

Social Media in IS literature: exploring an avenue of Research

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Abstract The phenomenon of ‘digital living’ is to a high extent influenced by the introduction of new media into society. Especially, social media are affecting the digital world of today and are setting the agenda for social connectedness in private, public and commercial networks. Based in an initial desire to explore a research agenda for the workings of social media in network structures a look into the literature on social media within the field of Information Systems sparked an interest in exploring a new research perspective for social media. Reviewing the IS literature it is apparent that the perspective of the ‘media’ as an artifact of social media has been neglected in existing literature. Based in this, this paper proposes research possibilities for investigating the ‘media’ of social media as well as some theoretical considerations that could aid the investigation. Finally, potential outcomes of pursuing the possible research area are outlined.

Keywords: Social Media, Media, Research, IS literature

1 Introduction

Networks and network structures for sharing and creating information can be traced back to the beginning of time and transcends all the way to today’s global world. Networks have emerged for many different purposes ranging from networks for storytelling and sharing to networks created for the intent of strengthening organizational coordination and development. With the emergence of technology, the structure and form of networks have experienced certain changes in order to accommodate the use of new technology and application in society. Internet visionaries such as Paul Baran (1926-2011) have described a shift in network structures from centralized to distributed as a result of the new technology and its

affect on distributed communications. These network settings are fluid and recurring developing in many different forms and for different purposes. Networks are in this sense described as a collection of individuals and technologies that are entangled in network structures. In recent years this accommodation has also come to include new technologies such as social media, which are being increasingly applied in both organizations and network settings. As a result social media are afforded abilities by different users and we see how this motivates and creates the basis for use and reuse of the technology as part of the networked structure. In the private sphere, social media have become the platform where people communicate and share information with friends and family. In the commercial sphere, more and more businesses are using social media platforms to be present where their customers are, thereby adjusting their branding and marketing approach as part of an overall social media strategy. In the public sphere, social media are transforming government practices by increasing their openness and transparency to engage with citizens in new ways, and by allowing for consideration of encouragement of citizen participation. Throughout these applications communities for collaboration and information sharing are emerging by the use of technology and in turn seem to be affecting the shaping of technology in order to fit with these new developments.

The co-evolution between individuals and technology in these networks involving social media is being highlighted by the continuous link between “social” and “media” elements. This evolution process has been used to ascribe social media some of its success as the adoption of the technology by individuals is supported through a social element (Shirky, 2008). However, the question still remains as to which mechanisms actually drive the networks evolution and existence. Especially, the rise of more and more technologies that combine information and orchestrate the compilation of different information types and forms increases the need for understanding what the media can in fact do and how it can work together with humans in order to facilitate these processes and workings. The question is to a high extent linked to seeking an understanding of how social media exist within networks as well as which roles are ascribed to the use of social media. Following this outline of the background notions framing the interest in how social media as a concept has been made use of and studied, a literature review is carried out to seek an understanding of how the literature within the field of Information Systems (IS) research has explored social media in different contexts both within and outside networked structures.

2 Social Media Literature

According to Webster and Watson (2002) a look into the existing literature is a way of advancing and framing new knowledge. The following reflects a look into the emergent literature on social media within the field of IS research. The study makes use of a procedural approach for the literature search in order to identify main streams dominating the theorizing and conceptualization of the social media phenomena to date.

2.1 Procedure

The procedure guiding the literature review on social media is based in a three-step approach adapted from Persson et al. (2009). Adopting this approach allows for a structured way of going about researching the existing literature. The approach is chosen to provide a step based approach in order to establish an overview of the literature. The steps are outlined in figure 1. As a first step, a search was carried out on the platform Web of Science using the search words of 'social media' and its sub categories as defined by Kaplan and Haenlein (2010) as 'wikis', 'social bookmarking', 'blogs', content communities such as 'Flickr', 'YouTube', and 'Slideshare', social networking sites such as 'Facebook', 'MySpace' and 'LinkedIn', 'virtual game worlds', and 'virtual social worlds'. This search yielded a vast amount of articles dispersed over many different disciplines. As the focus of this study was to look into IS literature the second step allowed the results to be narrowed down by focusing on articles appearing in the ranked journals of the Association of IS basket of eight journals¹ from the IS research discipline. This choice of journals was based in my initial interest of scoping my PhD project within the IS research field. As a result, 36 articles were identified. In the third step, the articles were sorted according to relevance based on two main criteria on how they should deal with the search phenomena by 1) directly investigating aspects of the search terms under investigation or 2) making use of the search terms as a basis for empirical consideration. This led to a total of 29 articles that formed the basis for the literature review.

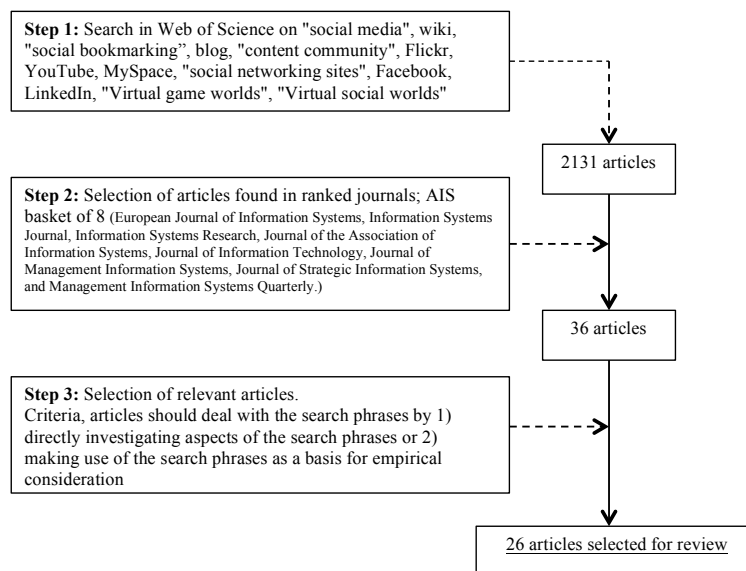


Figure 1: Outline of literature search (adapted from Persson et al. 2009)

For the literature review, the selected articles were explored drawing on Webster and Watson's (2002) organizing framework, which they refer to as the 'concept centric approach'. Central to this approach is the organization of articles according to the concepts that dominate the articles and by creating an overview through clustering those articles that deal with similar concepts together to explore the division of the literature (Webster and Watson, 2002). This procedure was adopted in order to identify the main streams of research found within the social media articles. From this three central streams emerged.

2.2 Three Streams of Literature on Social Media

In the literature, three central patterns seem to emerge in the investigation of social media. The *first stream* identified, explains and investigates patterns for use of social media. Within this stream of literature authors such as Butler and Wang (2012) and Koch et al. (2012) put emphasis on investigating the boundaries that form the use patterns both in terms of the blurred boundaries that the use of social networks create between work life and social life (Koch et al., 2012) as well as the so-called content-boundaries that are constantly being shaped and reshaped by the users (Butler and Wang, 2012). Other authors within this stream focus on the vulnerability of social media use patterns in that the media are so dependent on the users' continuous engagement in order to become successful (Wagner and Majchrzak, 2006; 2007; Rans et al., 2012). The use patterns of different social media platforms are highlighted by the structures that must be in place for different types of platforms to become successful such as blogs (Silva, Goel and Mousavidin, 2010) and wikis (Wagner and Majchrzak, 2006;2007; Diaz and Puente, 2012). One structure that is highlighted as the driver for a use pattern in relation to virtual worlds is Goel et al.'s (2013) notion of how the media afford what they refer to as a 'socialness', which makes users maintain their engagement and use. However, Hueng-Nam et al. (2012) also note how the vast amount of choices for social media can affect the use pattern of the individual through the number of personal choice options available.

The *second stream* of articles deal with investigating interactions among humans and social media, and the effect that these interactions have on continuous use and reuse of social media. Within this stream of the literature several topics emerge to describe the interactions of humans with the social media. Here the impact of users' engagement with each other through social media platforms receives a lot of attention. Aggerwal et al. (2012) expose how users might perceive negative posts on a company blog with some positiveness as they are free to engage and express their opinions. In another article touching on the same subject, the notion of word-of-mouth is attributed great influence through the use of social media platforms and also deemed as one of the key interactions that produce long term effects (Aggerwal et al., 2012). The notion of impact of social media use is investigated by Sursala et al. (2012) who note how social influence is amplified through the use of social media, in this case YouTube. Dewan and Ramaprasad (2012) support this in their research on how social media impact consumer decision by reshaping music consumption and sharing. They

argue that music producers are forced to re-evaluate their ways of thinking about consumers. The notion of restructuring of business process is also a main theme in Mueller et al.'s (2011) article about how virtual worlds are facilitating new ways for customers to engage and thus challenge existing business models. The authors argue that virtual world interaction resembles that of real life. The comparison between real life behaviors and those that are facilitated by social media is an apparent theme in the article by Chesney et al. (2009) where focus is put on the 'griefing' that goes on in virtual worlds. Further, another central theme is that of the shaping of social behavior both in terms of Skågeby's (2010) notion of 'gift-giving' as a conceptual framework framing for social behavior and in Khan and Jarvenpaa's (2010) notion of the effect of Facebook social event planner on group task behaviors. Zhang and Wang (2012) move on to the notion of contributing behavior in their investigation of the participating editors of Wikipedia's engagement with the media. Linked to the notions of behavior and social media impact a dominant theme is that of understanding individuals' motivation for disclosing information through the media. Tow et al. (2010) evaluate how users neglect considerations of the information they are disclosing and thus do not know what they are actually giving up. Moving along these lines Krasnova et al. (2010) make a note of how this exactly willingness of people to engage in self-disclosure and give up information is what makes social media such as Facebook interesting for policy makers and industry players.

A final theme within this stream is that of innovation which is facilitated through users' application of social media and the increased ease of communication and interaction with each other using those tools (Grey et al. 2011).

The *third stream* of literature highlights the adoption of social media and why humans choose to either adopt or not adopt the media into their practices. Warkentin and Beranek (1999) investigate how the adoption of virtual world into organizational teamwork is reliant on the establishment of proper training of the individuals. Tang and Gu (2012) add to this through their investigation of incentives for content-contribution and how this is driven by the users' need for exposure, revenue sharing and reputation. The adoption pattern is also influenced by the notion of moderation and how user perceptions can affect those users likeliness to adopt the media platform (Chen et al. 2011). In line with adoption patterns the notion of information diffusion as a driver is highlighted by Cheng et al. (2011) who explore how the diffusion of information in micro-blogging makes for a critical platform for users both in terms of information gain but also information clutter.

The notion of conviviality of tools is explored in relation to social media and how the adoption is linked strongly to the ongoing shaping by economic and political forces (Ameripour et al. 2010).

The three streams and their related concepts and articles are outlined in table 1.

Table 1: Social Media Literature Streams	
Stream	Main concepts
	BOUNDARIES: blurred boundaries (Koch et al., 2012), content-boundaries (Butler and Wang, 2012).

<i>Use patterns of social media</i>	VULNERABILITY: continuous user dependency (Wagner and Majchrzak 2006:2007; Rans et al. (2012) MEDIA DEPENDENCY: varying use structures (Silva, Goel and Mousavidin, 2010; Borgatti and Halgin, 2011; Wagner and Majchrzak, 2006:2007) 'SOCIALNESS': engagement motivation (Goel et al., 2013)
<i>Interactions among humans and social media</i>	USER IMPACT: positive and negative meaning (Aggerwal et al., 2012) WORD OF MOUTH: influential interaction (Aggerwal et al. 2012) SOCIAL INFLUENCE: amplified use (Sursala et al., 2012) CUSTOMER DECISIONMAKING: shaped and re-shaped (Dewan and Ramaprasad, 2012), intention to purchase (Animesh et al. 2011), business process remodeling (Mueller et al., 2011) REAL LIFE BEHAVIOR: emotions (Chesney et al., 2009), participation (Zhang and Wang, 2012) INNOVATION AND ENTREPRENEURSHIP: collaboration (Balwin and Von Hippel, 2011), virtual possibilities (Sørensen and Fassiotto, 2011) TIES: maintenance (King and Pickering, 1995), dormant (Levin et. Al, 2011), nonstrategic actors (Ansain and Phillips, 2011)
<i>Adoption of social media</i>	TRAINING: teamwork (Beranek, 1999) CONTENT CONTRIBUTION: need for exposure, revenue sharing and reputation (Tang and Gu, 2012) MODERATION: user perception (Chen et al., 2011)

Table 1: Streams of Social Media literature

The identified streams and the concepts within them show tendency of overlapping within the different texts and thus the division above is designed to function as an overview of main concepts that were discovered in the IS literature. However, what the dominant streams and concepts highlight is a tendency in the IS literature towards a focus on the 'social' rather than the 'media' when researching social media. Especially, the user-centered perspective dominates the research through focus on what it is that the individuals ascribe to the technology and how they make use of it while to some extent black boxing the media as an IT artifact.

2.3 Identifying Opportunity for Research

The findings from the preliminary study of the social media literature within the field of IS reflect similar notions as to the ones identified by Orlikowski (1996) and Leonardi and Barley (2008) in the way that they describe how technology in organizations have been investigated in existing literature mainly from a user perspective. Researchers within the field of IS research have put focus on how the notion of technology has to a high degree been black boxed to a high extent in existing literature. Orlikowski and Iacono (2001) point to a search for the 'IT' in IT research advocating for more theorizing about the IT artifact. In their article on materiality and change, Leonardi and Barley (2008) also note how focus on the social

in the relationship between the material and the social has given rise to a one-sided explanation of how the two influence each other and evolve together. From this an interesting perspective emerges for investigating the co-evolution of the social and the media adopting the IT artifact of the media as the point of departure for the investigation.

3 Framing potential research

Based on the findings from the literature review and the outlined research opportunity the motivation for formulating research possibilities is centered on how we can investigate the 'media' in social media. Rather than investigating how individuals are social on media, focus can be placed on investigating the co-evolution of the social and the media by exploring what Orlikowski (1996) refers to as 'following the media'. The notion of 'media' is referred to as the actual media of the social media, for example a blogging tool, Facebook site, etc. The use of 'social' is tied to how the media engage in and drive the network in accordance to what role a media platform plays and how it takes part in the co-evolution between the social humans and the media. As outlined in the introduction, an interesting domain for research of this nature is further based on the practice networks for information management that incorporate social media, as the media here is part of a networked structure serving continuously shifting purposes such as information sharing, creating and organizing. In order to look into this notion of how media are social or act in social networks several key areas can be interesting to look into.

First of all, researching what is the *role* of media as an element in networks involving both humans and technology is something, which can be interesting to investigate. According to Leonardi and Barley (2008) the way in which technologies have transformed information practices has not only provided new affordances but also changed the nature of work itself by challenging traditional role patterns of working networks. This further entails an investigation of how media drive individual behavior and the way in which media can push or motivate individuals to act in certain ways. The role of media requires a look into the character that the social media adopt and which roles media might take on when engaging with users or other media platforms.

Second, investigating the *co-evolution* of social and media puts focus on a tension that has so far been looked at primarily from a user perspective. Studying this from the perspective of the media allows for a stronger insight into the part that the media take in this evolution process and how the two engage and interact. The processes of evolution and co-evolution between individuals and technology are highlighted by Leonardi and Barley (2008) as a central component in understanding the effects that technology and individuals have on each other. Thus, the highlighting of the connection between the social and the media in social media makes for an interesting concept to investigate as it encompasses both elements.

Third, exploring ways of *how to study* the media can open up for the development of

new methods for approaching this phenomenon. The exploration of methods can yield a new set of tools for researchers within studies of social media to seek an understanding of the media, not just from the human perspective as seen in previous studies but also from the media perspective which has been subjected to a high extent of black boxing.

4 Theories Informing the Research Framing

4.1 Three Theoretical Perspectives

The framing of the proposed research topics can be further informed by giving some underlying considerations in accordance to the theoretical basis within which my research will operate is found by drawing on certain aspects from the works on 'structural model of technology' (Orlikowski, 1992), 'digital materiality' (Leonardi, 2010) and the notion of the 'medium as the message' (McLuhan, 1964).

The first underlying basis for the research design evolves around McLuhan's (1964) notion of the medium as the message. This perspective can be used to explore the basis for putting media at a center stage rather than the content that they carry. In this way, media are allotted the possibility of affecting society through itself as a media and not due to content that is delivered over the media (McLuhan, 1964). McLuhan's (1964) popular example of the light bulb highlights that although the light bulb does not have content such as an article or a newspaper as a medium, it can still create a social effect; in terms of providing light at otherwise dark night times. In relation to investigating the media of social media this puts forward an interesting reflection on how the media does not create content but has indeed fostered a social effect resulting in new ways of interacting, new as well as new language and behaviors. The idea in McLuhan's notion of media is that the media have become an extension of our senses and have altered our social world (Croteau and Hoynes, 2003). Different media adopt different characteristics and those characteristics motivate and engage the viewer or user in different ways. A tie can be made between the media as an extension and the point made by Leonardi and Barley (2008) in terms of how the introduction of new media is viewed like the introduction of new technology as something which reworks the balance of our senses and causes us to highlight some at the expense of others. The McLuhan (1964) perspective on media might thus create an interesting angle for looking into the question of how the media become social especially in relation to the characteristics that enable this to happen. Inspiration on how to study the media can also be drawn from the media perspective as the emphasis is on characteristics of the media rather than on the content that processes through the media. The assumptions guiding McLuhan's (1964) ideas of the medium can serve as an interesting starting point for the view of the media in the investigation by allowing a focus on the media in itself rather than the content which it is carrying.

Second, the research approach will draw inspiration from notions found within the topic of digital materiality. Leonardi (2010) presents an overview of different perspectives on how an artifact can be said to be material through 1) matter, 2)

practical instantiation and 3) significance. Out of these three, digital artifacts fail to gain materiality through matter as the lack of physical presence inhibits this. However, the latter two categories of practical instantiation giving an artifact that translates idea into action materiality and significance in accordance with the dependency of value for features on the significance of them provides the digital artifacts with a material justification (Leonardi, 2010). Digital materiality can thus provide the opportunity to look into media role(s) and how they count in accordance to processes of instantiation and significance as digital materials. In following these characteristics and the role of media, the concepts of performativity (Pickering, 2001) and affordances (Gibson, 1986) are drawn upon from a digital materiality perspective to highlight ways of material objects to matter. Performativity (Pickering, 2001) as a concept put emphasis on the material as something that provide people with the capabilities to accomplish goals which opens up for questions concerning what it is that enables this performativity in used by Leonardi (2010) as a tool within the ideas of digital materiality to explore how the enabling characteristics might change from context to context and media to media. Making use of the concepts of digital materiality, performativity and affordances in exploring the first sub question concerning the role(s) of media can thus aid in providing insights into the role(s), which media can assume.

Third, Orlikowski's (1992) structurational model of technology will be considered as a central foundation for investigating the co-evolution between media and social. Drawing on the notion of structuration theory (Giddens, 1976), Orlikowski (1992) introduced the idea of studying the ongoing cycles of use and technology adaption that take place in human-technology interaction. The notion that technology shapes and is shaped by human behavior is visible in some of the reviewed information systems literature; however, the point of departure for approaching research within this topic would be the media and how it evolves through the interactions with humans rather than taking the user perspective. This approach is suggested in Orlikowski's (1996) later work where she opts for studying the media by following ongoing cycles of design-use-modification as a strategy for untangling the relationship between agency, the material and the social as it treats both the material and the social as emerging, evolving and entwined.

4.2 Exploring A Method

The method of investigation could take its outset in the qualitative traditions through focus on observations of the media in order to seek to investigate the notion, which Orlikowski (1996) refers to as 'following the media'. The challenge here is to refrain from adopting the user perspective by focusing on their actions on the media. Rather, focus would be to investigate the way in which the media accommodate as well as challenge the way in which humans act and interact. Inspired by recent opting in IS research to broaden the reporting of such empirical observations the use of storytelling and narration could be explored in order to tackle the method challenges.

(Kendall and Kendall, 2012). Creswell (2007) explains how research seeking to

conduct interpretive research should proceed with work by focusing on multiple perspectives of stories and who tells the stories. Based on this it could be interesting to explore the use of different storylines within the media's interaction with the network and its participants and outline these in order to develop a picture of the media's influence on the evolution of the relationship between the social and the media. The notion of creating a narrative about media can allow for a more complete and complex picture of the situation and further for the same character or media to appear in different storylines and might lead with its findings of circumstances affect the media's sociality. Further, outlining the findings in such a way might also enable a study of the intersections between the different stories and broaden the perspective on how these intersections affect each other and why. Kendall and Kendall (2012) note how the basis of storytelling can be found through seeking different sources of inspiration such as interviews, news articles and informal interactions in order to obtain a framing of the story. This implies adopting a multi-method approach where story lines can be informed by different sources pointing in the direction of which stories should be told. Exploring storytelling as a potential method could allow for the description and interpretation of the entire story in terms of increased awareness of the telling and vividness, the purpose of the story and the order of episodes and chapters (Kendall and Kendall, 2012). The storytelling approach can aid in deciphering some of the mechanisms and patterns that emerge in the media's engagement and actions within a given context. Exploring this approach further could allow for new methods to be developed for how we can carry out such studies of media in an online sphere by exploring the story of the media.

5 Potential Outcomes of the Framed Research

In light of the emerging technological developments and the continuous growth in social media variants and user base, social media have become an emerging field of study but this has to a large extent been from the perspectives of how the users shape and make use of social media platforms. The outcome of the proposed research possibilities can provide a number of potential areas for contributions in line with the highlighted investigation topics discussed in this paper.

First, the look into what roles media take on can provide insight into what part media can play and how it takes part in the shaping and re-shaping of the relationship between humans and technology. Investigating these mechanisms can give an insight into what characterizes social media and broaden the understanding from the views found in the existing literature focusing on social and human roles towards an understanding of the media role.

Second, exploring the co-evolution between the social and the media through following the media can provide not yet established insights into how media affects this process and allow us to explore if these effects actually exist as well as what drives them. The existing focus on the user perspective has, in my opinion, given us valuable insights into some of the reasons for this; however, it can be argued that studying the co-evolution from the media perspective can bring new insight to the social media understanding.

Third, exploring methods for 'how to follow' the media can open up for the creation of new approaches to tackle media studies and in particular to opening the black box of technology which can often be difficult to grasp. Formulations of frameworks for this could be interesting to explore in terms of how the media can be followed both in regards to where to start and which tools and methods can be used to process and work with the empirical findings.

The investigation of social media from a media perspective can allow for the creation of new knowledge about what role and part social media take in those networks within which they operate and exist.

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