


News Sharing in Social Media: A Review of Current Research on News Sharing Users, Content, and Networks

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Abstract

This article provides a review of scientific, peer-reviewed articles that examine the relationship between news sharing and social media in the period from 2004 to 2014. A total of 461 articles were obtained following a literature search in two databases (*Communication & Mass Media Complete* [CMMC] and ACM), out of which 109 were deemed relevant based on the study's inclusion criteria. In order to identify general tendencies and to uncover nuanced findings, news sharing research was analyzed both quantitatively and qualitatively. Three central areas of research—news sharing users, content, and networks—were identified and systematically reviewed. In the central concluding section, the results of the review are used to provide a critical diagnosis of current research and suggestions on how to move forward in news sharing research.

Keywords

literature review, news sharing, social media, social networking services, diffusion of information

Why Study News Sharing in Social Media?

Given today's rapid dissemination of social media platforms such as *Twitter* and *Facebook*, scholars from different fields of studies have investigated those sites and the challenges they pose for society in general, interpersonal relations and psychological well-being, political participation and civic engagement, and for media organizations and online journalism (cf. boyd & Ellison, 2007; Caers et al., 2013; Wilson, Gosling, & Graham, 2012; Zhang & Leung, 2014).

Focusing on the latter, it cannot be ignored that social media recently have become a constitutive part of online news distribution and consumption (cf. Mitchell & Page, 2014b). Additionally, due to their convenient and easy-to-use tools for posting content, social media also simplify and facilitate news *sharing*—both for media organizations and individuals. For the average social media user, this can be done, for example, using the share buttons provided on news sites or by “reposting” or “retweeting” links to news found on a *Facebook* fan page or a friend's *Twitter* feed. Online news sites increasingly rely on these referrals from social media to improve their website traffic, article views, and ultimately their economic success. Therefore, it is quite expectable that all US newspapers with a weekday circulation of more than 100,000 are using social media as an additional

means to distribute their content online (Ju, Jeong, & Chyi, 2014).

Already in 2011, scholars from the *Pew Research Center* concluded that “if searching for news was the most important development of the last decade, sharing news may be among the most important of the next” (Olmstead, Mitchell, & Rosenstiel, 2011, p. 10). Although most visitors still get to online news sites through direct access or search engines, social media referrals have become indispensable for many of them (Mitchell & Page, 2014a, p. 9). Besides its relevance for media organizations, news sharing also alters the way the audience is engaging with news. While individuals' own news sharing behavior may increase their involvement and interest in news topics (cf. Oeldorf-Hirsch & Sundar, 2015), the observation of other people's news sharing activities leads to more (incidental) news exposure and, ideally, to confrontation with other opinions and ideas. Research already suggests

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that social media like *Facebook* and *Twitter* expose segments of the population to news who might not have gotten it otherwise (Mitchell & Page, 2013), which fundamentally changes the way we have to conceptualize and measure news use and exposure in an online environment.

Before proceeding, it seems necessary to clarify the two central terms used in this literature review: *news sharing* and *social media*. As Lampinen (2015) rightly observes, the word sharing is generally not particularly helpful for scientific analyses of social media activities since “[i]t means many different things to many different people” (p. 1). However, we would argue that the term “news sharing” is somewhat more precise because it only focuses on the act of distributing a specific kind of content instead of describing a general social media activity that can involve posting personal pictures, anecdotes, or simply talking about one’s feelings. Thus, we define news sharing as the practice of giving a defined set of people access to news content via social media platforms, as by posting or recommending it. Compared to news sharing, the term social media is a lot more diffuse and often solely used as a generic buzzword (see also boyd, 2015; Papacharissi, 2015). Especially, the distinction between social networking services (SNSs; also referred to as social network[ing] sites) and social media is blurry. While some authors use the terms synonymously, others emphasize that social media are more centered on *content* and that SNSs are more centered on *people* and their networked relations (cf. Fuchs, 2014). In order to account for divergent classifications and definitions, we decided to use the broader term “social media” in this review. Following Kaplan and Haenlein (2010), we define social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (p. 61).

Like social media in general, news sharing in social media is an activity that is recognized by scholars from a wide variety of disciplines. While studies from the information or computer sciences are mostly focused on how the process of news sharing can be used to model or predict popularity, adoption rates, or information cascades, social scientists focus, for example, on the individual effects of sharing news (*psychology*), its implications for political participation (*political science*), or motives of engaging in news sharing (*communication studies*). Besides, economics scholars are discussing how news sharing is related to e-commerce or monetization opportunities for online news media. Of course, the boundaries between the different fields of study are fluid which often leads to an overlapping of disciplines when studying news sharing phenomena.

Due to the high relevance of news sharing for media organizations, news consumers, and, not least, scholars and researchers, the aim of this article is to provide a review of news sharing research by identifying patterns of recent scholarly activities. Although this article provides a social science perspective on the topic and discusses the results of empirical studies against this background, we did not exclude

studies from other fields since they can help to capture news sharing research comprehensively and thus inform future social scientific work. We utilize the results of our review to shed light on current deficiencies and provide insights for future research in the domain of news sharing.

Method

Literature Search Procedure

The articles discussed in this literature review have been obtained by searching the *Communication & Mass Media Complete* (CMMC) and the ACM Digital Library databases. Articles had to have been published between the years 2004 and 2014. There were two reasons for examining this time frame: First, 2004 was chosen as a starting point since (a) *Facebook*—nowadays the largest social media platform worldwide—was launched in this year and (b) earlier founded and already publicly available social media platforms like *LinkedIn* or *Myspace* started to gain popularity and thus scientific interest.¹ Second, 2014 was chosen as the end point because we wanted to include news sharing research trends within *recent* academic discourses. This was also the reason why we not only focused on articles in academic journals (CMMC search) but also included conference proceedings (ACM search) that tend to get published faster and thus presumably reflect ongoing research more appropriately.

To identify relevant articles, we used the keyword “news” in combination with the keywords “social media,” “sns,” “social networking sites,” “social networking service,” “social web,” “web 2.0,” and the names of the 10 most popular social media sites in 2014 (e.g., “facebook,” “twitter,” “pinterest,” and “google+”).² By definition, the keywords had to be part of the article’s abstract. Initial search yielded a total of 461 articles that were collected, read, and classified as relevant or irrelevant for the literature review. Relevant articles, at least to some degree, had to examine the relationship between news sharing and social media, be it theoretically or empirically. Ultimately, a total of 109 articles were found that met this criterion. A total of 56% of these articles were published as conference proceedings and 44% in peer-reviewed journals (see Table 1).

Literature Categorization

Previous literature reviews focusing on social media already described the difficulties to systematically analyze research on the topic (Caers et al., 2013; Wilson et al., 2012; Zhang & Leung, 2014). Methodological and theoretical approaches and research questions and sampling strategies are diverse to a point where it is hard to find categories that adequately fit all articles under investigation. Following Zhang and Leung (2014), we thus divided our analysis into two parts. First, we provide a *quantitative analysis* of manifest content. Second, we conduct a *qualitative analysis* to identify thematic patterns of news sharing research and systemize the results

Table 1. Number of Articles Investigating News Sharing and Social Media From 2004 to 2014.

			Year of publication										Total	
			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		2014
Article type	Conference proceeding	Count	0	0	0	1	1	3	11	9	9	19	8	61
		% ^a	0	0	0	2	2	5	18	15	15	31	13	101
	Journal article	Count	0	2	0	0	1	0	4	6	14	14	7	48
		% ^a	0	4	0	0	2	0	8	12	29	29	15	99
Total	Count		0	2	0	1	2	3	15	15	23	33	15	109
	% ^a		0	2	0	1	2	3	14	14	21	30	14	101

^aDiscrepancies from 100% in total are due to rounding.

obtained in the empirical articles (see below). Categories of the quantitative analysis included (a) article type, (b) locational information (first author's origin, land of interest, and land of data collection), (c) social media platform under investigation, (d) theoretical approach, (e) analytical approach, (f) methodological approach, and (g) primary object under investigation (people, news output [articles and videos], and social media output [e.g., *Facebook* postings, *Twitter* tweets, or user profiles on the respective platform]). These categories were derived from the ones used by Zhang and Leung (2014) and slightly adapted to fit the specific research context. As stated before, we only focused on manifest content for the quantitative analysis and refrained from quantifying the more latent content to do justice to the more nuanced findings.

Results

Quantitative Analysis: Research Objects and Methods of News Sharing Research

The results in Table 1 show that—with a few exceptions—it was not until 2010 that the relationship between news sharing and social media really started to gain academic attention. Research peaked in 2013 with 30% of all investigated articles being published this year. Not surprisingly, data collection started a little earlier: Of all articles providing the year of data collection ($n=78$), the majority of authors (28%) state that data were collected in 2011.

Similar to Zhang and Leung (2014) in the context of SNS research, we find a strong focus on US-American research in the domain of news sharing. A total of 51% of the first authors' affiliated universities or organizations are located in the United States, followed by Australia (6%) and Singapore (5%). Nevertheless, most researchers were not only *interested* in multinational data (76%) but also *obtained* their data from various countries and thus different contexts (52%). However, the focus on English-language data cannot be denied since, for example, tweets or *Facebook* postings in other languages than English were usually not included in the final sample of content analysis studies, and surveys and experiments were to a large extent based on samples from the United States (79%).

Looking at article types, we find that most of the identified articles are empirical articles (89%), while conceptual articles or theoretical essays without empirical foundation (9%) and other article types (2%) are of secondary importance. The quantitative approach was the preferred means of data collection in empirical articles with 86% deploying this approach. A total of 11% combined qualitative and quantitative approaches, and 4% only used qualitative methods. Content analysis was the most frequently used method (57%), followed by surveys (25%), (online-)observations (11%), and experiments³ (7%). Focusing on the primary object under investigation, social media output proves to be the most important (60%) for news sharing researchers, followed by people (33%) and news output (5%). Depending on objects under investigation, the sample size ranged tremendously from 4 (qualitative interviews with news media staff; cf. Stassen, 2011) to more than 3 billion (messages from about 60 million *Twitter* users; cf. Romero, Meeder, & Kleinberg, 2011). Especially, studies deploying automatized data collection (e.g., “crawling” of *Twitter* or *Facebook* data) and classification usually generated huge datasets.

Specific social media platforms were investigated in 71% of all articles. In the context of news sharing, we find *Twitter* to be the most important platform for researchers (69% of the studies investigating a specific platform), far ahead of *Facebook* (17%), *YouTube* (12%), *Digg* (8%), *Flickr* (4%), *Google+* (1%), and other social media platforms (7%). The wide use of *Twitter* for studying news sharing in social media might be explained by the various opportunities for researchers that are offered by this platform in particular. As Bruns and Burgess (2012, pp. 801-802) argue in a conceptual article on research methodologies, *Twitter* offers a promising field of study for news researchers since (a) it is used for first-hand reporting and thus provides access to real-time coverage, (b) additional materials like links or photos can be shared and spread easily, and (c) ongoing discussions about news events are common and facilitated through the structure of the network. Furthermore, *Twitter* provides access to data through its publicly available application programming interface (API) that can be used to monitor user activities, hashtags, or keywords. Due to its open environment, it is much easier to track key users, temporal developments, or communication

Table 2. Key Findings of Quantitative Analysis.

Items	<i>n</i>	Occurrence (%) ^a
Article type	109	Empirical article (89%), conceptual article or theoretical essay (9%), other article types (2%)
First author's origin	109	Top III: the United States (51%), Australia (6%), Singapore (5%)
Land of interest	107	Top III: multinational (76%), the United States (8%), Egypt (5%)
Land of data collection	102	Top III: multinational (52%), the United States (33%), the Netherlands (3%)
Investigation of specific social media platform	77	Twitter (69%), Facebook (17%), YouTube (12%), Digg (8%), Flickr (4%), Google+ (1%), other social media platform (7%)
Theoretical approach	78	Top III: diffusion of information or innovation (39%), theories of social influence (10%), interactivity in general or political participation or uses and gratifications (each 6%)
Analytical approach	85	Quantitative (86%), quantitative–qualitative (11%), qualitative (4%)
Methodological approach	97	Content analysis (57%), survey (25%), (online-)observation (11%), experiment (7%)
Primary object under investigation	97	Top III: social media output (60%), people (33%), news output (5%)

^aPercentages are valid percent and thus only refer to the articles that disclosed the respective information.

networks on *Twitter* than, for example, on *Facebook* where a lot more data are not available for public use.

While there is no global theory for studying news sharing in social media, our analysis shows that many researchers (39%) draw inferences from the *Diffusion of Innovations* (DOI) theory. Rogers (2003) defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (p. 35). Studying the spread of news—as a kind of innovation—from this theoretical perspective emphasizes the importance of (single) users’ influence, network structures, and characteristics of the innovation or content analyzed. Aside from DOI, *Theories of Social Influence* (10%) and the concepts of *Interactivity*, *Political Participation*, and the *Uses and Gratifications Approach* (each 6%) were relevant on a somewhat higher level. (a) Theories of social influence focus on the questions of why and under which conditions individuals’ behavior can be influenced by those around them. Since people tend to follow similar activities as their peers, social influence is believed to play a critical role in recognizing, adapting, and sharing (news) content. Hence, theories of social influence are often used to address the influence of constructs like tie strength or homophily on news sharing behavior. (b) The concept of interactivity, albeit being contested and incoherently defined (Boczkowski & Mitchelstein, 2012; Kiousis, 2002), on the other hand, is mostly used to define news sharing as a specific type of interactivity users can take advantage from. Thus, it mainly serves as a heuristic tool to classify the news sharing process. The same holds true for (c) the concept of political participation. Albeit being a substantive area of interest for scholars, conceptualizations of political participation in contemporary research are manifold and of varying complexity (Lamprianou, 2013). In the context of news sharing, however, political participation is barely used to establish a genuine theoretical approach, rather as a keyword or a potential outcome of sharing news. (d) Finally, the uses and

gratifications approach provides a more concise framework that is actually used to explain news sharing behavior. As an audience-centered approach, it focuses on the perceived gratifications that influence people’s news sharing intention in social media and thus sheds light on motives and inhibitors to share news.

Taken together, our quantitative analysis suggests that a prototypical article on news sharing in social media is empirical and deploys quantitative content analysis on *Twitter* data, was conducted in the United States, and uses DOI theory as the main theoretical approach (see Table 2).

Qualitative Analysis: Thematic Patterns of News Sharing Research

In this section, we summarize the thematic patterns and key issues of news sharing research that emerged from our review of all empirical articles ($n=97$). To identify the main areas of research, the articles were read, summarized, and tagged with distinct descriptors. The procedure led to the identification of three categories—(a) news sharing users or organizations, (b) news sharing content, and (c) news sharing networks—that correspond to central questions in research on the topic. These questions, of course, are not exhaustive, rather serve as examples of efforts in the respective areas of research.

1. *News sharing users or organizations.* For example, what kind of persons and organizations share news in social media and what are the features and characteristics of these groups? What motivates persons and organizations to share news in social media?
2. *News sharing content.* For example, what kind of news content is shared in social media (successfully)? What general sharing patterns can be observed—also, and especially, in specific communication settings (e.g., during natural disasters and political crises)?

Table 3. Areas of News Sharing Research in Empirical Articles.

Area of research	Number of articles	Percentage of total ^a
Users or organizations	36	37
Users or organizations + content	13	13
Users or organizations + networks	13	13
Content	20	21
Content + networks	6	6
Networks	9	9
Total	97	99

^aDiscrepancies from 100% in total are due to rounding.

3. *News sharing networks.* For example, how do general network structures influence news sharing? Do news sharing processes differ between different social media platforms?

Although it was attempted to fit every article in one of the three categories, some studies focused, for example, not only on user characteristics but also analyzed features of the content these users shared or related network structures in equal depth. Thus, we decided to include mixed categories, as shown in Table 3. Altogether, *news sharing users or organizations* were addressed in 63% of the empirical articles, *news sharing content* in 40%, and *news sharing networks* in 28%. For the sake of clarity, the following analysis will be structured along these three main categories. Studies that are relevant for the literature review and fall into one of the mixed categories will be discussed when they fit thematically, that is, results concerning user motives or characteristics in the first category, results concerning content features in the second category, and results concerning network structures in the third category.

News Sharing Users or Organizations—Context, Characteristics, and Motives. Articles on news sharing users or organizations can be divided into three subcategories: (a) news sharing in the context of (online) media use, (b) users' and organizations' attitudes or characteristics and their relation to news sharing behavior, and (c) users' motivation to share news in social media.

Studies that fall into the first subcategory generally only mention news sharing in passing and mainly focus on the use of social media platforms for news *consumption*, information-gathering, and, not least, social media's potential for political participation and civic engagement (e.g., Bachmann & Gil de Zúñiga, 2013; Gil de Zúñiga, Jung, & Valenzuela, 2012; Gil de Zúñiga, Molyneux, & Zheng, 2014; Glynn, Huge, & Hoffman, 2012; Nielsen & Schrøder, 2014; Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010). In these studies, news sharing is perceived as a specific kind of participatory behavior that is dependent on people's individual news use and political interests. It is assumed that news sharing is able to democratize the news flow and to facilitate

thematic discussions about (political) issues. Hence, the main achievement of these studies in the context of news sharing is integrating it into the broader debate about social media and participation and to define its place in the framework of online news use. Naturally, since news sharing is not in the focus of these researchers' activities, specific effects and contextual factors remain unclear.

Attitudes and characteristics of users or organizations that share news in social media are studied quite frequently. While some researchers focus on social media and news sharing strategies of news organizations or journalists (e.g., Lasorsa, Lewis, & Holton, 2012; Navarro-Maillo, 2013; Stassen, 2011; Verweij, 2012), most studies dedicate their attention to the average user and questions about his or her sharing-related features. Features deemed relevant in investigations include (perceived) opinion leadership (e.g., Hu et al., 2012; Ma, Lee, & Goh, 2013, 2014; Wu, Hofman, Mason, & Watts, 2011), tie strength and homophily (e.g., Bakshy, Rosenn, Marlow, & Adamic, 2012; Choudhury, Sundaram, John, Seligmann, & Kelliher, 2010; Ma et al., 2013, 2014; Susarla, Oh, & Tan, 2012), activity on the social media platform (e.g., Choudhury et al., 2010; Ferrara, Interdonato, & Tagarelli, 2014; Horan, 2013), number of followers or friends (e.g., Bakshy, Hofman, Mason, & Watts, 2011; Hong, Dan, & Davison, 2011; Wu et al., 2011), and news and content preferences (e.g., Hermida, Fletcher, Korell, & Logan, 2012; Himelboim, Hansen, & Bowser, 2013; Lehmann, Castillo, Lalmas, & Zuckerman, 2013; Romero et al., 2011; Rosengard, Tucker-McLaughlin, & Brown, 2014; Sun, Rosenn, Marlow, & Lento, 2009; Weeks & Holbert, 2013). The results of these studies suggest that people who share news in social media perceive themselves as opinion leaders and tend to have lots of friends or followers. They usually have a rich media diet and use multiple sources for information purposes. Furthermore, people who read news via social media and/or follow news organizations and people with a positive attitude toward sharing seem to be more likely to actually engage in news sharing (e.g., Rosengard et al., 2014; Weeks & Holbert, 2013; Yang, Chang, Hsiao, & Chen, 2014). But also more situational factors can influence news sharing behavior. For example, Berger (2011) found that emotional arousal increases the likelihood of sharing news. Hence, it can be assumed that content that excites

(a lot of) users is more likely to spread and gather public attention (see also *News Sharing Content*). Looking at the influence of attitudes on news sharing behavior, findings are mixed. While An, Quercia, and Crowcroft (2013) find that people predominantly share like-minded news articles while avoiding the sharing of conflicting ones, Morgan, Lampe, and Shafiq (2013) conclude that such behavior is rare. Especially, users who often share news seem to actively include news from media organizations with ideologies that differ from their own.

Closely related to attitudes and characteristics of users who share news in social media are the motivations that drive their behavior. Basically, these motivations can be divided into self-serving motives, altruistic motives, and social motives. First of all, people share news to gain reputation (and/or followers), to draw people's attention, and thus to attain status among peers or other users (e.g., boyd, Golder, & Lotan, 2010; Lee & Ma, 2012; Ma, Lee, & Goh, 2011). Other self-serving motives like entertainment or escapism were studied as well (e.g., Lee & Ma, 2012; Ma et al., 2011), but results suggest that news sharing is generally not perceived to fulfill entertainment needs or to help escaping from daily routines. Information sharing—as the central altruistic motive—however, seems to be one of the main drivers (e.g., boyd et al., 2010; Holton, Baek, Coddington, & Yaschur, 2014; Small, 2011). Nevertheless, as Holton and colleagues (2014) point out, people who *share* information may also be *seeking* information which makes the news sharing process at heart a reciprocal one. This is also reflected in the need to interact with others through sharing news as indicated by motives like socializing and getting social approval (e.g., Hanson & Haridakis, 2008; Lee & Ma, 2012; Ma et al., 2011).

In comparison to studies on news sharing content and news sharing networks, studies on news sharing users or organizations are the ones with the most comprehensive theoretical embedding. Theoretical approaches most frequently applied include the uses and gratifications approach and DOI theory. Due to the focus on investigating people—instead of news or social media output—and utilizing surveys or experiments, sample sizes are comparatively small. However, the focus is generally not so much on analyzing big data but to gain an understanding of news sharing as a micro-level process.

News Sharing Content—Success Factors and General Patterns.

Most researchers who focus on news sharing content are investigating the factors that facilitate effective sharing, that is, they study the characteristics of news articles, videos, or blog posts that passed through a successful dissemination process. Studied factors include both genuine *content-related* factors (e.g., valence, interestingness, issues, or topics discussed) and factors related to *form or presentation* (e.g., article ranking and availability of recommendations).

Considering the first type of factors, results of the investigated articles suggest that content with a positive valence is shared more often (e.g., Bakshy et al., 2011;

Berger & Milkman, 2010, 2012). Thus, news content that elicits positive or pleasant feelings is more likely to spread than negative and neutral content. However, valence is not the sole driver as it interacts with arousal (Berger & Milkman, 2010, 2012). More arousing content—regardless if positive or negative—is shared more often (see also Berger, 2011). Furthermore, content that is deemed interesting (Bakshy et al., 2011) originates from a trusted source (Bandari, Asur, & Huberman, 2012) or contains high informational value news factors like controversy, relevance, or unexpectedness (Rudat, Buder, & Hesse, 2014), shares a positive relation with sharing news content. Besides, Boczkowski and Mitchelstein (2012) point to the influence of external factors that can affect the spread of news content. They found that during periods of heightened political activity, public affairs content (featuring politics, government, or economics) is shared more often than nonpublic affairs content (featuring entertainment, sports, or crime). Hence, it seems valuable to not only study the characteristics of the content but to take relevant environmental and external influences into consideration.

The second type of factors, related to form or presentation, also plays a significant role when it comes to the question of what news content gets shared in social media. Not surprisingly, the ranking or placing of an article on a given website affects its sharing probability (Berger & Milkman, 2012): Articles that are placed more prominently have a higher chance to be shared. Moreover, implicit and explicit online recommendations like article ratings, comments, or view counts might be influential when it comes to sharing news. For example, Li and Sakamoto (2014) found that exposing people to information about the collective likelihood of sharing positively influences their own sharing intention. Again, this points to the importance of considering the contextual cues surrounding a given content.

In the context of news sharing content, researchers furthermore dealt with the question of what sharing patterns can be observed in specific communication settings—be it during political crises like the Arab Spring 2011 (Fahmy, 2012; Papacharissi & de Fatima Oliveira, 2012) or the post-election protests in Iran 2009 (Zhou, Bandari, Kong, Qian, & Roychowdhury, 2010), during health-related crises like the famine crisis in Somalia (Cooley & Jones, 2013) or the swine flu (Kostkova, Szomszor, & St. Louis, 2014; Szomszor, Kostkova, & Louis, 2011) or in more or less routine communication phases of specific organizations (e.g., information sharing of city police departments in the United States, Heverin & Zach, 2010). The overarching purpose of these studies is to determine what types of news and information are shared in such communication settings, identify trends and patterns, and investigate how different people and organizations use (the logic of) social media to spread their messages. Results show that, especially during crisis situations, news are shared for information purposes (state of affairs, current problems, or achievements), to organize

offline activities and protests, to gain specific information from the “crowd” or to promote own interests.

In the context of news sharing content, theories of social influence and, once again, DOI theory emerge as the most used theoretical approaches. Due to the focus on content characteristics and the resulting possibility of automated content or sentiment analysis, the datasets are considerably larger than the ones in studies on news sharing users or organizations. While the studies in the first category mostly inform us about the *why* (reasons, motives, and gratifications) and implications of sharing news in social media, the studies discussed in this second category help to understand *what* kind of news content is shared.

News Sharing Networks—Structures and Differences Between Social Media Platforms. Research on news sharing networks is highly focused on technological aspects and thus dominated by scholars from the computer and information sciences. Hence, the analyzed studies try, for example, to uncover topological or temporal characteristics of news sharing (e.g., Kwak, Lee, Park, & Moon, 2010; Peng & Marculescu, 2013), develop models or algorithms to predict news sharing cascades in social media (e.g., Goyal, Bonchi, & Lakshmanan, 2010; Lerman & Galstyan, 2008; Myers, Zhu, & Leskovec, 2012), or investigate how independent decisions by social media users ultimately lead to distinct network structures and sharing characteristics (e.g., Hu et al., 2012; Kim, Newth, & Christen, 2014). In this area of research, the term “network” is used to refer to two related but nonetheless distinct phenomena. First, the term “network” is used to describe a *social structure* consisting of various social actors who are connected through relationships of different strengths and densities. These (social) networks, of course, can also be studied on social media platforms but are generally applicable to all kinds of individual or organizational relations. Second, the term is used to describe SNSs and thus the particular characteristics and structures of social media platforms.

While *Twitter* generally plays a particularly important role in news sharing research (see above), studies investigating news sharing networks seem to be almost exclusively focused on this platform. All but one (Lerman & Galstyan, 2008, focused on *Digg*) of the nine studies that solely investigate news sharing networks at least partially investigate *Twitter*. Again, this may be due to the fact that *Twitter* is the most accessible platform for scholars: “Twitter with its open API to crawl, one-sided nature of relationship, and the retweet mechanism to relay information offers an unprecedented opportunity for computer scientists, sociologists, linguists, and physicists to study human behavior” (Kwak et al., 2010, p. 600).

On *Twitter*, several aspects seem to be relevant when it comes to the constitution of social (sharing) structures: users acting as *influencers* (initially sharing news content) and users acting as *spreaders* (re-sharing the

content), followed-by-relationships and the depth of these relationships, influence from other social media platforms and external influences. Especially, the influence from other platforms deserves attention since it is overly simplified to assume that diffusion processes only originate and occur within the realms of a single social media platform. Some authors already have addressed this issue and investigated the interconnectedness of different (social) media in the Internet and the diffusion patterns that emerge from these connections (Jain, Rodrigues, Magno, Kumaraguru, & Almeida, 2013; Kim et al., 2014; Myers et al., 2012). Jain et al. (2013) termed the diffusion process from one social media platform to another *cross-pollination*—analogous to the biological process—and studied its characteristics. They found that (a) cross-pollinated networks follow the topological and temporal logic of the target platform (i.e., the one to which the information diffuses), (b) content popularity on the source platform does *not* predict popularity on the target platform, and (c) the target platform benefits more from cross-pollination networks than the source platform since traffic and user activity stay in the target platform once the content diffused.

These findings already point to the importance of identifying underlying network structures of social media platforms in order to understand news diffusion dynamics properly. Explicitly addressing this, Lerman and Ghosh (2010) studied how distinct network characteristics of *Twitter* and *Digg* influence the spread of news stories. While the sites differ considerably in terms of functionality and graphical user interface, they indeed follow similar diffusion dynamics. On both sites, the spread of news is mostly caused by watching the activities of befriended users and further distributing the content these friends provided. Nevertheless, the authors found that the *Twitter* network is less dense than the *Digg* network and that news stories at first spread slower than on *Digg*, but that the spread is more enduring and the news stories generally penetrate the network in more depth. Although other studies also examine sharing and spreading dynamics that are connected with the structure of the social media platform (e.g., Bakshy, Karrer, & Adamic, 2009, for *Second Life*; Ferrara et al., 2014, for *Instagram*; Sun et al., 2009, for *Facebook*), more research, and especially more research that explicitly focuses on *news* sharing, is needed to further our understanding of network structures on news sharing dynamics.

Scholars investigating news sharing networks and disclosing their theoretical approach solely refer to DOI theory. Although this might suggest an unambiguous and clear theoretical orientation, these studies are, in fact, largely atheoretical in their general orientation and mainly use DOI theory to *classify* their research approach. However, this should not be interpreted as an accusation since, as stated before, the field of news sharing networks is dominated by computer and information scientists whose priorities do not lie in theory building. However, these studies have by far the largest sample sizes and thus help to understand news sharing as a macro-level process.

Moving Forward in Studying News Sharing: Diagnosing Current Research

Scholars from a wide variety of fields and disciplines, ranging from information technology, economics, and marketing to psychology and communication, have recognized the increasing importance of news sharing in social media. By providing a comprehensive literature review of news sharing research in the period from 2004 to 2014, we tried to uncover general research patterns and trends in scholarly activities on the topic.

However, because efforts to understand news sharing processes are widespread, it is challenging to cover every aspect thoroughly. Thus, one limitation of our literature review arises from the heterogeneity of research objectives and measures, which renders comparisons difficult. Other limitations are related to our search procedure. In choosing to only include articles that could be found with a predefined set of keywords, it is possible that we omitted some articles that would also have been relevant for the literature review. While we tried to account for publication bias by also including conference articles, we nevertheless ignored other sources such as unpublished research articles or dissertations. Besides, by only focusing on articles in peer-reviewed academic journals and conference articles, we were not able to cover research that was presented in edited volumes or monographs.

Despite these limitations, we think that our review provides useful guidance for researchers. In this concluding section, we seek to take the results of the review one step further by providing a critical diagnosis of current news sharing research. By doing so, we also offer suggestions on how scholars could move forward in news sharing research.

Diagnosis 1: Discrepancy Between Altruistic Democratizers and Self-Serving Status Seekers

Current research on news sharing user characteristics appears to be rather contradictory. On one side of the spectrum, we find the almost inevitable “utopian rhetoric that surrounds new media technologies” (Papacharissi, 2002, p. 9), praising the ability of news sharing to democratize the news flow and to facilitate political participation or civic engagement. While this is mainly a theoretical concept—publicized in articles that focus on the general potential of social media—the ideal of the news sharing user as an *altruistic democratizer* is to some extent also backed up by empirical studies (e.g., boyd et al., 2010; Holton et al., 2014). These studies found the need to share important information with others and to actively participate in the news flow to be central motives of sharing news in social media. Research on content characteristics also supports this ideal type by identifying factors like source credibility and a high informational value as drivers of news sharing (e.g., Bandari et al., 2012; Rudat et al., 2014). Taken together, this line of research

emphasizes the potential of news sharing to facilitate online political discussion and to extend users’ opportunities of civic expression. On the other side of the spectrum—and backed up stronger by empirical evidence—the picture of the *self-serving status seeker* emerges. Studies show that the typical user who shares news in social media possesses many characteristics that Rogers (2003) used to describe the ideal type of “early adopters” in DOI theory (p. 282 ff). Hence, they are (or at least *perceive* themselves as) opinion leaders, often approached by their well-developed social networks for advice or information and comfortable in adopting new ideas and technologies. Seeking status, gaining reputation, and drawing people’s attention to one’s own views and ideas (e.g., Lee & Ma, 2012; Ma et al., 2011) are the main motivations of news sharing that can be ascribed to this ideal type. Hyperbolically speaking, news are shared by people who want to openly express their own opinions, are prone to social appreciation, and crave for improving their image.

Albeit, of course, the studies mentioned in the literature review do not explicitly establish the described dichotomy, the general impression of these two extremes emerges nonetheless. A reason for this might be that current research either argues theoretically *or* solely focuses on people who actually share content. To close the gap, however, it would be valuable to study people who do *not* share news or even *refuse* to do so. While there is already some research on such motivations regarding disclosure of personal information in social media (e.g., Forest & Wood, 2012; Taddicken, 2014; Van Gool, Van Ouytsel, Ponnet, & Walrave, 2015), the inhibitors of sharing news are yet to be uncovered. Is it simply because people have no interest in sharing generally? Or do social norms within one’s network, personality traits, or presumptions about (news) interests of one’s social media audience discourage people to share news content? Since the demographic characteristics of news consumers on different social media platforms are quite diverse—*Twitter* news consumers are generally younger and *Facebook* news consumers are significantly more likely to be females (Mitchell, Holcomb, & Page, 2013, p. 6)—it seems especially important to consider the usage of specific platforms in this context. Studying the inhibitors of news sharing certainly could help to mitigate the current discrepancy.

Diagnosis 2: Process Positivism and the Focus on Successful News Sharing

Looking at studies on news sharing content, the blind spot is quite the same as the one described in the first diagnosis. While we already have some knowledge about *success factors*, that is, news content that gets shared often or spreads fast, unsuccessful or failed content, at the moment, is essentially an unspecified mass. Thus, the problems of traditional diffusion research repeat as the so-called pro-innovation bias (cf. Rogers, 2003, p. 106 ff; Rogers & Shoemaker, 1972) right now also applies to the study of news diffusion in social

media. Thus, we see *process positivism*, defined as the accentuation of successful sharing processes, as one of the central issues in news sharing research that needs to be addressed. Of course, this is also a methodological issue since it is much easier and requires fewer amounts of data to study a successful sharing process in retrospective than to track unsuccessful ones from the very beginning. As Rogers (2003) put it, “Successful diffusion leaves a rate of adoption that can be retrospectively investigated by diffusion researchers, while an unsuccessful diffusion effort does not leave visible traces that can easily be reconstructed” (p. 110). But how might we overcome this process positivism? First, we need to move away from selective post hoc data gathering and develop methods to study news sharing processes comprehensively. This could be done, for example, by extracting all published articles (and sharing information) of a given news website over a fixed period of time. Then, we would not only be able to detect articles that did not get shared in social media and compare their characteristics with the ones that were shared successfully but also to conduct case-related news sharing investigations. Such a procedure could also help to determine whether factors exist that inhibit news sharing generally or whether it is greatly dependent on the specific news article.

Diagnosis 3: News Sharing Networks and Theory Building as Blind Spots

As stated before, news sharing networks are mostly studied from an information theoretical point of view, whereas the social science perspective is almost completely missed out. Like Zhang and Leung (2014) already noted in their literature review on SNS research, we thus need to emphasize the *role of networks* more thoroughly—both in terms of social structures and characteristics of social media platforms. If a user decides to share a given news content (or not) cannot simply be explained by his personal traits or the features of the content. Instead, both his personal social network (as represented by his followers, friends, and the person and organizations he follows) and the fundamental structure of a certain social media platform with its specific interface, network extensity, and composition need to be considered more. The reason for the current lack of network investigations in the social sciences might, at least partially, be explained by the fact that the knowledge about the methods and techniques necessary to analyze network data is thus far underdeveloped. If social scientists want to keep up with current developments associated with “big data,” sharing cascades or measurements of online influence, training opportunities, and programs need to be designed and, if possible, institutionally embedded. Besides, researchers should try to address the current *Twitter*-centric bias. Albeit the reasons for focusing on *Twitter* are quite evident (data are comparatively easy to collect, retweeting option facilitates the tracking of content origin, strong focus on news in the “*Twittersphere*,” etc.), scholars should not ignore other social media platforms. Due to different

network structures, sharing mechanisms, and, not least, user demographics and characteristics, research sure would lose depth and validity if it continues to stay solely focused on *Twitter*. As Gillespie (2015) points out, social media platforms “have distinct consequences for what users are able to do, and in fact do,” thus shaping social dynamics and discursive structures. The consideration of diverse social media platforms, of course, is relevant not only for the social sciences but also for research on news sharing in general.

The *call for more theory* in news sharing research, on the other hand, is particularly directed to social scientists. While scholars from the computer and information sciences obviously do not focus on social scientific theory building and only mention theories like DOI to classify their research, the efforts to explain, interpret, or contextualize the observations made using social scientific theories are generally too small. Since news sharing touches on many areas of interest and can only be explained by considering user, content, and network characteristics, a broad theoretical basis is needed that, for example, integrates theories of social influence, DOI theory, the uses and gratifications approach, or social network theory. Hence, our task is to engage more thoroughly with theory when researching news sharing in social media. Of course, this also means that the existing canon of theories needs to be reconsidered and adapted to fit the process of news sharing. Developing a coherent theoretical model would help the field to gain interpretative strength and to elucidate the broader societal implications of sharing news in social media.

Diagnosis 4: Too Little (Cultural) Context

The general *lack of context* can be attributed to (a) the small amount of qualitative and situation-related research, (b) the neglecting of external influences that might affect news sharing, and (c) the current US-centric bias. First, as our review has shown, the amount of qualitative research is astonishingly low (only 4% in our sample) which seems especially problematic when studying news sharing *users*. Surveys on motives on characteristics only rely on predefined categories that—although derived from previous studies on media usage motives—might not be able to cover all aspects that are relevant in determining why people share news. In-depth interviews would give respondents the opportunity to further develop their thoughts and provide reasons for their individual sharing behavior. These data, then, could also be used as a basis to conceptualize and refine quantitative investigations. Furthermore, more behavioral “snapshots” would certainly be valuable. For example, mobile experience sampling method (MESM) could help to collect more reliable data on sharing behavior (cf. Karnowski, 2013). MESM is a sampling method that asks respondents to report about their experiences in real time and thus allows researchers to obtain data that are much closer to the studied context than regular surveys (for studying location sharing on social media, see,

for example, Abdesslem, Parris, & Henderson, 2010). The widespread use of smartphones makes it possible to reach people in their everyday lives and hence provides researchers with in situ access to certain populations and their actions. Instead of asking, “Have you shared news articles before?” it is possible to get more specific (e.g., “Have you shared a news article in the last hour?”) and to ask detailed questions about features of the shared content and the situational context. Second, research on news sharing *content* should focus more on situational and contextual factors as well. Political situation, recent news agenda or seasonal influences, and direct and indirect social information like ratings or user comments could be influential in determining sharing probability. Lünich, Rössler, and Hautzer (2012) describe the orientation on other users’ actions (e.g., liking, rating, and commenting) as “social navigation” and present a case study that illustrates the empirical relevance of this phenomenon in an online environment. Their results and first studies explicitly focusing on news sharing (cf. Li & Sakamoto, 2014, also see above) offer good reasons to believe that news articles not only get shared because of their actual content but due to controversial user comments or ratings that were published alongside. Third, and finally, news sharing research has primarily been developed in the United States and thus largely ignored other cultural contexts. Among our sampled articles, there were only a few that addressed other countries and almost none that discussed possible cultural differences or actually made cross-country comparisons. Thus, we would like to encourage researchers to take the investigations one step further and expand them to multiple countries and cultural settings.

Diagnosis 5: Need to Keep Up With the Evolving Media Ecology

The main challenge over the course of the next few years for news sharing research will be to keep up with recent and rapidly changing media developments, especially those regarding mobile and visual communication. Preliminary analyses show that the chat application *WhatsApp* can be a major traffic driver for news sites and, not surprisingly, a lot of news sites recently already added a *WhatsApp* sharing button to their collection of social media sharing shortcuts (Benton, 2014). With the predicted rise of wearables like the *Apple Watch*, it is also likely to assume that news media organizations will tailor their content according to this new media environment that is characterized by an even smaller screen, even more immediacy, and even more attention battling (Riley, 2015). The success of photo-sharing social media platforms like *Instagram* and *Pinterest*—and their increasing use by established media organizations like *NBC News*, *CNN*, or *Al Jazeera*—furthermore calls for research on the role of visual cues in news sharing processes. Since mobile media and new devices and applications change the way people consume and engage with news, it is also likely that it affects the way people share news in the future. This

calls for new methods, sampling techniques, and, not least, theoretical enhancements.

Although we are already beginning to see efforts in further advancing our understanding of news sharing in 2015—be it by studying the influence of message and personality attributes on news sharing (Bobkowski, 2015), the effects of news sharing on involvement and feelings of influence (Oeldorf-Hirsch & Sundar, 2015), or its impact on network heterogeneity (Choi & Lee, 2015)—our general diagnosis still holds true. Future research in news sharing needs to (a) address the discrepancy between altruistic democratizers and self-serving status seekers, (b) overcome process positivism and the concentration on successful news sharing, (c) focus more on news sharing networks and theory building, (d) integrate (cultural) contexts, and (e) keep up with the ongoing media change. Especially, the last point seems crucial considering latest numbers and developments in the context of social media and news use. In June 2015, the *Reuters Institute for the Study of Journalism* released its “Digital News Report 2015,” showing a further strengthening in the role played by *Facebook* in accessing, discussing, and sharing news content. With the launching of “Instant Articles” in May 2015—a tool for news outlets that allows to distribute news content faster and in a more interactive way in the *Facebook* app—*Facebook* is trying to further expand its leading role as a news hub. Besides, news organizations are increasingly starting to use *Snapchat* to bring content to a mobile and young audience (Shaw & Barron, 2015).

Keeping an open eye on such developments will help us to learn more about the driving forces behind news sharing and further challenge our ability to handle (big) data, measure engagement with news, and develop flexible but suitable theories. While doing so, it is crucial for researchers to remember that social media are highly dynamic systems that will constantly require scholarly attention, analysis, and response.

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Notes

1. boyd and Ellison (2007) described the time from 2003 onward as the one in which social media platforms “hit the mainstream” (p. 216). In 2004, especially *Myspace* was getting more and more members due to growing numbers of teenage users (boyd and Ellison, 2007).
2. To identify the 10 most popular social media sites, we considered the *eBizMBA Rank* that utilizes the *Alexa Global Traffic*

Rank and the US Traffic Rank from *Compete* and *Quantcast* (see <http://www.ebizmba.com/>).

- Strictly speaking, of course, an experiment is not a method but a research design, that is, surveys, content analyses, or observations can all have an experimental design. However, since Zhang and Leung (2014) also used this classification and we wanted to explicitly show how many studies focused on the effects of news sharing, we subsumed experiments under the category methodological approach.

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