Wired Academia: Why Social Science Scholars are using Social Media

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Abstract

Social media websites are having a significant impact on how collaborative relationships are formed and information is disseminated throughout society. While there is a large body of literature devoted to the ways in which the general public is making use of social media, there is little research regarding how such trends are impacting scholarly practices. This paper presents the results of a study on how academics, primarily in social sciences, are adopting these new sites.

1. Introduction

The term ‘public forum’ is often associated with the concept of a designated space within a community where individuals can gather to discuss topics, exchange information, and develop interpersonal relationships with other members. Throughout history, such gathering points have often been established in central locations such as public squares or church basements. However, with the dawning of the Digital Age at the turn of the 21st century, there has been a great shift in community structures, often marked by closer interconnections between the forum as a physical space and that of a virtual realm [1,2]. Today, many individuals and groups rely on social media such as blogs, microblogs, social networking sites, and the like to form and connect various online communities [3]. These online environments often offer open and indiscriminate discussions that promote the free exchange of ideas on a global scale.

Due to the increasing popularity and influence of social media in the creation and support of communication networks, as well as information dissemination processes, a great deal of recent research has involved studying how the general public makes use of such sites in their daily lives. Topics that have been the subject of interest include, just to name a few, how young adults use social media [4], usage of social media by seniors [5], the creation of social relations online [6], and privacy issues around social media use [7]. When considering the body of knowledge that has been compiled regarding social media use, it becomes evident that examination regarding the ways in which academics are adopting social media is understudied, especially among social science scholars. Considering the potential significance of social media use within academic circles, it is important to understand how social media are being adopted and adapted by scholars in regards to their professional work.

This paper discusses the results of an online survey conducted between October 2010 and February 2011. Results are based on responses provided by 367 participants, all of whom are members of at least one of the following research associations: American Society for Information Science & Technology, Association of Internet Researchers, and International Network for Social Network Analysis. This survey examined to what extent scholars use social media, and what social media sites are most popular among scholars and for what purposes.

One of the main goals for this study is also to learn what factors influence one’s decision to start using social media for professional purposes.

2. Previous work

2.1. Early studies on ICTs and scholars

A number of previous studies investigating scholars’ use of Information and Communication Technologies (ICTs) [8-11] confirmed that emails along with listservs are among scholars’ most frequently used ICTs in both their professional and personal lives, one reason being that these sites are both familiar and well-established. In addition to emails and listservs, blogs have distinguished themselves as a quickly evolving and growing form of online publishing and discourse in many academic fields [12-14]. They are being adopted by many academic communities and used in a variety of ways to meet researchers’ specific needs. Benefits cited by academic bloggers include the following: a less formal atmosphere where it is possible to explore unasked
questions, a platform where scholars can develop a strong voice through online technology, and a virtual forum where institutional staff can discuss issues in an open format. Blogs also provide a means of developing collaborative spaces and connecting researchers that have similar interests, but are in different circles or may not publish widely in traditional venues such as journals. In a study of fifteen academic blogs, Luzon found that similar to formal publications, blogs often link to outside sources, other blogs, or other pages within a blog [15]. This is done in order to give credit to peers, point readers to further publications by the author, and participate in conversations taking place across blogging platforms. Another study by Bukvova, et al. found that through participation in blog related activities, scholars not only keep in touch with known peers, they also form new relationships with scholars of similar interests and research areas [16].

Microblogs have also been steadily gaining popularity in academic circles. One such example is Twitter.com, a popular platform for sharing short text messages, with the site’s estimated population of 140 million active users (as of March 21, 2012). The real-time nature of the short messages (also known as tweets) can draw users into informal conversations. Among academics, Twitter has proven to be especially popular during conferences [17]. Also the asymmetric nature of Twitter connections (when one person can follow another but the second person does not have to follow the person who initiated the contact back) creates opportunities for new contacts to emerge across different research domains and institutions [18].

Although the current study does not cover the use of social media in the context of teaching, it is important to acknowledge that there also have been a number of papers on the use of Facebook.com, a popular social networking website, as a formal and informal platform for teaching and learning [19,20]. In addition to social media sites designed for the general public, more and more sites that specifically target academics are entering the market. These include specialized wikis, academic social networking sites such as ResearchGate.net and Academia.edu, and scholarly microblogging platforms such as ScienceFeed.com. However, due to the novelty of these websites, to our best knowledge, there has not been a comprehensive study done to understand how they are being used by academics and how they may be changing the way scholars operate.

All this proliferation of social media, both for specialized audiences and the general public, and their growing popularity in academia, offer scholars new ways to interact and share scholarly information online. One such example of how social media are becoming more integrated with traditional scholarly practices is their recent use as a platform for informal peer-review processes. For example, in August 2010, when a researcher claimed to have proven one of the most difficult problems in mathematics, known as "P versus NP", a number of mathematicians used social media such as wikis and blogs, to discuss the validity of this proof [21]. In a matter of hours, peers found several drawbacks with the proof, and were able to provide this feedback to the original author. A similar situation occurred when a team of researchers claimed to have found a gene that predicts the human lifespan, and published the results in Science magazine [22]. In this case, scholars also used social media to discuss the results, which lead to finding a problem with the methodology within a very short period of time. Both of these cases demonstrate the ability of social media to engage a large group of scholars in a matter of minutes or hours, and take their communication and collaboration practices to the next level in regard to the speed and openness of their discussions.

The previous work in this area outlined above indicates that social media are playing an increasingly important role in academic lives, and that there is a need for a comprehensive study on if, how, and why scholars are using social media. Furthermore, most of the previous studies discussed have primarily focused on a single type of ICTs such as emails or blogs. However, to better understand how scholarly practices may be changing, we need to investigate the wide range of social media that are emerging on the web, and their potential influence on scholarly work. Finally, based on our literature review, most of the previous research in this area focused on scholarly practices among researchers in the “hard” sciences like mathematics (e.g., [23-25]). Scholars working in the social sciences are often neglected in this area. One reason for this may be that they are often perceived as less likely to use ICTs due to tendencies to publish independent work, and also to be less technologically savvy than their counterparts in the “hard” sciences. Therefore, the sample of participants in the current study was drawn primarily from the social sciences.

2.2. Related theories

In addition to surveying the current state of social media use by social science scholars, the secondary goal for this study is to uncover the main reasons for why scholars use social media. To address the latter, the study draws on the previous theoretical work on technology adoption. The following is a brief review of some of the relevant and key theories in this area.

The theory of diffusion of innovations is a well-established theory, synthesized by Everett Rogers in 1962. The theory attempts to explain how innovations
are being adopted by individuals or organizations and why some innovations are more likely to spread than others [26]. In a nutshell, the theory argues that the adoption rate of an innovation is due to the following five factors: (1) relative advantage – Is the new idea better than an existing solution(s)? (2) compatibility – Does it fit with the existing practices? (3) complexity – Is it easy to use it? (4) trialability – Can we try it before making a decision to adopt or reject? and (5) observability – Can we easily observe the results of an innovation? A number of previous studies relied on this theory to study the adoption processes of ICTs. Just to name a few, Cogburn et al. studied the use of a virtual organizational structure by a transnational NGO network participating in the UN World Summit on the Information Society (WSIS) [27]; Owen et al. evaluated the technology use at cultural heritage sites [28]; and Vuorikari studied the use of ICTs in cross-border school collaboration projects [29]. Although widely used, this theory is based on market research. And due to the differences in the contexts between market and academia, and differences in information needs and behavior between consumers and scholars, we believe that this theory is not well-suited to study social media adoption among scholars.

Another related theory in this area is the Technology Acceptance Model (TAM). Proposed by Davis in 1986, TAM focuses on explaining technology acceptance and use by individuals. Specifically, TAM explains that a user’s intention to use a technology depends on two primary factors: perceived usefulness and perceived ease of use [30]. Recently, TAM was expanded into the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. to include other constructs such as performance expectancy, effort expectancy, social influence and facilitating conditions [31]. In the area of social media adoption, UTAUT has been used to study how social media are used by nonprofit organizations for public relations [32], by students for educational purposes [33], and most recently, by health educators [34]. However, a recent study of 52 information science scholars that explored the applicability of the UTAUT model to study the scholarly use of social media found some limitations of this model as it is currently proposed [35]. For example, the authors found a limitation in the way the “social influence” factor is formulated in this model, explaining that “[r]ooted in organizational studies, this construct primarily focuses on the influence that is coming from within the organization, and primarily from the top to down. In academia, social influence can come from all directions: from senior colleagues and administrators within the institution, students, peers at other institutions and even non-academic friends or family members…” (p. 2348).

The authors of this study do recommend its future use in this domain; however, once the model is expanded and fully tested with a scholarly population.

In recent years, another popular theory emerged as a valuable tool to study social media – the Uses and Gratifications (U&G) theory. The U&G theory comes from media research and attempts to describe media use based on individuals’ gratification or psychological needs, and it is considered to be “one of the most appropriate perspectives for investigating why audiences choose to deal with different media channels” [36]. The U&G theory “assumes that media have little or no impact on those who do not use it, but that people select a particular medium because it is meaningful” and because it “gratifies one or more needs” [37]. A detailed overview of the history of the U&G theory can be found in [38]. The U&G theory has been successfully applied to both traditional media such as radio and TV, and non-traditional and more interactive media such as emails and instant messaging, and social media are no exception. For example, Raacke and Bonds-Raacke applied the U&G theory to study why college students use social networking sites like Myspace and Facebook [39]. The study confirmed that the primary uses and gratifications that are being met by using these sites are making new friends and locating old friends. In a separate study, Brandtzæg and Heim looked at why users in Norway use social networking sites [40]. They found that the top 3 reasons for people to use social networking sites are connecting with new people, keeping in touch with friends and generally socializing. More recently, Quan-Haase and Young used the U&G theory to study the gratification factors obtained from using Facebook [41]. The researchers found that the frequency of Facebook use was positively associated with sociability, social information, and pastime. Finally, Chen examined the use of Twitter in light of the U&G theory [37]. The author found that users’ gratification through an informal sense of “camaraderie” is associated with the amount and frequency of time spent using Twitter. Considering a rapidly increasing number of social media studies which relied on the U&G theory, it was decided to use it for the current study as well.

The rest of the paper is structured as follows. Section 3 on Method discusses how “social media” was defined in the study and how the survey was collected. Section 4 summarizes the main results of the survey including the review of popular and unpopular social media used by scholars and then following the U&G theory, this section investigates what
3. Method

In order to determine how social media are used by scholars for professional purposes, an online survey was carried out between the months of October 2010 and February 2011. Respondents were recruited by way of listserv invitations from three associations: American Society for Information Science and Technology (ASIS&T), Association of Internet Researchers (AoIR), and the International Network for Social Network Analysis (INSNA). ASIS&T and AoIR were selected because they are interesting case studies. Most of the members of these associations are technologically savvy and tend to be early adopters. It was hypothesized that a large proportion of these researchers use the technologies under investigation, and would be able to share their experiences. INSNA was selected because the membership is very diverse and draws together academics from a variety of disciplines such as communication and sociology. While we expected there to be a lower number of early adopters, the organization provides access to a large cross-sample of researchers that are united through the common thread of social network analysis, which is often a component of their research. Finally, both INSNA and AoIR consist of international members, which allowed us to study how knowledge and information is being exchanged around the globe.

The survey was designed to shed light on which social media sites are most popular in academia, the reasons why respondents are not using such sites, and the benefits and problems scholars associate with these sites. The survey consisted of two main parts. The first asked participants to provide information regarding their use of social media, the frequency of use, and for what purposes. In cases where respondents answered that they do not use social media, the survey solicited information regarding why not. In total, 367 participants completed the first part of the survey. The second section was designed to solicit more details from respondents regarding their two social media sites that they selected as the most important for professional purposes. In total, 315 participants completed the second part. Since the aim of the study was to focus on the uses of social media for research-related activities, questions about the social media use for teaching purposes were not included.

Prior to starting the study, it was essential to define “social media”. Traditionally, social media are associated with web 2.0 technologies, which are characterized by collaboration, creation and modification of online environments, and the presence of user-generated content [42-43]. However, more and more websites are now incorporating social media and networking features, such as the ability to subscribe to friends’ updates. In recognition of this growing trend, instead of focusing on a constantly changing list of sites that are considered to represent social media, Hogan and Quan-Haase proposed to look at social media from the social affordances perspective [44]. The notion of social affordances has been frequently used in the Computer-Mediated Communication (CMC) field to study different forms of user interactions and collaborative technologies that enable group members to interact with each other [45-46]. Following Hogan and Quan-Haase, we defined social media as online media that afford “two-way interaction with an audience, beyond any specific recipient” [44], also known as “many-to-many” communication. This allowed us to include a variety of sites such as social networking sites (i.e. Facebook), microblogging sites (i.e. Twitter), online media repositories (i.e. Flickr), etc. We chose to employ a broad definition to include the widest range of social media sites possible in order to understand exactly how they are used by academics.

In addition, we also included listservs as an option in the survey. Listservs can be considered as precursors of modern social media, as they also support many-to-many communication. Furthermore, since listservs have been considered one of the primary communication channels in scholarly communities for the past two decades, responses about listservs will provide us with baseline data to compare with other social media sites.

In the survey, sites were grouped into one of fourteen general categories: listservs, blogs (maintaining one’s own blog), blogs (reading or commenting on somebody’s else blog), microblogs, non-academic social networks, academic social networks, online document management, video/teleconferencing, wikis, media repositories, bibliographic management, virtual worlds, social bookmarking, and presentation sharing sites. Respondents were first asked to indicate how often they use (or do not use) each category of social media for research-related activities. Then, they were asked to select the top two social media sites that are the most important for their work. The subsequent questions were based on the selected sites and were designed to examine the purpose for social media usage, the frequency of use and the main advantages and disadvantages encountered.
4. Results

4.1. Study demographics

The largest groups of respondents self-identified as graduate students (38%), professors (37%, consisting of assistant, associate and full professors, lectures and senior lectures) and researchers (17%, including post-doctoral fellows). Most of the participants were associated with the social sciences (79%) followed by computer science (18%). Within the social sciences, popular disciplines included education, management, arts & literature, language and history. There were slightly more female respondents (57%) than male, which is not surprising given the fact that there tends to be a higher number of women working in areas related to the social sciences. In addition, the majority of respondents (72%) self-identified as residing in the United States, Canada, or the United Kingdom, which reflects the membership base of the three associations in the study. Finally, 76% of respondents were under 45, with the largest group between 30 to 34 years old (24%), followed by the 25-29 age group (22%). The following sections will address the two fundamental questions: what social media sites are being used by this group of scholars and for what purposes.

4.2. Popular social media sites

To find out what social media sites are currently popular among scholars, we asked the respondents to specify what sites they are currently using and how frequently (daily, weekly, monthly, once or twice a year). Furthermore, to identify “trending” sites, which will likely become popular in the future, we asked the participants to identify what sites they would like to use for academic purposes in the future. The results are summarized in Table 1, which shows the top five social media categories across frequently used, occasionally used, “trending” sites and not popular sites.

The survey results indicated that listservs are still the primary channel for scholarly information dissemination and communication – 84% (309) of respondents stated that they frequently use listservs for professional reasons (daily or weekly). However, since the recruitment of the study participants was primarily conducted via listservs, this result may not be generalizable and is likely skewed towards listserv users.

Following listservs, the most frequently used social media for scholarly work were: non-academic social networks, blogs (read or comment), online document management, media repositories, and wikis (see Table 1). Except online document management sites, the other four sites on this list do not come as a surprise as these are the same sites that are also popular among the general population [47]. As a result, some academics might have built a familiarity with these sites based on experience through personal use. As one respondent stated, the learning curve is “less time consuming, as I already use these sites privately”. As for online document management sites like Google Docs, the result may reflect an increasing collaborative nature of research among social scientists as well as the increasing maturing of these sites.

### Table 1. Top five social media sites based on the frequency of use

<table>
<thead>
<tr>
<th>Most Popular (Frequent Use)</th>
<th>Most Popular (Occasional Use)</th>
<th>Trending (Intention to Use)</th>
<th>Not popular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-academic social networks</td>
<td>Presentation sharing sites</td>
<td>Presentation sharing sites</td>
<td>Virtual worlds</td>
</tr>
<tr>
<td>Read/comment on blogs</td>
<td>Video/teleconferencing</td>
<td>Bibliographic management sites</td>
<td>Social bookmarking sites</td>
</tr>
<tr>
<td>Online document management</td>
<td>Read/comment on blogs</td>
<td>Academic social networks</td>
<td>Maintain blogs</td>
</tr>
<tr>
<td>Media repositories</td>
<td>Wikis</td>
<td>Social bookmarking sites</td>
<td>Microblogs</td>
</tr>
<tr>
<td>Wikis</td>
<td>Academic social networks</td>
<td>Bibliographic management sites</td>
<td></td>
</tr>
</tbody>
</table>

Among social media sites that are used occasionally (monthly or once/twice a year), the top 5 were presentation sharing sites, video/teleconferencing, blogs (read or comment), wikis, and academic social networks (see Table 1). The fact that these particular sites are used less frequently does not necessarily mean that they are less important in scholarly practices. For example, since scholars usually present at conferences only a few times a year, they may only need to use a presentation sharing site once or twice a year to post their presentation slides. The same goes for the video/teleconferencing sites like Skype; its frequency of use likely depends on the number of remote collaborators and projects that a scholar is involved in. Interestingly, wikis and blogs appear to be popular among both frequent and occasional users, suggesting these technologies’ overall importance in scholarly practices.

The top 5 “trending” sites were presentation sharing sites, bibliographic management sites, academic social networks, blogs (maintain a blog), and social bookmarking sites. Among these five sites, the growing interest in presentation sharing sites, bibliographic management sites, and academic social networks may be related to growing concerns in academic communities regarding privacy and the
desire for the separation of professional and personal lives (all of which are discussed later in the article). Presentation sharing and bibliographic management sites allow academics to disseminate and share information with groups of peers, while avoiding the disclosure of personal information or associations with topics that may be deemed controversial. In general, these sites were built to store materials necessary for research, and as a result, are quite benign. As several respondents stated, “they are very good at sharing knowledge” and they are useful as “online databases”. In a similar fashion, academic social networking sites allow for a division between professional and personal lives, as such platforms are intended for the creation of professional networks of peers in which ideas related to fields of study are discussed. And especially for presentation sharing and academic social networking sites, their presence on the both “occasional” and “trending” lists at the same time confirms that their adoption level might be on the rise.

Finally, the top 5 sites that are less likely to be used by scholars were virtual worlds, social bookmarking sites, blogs (maintain a blog), microblogs, bibliographic management sites. When asked to provide further details into why such sites are not of interest, many comments were related to time consumption (especially in regards to maintaining a blog), concerns regarding privacy and persistence of digital records in social media, and absence of professional audience. As respondents stated: “they are a waste of time in my opinion”, “the permanence of the record [concerns me]”, and “I do not know of colleagues using this technology”. The presence of social bookmarking sites, blogs (maintain a blog), and bibliographic management sites on the both “trending” and “none users” lists suggests that the scholarly community is divided about the utility of these sites. It was somewhat surprising to discover microblogging sites like Twitter on the “none users” list, considering their growing popularity among the general public [48], and a growing body of literature that documents their use by scholarly communities, especially during academic conferences [17, 49]. For example, some study participants mentioned that they do not feel that sites such as Twitter are useful, as it is difficult to express ideas and thoughts in 140 characters or less. Such comments show that microblogging is still relatively new in academia and does not have a large following base yet. However, it is highly valued by people who already adopted microblogging in their professional practices, as supported by the fact that microblogs (along with blogs) were selected as one of the most important sites among the respondents, specifically for knowledge and information dissemination.

4.3. Explaining social media use through the uses and gratifications theory

As discussed in the literature review section, one way to understand why people use a particular ICT is through the U&G theory, which states that users are driven by different motivations to use ICTs. This section will attempt to uncover what drives some social and computer scientists to use social media. Since no prior scale of gratification factors was found in the literature that relates to scholarly use of social media, we compiled a list of nine commonly cited benefits in the literature that scholarly users of social media mentioned in the prior studies (see Table 2).

To this list we also added two additional benefits. First, in recognition of the fact that mainstream media and journalists are starting to rely on social media to discover relevant content and experts for their interviews and stories [50], we added an additional benefit “garnering mass media attention”, which might help some researchers to extend the reach of their research beyond the walls of academia. Second, since the search for new ideas and research funding is a 24/7 preoccupation for most tenured and tenured track faculty members, we added “discovering new research ideas and funding opportunities” to the list. This is done in order to probe and test to see if these additional reasons are valid as a motivator that would drive some scholar to adopt social media.

Table 2. Benefits of using social media among scholarly users

<table>
<thead>
<tr>
<th>Benefit</th>
<th># of Responses</th>
<th>%*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keeping up to date with topics</td>
<td>167</td>
<td>53%</td>
</tr>
<tr>
<td>Following other researchers' work</td>
<td>165</td>
<td>52%</td>
</tr>
<tr>
<td>Discovering new ideas or publications</td>
<td>152</td>
<td>48%</td>
</tr>
<tr>
<td>Promoting current work/research</td>
<td>122</td>
<td>39%</td>
</tr>
<tr>
<td>Making new research contacts</td>
<td>111</td>
<td>35%</td>
</tr>
<tr>
<td>Collaborating with other researchers</td>
<td>102</td>
<td>32%</td>
</tr>
<tr>
<td>Soliciting advice from peers</td>
<td>68</td>
<td>22%</td>
</tr>
<tr>
<td>Maintaining professional image</td>
<td>65</td>
<td>21%</td>
</tr>
<tr>
<td>Publishing findings</td>
<td>30</td>
<td>10%</td>
</tr>
<tr>
<td>Garnering mass media attention</td>
<td>20</td>
<td>6%</td>
</tr>
<tr>
<td>Discovering new funding</td>
<td>12</td>
<td>4%</td>
</tr>
</tbody>
</table>

* Based on 315 people who completed Part 2

In Part 2 of the survey, each participant was asked to select the top three (3) benefits that they have experienced using social media from the list in Table 2. Based on the total counts of the responses, the main benefits associated with social media use were “keeping up to date with topics”, “following other researchers’ work”, and “discovering new ideas or
publications”. All three main benefits listed by scholars relate to information gathering activities. It was interesting to note that among social functions scholars associate with social media, opportunities for “collaboration” and “new contacts” ranked below the need for current information.

Despite our initial expectation, “garnering mass media attention”, and “discovering new funding opportunities” were the two least often mentioned benefits. It will be interesting to see if this trend changes in the future. “Publishing findings” also scored very low, the third from the bottom. One of the most obvious reasons for this is because scholars and their home institutions continue to place a much higher priority on publications in peer-review venues. As a result, there may be fewer incentives for scholars to publish their results in social media.

Next, the principle component factor analysis (with varimax rotation and Kaiser normalization) was used in order to identify clusters of related benefits that may explain possible differences in users’ motivations with regard to social media. Before running the test, we expected to see four general categories of benefits to emerge:

- **social benefits**: benefits such as making new research contacts, maintaining professional image;
- **collaboration**: collaborating with other researchers and soliciting advice from peers;
- **information dissemination**: promoting current work/research, publishing findings, garnering mass media attention;
- **information gathering**: following other researchers’ work, keeping up to date with topic, discovering new ideas or publications, discovering new funding opportunities.

However, the categories that were discovered automatically by the factor analysis slightly differed from what was expected, as described below. After running the factor analysis for the first time, we discovered five different components. However, three variables/benefits, namely “publishing findings”, “garnering mass media attention”, and “discovering new funding opportunities”, were not well described by these components. Their rescaled proportion of variance explained by the components (also known as communality) were very small 0.12, 0.08, and 0.01 correspondingly, which suggests that these variables cannot be predicted by the discovered components and are not related to the other benefits in the study. This is not very surprising as these are the same benefits that were selected by the least number of study participants. As a result, these three variables were removed from the analysis and factor analysis was redone on the eight remaining benefits. The new factor analysis produced a two-component solution (See Table 3).

### Table 3. Component score coefficient matrix*

<table>
<thead>
<tr>
<th>Components</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>benefit_new_contact</td>
<td>0.085</td>
<td>0.464**</td>
</tr>
<tr>
<td>benefit_promote_research</td>
<td>0.072</td>
<td>0.584**</td>
</tr>
<tr>
<td>benefit_follow_others</td>
<td>0.438**</td>
<td>0.153</td>
</tr>
<tr>
<td>benefit_keepup</td>
<td>0.378**</td>
<td>-0.372**</td>
</tr>
<tr>
<td>benefit_new_ideas</td>
<td>0.322**</td>
<td>-0.124</td>
</tr>
<tr>
<td>benefit_ask_advice</td>
<td>-0.108</td>
<td>-0.096</td>
</tr>
<tr>
<td>benefit_collaborate</td>
<td>-0.258</td>
<td>-0.198</td>
</tr>
<tr>
<td>benefit_prof_image</td>
<td>0.006</td>
<td>0.178</td>
</tr>
</tbody>
</table>

* Coefficients are standardized  
** Factor loadings greater than 0.3 are considered to be significant

The first component includes three significant benefits related to information gathering (following other researchers’ work, keeping up to date with topic, discovering new ideas or publications), and it explains 24% of the total variance. The second component includes significant benefits related to socializing and information dissemination (making new research contacts, promoting current work/research) and a negative relationship with “keeping up to date with topic”. It explains 16% of the total variance.

By plotting the components in two dimensions, we discovered three clusters of related benefits, and not four as we initially anticipated (see Figure 1).

![Figure 1. Related benefits of social media use based on the factor analysis](image)

The two clusters of benefits that relate to information gathering and collaboration were expected and did not come as a surprise. However, the third cluster which combines benefits from both: social...
benefits and information dissemination groups was a bit of a surprise. This suggests that both activities are somewhat related. In other words, people who tend to use social media to promote their research are also likely to use it to make new research contacts. This may be either because when someone is promoting his or her research in social media, more people learn about that research and contact that individual, thus generating new research contacts for this person. Another plausible scenario is when a scholar finds more new people to connect to via social media, indirectly that leads to more people learning about that scholar’s own research work.

6. Conclusion

The study found that, although listservs remain a dominant tool for scholarly communication and information practices for this group, scholars are beginning to use newer social media based ICTs for their professional work. In fact, most of the scholars in the study already adopted a wide range of social media sites. For example, for twelve out of thirteen general categories of social media sites listed in the survey, the percentage of non-users and those who do not plan to use social media for professional purposes was less than 30% (except for virtual worlds, where this percentage reached 58%). The most popular social media sites among this population were non-academic social networks (Facebook, Twitter, etc.), blogs (specifically, reading and commenting on other people’s blogs), online document management sites, media repositories and wikis. The number of frequent users of these sites ranged from 71% for non-academic social networks to 52% for wikis. Many scholars also indicated that they are interested in exploring the use of academic social networking sites such as Academia.edu and ResearchGate.net. This is likely because of the difficulties associated with managing personal and social identities on non-academic social networking website such Facebook.

The study also found three distinct clusters of benefits that can explain why scholars use social media: information gathering (the strongest benefit), collaboration and a mixture of socializing and information dissemination. The fact that information gathering was identified as the primary benefit of using social media suggests that even though social media sites offer scholars a two-way form of communication and information exchange, scholars in the study tend to use social media in a one-directional mode. This is understandable as one of the primary tasks for academics is to discover and situate their research within a larger body of existing knowledge. However, the growth rate for this body of knowledge is in the area of 2.5 million articles per year [51], and this is just counting peer-reviewed publications. Coupled with the fact that publication overload is one of the major concerns faced by scholars [52], the task of gathering and filtering relevant information is becoming increasingly important to be a successful scholar.

As social media sites are relatively new sites and have just started to make their initial impact on the scholarly community, there is yet to be developed a significant body of literature that explores the ways in which they are being adopted and adapted in such environments. The current study outlines the initial landscape of social media use in academia and offers the baseline observation for future studies on communication and information sharing practices of social scientists. Our future work will explore and test personal and social factors that might have an effect on individual scholar’s decisions to adopt social media in their professional lives. We are also interested in exploring differences in adoption and usage of social media accounts that are maintained primarily by individuals versus those that are managed by a group of people. Finally, we plan to expand the sample to include scholars from other disciplines and collect longitudinal data to be able to observe the trends in the social media adoption rates.

7. References


