



What can we learn about social network sites by studying Facebook? A call and recommendations for research on social network sites

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Stephen A Rains and Steven R Brunner

University of Arizona, USA

Abstract

The substantial growth in research examining social network sites (SNSs) during recent years makes this an opportune time to reflect on the state of SNS scholarship. In this review, we consider what—in the form of specific brands—has been studied. A content-analysis of SNS research published in six interdisciplinary journals between 1997 and 2013 is first reported to better understand the degree to which studies published in these journals have examined various SNS brands (e.g. Facebook, MySpace, Cyworld, Hyves). The results show that more than two-thirds of SNS studies were explicitly limited to a single brand and that Facebook was the brand examined in approximately 80% of these studies. Five implications of this trend are then discussed as potentially limiting what can be learned in aggregate from such a body of SNS scholarship. The review concludes with recommendations for future research on SNSs.

Keywords

Communication and information technology, computer-mediated communication, social network sites

Corresponding author:

Stephen A Rains, Department of Communication, University of Arizona, 1103 E University Blvd, P.O. Box 210025, Tucson, AZ 85721, USA.

Email: srains@email.arizona.edu

Research on social network sites (SNSs) has grown exponentially in recent years, garnering interest from scholars across a diverse range of fields. One may find research about the implications of SNSs conducted by scholars in the social sciences (e.g. Johnston et al., 2013; Nadkarni and Hoffman, 2012; Rui and Stefanone, 2013) and humanities (e.g. Dimock, 2011; Heiferman, 2011) to far ranging fields in the medical (e.g. Coe et al., 2012) and physical (e.g. Kuruvilla, 2011) sciences. Given the burgeoning volume of scholarship and widespread interest in SNSs, now is an opportune time to reflect on the broader trends in this body of research. This review examines one such trend by investigating what—in the form of specific brands—is being studied in SNS research. Similar to traditional forms of media such as cable television networks and magazines (Kim et al., 2010; McDowell, 2004), SNSs are typically operated by for-profit companies and marked by different and potentially competing brands (e.g. Facebook, MySpace, Cyworld, Hyves, etc.).¹ Although research examining phenomena across multiple SNS brands exists (e.g. Dwyer et al., 2007; Hampton et al., 2011; Hargittai, 2008), there is reason to believe that a significant amount of the scholarship on this topic has focused on a single brand and its users. A recent survey of Facebook research, which was limited to social scientific investigations published in peer-reviewed journals between 2005 and 2011, identified more than 400 studies examining this particular brand of SNS (Wilson et al., 2012).

The purpose of this review is two-fold. We first report the results of a content analysis examining the SNS brands studied among research published in six interdisciplinary journals. Each of the six journals publishes research about the social implications of communication and information technologies conducted by scholars working in a range of fields across the social sciences. The goal of the content analysis is to determine the degree to which SNS scholarship in these journals has been limited to the study of specific SNS brands such as Facebook. Based on the results of the content analysis, we then consider the implications of conducting research focused on a single brand for advancing scholarship on SNSs more broadly. How might the tendency to focus on a single brand impact the conclusions we can draw from this body of scholarship about the uses and effects of SNSs? Five issues are considered in this essay, including concerns with generalizability, the potential to privilege a particular group, the undue influence of corporate practices, the potential to encourage a focus on features, and the possibility that the SNS of interest may become obsolete.

To be clear, the goal of this review is not to single out for criticism any particular study or scholarship on Facebook more generally; there are certainly instances when focusing on one particular brand of a technology is beneficial. A key objective of this project is to consider the potential consequences of studying one brand of communication or information technology for the advancement of research on that technology and the implications of communication and information technologies more broadly. We believe that, in aggregate, a body of research largely focused on a single SNS brand has the potential to limit our knowledge about the uses and effects of SNSs. Moreover, research on SNSs represents a potential prototype for trends in scholarship examining other types of communication and information technologies that are distinguishable by different brands such as microblogs and videosharing websites. In the following

sections, we present background information about SNSs followed by our review and analysis of SNS research. The essay concludes with some recommendations for advancing scholarship on SNSs and communication and information technologies more generally.

Background on SNSs

Several definitions and classification systems have been offered to describe SNSs (Adamic and Adar, 2005; boyd and Ellison, 2007; Ellison and boyd, 2013; Heidemann et al., 2012; Kim et al., 2010). One popular definition cites the ability to create a profile, make one's connections known, and access these connections as core components of SNSs (boyd and Ellison, 2007)—though the latter function was revised to include producing and interacting with streams of content (Ellison and boyd, 2013). Yet this definition has been critiqued for being overly general. Beer (2008) contends that it is “too broad, it stands for too many things, it is intended to do too much of the analytical work, and therefore makes a differentiated typology of those various user-generated web applications more problematic” (p. 159). Following scholars who advocate making more nuanced distinctions regarding SNSs and related technologies (Beer, 2008; Kietzmann et al., 2011; Kim et al., 2010; Thelwall, 2009b), we distinguish SNSs from genres such as microblogs (e.g. Twitter), videosharing websites (e.g. YouTube), and social bookmarking websites (e.g. Pinterest). We adopt boyd and Ellison's (2007) definition but also include two additional dimensions: (a) interpersonal communication is the primary activity (Thelwall, 2009b) and (b) SNSs include—but are not limited to—capabilities (e.g. broadcasting messages, photosharing, social gaming, etc.) that distinguish more focused genres of technologies privileging user-generated content (e.g. microblogs, photosharing websites, etc.).² We recognize and appreciate the overlap between SNSs and related genres of information and communication technologies, but believe that adopting a limited definition of SNSs makes possible a more meaningful analysis of the existing literature on this topic. In recognizing this overlap, we also report the results of a supplementary analysis of microblogs to serve as a point of comparison.

SNSs first became available in 1997 with the introduction of SixDegrees. Since that time, a plethora of sites have been developed and gone extinct (for a review, see boyd and Ellison, 2007; Heidemann et al., 2012). Several SNSs have attracted a global user base (e.g. Facebook, Google+, MySpace), whereas others serve niche audiences such as specific demographic groups (e.g. BlackPlanet, MiGente), interest groups (e.g. Goodreads), or a particular nation (e.g. Renren). Facebook boasts the largest number of members worldwide in recent years with an estimated 750 million users during 2011 (Wikle and Comer, 2012); as of March 2014, the company estimated an average of 802 million daily users (Facebook, 2014). As such, it is not surprising that Facebook has received significant attention from scholars. To better understand the degree to which SNS research has focused on Facebook and other brands, we next report a content analysis of SNS scholarship published in a set of interdisciplinary journals dedicated to scholarship on the social implications of communication and information technologies.

An analysis of SNS scholarship in six interdisciplinary journals

Although one may find studies considering other SNS brands such as MySpace (e.g. Thelwall, 2009a) and Google+ (e.g. Kairam et al., 2012) or sampling users from multiple brands (e.g. Dwyer et al., 2007; Hampton et al., 2011; Hargittai, 2008), there is reason to believe that a significant volume of research on SNSs published in academic journals has investigated Facebook and Facebook users. Wilson et al.'s (2012) recent review, for example, identified more than 400 articles examining Facebook published in just 7 years. In an effort to gain a better understanding of the degree to which existing SNS research focuses on a single SNS brand, we examined the articles published between 1997 and 2013 in six interdisciplinary journals: *Computers in Human Behavior*; *Cyberpsychology, Behavior, and Social Networking*; *Information Communication & Society*; *Journal of Broadcasting & Electronic Media*; *Journal of Computer-Mediated Communication*; and *New Media & Society*.

These six journals were selected for several reasons. All six are interdisciplinary in nature and focus predominately on the social implications of communication and information technologies. As such, these journals are particularly likely to contain a significant volume of empirical research on SNSs. Additionally, the research published in these journals has been conducted by scholars trained and working in a variety of fields across the social sciences. Focusing on these journals makes it possible to consider empirical research from a range of disciplines in the social sciences. Finally, limiting the sample to these six journals makes it feasible to capture a census of all SNS studies published in these journals from the time SNSs were first developed to the present.

The content analysis proceeded in two steps: First, each issue from the six journals between 1997 and 2013 was reviewed to identify studies related to SNSs. The more limited definition of SNS adopted in this review was used in evaluating articles—we distinguished between SNSs and related genres such as microblogs (e.g. Twitter, Weibo), videosharing websites (e.g. YouTube), and photosharing websites (e.g. Flickr). Articles were included in the sample when they reported empirical research (broadly defined) examining the uses or effects of SNSs. A total of 327 articles were identified as SNS studies across the six journals.

Second, all SNS studies were evaluated to determine the brand(s) examined and method(s) used to collect data. Those studies offering data to demonstrate that more than one SNS brand was examined were included in the “multiple SNSs” group; studies that did not explicitly report the brand(s) examined were included in the “SNS unspecified” group. Eight different categories were used to classify studies by method: content analysis, ethnography, experiment, focus group, interview, multiple methods, social network analysis, or survey.

All coding was conducted by the authors. In order to determine intercoder reliability, 15% of the issues from the six journals between 1997 and 2013 were examined by both authors. Intercoder reliability for identifying SNS articles (Krippendorff's $\alpha = .87$) and classifying these articles based on the SNS brand(s) studied (Krippendorff's $\alpha = .88$) and method(s) used to collect data (Krippendorff's $\alpha = .75$) was acceptable. The second author evaluated the remaining articles.

Table 1. SNS research published in six interdisciplinary journals from 1997-2013.

Journal	Number of articles sampling users of and/or focusing on						
	Cyworld	Facebook	Hyves	Myspace	Multiple SNSs	Other single SNS	SNS unspecified
- <i>Computers in Human Behavior</i>	3	77	1	5	10	4	33
- <i>Cyberpsychology, Behavior, and Social Networking</i>	5	54		5	5	4	24
- <i>Information, Communication, & Society</i>		13			8		5
- <i>Journal of Broadcasting & Electronic Media</i>		8		1		1	3
- <i>Journal of Computer-Mediated Communication</i>	1	13	3	2	2	2	6
- <i>New Media & Society</i>		14		4	4	1	6
Total	9	179	4	17	29	12	77
Percentage	3%	55%	1%	5%	9%	4%	24%

A total of 16 different SNS brands were examined in the sample; 12 brands were examined in only one study in the sample and included in the "Other" category. The "Multiple SNSs" category includes studies that reported data from more than one SNS brand. The "SNS unspecified" category includes studies in which it was not possible to determine the specific brand(s) examined.

The results, which are reported in Table 1, offer several important insights about SNS scholarship published in the six journals between 1997 and 2013. More than two-thirds of the research on SNSs in these journals was explicitly limited to studying or sampling users from a single brand. Less than 10% of the articles in the sample offered data to demonstrate that two or more brands were examined; the SNS(s) examined were not explicitly identified in 24% of the articles. Among those studies that explicitly focused on a single brand, 81% examined Facebook. Although 16 different brands were represented in the sample, four out of every five studies that examined a single SNS focused on Facebook and/or Facebook users. Research limited solely to Facebook accounted for over half of all the articles in the sample. MySpace (5%), Cyworld (3%) and Hyves (1%) were the only other single SNSs examined in more than one study published in the six journals.

The trends in SNS research over time, which are illustrated in Table 2, suggest that the intense interest in studying only Facebook is a relatively recent phenomenon. Between 2011 and 2013, research in the six journals limited solely to Facebook doubled. At the same time, research examining other single brands diminished relative to earlier years.

Table 2. Trends in SNS brands studied in research published in six interdisciplinary journals from 1997 to 2013.

Year(s)	SNS brand							Total (%)
	Cyworld	Facebook	Hyves	Myspace	Other single SNS	Multiple SNSs	SNS unspecified	
1997–2005								0 (0%)
2006					1			1 (<1%)
2007	2	1		1	1	1		6 (2%)
2008	2	4		2	1	3	2	14 (4%)
2009	1	10	1	6	1	4	7	30 (9%)
2010	1	7	2	6		2	7	25 (8%)
2011	2	32	1		1	4	17	57 (17%)
2012	1	52		1	4	7	18	83 (25%)
2013		73		1	3	8	26	111 (34%)

Twelve brands were examined in only one study in the sample and included in the “Other” category. The “Multiple SNSs” category includes studies that reported data from more than one SNS brand. The “SNS unspecified” category includes studies in which it was not possible to determine the specific brand(s) examined.

The greatest diversity among single brands studied occurred during 2009 and 2010. Research on Cyworld, Hyves, and MySpace was reported in one or more of the six journals during both years. Studies examining multiple SNSs were fairly consistent across time in the six journals.

Data regarding the methods used in SNS research are reported in Table 3. Survey research dominated the SNS articles published in the six journals. Almost two out of every three SNS articles reported survey research. This trend holds for articles focused solely on Facebook—58% of Facebook studies consisted of survey research. Qualitative research was largely absent among articles in the sample. Only 6% of the studies relied on interviews, focus groups, or ethnography. However, there were a fairly substantial number of studies that used multiple methods; most of these studies included a qualitative component. The methods used in studies that focused solely on Facebook largely followed the same trends as non-Facebook research, with two exceptions. Facebook studies accounted for almost 75% of all experiments and over two-thirds of all studies that incorporated multiple methods.

Overall, the content analysis offers evidence to suggest that much of the research on SNSs published in the six interdisciplinary journals between 1997 and 2013 tended to focus on a single brand of this technology—and four out of every five of those studies examined Facebook. Studies limited to Facebook and Facebook users composed over half of all research on SNSs published in the six journals. For comparison, we conducted a parallel analysis of microblog studies published in the six journals during the same time period and found similar results. Over 90% of the microblog studies published in the six journals were limited solely to the brand Twitter. Although we are reluctant to generalize the findings from the content analysis of SNS research beyond the six journals included

Table 3. Research methods used in SNS studies published in six interdisciplinary journals from 1997 to 2013.

Method	SNS brand							Total (%)
	Cyworld	Facebook	Hyves	Myspace	Other single SNS	Multiple SNSs	SNS unspecified	
Content analysis		15		10	1	3	2	31 (10%)
Ethnography				2		1		3 (1%)
Experiment		22	2		2	1	3	30 (9%)
Focus group		2						2 (1%)
Interview	1	9				2	1	13 (4%)
Multiple methods	1	28	1	1	1	1	8	41 (13%)
Social network analysis				1	1		1	3 (1%)
Survey	7	103	1	3	7	21	62	204 (62%)

Twelve brands were examined in only one study in the sample and included in the "Other" category. The "Multiple SNSs" category includes studies that reported data from more than one SNS brand. The "SNS unspecified" category includes studies in which it was not possible to determine the specific brand(s) examined.

in the sample, we believe that the results raise a number of questions that warrant consideration. In the remainder of this project, we focus on those questions directly related to the consequences that such a trend might have for the cumulative body of scholarship on SNSs: What are the implications of having a body of research dominated by studies of a single SNS brand? How might the tendency to focus on a single brand influence the general conclusions we can draw about the use and effects of SNSs? In addition to offering insights about research on SNSs, we believe that answering these questions would be informative to scholarship on related technologies marked by different brands (e.g. microblogs, videosharing websites, etc.).

Five potential implications of focusing on a single SNS brand

A second objective of this review is to consider the broader implications of having a body of scholarship dominated by research examining a single SNS brand. It is important to clarify that we are not arguing that focusing on or sampling from a single brand of a technology is always problematic. One can identify several important reasons for such efforts. Studies designed, for example, to understand the unique experiences of individuals using a particular SNS (e.g. boyd, 2011) or instances in which researchers do not wish to generalize their findings beyond the specific brand studied might be justifiably limited to a single SNS. Moreover, we are not arguing that research on brands beyond Facebook is nonexistent. As is illustrated in Table 1, several studies have been conducted examining SNSs other than Facebook or multiple SNS brands. Rather, our review offers evidence that a significant proportion of the research examining SNSs in the six interdisciplinary journals we evaluated has been limited to Facebook and raises questions about the broader

implications of such a trend. Even if we assume that the tendency to study Facebook is limited to the six journals in our sample, it is worthwhile to consider what this means for the conclusions we might draw from the corpus of SNS research reported in these journals. We contend that, in aggregate, a body of research largely focused on a single brand of a technology can create challenges for developing a complete understanding of that technology. We discuss five specific artifacts in the following paragraphs.³

Concerns with generalizability

First, there is no guarantee that the results from research examining a specific brand of SNS will generalize to other brands. The ability to generalize one's findings to different SNSs and groups of SNS users is a key objective for many—though certainly not all—studies and critical to the process of knowledge development (Cook and Campbell, 1979). Yet there is reason to believe that the findings from a sample limited to Facebook users may not generalize to users of MySpace, Google+, Cyworld, or other SNSs (Hargittai, 2008; Vasalou et al., 2010). Although the inability to generalize findings might be thought of as a limitation of an individual study, the focus of our discussion is on the cumulative body of research on SNSs. In aggregate, the inability to generalize findings from users of one SNS to other brands potentially creates significant barriers for developing a comprehensive understanding of the uses and effects of SNSs as a class of communication and information technology.

Several possible reasons why the findings regarding one brand of SNS might not generalize to other brands are considered throughout this review. At this point, however, our goal is to demonstrate this possibility by considering the results of research in which uses and users of different SNSs have been directly compared (within the same study). There is evidence, for example, of general differences in the frequency with which Facebook and MySpace are used. A survey conducted by the Pew Internet and American Life Project (Hampton et al., 2011) found that, whereas 50% of Facebook users reported using the SNS once or more per day, only 8% of MySpace users reported such frequent use. Other survey research involving a convenience sample of undergraduate students found that Facebook and MySpace users visit each respective site the same number of times per day, but the median amount of time spent on the site per day for MySpace users was double that of Facebook users (Kujath, 2011). Because the research protocols (e.g. measures, sampling procedure) used within each of the previous studies were the same for both Facebook and MySpace users, these differences between the SNSs are unlikely to be an artifact of method.

Beyond usage frequency, there is evidence of differences in the attitudes and behaviors among users of different SNSs. The availability of personal information is one specific topic that has received attention. One group of scholars compared a convenience sample of Facebook and MySpace users and found that Facebook users were less likely to reveal information about their relationship status in their personal profile, but more likely to report their instant message screen name (Dwyer et al., 2007). Another researcher sampled Facebook and MySpace users and reported that being White and older were significant predictors of having a profile visible to everyone among MySpace users but not Facebook users (Tufekci, 2008). Differences in other types of behavior also exist. In

a convenience sample of almost 35,000 respondents ranging in age from 13 to 24 years, Jansen and colleagues (Jansen et al., 2011) found that MySpace was distinctly used for self-expression and Facebook was used for sharing photos. Moreover, MySpace users were significantly more likely to share their opinions in sponsored polls than those who used a different SNS brand. Finally, there is evidence that differences extend to perceptions of others using one's SNS. One study showed that, relative to Facebook users, MySpace users were significantly more inclined to believe that other SNS members exaggerate their profile information to appear more attractive (Dwyer et al., 2007). Again, within each of the previous studies, the same research protocols were used for evaluating Facebook and MySpace users, making it unlikely that the reported differences stem from a methodological artifact.

Taken as a whole, the preceding studies demonstrate differences in user perceptions and behavior based on SNS brand. These differences underscore the potential limitations of sampling from or focusing on a single brand. If users and use of SNSs vary systematically across brands, then research dedicated to a single brand may not generalize to other SNSs. Because users and use of SNSs may be unique to a particular brand, any conclusions drawn from a body of research dedicated predominately to a single SNS may not apply to other brands. For example, the survey conducted by the Pew Internet and American Life Project (Hampton et al., 2011) showed basic discrepancies in SNS use among MySpace and Facebook users. It is possible that these basic discrepancies could manifest in broader differences in the social capital available to a typical user of each brand. In visiting the site less frequently, MySpace users may be less available for building and exchanging resources. Research limited to Facebook may overestimate the availability and implications of social capital on MySpace and other brands. Similarly, the differences in information-sharing practices between MySpace and Facebook users that have been documented in previous research (Dwyer et al., 2007; Tufekci, 2008) might have more general consequences related to privacy. Information-sharing practices unique to each site may make some privacy-related behaviors more or less salient. As such, research limited to Facebook may not be able to fully account for the behavior of MySpace users related to privacy. Although this situation can be problematic for individual studies (particularly among authors who wish to generalize their findings), the more significant consequences occur in considering the aggregate body of SNS research. The conclusions drawn from a body of research dominated by studies of one SNS brand would be limited to that particular brand—and seriously undermine our ability to develop a complete understanding of the uses and effects of SNSs as a class of communication and information technology.

Potential to privilege a particular group

A second, related issue is that research focusing largely on one brand or sampling users of a single SNS has the potential to privilege a particular group, culture, or set of cultural practices. As with the preceding implication, this issue becomes particularly problematic when considering the body of SNS research as a whole. A corpus of scholarship that is largely dedicated to one SNS or its users is likely to over-represent users of that brand and present their behavior as normative. Groups and practices more prevalent on other SNSs may be overlooked or even marginalized.

At a very basic level, there is evidence to suggest that Facebook users are unlike users of other SNS brands in important ways. Within the United States, Hargittai (2008) reported that Hispanic respondents to her survey were significantly more likely than White respondents to use MySpace and significantly less likely to use Facebook. More recently, a survey conducted by the Pew Internet and American Life Project (Hampton et al., 2011) showed that the percentage of African American (16%) MySpace users was almost double that of Facebook (9%). These findings are consistent with data extracted from MySpace profiles showing that the percentage of Latino and African American users was greater than the percentage of these groups in the United States population (Wilkinson and Thelwall, 2010). There also appear to be age and education differences between Facebook and MySpace users. In Hargittai's (2008) survey, the education level of respondents' parents was a significant predictor of Facebook use, but not use of MySpace. The Pew data indicate that Facebook users are more likely to be older and more educated than MySpace users (Hampton et al., 2011). In regard to the latter issue, the percentage of adult Facebook users (35%) who have earned a bachelor's degree or greater education is almost double that of adult MySpace users (18%).

Beyond demographic differences, there is reason to believe that SNS brands may be defined by distinct cultures and cultural practices. Boyd (2011) claimed that language and tastes played an important role in the adoption of MySpace and Facebook among young adults in the United States. She reported that MySpace was more appealing to "subculturally identified" young adults, whereas Facebook appealed to those identifying as "mainstream." These differences suggest that unique norms and values might distinguish users of MySpace and Facebook.

It is certainly valuable to examine the novel characteristics of group members and the cultural practices enacted on specific SNS brands. Yet a body of research restricted to a single brand has the potential to limit what we can learn about SNSs more generally. Because Facebook users are unlike users of other SNSs in important ways (e.g. more educated; Hampton et al., 2011), any conclusions drawn from a body of SNS scholarship dominated by Facebook research are inherently Facebook-centric. Such conclusions about SNS uses and effects may not apply to the demographic, interest, or political groups who are underrepresented on this brand. Moreover, a body of research predominantly focusing on Facebook effectively privileges those groups and commensurate cultural practices that are more likely to be represented on this particular brand. Groups and practices not prevalent on Facebook would effectively be excluded from or marginalized in SNS scholarship.

Undue influence of corporate policies and practices

Third, the corporate policies and practices of the company operating the SNS being studied may have an undue influence on research. We define corporate policies and practices broadly to include any actions by the company operating a particular brand that have direct or indirect implications for users and user behavior; such actions could include formal policies developed by the company to regulate users and their behavior on the SNS as well as technical/design features of the site. The corporate policies and practices of the company operating a SNS have the potential to influence the nature, scope, and

findings of any single study focused on their brand. As with the other implications, the most significant consequences appear in the cumulative body of SNS research. The knowledge generated from a body of research that has largely studied or sampled users of a single SNS brand might be substantially affected by the policies and practices of the company operating that brand.

Facebook's frequently changing user privacy policies offer one example where corporate practices can have a potentially significant impact on scholarly research. Between 2006 and 2010, Facebook made at least four major changes to their practices regarding users' ability to manage their personal information (boyd and Hargittai, 2010). There is reason to believe that Facebook's (changing) practices may have influenced user perceptions and behaviors related to privacy.

Lampe et al. (2008) surveyed undergraduate students during the time that Facebook made changes to their privacy practices in late 2006. They found that, between 2006 and 2007, the percentage of users with the default privacy setting dropped from 64% to 45% and respondents' perceptions that their profile would be viewed by strangers from the same university decreased significantly. A few years later, another group of scholars collected data from undergraduate students at two time points during the course of a year in which Facebook again made significant changes to their practices related to user privacy (boyd and Hargittai, 2010). At the end of 2009, users signing-in to Facebook were prompted to evaluate their privacy settings and prohibited from accessing the website without first acknowledging the prompt. The frequency of privacy setting changes made by users increased significantly between 2009 and 2010 among respondents in their sample. The authors explained their findings by noting that "either Facebook's changes to the site or the public discussion about them that took place between 2009 and 2010—or a combination of the two—may have influenced people's practices" (Experiences with Privacy Settings section, para. 1).

Because Facebook is responsible for creating the privacy settings from which users may choose, their corporate policies and practices define those behaviors that are (im)possible and (un)reasonable. The settings created by Facebook effectively establish limits on the types of personal information that users might regulate and offer a template of sorts for thinking about personal privacy in the context of SNSs. Changes in Facebook's practices may have influenced what users felt possible or preferable in terms of protecting their privacy. The potential influence of Facebook's privacy policies and practices on users' perceptions and behavior raises questions about whether the privacy-related findings from a sample of Facebook users would generalize to users of other SNSs—or even to the same Facebook users at a different point in time.⁴

To summarize, the issue at hand is not the corporate policies and practices of Facebook related to user privacy. Rather, our concern is with the potential consequences of predominately studying a single brand of SNS. The corporate policies and practices of virtually any company operating a SNS have the potential to influence users' perceptions and behavior. In a body of research that has largely focused on a single brand, the potential for that brand's policies and practices to affect knowledge development is significant. Our understanding of privacy-related perceptions and behavior on SNSs, for example, could be largely an artifact of Facebook's practices regarding user privacy. In attempting to synthesize a corpus of research dominated by studies of a single brand, the

conclusions we draw are likely to be shaped in part by the policies and practices of the company operating that brand.

Encouraging a focus on features

Fourth, studying only a single brand of SNS like Facebook encourages researchers to focus on features and, in particular, those features that are unique to that brand. We define features as the design and/or technical characteristics of SNSs and distinguish them from affordances (Gibson, 1986; Markus and Silver, 2008; Treem and Leonardi, 2012). Features can be thought of as technical properties of a technology (e.g. list of one's connections in the network), whereas affordances involve the way in which the technology is perceived and used by an individual or group (e.g. activating weak ties). Focusing on a single SNS has the potential to encourage researchers to privilege the technical features that make that brand unique from other SNSs.

Scholars interested in examining Facebook, as opposed to SNSs more generally, may be particularly drawn to the unique features of this particular brand. An example can be found in research attempting to understand motivations for Facebook use. At least one measure of Facebook use motivations includes a dimension that explicitly addresses the perceived importance of features such as the random profile generator, "pulse," and the ability to "poke" others (Baumgarner, 2007). Other research has examined motivations for using features of Facebook such as the "wall," private messages, and groups (Smock et al., 2011) as well as third-party applications such as games (Roa, 2008). Researchers have also explicitly compared Facebook's features with other brands. Facebook has been compared to Orkut as a means to make predictions about Facebook adoption in countries outside of the United States (Wan et al., 2008). Researchers have attempted to better understand the persuasive potential of Facebook by comparing its features with those of Mixi (Fogg and Iizawa, 2008).

There are some instances in which examining the implications of unique features from various SNS brands may be useful. Yet there are also several significant limitations of having a body of research dedicated to the novel features of one or more specific brands. Because features such as being able to "poke" other users may be distinct to a particular brand, research examining the use and implications of these features might not apply to other brands. As SNSs evolve—such as the recent replacement of the "wall" on Facebook with a timeline feature—it is even possible that research on a given feature might not apply to the same brand at a later point in time. Ellison and boyd (2013) discussed a similar issue in noting the potential barriers created by changing SNS features for effectively synthesizing this body of scholarship.

Beyond encouraging a focus on novel features, predominately studying a single brand could encourage researchers to limit how they think about SNSs and what is ultimately learned about this communication and information technology. In only studying one brand, one's definition of that class of technology would effectively be defined by the features of that single brand. Researchers would be unlikely to explore or even pose questions that deviate from the features and structure of the particular brand of interest. Tie formation, for example, is largely bidirectional on Facebook in that both parties have to agree to form a connection. A body of research limited to studying this particular brand

would be unlikely to produce insights—and perhaps even questions—about the consequences of unidirectional ties in SNSs. Moreover, such a limited focus may lead those conclusions that are drawn to be inaccurate or incomplete. For instance, prior research has shown that Facebook users' tastes (Lewis et al., 2008b) and privacy practices (Lewis et al., 2008a) are related to the tastes and practices of their connections in the network. In reviewing a body of similar research limited to Facebook, one might conclude that SNS users' behavior is highly interdependent with that of their connections. Yet such a conclusion could be overlooking the nature of tie formation on Facebook and the possibility that the findings from studies similar to Lewis and colleagues might not extend to those SNSs in which tie formation is unidirectional.

Finally, focusing on features has the potential to discourage the development of theory to explain the use and consequences of SNSs and social media more generally (Treem and Leonardi, 2012). A focus on features privileges the technical and design elements of a particular brand and not the processes that underlie the uses and effects of these technologies. In reflecting on the status of scholarship on communication technologies, Parks (2009) encouraged “shifting our attention away from the surface features of technologies to the underlying communicative processes they serve” (p. 725). Studying the affordances common to SNSs, which is considered in the final section of this review, offers one approach to address this issue.

Potential to become obsolete

Finally, as with virtually any brand of any consumer good, the potential for a brand of SNS to become extinct is omnipresent. One constant in the brief history of SNSs appears to be the relative impermanence of SNS brands. Formed in 1997, the relative lack of people using the Internet and user concerns about accepting friend requests from strangers made SixDegrees obsolete by 2000 (boyd and Ellison, 2007). Friendster was formed in 2002, but technical problems and user disagreements with organizational policies led this SNS to fall out of favor (Heidemann et al., 2012). MySpace was started in 2003 and grew quickly in popularity. Yet declining membership recently led MySpace to shift its focus to music and musicians and has some critics pronouncing its impending demise (Townsend, 2011). Beyond these three, a litany of SNSs—such as Unthink and OneSocialWeb—have come and gone with relatively little notice.

Given the history of SNSs like SixDegrees and Friendster, it would not be unprecedented for Facebook's use and popularity to decline over time. What would such a decline mean for the body of research on SNSs? Would the findings from studies of Facebook still be meaningful or applicable to new brands developed in the future? These questions are more than trivial. The evidence and arguments presented in this review suggest that scholars would be left with a body of research that is largely Facebook-centric and may offer only a tenuous understanding of the remaining brands as well as those developed in the future. Although there is reason to believe that SNSs are here to stay, history suggests that the fate of any single brand is more perilous. As such, limiting research on SNSs to Facebook or any other single brand endangers the contribution made by such efforts in the event that the brand-of-interest falls out of favor or becomes extinct.

Summary and recommendations for studying SNSs

The significant growth in research examining SNSs in recent years makes this an opportune time to consider the progress of scholarship on this topic. Our analysis of six interdisciplinary journals offers evidence that a significant proportion of the SNS articles in these journals have been limited to the study of Facebook and Facebook users. The second part of our review has been dedicated to considering five possible implications of having a body of scholarship on a technology dominated by research focusing on a single brand of that technology. The five implications included concerns with generalizability, the potential to privilege a particular group, the undue influence of the brand's corporate policies, the potential to encourage a focus on SNS features, and the viability of completed research should the SNS brand of interest fail. To reiterate, these five implications are not intended as critiques of individual studies, but are broader potential concerns about a body of research that is largely restricted to one particular brand. We believe that these issues can, across a body of scholarship, serve to limit what can be learned about SNSs more generally.

In addition to evaluating existing research on SNSs, another goal of this project is to offer some recommendations for future work that might further advance our understanding of the use and implications of this communication and information technology. We note three possibilities for proceeding with research on SNSs. These recommendations are not intended to set limits on what can or cannot be studied. Rather, we intend these recommendations to apply to SNS research in aggregate; we believe these suggestions might enable the body of scholarship on SNSs to become more robust.

First, in those instances when researchers are interested in applying their findings beyond a single brand to SNSs more generally, it would be beneficial to sample from or study multiple SNS brands. Limiting a project to a single brand like Facebook (or Cyworld, Myspace, Hyves, etc.) makes it difficult to tell whether the results are an artifact of the unique features of that SNS or its users. Studying or sampling from multiple brands of SNSs will help increase the generalizability of the findings from a given project. More broadly, a body of research consisting of studies examining multiple SNS brands is likely to yield a more complete understanding of the uses and effects of SNSs as a class of communication and information technology. Individual SNS brands will be less likely to exert an undue influence on the conclusions drawn from such a body of scholarship. In addition to sampling from multiple brands, it would be worthwhile to broaden the scope of individuals typically sampled. A significant proportion of research on SNSs appears to focus on young adults (Wilson et al., 2012). Although young adults are an important group of SNS users, data collected by the Pew Internet and American Life Project offer compelling evidence that SNSs are used by adults from a wide range of age groups. During 2010, for example, 46% of adult SNS users were between the ages of 36 and 65 years (Hampton et al., 2011). Moreover, Table 1 shows that relatively few of the articles in the six journals we examined studied SNSs popular outside of the United States—despite the fact that SNS use is a world-wide phenomenon. In sampling SNS users from multiple brands, scholars should also consider including participants who represent diverse age groups and more extensively examining SNS use in countries other than the United States.

Second, the way in which SNSs are written and thought about warrant greater attention. Several of the studies reviewed by Wilson et al. (2012) appear to substitute the term “Facebook” for the term “SNS.” This convention also becomes evident in searching popular databases of academic research. At the time this review was written, a search of the Communication and Mass Media Complete database limited to results in which the term “Facebook” appears in the article title yielded 366 results, whereas the same search using the terms “social network website,” “social network site,” or “SNS” yielded a combined total of only 16 results. Although Facebook is presently the most widely used SNS in the world, it is nonetheless one brand among many. Using the term “Facebook” in place of the term “SNS” privileges this particular brand of technology and presents it as being representative of all other SNSs. Yet, as previously discussed, there is reason to question the degree to which Facebook and Facebook research is applicable to other SNSs. Using non-brand-specific language is a means to place greater emphasis on the underlying class of technology of which Facebook is an example.

Third, advancing research on SNSs requires expanding theory related to the uses and effects of SNSs. Considering those affordances that transcend various SNS brands—and social media more generally—is one avenue to help advance theory regarding these technologies. Markus and Silver (2008) discussed affordances as “the possibilities for goal-oriented action afforded to specified user groups by technical objects” (p. 622). They are distinct from features in that affordances focus on how technologies are perceived and used by an individual or group (Treem and Leonardi, 2012). For example, virtually every SNS makes it possible for users to broadcast a message directly to some or all of the users’ connections in the network. What are the different uses and effects of such broadcasts? Although some research has already been conducted (e.g. Burke et al., 2011), further exploring this and related questions would offer insights about some of the processes fundamental to SNS use. It would also be valuable to think about SNS use in the broader context of everyday life. SNSs represent just one of the potentially many communication and information technologies central to individuals’ daily communication practices. Examining how SNSs are used in concert with other communication and information technologies would be a worthwhile direction for research.

Conclusion

The dramatic growth in research on SNSs makes it important to reflect on the body of scholarship that has accumulated on this topic. This review examined one notable issue in evaluating the degree to which SNS research published in six interdisciplinary journals has been dominated by the study of a single brand and five potential implications of this trend. Beyond the brands of SNSs studied, there are a plethora of others issues that are worthy of consideration—such as who has been sampled and the role of theory in SNS research. It is our hope that this review becomes one of many articles reflecting on the state of SNS scholarship. More generally, we believe that the issues considered in this manuscript have the potential to inform scholarship on related technologies as well as ones developed in the future. As researchers endeavor to explore the uses and effects of communication and information technologies that are marked by different brands (e.g. microblogs, videosharing websites), it is worthwhile to consider the implications that the

decision to study one or more brands has for the broader body of research on those technologies. We believe that doing so will help to foster a more complete understanding of the social implications of these technologies.

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Notes

1. The term “brand” refers to a “name, term, sign, design, or unifying combination of these intended to identify and distinguish the product or service from its competitors” (McDowell, 2004, p. 31).
2. For example, whereas the defining characteristic of microblogs is the potential to broadcast messages to one’s connections in the network, SNSs make possible such broadcasts along with a number of novel activities. In this way, the activities made possible by SNSs are broader and more diverse than those made possible by more focused genres of related technologies.
3. To be clear, the five artifacts outlined in this review are not based on our content analysis, but are our arguments about the potential implications of having a body of research dominated by the study of one SNS brand.
4. Moreover, Facebook’s practices have consequences for the growing area of SNS research relying on automated data extraction and data mining (e.g. Jernigan and Mistree, 2009; Lewis et al., 2008b; Wilkinson and Thelwall, 2010). The amount and types of publicly available data are significantly impacted by changes in Facebook’s privacy practices and the privacy controls granted to or taken from users. Facebook’s policies impact the nature of data that might be extracted or mined by researchers as well as the potential for data to be available consistently over time.

References

- Adamic L and Adar E (2005) How to search a social network. *Social Networks* 27: 187–203.
- Baumgarner BA (2007) You have been poked: exploring the uses and gratifications of Facebook among emerging adults. *First Monday* 12. Available at: <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2026/1897>
- Beer D (2008) Social network(ing) sites ... revisiting the story so far: a response to danah boyd & Nicole Ellison. *Journal of Computer-Mediated Communication* 13: 516–529.
- boyd d (2011) White flight in networked publics? How race and class shaped American teen engagement with MySpace and Facebook. In: Nakamura L and Chow-White PA (eds) *Race after the Internet*. New York: Routledge, pp. 203–222.
- boyd d and Ellison NB (2007) Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication* 13: 210–230.
- boyd d and Hargittai E (2010) Facebook privacy settings: who cares? *First Monday* 15. Available at: <http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3086/2589>
- Burke M, Kraut R and Marlow C (2011) Social capital on Facebook: differentiating uses and users. In: *ACM CHI 2011: conference on human factors in computing systems*, Vancouver, BC, Canada, 7–12 May.
- Coe JB, Weijs CA, Muise A, et al. (2012) Understanding veterinary students’ use of and attitudes toward the social networking site, Facebook, to assist in developing curricula to address online professionalism. *Journal of Veterinary Medical Education* 39: 297–303.

- Cook TD and Campbell DT (1979) *Quasi-Experimental Design & Analysis for Field Settings*. Boston, MA: Houghton Mifflin.
- Dimock WC (2011) World literature on Facebook. *PMLA* 126: 730–736.
- Dwyer C, Hiltz SR and Passerini K (2007) Trust and privacy concern within social networking sites: a comparison of Facebook and MySpace. In: *Proceedings of the thirteenth Americas conference on information systems*. Available at: <http://aisel.aisnet.org/amcis2007/339>
- Ellison NB and boyd d (2013) Sociality through social network sites. In: Dutton WH (ed.) *The Oxford Handbook of Internet Studies*. Oxford: Oxford University Press, pp. 151–172.
- Facebook (2014) Company information. Available at: <http://newsroom.fb.com/company-info/>
- Fogg BJ and Iizawa D (2008) Online persuasion in Facebook and Mixi: a cross-cultural comparison. *Persuasive Technology* (Lecture Notes in Computer Science—LNCS) 5033: 35–46.
- Gibson JJ (1986) *The Ecological Approach to Visual Perception*. Mahwah, NJ: Lawrence Erlbaum.
- Hampton KN, Goulet LS, Rainie L, et al. (2011) Social networking sites and our lives (research report). Available at: <http://www.pewinternet.org>
- Hargittai E (2008) Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication* 13: 276–297.
- Heidemann J, Klier M and Probst F (2012) Online social networks: a survey of a global phenomenon. *Computer Networks* 56: 3866–3878.
- Heiferman M (2011) Has Facebook killed the photo? *Art in America* 99: 55–61.
- Jansen BJ, Sobel K and Cook G (2011) Classifying ecommerce information sharing behaviour by youths on social networking sites. *Journal of Information Science* 37: 120–136.
- Jernigan C and Mistree BFT (2009) Gaydar: Facebook friendships expose sexual orientation. *First Monday* 14. Available at: <http://firstmonday.org>
- Johnston K, Tanner M, Lalla N, et al. (2013) Social capital: the benefit of Facebook “friends.” *Behaviour and Information Technology* 32: 24–36.
- Kairam S, Brzozowski M, Huffaker D, et al. (2012) Talking in circles: selective sharing in Google+. In: *Proceedings of the SIGCHI conference on human factors in computing systems*, Austin, TX, 5–10 May, pp. 1065–1174. New York: ACM.
- Kietzmann JH, Hermkens K, McCarthy I, et al. (2011) Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons* 54: 241–251.
- Kim J, Baek TH and Martin HJ (2010) Dimensions of news media brand personalities. *Journalism & Mass Communication Quarterly* 87: 117–134.
- Kim W, Jeong O and Lee S (2010) On social websites. *Information Systems* 35: 215–236.
- Kujath C (2011) Facebook and MySpace: complement or substitute for face-to-face interaction. *Cyberpsychology, Behavior, and Social Networking* 14: 75–78.
- Kuruville HG (2011) Student attitudes toward using Facebook as a tool for the dissemination of laboratory results in a cell biology course. *Paper session presented at the meeting of ASCB*, Denver, CO, 3–7 December.
- Lampe C, Ellison NB and Steinfield C (2008) Changes in use and perception of Facebook. In: *Proceedings of the 2008 ACM conference on computer supported cooperative work*, San Diego, CA, 8–12 November, pp. 721–730. New York: ACM.
- Lewis K, Jason K and Nicholas C (2008a) The taste for privacy: an analysis of college student privacy settings in an online social network. *Journal of Computer-Mediated Communication* 14: 79–100.
- Lewis K, Kaufman J, Gonzalez M, et al. (2008b) Taste, ties, and time: a new social network dataset using Facebook.com. *Social Networks* 30: 330–342.
- McDowell WS (2004) Exploring free association methodology to capture and differentiate abstract media brand associations: a study of three cable networks. *Journal of Media Economics* 17: 309–320.

- Markus ML and Silver MS (2008) A foundation for the study of IT effects: a new look at DeSanctis and Poole's concepts of structural features and spirit. *Journal of the Association for Information Systems* 9: 609–632.
- Nadkarni A and Hoffman SG (2012) Why do people use Facebook? *Personality and Individual Differences* 52: 243–249.
- Parks M (2009) What will we study when the Internet disappears? *Journal of Computer-Mediated Communication* 14: 724–729.
- Roa V (2008) Facebook application and playful mood: the construction of Facebook as a “third place.” In: *Proceedings of the 12th international conference on entertainment and media in the ubiquitous era*, Tampere, 7–9 October, pp. 8–12. New York: ACM.
- Rui J and Stefanone MA (2013) Strategic self-presentation online: a cross-cultural study. *Computers in Human Behavior* 29: 110–118.
- Smock AD, Ellison NB, Lampe C, et al. (2011) Facebook as a toolkit: a uses and gratifications approach to unbundling feature use. *Computers in Human Behavior* 27: 2322–2329.
- Thelwall M (2009a) Homophily in MySpace. *Journal of the American Society for Information Science and Technology* 60: 219–231.
- Thelwall M (2009b) Social network sites: users and uses. In: Zelkowitz M (ed.) *Advances in Computers*. Amsterdam: Elsevier, pp. 19–73.
- Townsend A (2011). 5 failed social networks even worse than MySpace. *Time*, January. Available at: <http://techland.time.com/2011/01/14/5-failed-social-networks-even-worse-than-myspace/>
- Treem JW and Leonardi PM (2012) Social media use in organizations: exploring the affordances of visibility, editability, persistence, and association. *Communication Yearbook* 36: 143–189.
- Tufekci Z (2008) Grooming, gossip, Facebook, and MySpace. *Information, Communication & Society* 11: 544–564.
- Vasalou A, Joinson A and Courvoisier D (2010) Cultural differences, experience with social networks and the nature of “true commitment” in Facebook. *International Journal of Human-Computer Studies* 68: 719–718.
- Wan Y, Kumar V and Bukhari A (2008) Will the overseas expansion of Facebook succeed? *IEEE Internet Computer* 12: 69–73.
- Wikle TA and Comer JC (2012) Facebook's rise to the top: exploring social networking registrations by country. *International Journal of Virtual Communities and Social Networking* 4: 46–60.
- Wilkinson D and Thelwall M (2010) Social network site changes over time: the case of MySpace. *Journal of the American Society for Information Science and Technology* 61: 2311–2323.
- Wilson RE, Gosling SD and Graham LT (2012) A review of Facebook research in the social sciences. *Perspectives on Psychological Science* 7: 203–220.

Author biographies

Stephen A Rains is an Associate Professor and Steven R Brunner is a Doctoral Candidate in the Department Communication at the University of Arizona. The authors thank the editor, Dr. Dave Park, and three anonymous reviewers for their helpful feedback regarding this manuscript.