influence the design, management and value of introducing social media?
- How does the role of users change dynamically over time, and what are the consequences for the design and management of social media for organizations?

Investigate the relevance of platforms and intermediaries

Future research should address perspective not yet explored. Our analyses demonstrate the lack of research on platform and design from both fields of research (IS and e-government), despite the fact that most social media services are run by third-party providers. Examinations of how platforms can structure user interaction and ecosystem development (Aral et al. 2013) are needed to better understand how social media may be integrated within the organizations’ ecosystem development. Issues related to standardization, flexibility and openness influence design, use and value of using social media for

organizations. The duality between generativity and control (Tilson et al. 2010), and between central and local management (references removed to preserve author anonymity), are emerging topics within this area, as well as the role and importance of intermediaries within this context (references removed to preserve author anonymity). Major topics for future research within this context include:

- What are the best partnership strategies between the organization and the social media providers?
- How to design and manage social media strategies to best balance needs between flexibility and control?
- What is the role of intermediaries within the use of social media?

Explore the broader value of introducing social media

Studies addressing the value of social media within the IS field focus mainly on monetary terms, discussing added (financial) value for businesses, whereas e-government studies tend to include more non-monetary indicators by discussing consequences for different users (citizens) and society at large. Social media's transformative impact on the way we communicate, collaborate, consume, and create is independent of firm boundaries (Aral et al. 2013), and influences aspects that go far beyond indicators measured by looking at ROI and income levels for businesses. These, for instance, include the notions of public value and net benefits (Scott et al. 2009, 2011; Wang and Liao 2008). Future studies within the IS area should discuss the value of social media also from a non-monetary point of view, to better understand the transformative potential of introducing social media. Questions to be answered include:

- What characterizes non-monetary value perspectives within social media research?
- What characterizes the transformative aspects of social media and how do we measure their effects?
- How to identify added value of introducing social media for various users, groups, organizations and the society at large?
- How may conflicting values for various user groups influence use of social media?

Conclusion

As IS research on social media increases in volume and scope, it is of the outmost importance that its findings are relevant to real world contexts. In this paper we have provided two contributions: 1) a more comprehensive framework for mapping social media research, by including a focus on the role of context; 2) a research agenda for social media research in IS that draws on insights from the e-government body of research.

Limitations of this research-in-progress concern, firstly, the extent and rigor of the literature review: further IS and e-government outlets should be included in future mapping; also, we are aware of the disparities of quality within the chosen sample of journal outlets, which can be reflected in e.g. the level of focus of the studies. Secondly, that our proposed framework extension represents a framing proposal grounded on an analysis of the literature, rather than an empirically tested model.

Nevertheless, we believe that we begun to provide evidence that, in order to stay relevant to diverse (corporate and public) real world contexts, future studies on social media-related phenomena can draw on the contextual focus of e-government studies. This will allow us to expand the understanding of user diversity, investigate the relevance of platforms and intermediaries, and explore the broader value of introducing social media.

In future work, we plan to empirically include and validate the abovementioned perspectives within an ongoing PhD project on the application of social media in the public sector in China, with a grounded approach detailing on the effects of contextual factors, and the stakeholder ecosystems, on the platforms.

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