A LITERATURE ANALYSIS ABOUT SOCIAL INFORMATION CONTRIBUTION AND CONSUMPTION ON SOCIAL NETWORKING SITES

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Recommended Citation
Wenninger, Helena; Lee, Zach W. Y.; Cheung, Christy M.K; Chan, Tommy K.H.; and Wong, Randy Y. M., "A LITERATURE ANALYSIS ABOUT SOCIAL INFORMATION CONTRIBUTION AND CONSUMPTION ON SOCIAL NETWORKING SITES" (2016). Research Papers. 11.
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A LITERATURE ANALYSIS ABOUT SOCIAL INFORMATION CONTRIBUTION AND CONSUMPTION ON SOCIAL NETWORKING SITES

Research Paper

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Abstract

Social networking sites (SNSs) have emerged as a center for daily social interactions. Every day, millions of users contribute information about themselves, and consume information about others on SNSs. In recent years, we have witnessed a growing number of studies on the issue of social information contribution and consumption behaviors on SNSs. This paper aims to provide a systematic literature review on this topic across different disciplines to understand the current research state and shed light on controversial findings of SNS usage regarding users’ well-being. We identified 126 relevant articles published between 2008 and 2014, and provide an overview of their antecedents and associated outcomes. Our analysis reveals that a majority of existing work focused primarily on social information contribution, its antecedents and favorable outcomes. Only few studies have dealt with contribution behavior and the dark sides of SNS use. Nevertheless, we could identify different characteristics of social information determining the favorability of contribution behavior. Further, we categorized the scarce papers of consumption behavior regarding the social information characteristics and identified different underlying processes: social comparison, monitoring and browsing. These findings contribute to the Information Systems (IS) discipline by consolidating previous knowledge about SNS usage patterns and individual well-being.

Keywords: social information contribution, social information consumption, social networking sites, literature analysis.
1 Introduction

Social networking sites (SNSs) have emerged as a digitally mediated experience for daily social interactions (Bodker, Gimpel and Hedman 2014; Yoo 2010). Every day, millions of users contribute information and consume social information on these online social networks. Some users actively contribute information to the sites by updating their status, posting photos etc. that reflect their thoughts and feelings; some enjoy consuming information that fulfils their various needs by just viewing profiles of friends and the news feed (which includes constant updates on status, photos, videos, links, app activity and likes from networked contacts). Social information behavior has become one of the most important phenomena in today’s networked society. Contribution and consumption of social information is the lifeblood of social networking site that keeps it prosperous (Zeng and Wei 2013). Not surprisingly, in one of the most popular SNSs, Facebook, more than 4.75 billion pieces of social information are generated from users daily (Libert and Tynski 2013).

Understanding social information contribution and consumption behaviors is vital to the success of social networking sites. It helps us to estimate society consequences of a medium that has reached the mainstream and should receive timely scholarly and societal attention. Indeed, increasing scholarly interest in the phenomenon has been demonstrated by the exponential growth of published studies in recent years. Research articles were found in multidisciplinary research, including information systems, psychology, communication, media, and social science literature. A preliminary review of these studies also revealed that the scope of published studies on social information behaviors on SNSs is large and fragmented. We believe that a systematic synthesis and consolidation of existing literature is needed to understand the current research state and to guide future investigation into this networked society issue. Scholars in the IS field have echoed time and again the importance of having a benchmark from which to track the status of an emerging discipline that is based on a systematic review of published research articles rather than conventional wisdom (Alavi and Carlson 1992; Webster and Watson 2002). Therefore, this study aims to: (a) provide a narrative review of the extant research on social information contribution and consumption behaviors on SNSs, including an in-depth look into the theoretical foundations, characteristics of contributed and consumed information, as well as antecedents and outcomes of these behavior patterns; and (b) analyze existing research, noting underlying mechanisms that could explain conflicting findings, and identify research gaps, thereby allowing us to shed light on future research directions.

We organized the paper as follows. In the next section, we described the literature identification and selection procedures, and performed preliminary analysis on social information articles. We then classified relevant articles into social information contribution and consumption behaviors, and summarized the theoretical foundations, social information characteristics as well as antecedents and outcomes, and for each behavior. Finally, we concluded the paper with a discussion on major observations, theoretical and practical implications, limitations, and future research directions.

2 Literature Identification, Selection and Analysis

2.1 Social information definition

In this paper, we rely on the formal definition of SNS from Kaplan and Haenlein (2010 who specify SNS as “applications that enable users to connect by creating personal information profiles, invite friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other.” Our study focuses on the contribution and consumption of user generated social information on SNSs. Following Salancik and Pfeffers’s (1978) definition, social information refers to information from people’s social environment that is used to evaluate one’s self and one’s position. In the SNS context, social information subsumes personal information reflecting a rich collection of
social context typically expressed via status updates, photos, and conversations (Burke et al. 2010), information of visible social connections in the friends or contact list (Karakayali and Kilic 2013), and information about others (Ramirez and Bryant 2014). Therefore, only information about users' behavior, thoughts and feelings evaluated as relevant are considered and information generated by organizations and companies (e.g., marketing information and educational messages) is out of the scope in this study. Since the focus in our paper is on behavioural studies, it does not include work around Big Data, information flow and information technology use in general.

2.2 Literature identification and selection

We used a two-stage approach to identify relevant articles on social information contribution and consumption behaviors on social networking sites (Webster and Watson 2002). This approach provides a systemic guideline for our literature search and identification, thereby reducing data collection bias (Sussman and Siegal 2003; Tranfield et al. 2003).

In the first stage, we identified articles addressing social networking site uses. We targeted academic and peer-reviewed journals as data sources because they are generally considered as validated knowledge that influences the academic and business fields (Podsakoff et al. 2005). We used two methods to identify relevant articles. First, we conducted a systematic search in the following electronic databases: ABI/INFORM Complete (ProQuest), Academic Search Premier (EBSCO), Communication Abstracts, Communication & Mass Media Complete, Education Resources Information Center (ERIC), Sociological Abstracts, PsycARTICLES, and PsycINFO. Given the variety of terminology describing social networking site and its usage behaviors, we conducted the literature search based on a range of keywords including “social network* site*”, “social network* web site*”, “social network* website*”, “online social network*”, “Facebook”, and “Twitter”. Since we are interested in understanding the current research and dynamics behind social information contribution (in contrast to purely informative news), the choice of our key words covers social networking sites, because they are organized around personal user profiles and focus on social network relationships. In contrast, the term online community is often subject to knowledge exchange (e.g. Wikipedia) and created for specific topics (e.g. Quora) (see Johnson, Safadi and Faraj 2015) and therefore has not been included in our keyword selection. Second, we conducted a manual search in eight leading IS journals in the senior scholars' basket of journals (i.e., Management Information Systems Quarterly, Information Systems Research, Journal of Management Information Systems, European Journal of Information Systems, Information Systems Journal, Journal of Information Technology, Journal of Strategic Information Systems, and Journal of the Association for Information Systems) to ensure that no major IS articles were neglected. We identified an initial set of 5381 articles published since 2004 addressing social networking sites.

In the second stage, we applied inclusion and exclusion criteria to the initial set of articles to ensure that only relevant and appropriate articles are included in subsequent analyses (Webster and Watson 2002). Inclusion criteria included the following: (1) social networking site was the main focus of investigation, (2) the study was empirical and individual-level in nature, and (3) the study examined social information contribution and/or consumption behaviors. Exclusion criteria included the following: (1) the study focused on social media or information communication technologies in general, (2) the study examined general social networking site uses (e.g., frequency and duration) without specifying the actual social information contribution and consumption behaviors, and (3) the study focused on a specific target group like deaf users, patients etc. 126 articles were selected for subsequent analyses after the application of inclusion and exclusion criteria.

2.3 Preliminary analyses

To provide better insights into the social information behaviors on SNSs, we performed preliminary analyses on the selected articles and classified them by year, quantity, subject area, and topic area.
2.3.1 A timeline of research on social information behaviors on SNSs

We identified 126 relevant articles published between 2008 and 2014. Published articles on social information behaviors on SNS first appeared in 2008, and then increased steadily over years. The number of publication was small in the earlier years (i.e., 2008-2011), but had a significant increase in 2012 and the years afterward. There were 104 journal articles published between 2012 and 2014, indicating that the phenomenon has received increasing scholarly attention from multiple disciplines. Specifically, researchers from the psychology discipline (49 papers) have devoted significant effort into the investigation of social information behaviors on SNSs, followed by researchers from the information systems discipline (21 papers), and media and communication journals (10 papers). The remaining pieces of articles were found in journals of other multiple disciplines.

2.3.2 Social information behaviors on SNSs

Following the categorization advocated by Zeng and Wei (2013), we classified the selected articles on social information behaviors on SNSs into two main categories, information contribution and information consumption behaviors. The largest group built the papers dealing with information contribution with 112 published journal articles. These works contain behaviors like for example, contribution behavior, content creation, social sharing, posting, disclosure, self-presentation etc. Social information consumption papers were scarce with only 17 papers dealing with browsing, reading or monitoring behavior on SNSs. Three papers investigated both behavior patterns; therefore, the total amount of papers reaches 126.

3 Social information behavior and related constructs

Section 3.1 focuses on previous studies dealing with social information contribution behavior on SNSs, theoretical foundations, social information characteristics antecedents, and associated outcomes. We use the terms social information contribution and content contribution synonymously below. The high selectivity and asynchronous nature of self-presentation has influence on what information other users encounter while browsing an SNS. In analogy, we analyze content consuming behavior in section 3.2.

3.1 Social information contribution behaviors on SNSs

To get a better understanding of the context of studies investigating social information contribution behavior, we give an overview about applied theories and investigated social information characteristics in section 3.1.1. In the next section 3.1.2, we take a close look at associated antecedents and outcomes of content contribution papers. Table 2 displays the accumulated results of the analysis of 112 papers. Numbers in squared brackets refer to the respective paper. Finally, we analyzed underlying processes with regard to the contributed social information in section 3.1.3.

3.1.1 Theoretical foundation and social information characteristics

The first observation is that there is no comprehensive theory used by a majority of authors to explain content contribution behavior on SNSs. Our review showed that applied theoretical backgrounds are heterogeneous with the uses and gratifications theory (Hollenbaugh and Ferris 2014) topping the list of most implemented theories explaining antecedents (6 papers). The communication privacy management theory built the theoretical foundation of three investigated papers in the privacy context (3 papers). Social capital theory (9 papers), and self-disclosure literature (9 papers) as well as Goffman’s (1959) impression management theory (4 papers) have been used as theoretical foundation to explain associated outcomes.
Interestingly, nearly one third of the articles did not build their investigation on a specific theoretical foundation (35 papers). While most other authors borrowed further theories from social science research like commitment theory (Chen et al. 2013), theory of mind (Bae et al. 2013) or Bandura’s social relation theory (Robbin 2012), up to now, no SNS-specific theories on social information contribution behaviors have been developed and tested. See table 1 for an overview.

<table>
<thead>
<tr>
<th>Theory</th>
<th>Antecedents</th>
<th>Outcomes</th>
<th>Social Information Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Technology acceptance model (TAM) [12,15,77]</td>
<td>Self-disclosure context [7,8,19,59,73,76,79,81,88]</td>
<td>Personal information piece (including profile information like interests, gender, education etc. and location) [2,11,13,14,15,16,29,31,33,38,42,45,60,63,74,75,80,84,92,95,97,98,99,101,102,103,110,111]</td>
</tr>
<tr>
<td></td>
<td>Communication-privacy-management-theory [20,26,60]</td>
<td>Social capital [12,14,20,27,28,36,62,66,80]</td>
<td>Feature (including status updates, posts, likes, comments, photos etc.) [1,4,5,6,7,8,12,13,14,18,27,32,34,35,37,43,44,46,47,53,56,57,58,64,66,70,71,72,76,80,81,85,86,89,90,91,93,94,96,100,105,106,108,112]</td>
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<td>Content characteristics (including positive, negative, intimate, incongruent, critical etc. content) [5,7,8,9,10,19,22,25,27,32,41,42,44,48,51,55,64,71,72,73,81,82,83,87,90,96,100,105,107,108,112]</td>
</tr>
</tbody>
</table>

Table 1. Theoretical foundation and social information characteristics of contribution behavior Note: Corresponding articles are indicated in the review reference list.

Information characteristics range from general content like emotions, feelings and thoughts (31 papers) to concrete content characteristics like positivity or negativity of contributed text (31 papers). When authors investigated specific SNS features (44 papers), photos in particular profile pictures and status updates received high attention. Information characteristics for papers dealing with privacy are in particular focused on personally identifiable information pieces (28 papers) like birthday, gender or education. See table 1 for corresponding articles. Sometimes more than one category was relevant (e.g., positive status updates).

3.1.2 Antecedents and outcomes of social information contribution on SNSs

Majority of authors investigated antecedents of contributing behavior with a share of 77% (86 papers). We categorized investigated antecedents into two main dimensions: situational cues and individual characteristics (Smith et al. 2011). The situational dimension includes cultural factors and group norms. Individual characteristics are separated into six broader themes: motives (or expected benefits) of usage (1), personal needs (2), personality traits (3), attitudes (4), user competence and experience (5), and risks (6). Table 2 provides an overview.

Among the situational cues, we could identify norms like social conformity (Yoo et al. 2014). Additionally, cultural influences like collectivistic and individualistic mindsets have been investigated (Cho and Park 2013).

1 Differentiation between antecedents and outcomes of SNS use was done in accordance with the authors presenting the studies in their papers. Yet it is notable, that most studies used a cross-sectional design not allowing any causal implications.
Table 2. Antecedents and outcomes of social information contribution on SNSs

<table>
<thead>
<tr>
<th>ANTECEDENTS</th>
<th>USAGE</th>
<th>OUTCOMES</th>
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</thead>
<tbody>
<tr>
<td><strong>SUBJECTIVE</strong></td>
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<tr>
<td><strong>1. Situational cues</strong></td>
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<tr>
<td>Culture [4,19,21,43,39,55]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norms and social pressure [7,14,15,18,53,69,92,98,103,109,111]</td>
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<tr>
<td><strong>2. Individual characteristics</strong></td>
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<td></td>
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<tr>
<td>Motives</td>
<td></td>
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<tr>
<td>Social [3,8,11,12,16,18,37,40,49,52,53,56,62,69,79,92,103,105,109]</td>
<td></td>
<td></td>
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<tr>
<td>Hedonic [12,26,28,40,41,43,49,52,60,85,92]</td>
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<tr>
<td>Utilitarian [12,15,17,40,43,49,52,60,82,85]</td>
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<tr>
<td>Perceived total benefit [60]</td>
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<tr>
<td>Need</td>
<td></td>
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<tr>
<td>for affiliation [20,40,53,79,106,109]</td>
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<td></td>
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<tr>
<td>for attention [40,45,46,85,100]</td>
<td></td>
<td></td>
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<tr>
<td>for popularity [64,106]</td>
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<td></td>
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<tr>
<td>Personality traits</td>
<td></td>
<td></td>
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<tr>
<td>Self-esteem [13,23,32,40,47,53,72,93,96]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narcissism [13,35,47,57,6,72,76,78,106]</td>
<td></td>
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<tr>
<td>One or more personality traits (Big 5) [17,19,38,40,53,55,57,71,73,76,86,87,90,91,104,106]</td>
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<tr>
<td>Well-being related antecedents (intimacy, loneliness, commitment etc.) [2,18,44,61,82,83,100,107]</td>
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<tr>
<td>Attitudes</td>
<td></td>
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<tr>
<td>Trust [15,16,20,23,32,60,62,67,98,103]</td>
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<tr>
<td>Value of privacy [17,20]</td>
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<tr>
<td>Perceived control [26,52]</td>
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<td></td>
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<tr>
<td>User competence and experience</td>
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<td></td>
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<tr>
<td>Privacy policy consumption [31,95,111]</td>
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<td></td>
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<tr>
<td>Previous privacy invasion [24,98,111]</td>
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<tr>
<td>Risks</td>
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<tr>
<td>Privacy concerns [30,31,36,49,65,95,99,102,103]</td>
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<tr>
<td>Costs [95], and perceived total risk [60]</td>
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<table>
<thead>
<tr>
<th>SOCIAL INFORMATION CONTRIBUTION</th>
<th>OUTCOMES</th>
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<tr>
<td>Positive outcomes</td>
<td></td>
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<tr>
<td>Personal gains</td>
<td></td>
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<tr>
<td>Well-being (life satisfaction, happiness less loneliness etc.) [22,34,48,59,461,62,68,70,83,104,106]</td>
<td></td>
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<tr>
<td>Self-esteem [33,97]</td>
<td></td>
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<tr>
<td>Positive feedback [66]</td>
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<tr>
<td>Satisfaction with the SNS [49]</td>
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<tr>
<td><strong>Relational gains</strong></td>
<td></td>
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<tr>
<td>Relationship development, social support and intimacy [20,46,54,61,62,66,67,79,48,94,102]</td>
<td></td>
</tr>
<tr>
<td>Social rewards and attractiveness [7,27,28,32,41,58,63]</td>
<td></td>
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<tr>
<td><strong>Ugly outcomes</strong></td>
<td></td>
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<tr>
<td>Personal disadvantages</td>
<td></td>
</tr>
<tr>
<td>Less well-being [9,22,68,91,108]</td>
<td></td>
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<tr>
<td>Physical symptoms [68]</td>
<td></td>
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<tr>
<td>Rumination [68]</td>
<td></td>
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<tr>
<td>Cognitive deprivation [97]</td>
<td></td>
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<tr>
<td>Challenges for privacy [11,12,14,15,17,23,24,30,31,36,49,52,60,65,74,75,92,95,99,101,102,103,110,111]</td>
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<tr>
<td><strong>Relational disadvantages</strong></td>
<td></td>
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<tr>
<td>Relational aggression [1]</td>
<td></td>
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<tr>
<td>Less social attractiveness [7,32,41]</td>
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</table>

Note: Corresponding articles are indicated in the review reference list.
One well-researched individual characteristic to disclose personal information are social motives like maintaining or initiating relationships (e.g., Maks and Young 2013; Park et al. 2011), followed by hedonic motives as passing time (Hollenbaugh and Ferris 2014) and utilitarian benefits like perceived usefulness (Yoo et al. 2014). This is in line with the relatively often applied uses and gratifications theory (1). Need for affiliation (e.g., Park et al. 2011), attention (e.g., Seidman 2013) and popularity (e.g., Christofides et al. 2009) offer further explanations for content contributing behavior on SNSs (2). Personality traits like narcissism (Ong et al. 2011), self-esteem (Stefanone et al. 2011) and extraversion (Wang 2013) among others deliver more insights into who is willing to contribute information about oneself on SNSs (3). Trust in network members (e.g., Tow et al. 2010) or into the SNS provider (e.g., Chang and Heo 2014; Krasnova et al. 2010), as well as the perceived value of privacy (e.g., Chen and Sharma 2012) offer attitudinal explanations of social information contribution behaviors (4). Also user competence and experience like privacy policy consumption (Stutzman et al. 2011), and previous privacy invasion (Zhao et al. 2012) received some attention (5). On the risk side, we observed a strong focus on privacy concerns (e.g., Tufekci 2008). Only two papers measured general risks or expected costs of content contribution (Lee et al. 2013a; Stutzman et al. 2011)(6).

Regarding the outcomes, we found that most studies investigating content contribution about oneself suggested a positive association between SNS use and users’ subjective well-being – a universal “measure of the quality of life of an individual and of societies” (Diener et al. 2003, p. 405). These personal gains include improvements in life satisfaction (Lee et al. 2011) and mood (Wang et al. 2014) as well as a reduction of loneliness (Jung et al. 2012; Sheldon 2013). Also a boost of self-esteem (Gentile et al. 2012; Toma 2013) and an increase of social attractiveness (Bazarova 2012; Hong et al. 2012; Robbin 2012) could be observed frequently. An interesting insight for SNS providers are the observations from Special and Li-Barber (2012) that number of disclosed personal items increased SNS satisfaction – an important factor for ensuring platform sustainability. Brandtzaeg et al. (2010) and Vitak (2012) reported about interpersonal gains like social capital associated with content sharing on SNSs. Papers claiming a privacy context highlight potential negative outcomes for users’ privacy through social information disclosure. For example, having too many different social groups on the platform without access restrictions implicate privacy challenges in the form of social surveillance and social control for users (Brandtzæg et al. 2010). Christofides et al. (2012) highlighted possible personal harms like meanness harassment and bullying as downsides of social information contribution on SNSs. However, these privacy-related outcomes stay intangible and authors to not rely on actual measures. Although rare, some authors reported detrimental outcomes for users associated with social information contribution (e.g., Locatelli et al. 2012).

3.1.3 Underlying processes of social information contribution on SNSs

When we explored the underlying mechanisms explaining content contribution behaviors, we noticed that there is no overall pattern of mechanisms for the relationship of antecedents with self-disclosure behaviors. Two studies, however, showed that motivations and perceived benefits seem to be interesting mediators. Seidman (2013) found that motivations mediated the relationship between personality and self-disclosure. Yoo et al. (2014) showed that social conformity or the positive evaluation of people from one’s social environment increased the perceived value of the SNS and thereby triggered content contribution.

Only a minority of authors discovered mechanisms explaining the relationship between antecedents and contribution behavior in the privacy context. Liu et al. (2013) showed that privacy concerns act as mediator between socially anxious users and the disclosure of personal identifiable information. So, it is not social anxiety per se that reduces self-disclosure, but its impact on privacy concerns that have a negative relationship with online information sharing. Findings from Stutzman et al. (2011) completed this process showing how privacy concerns influence disclosure. They found that privacy behavior in the form of privacy settings and privacy policy consumption mediated disclosure behavior on SNSs.
We encountered an amount of papers finding a favorable relationship between social information contribution behavior and subjective well-being markers. Nevertheless, not all associated results are desirable. Our interest was in identifying conditions associated with positive respectively undesirable subjective well-being outcomes of social information contribution behavior for users.

We could reveal three characteristics of social information that determine the favorability of the relationship between social information contribution behavior and positive outcomes: the amount of self-disclosure per se, positivity of disclosed social information, and authenticity of the contributed information which all had a positive association with well-being markers.

First, human beings have an intrinsic drive to disclose information to others in the form of experiences and feelings (Tamir and Mitchell 2012). Tamir and Mitchell found that disclosing thoughts and personal information to others is intrinsically rewarding. So, already the pure amount of self-disclosure has a beneficial effect in reducing loneliness (Deters and Mehl 2013; Jung et al. 2012) and triggering positive feelings as well as life satisfaction (Lee et al. 2011; Wang 2013). These results are in line with the frequently applied self-disclosure theory.

Second, we could identify that positivity of disclosed social information triggers subjective well-being. For example, positive disclosure was associated with more social attractiveness (Bazarova 2012). By reducing rumination in Locatelli et al.’s (2012) study, status updates transporting personal achievements or achievements of friends had an indirect favorable effect on affective and cognitive well-being as they prevent the feeling of getting lost in our thoughts (Locatelli et al. 2012). Positive self-presentation had also a beneficial impact on one’s own self-esteem (Gentile et al. 2012; Toma 2013). This means reflecting and presenting positive characteristics about oneself enhances well-being. Jin (2013) showed also a reduction in loneliness, when participants focused and presented things they liked about themselves to others on an SNS.

Finally, honesty in SNS disclosure was, also in a longitudinally investigation, positively related with subjective well-being markers (Reinecke and Trepte 2014). However, authors stated that positive authenticity that represents a norm in SNSs may reward individuals who have already high levels of self-disclosure. In a second study, honesty in self-presentation had only an indirect relationship with well-being, since it initiated social support from others (Kim and Lee 2011). So, it seems not to be authenticity per se, but the social resources it activates that are responsible for these effects. Receiving social support in regard to one’s own social disclosure is a strong predictor of users’ well-being. For receiving social support from others disclosure is necessary in the first place. Therefore, it is not surprising that this process was empirically demonstrated (Ellison et al. 2014; Lee et al. 2013b). Social capital theory offers a theoretical framework for these processes.

However, there exist some conditions when contribution of social information does not display favorable consequences for users. Bazarova (2012) showed in her experimental study that publicly shared content with intimate, personal details violated social norms in a particular situation. Hence, other users perceived this behavior as a not appropriate disclosure and the social attractiveness of the sender diminished. Another important condition for social attractiveness is the congruence between own-generated content and comments generated by others (Hong et al. 2012). So, obviously dishonest self-presentation is no strategy to enhance one’s own well-being. Further, negativity of disclosed information in status updates was associated with increased loneliness (Jin 2013) and predicted the tendency to ruminate which had a detrimental influence on life satisfaction and increased symptoms of depression and even physical illnesses (Locatelli et al. 2012).

In the next section 3.2, social information consumption on SNSs is analyzed.

### 3.2 Social information consumption on SNSs

As we have outlined in the previous section, social information contribution behaviors on SNSs have many facets and usually different features. Although, the number of studies investigating content
consumption on SNSs is small (only 17 papers), it is worth to take a closer look, since it is one of the major activities on SNSs (e.g., Pempek et al. 2009). In the following, we analyzed theoretical foundations of information consumption behaviors in section 3.2.1. Then, we studied associated antecedents and outcomes of social information consumption. Underlying processes are discussed in section 3.2.2. Antecedents, outcomes, and social information characteristics of all 17 papers are presented in table 3.

3.2.1 Theoretical foundation and information characteristics

Among other theories borrowed from social sciences, the uses and gratification approach (Haferkamp et al. 2012) for explaining antecedents and Festinger’s (1954) social comparison theory (Haferkamp and Kraemer 2011; Johnson and Knobloch-Westerwick 2014; Jung et al. 2012, Lee 2014) seem to offer fruitful theoretical foundations for the investigation of information consumption encountered on SNSs. Additionally, depending on the context also attachment theory (Fleuriet et al. 2014; Fox and Warber 2013) and the theory of planned behavior (Darvell et al. 2011) have been applied.

Studies investigating antecedents and consequences of social information consumption behaviors on SNSs focused mainly on other users’ profiles and to a lesser degree on messages, posts, status updates or the newsfeed. In this context the contributor of the content is of some importance. Six papers focused on information from a specific person like the (ex)partner or a rival. Also network structure seems to be of some importance (see table 3 social information characteristics).

3.2.2 Antecedents and outcomes of social information consumption on SNSs

Social acceptance of monitoring (Darvell et al. 2011) and a supportive network structure (Stefanone et al. 2013) were both situational cues that predicted social information consumption on SNSs. Individual motives ranged from voyeuristic intentions (Jung et al. 2012) to information and curiosity (e.g., Rau et al. 2008), hedonistic entertainment motives to social comparison (Haferkamp et al. 2012). Personality traits like communication apprehension (Stefanone et al. 2013) or uncertainty (Lee 2014) were also investigated in the consumption context. Monitoring in the form of an attitude was mentioned (Darvell et al. 2011), too. Outcomes have been shown to be positive and undesirable, but there are more negative outcomes investigated. See table 3 for an overview.

Since antecedents and associated outcomes of consumption behavior as well as the type of consumed information are very fragmented, we choose to cluster the literature regarding the investigated social information and to investigate possible underlying dynamics separately. The investigation of others’ profiles and the subsequent social comparison are object of some papers. This social comparison process is analyzed first. Second, if information from a specific sender was the object of the study, the paper was sorted into a consumption category named monitoring. Less specified browsing of general social information on SNSs are summarized with the last category of browsing.

3.2.3 Underlying processes of social information consumption on SNSs

Six studies indicate that social encountered information on SNSs triggers social comparison processes above the general social comparison orientation of an individual (Lee 2014). Some studies indicate that social comparison can be a motivation for browsing others’ profiles (Haferkamp et al. 2012). Self-uncertainty is a personality characteristic that also increased comparison frequency on SNSs (Lee 2014). To benchmark oneself across the easily accessible social information of SNS, may provide insights into one’s own standing in comparison to others. Smith et al. 2013 referred to negative social evaluations resulting from unfavorable comparisons on SNSs as maladaptive SNS usage behavior. Since self-presentation on SNSs is highly selective, most social comparisons on SNSs are upward in nature, (i.e., users compare themselves most of the time to superior others). For example, Haferkamp and Kramer (2011) found that people tended to have negative emotions after their social comparison
on SNSs (i.e., comparing oneself to attractive profile pictures). Smith et al. (2013) even observed women having eating disorders after SNS comparisons. This relationship was mediated by body dissatisfaction.

Summarized, SNSs offer a lot of social information for social comparisons. Some personality traits enhance the tendency for comparison. Social comparison processes triggered through social information encountered on SNS behavior are associated with negative well-being and even detrimental health outcomes.

<table>
<thead>
<tr>
<th>ANTECEDENTS</th>
<th>USAGE</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Situational cues</strong></td>
<td>Social Comparison</td>
<td>Positive</td>
</tr>
<tr>
<td><strong>2. Individual Characteristics</strong></td>
<td>Haferkamp and Krämer (2011)</td>
<td>Negative</td>
</tr>
<tr>
<td>Voyeuristic (Jung et al. 2012)</td>
<td>Monitoring</td>
<td>Network consciousness (Karayali and Kilic 2013)</td>
</tr>
<tr>
<td><strong>Personality traits</strong></td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td>Self-esteem (Darvell et al. 2011; Lee 2014)</td>
<td>Haferkamp et al. (2012)</td>
<td></td>
</tr>
<tr>
<td>Self-consciousness (Lee 2014)</td>
<td>Haferkamp and Krämer (2011)</td>
<td></td>
</tr>
<tr>
<td>Social comparison orientation (Haferkamp et al. 2012; Lee 2014)</td>
<td>Lee (2014)</td>
<td></td>
</tr>
<tr>
<td>Relational uncertainty (Fox and Warber 2014)</td>
<td>Jung et al. (2012)</td>
<td></td>
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<tr>
<td>Communication apprehension (Stefanone et al. 2013)</td>
<td>Smith et al. (2013)</td>
<td></td>
</tr>
<tr>
<td><strong>Attitudes</strong></td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td>Attitude towards surveillance (Darvell et al. 2011)</td>
<td>Monitoring</td>
<td></td>
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<tr>
<td>Trust (in partner) (Darvell et al. 2011)</td>
<td>Cravens et al. (2013)</td>
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<tr>
<td>Perceived behavioral control (Darvell et al. 2011)</td>
<td>Cohen et al. (2014)</td>
<td></td>
</tr>
<tr>
<td>Negative attitude (Barnett et al. 2013)</td>
<td>Haferkamp et al. (2012)</td>
<td></td>
</tr>
<tr>
<td><strong>User competence and experience</strong></td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td>Supportive network structure (Stefanone et al. 2013)</td>
<td>Jung et al. (2012)</td>
<td></td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td>(Barnett et al. 2013; Johnson and Knobloch-Westerwick 2014; Rau et al. 2008)</td>
<td>Monitoring</td>
<td></td>
</tr>
<tr>
<td><strong>Sender</strong></td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td>(partner, rival etc.)</td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td><strong>Network structure</strong></td>
<td>Social Comparison</td>
<td></td>
</tr>
<tr>
<td>(Karakayali and Kilic 2013; Stefanone et al. 2013)</td>
<td>Social Comparison</td>
<td></td>
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<tr>
<td>(Karayali and Kilic 2013; Stefanone et al. 2013)</td>
<td>Social Comparison</td>
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</table>

*Table 3. Antecedents, outcomes, and social information characteristics of consumption behavior*
Monitoring, stalking or surveillance behavior is another main content consumption behavior on SNSs. We have identified six papers dealing with social information from a special person like the (ex)partner or a romantic rival. Individual characteristics like relational uncertainty (Fox and Warber 2013), subjective norms towards monitoring (Darvell et al. 2011) are associated with monitoring behavior. Two papers investigated outcomes of that behavior which are altogether detrimental in nature as they inhibited personal growth, caused distress (Marshall 2012) and resulted in negative feelings (Cohen et al. 2014; Fleuriet et al. 2014). For example, nonverbal message characteristics like a winking face emoticon or triple exclamation points that were ostensible sent by a rival were associated with detrimental well-being outcomes. Results from Cohen et al.’s (2014) experiment showed different reactions to ambiguous SNS messages of the romantic partner depending on the exclusivity of the message. Messages shared with a broader audience (e.g., a wall post) elicited more negative feelings, higher threat perception and a higher probability to confront the partner with the message. After infidelity was discovered on an SNS the emotional impact for the individuals was comparable to offline infidelity processes (Cravens et al. 2013). In a nutshell, SNSs offer an easy access for monitoring others. While the tendency to monitor someone else is rooted in psychological characteristics of the observer, the technical possibilities facilitate these motivations. Consequences of monitoring behaviors on SNSs are negative in nature.

Browsing or online information seeking about old friends and new acquaintances were found to have a positive correlation with network size of supportive contacts (Stefanone et al. 2013), curiosity to investigate one’s own social ties (Karakayali and Kilic 2013), and informational gains (Rau et al. 2008). In this case, the social environment played an important role in predicting social information consumption about known others. This conclusion is supported by findings from Barnett et al. (2013) who showed that teasing messages from peers were interpreted as anti- or prosocial depending on previous experiences and students’ attitudes towards teasing. This interpretation in turn is associated with an either positive or negative emotional response. Wise et al. (2010) even observed different levels of pleasantness within different types of browsing. Engaging in social searching, searching information about friends, had more favorable consequences than only browsing the newsfeed referred to as social browsing. Overall, personal differences (e.g., network size, curiosity or attitude) and used information features (post vs. private message) influence outcomes of browsing behaviors. Therefore, differences in personality could explain mixed consequences of browsing behaviors.

4 Discussion

The success of SNSs largely depends on active users that contribute content on the site – one requirement to keep it vital and alive. However, most users engage in the consumption of social information on SNSs (e.g., Pempek et al. 2009). Therefore, we conducted a systematic literature analysis on both SNS behaviors, social information contribution and consumption, to understand antecedents, consequences, and underlying processes of SNS usage. It is important to know what drives users to contribute and consume social information and why their behaviors have favorable or less desirable consequences for themselves, since information and communication technologies like SNSs play an essential part in our today’s networked society (Castells and Cardoso 2005).

4.1 Major observations and implications for theory and practice

After one decade since SNSs evolved and reached the mainstream, a large body of investigations has accumulated. However, the evaluation of SNSs on users’ well-being remains controversial. In this literature analysis, we took a closer look into different usage patterns which offer fruitful insights into social processes taking place in SNSs and that may explain positive and less desirable usage outcomes.

The majority of authors who investigated social information behaviors on SNS focused on social information contribution behavior (section 3.1; 112 papers) and could establish a rich body of
associated antecedents and outcomes. Researchers studied to a far lesser degree how users perceive and evaluate social information encountered on SNSs (section 3.2; 17 papers) leaving many possible avenues for future research.

A weakness of the investigated body of research is that many studies didn’t rely on a theoretical model at all. Among the major applied theories for explaining social information contribution behaviors on SNSs, we identified social capital, impression management and uses and gratifications theories borrowed from social science as useful frameworks for investigating information contribution behavior on SNSs. Social comparison theory, on the other hand, serves as a primary framework for investigations of information consumption behavior on SNSs. Additionally, monitoring processes offer an interesting approach for users following the information of a particular person. Our analysis unfolds a lack of SNS specific theories. Theories are overwhelmingly borrowed from social science neglecting a variety of other disciplines. Here emerge opportunities for challenging, adapting and extending theories from other disciplines, and the development of accurately fitting SNS theories.

While IS research is interdisciplinary in nature, an IS theory should highlight the enabling role of IT and think about original contributions to the IS field (Benbasat and Zmud 2003). This literature review had a special focus on characteristics of the social information on SNSs including their affordances. Sociotechnical affordances provide cues to the consumers and shape interpretation through the context in which the content occurs (Bazarova et al. 2012; Hogan and Quan-Haase 2010). That is to say that contribution can have various features, including photographs, status updates and posts differentiated through visibility, for example. The content users contribute may be concrete data items (e.g., gender, education or their location), or more complex information (e.g., positive and negative emotions). Social information was also assessed through more general items depicting amount, and breath as well as shared personal experiences, opinions and emotions. For information consumers, also the sender plays an important role in evaluating the information.

For all 126 identified papers, we summarized antecedents related to contribution and consumption behavior. Overall, two broad categories emerged: situational cues and individual characteristics. While culture and norms are situational cues, we could identify six subcategories of individual characteristics: (1) motives, (2) needs, (3) personality traits, (4) attitudes, (5) user competence and experience, as well as (6) risks. The literature review revealed that personality traits and motives for usage were strong and most often investigated predictors of both types of behavior. The investigation of risks shows a one-sided focus on privacy-related concerns for social information contribution, and a neglect of social factors. In the context of social information consumption no risk factors at all have been investigated despite negative, associated well-being outcomes. Future studies should consider testing a broader range of risks to receive a more cohesive picture.

Reported outcomes regarding content contribution behaviors are mainly favorable. Majority of investigated papers focused on (inter)personal gains for contributing users. Negative associations between well-being and contribution behaviors are less likely reported, but yet present. For example, privacy threats challenge users’ security. However, privacy research in the SNS context still lacks the measurement of actual outcomes (Smith et al. 2011). Also detrimental outcomes for users’ well-being have been associated with this active form of SNS usage.

Taking a look into the underlying processes of social information contribution, we could identify three characteristics of social information that are associated with positive outcomes for users. First, social information disclosure per se has been shown to be beneficial for contributors according to self-disclosure theory. Second, the positivity of self-presentation is associated with positive consequences for users, since this behavior creates positive self-awareness. Finally, honest social information contribution about oneself enhances social interactions, social support and feedback having a positive association with users’ mental states. On the other side, contributed information arousing norm violations, contradictory reactions from others or publishing negative content is shown to be disadvantageous for users.
Outcome results for content consumption are rather negative for the investigated papers. While social comparison with others’ well-constructed profiles and monitoring behavior of a romantic partner lead to disadvantageous outcomes, associated consequences of a more general browsing behavior were mixed. In-depth investigations of the two identified processes and exploratory research regarding browsing behavior offer fruitful perspectives for future studies.

We also derived practical implications for social networking site providers and users from our analysis. First, despite mainly positive outcomes associated with contribution behavior providers shouldn’t blindly promote this usage pattern to their users, but consider the conditions having a detrimental effect. Second, providers should consider which types of users look at what kind of information on SNSs, since the consequences of social information consumption could be different for them. For example, they could adapt their algorithm for the News Feed respectively. Finally, users should be aware what consequences different types of social information contribution and consumption have on their well-being to get the best experience out of platform usage.

Tables 1, 2, and 3 consolidate existing research about social information contribution and consumption in SNSs and offer a literature map for scientists and people who are interested in antecedents and outcomes of SNS usage. This map offers researchers background information when starting a new research study.

4.2 Limitations

Some limitations should be taken into account when applying the findings from this study. First, our results and analysis are limited to the pool of journals that satisfied our selection criteria. However, there is still potential knowledge in practitioner articles, books, and conference proceedings which researchers could gain insights. Future studies are recommended to explore articles and studies beyond academic journals to enrich the integrative framework. Second, keywords only included general terms describing social networking sites and two main sites. We did not consider social networks like Instagram or Reddit explicitly within search terms despite increasing popularity. Future studies are recommended to expand the keywords accordingly. Finally, a quantitative meta-analysis and test of the relative effects of the numerous antecedents on social information behaviors on SNSs could be an interesting next step for future research. We advise to replicate the studies in different contextual and cultural settings, and strive for confirming the relationships and effects among these factors through a meta-analysis.

5 Conclusion

It is important to know why individuals profit or suffer from the usage of social information on SNSs, since information and communication technologies like SNS play an essential part in our today’s networked society (Castells and Cardoso 2005). This is key to give policy makers, providers and users founded advice how they can make a positive impact out of social SNS usage for themselves and others as well as communities and society as a whole. In our current interdisciplinary review, we identified 126 relevant studies from mainly social science and IS literatures that investigated social information contribution and consumption behavior. The main contribution of our paper is a cross-disciplinary analysis shedding light on controversial consequences of social information contribution and consumption behavior on SNSs. This review additionally helped us to identify antecedents and outcomes of these behavior patterns and to point out research gaps. In particular, the less researched area of social content consumption indicates interesting dynamics like social comparison, monitoring and browsing processes, which yet have to be discovered in detail and offer fruitful perspectives for future research.
References


Review references: social information contribution


