Understanding the Barriers to Using Microblogs

Dion Hoe-Lian Goh and Alton Y.K. Chua

Abstract— **Amid increasing interest in microblogging, there are people who still do not use it. Yet, little is known about why this is so. In this work, we investigate the non-usage of microblogging, identifying why people do not use such services. Focus group interviews were conducted to uncover non-usage reasons, and supplemented with reviews of relevant literature, a survey of containing detailed questions was constructed and administered. Our analysis suggested that preference for other technologies/activities, privacy concerns, and time constraints were the top three reasons contributing to the non-use microblogs. Studying non-usage is important for microblogging service providers to develop strategies to address users' concerns, and for businesses to explore new marketing and information dissemination channels. The paper also discusses implications of the research as well as opportunities for future work.**

Index Terms—**Microblogs, Twitter, Non-use, Social media, Focus group, Survey.**

I. INTRODUCTION

IN an increasingly connected world, the use of social media has correspondingly become popular. Social media is a term that covers a wide range of Internet-based and mobile services, facilitating communication as well as the creation and exchange of user-generated content [1]. Examples of social media platforms include wikis, blogs, social networking sites, and microblogs.

In particular, microblogs belong to the social media suite of tools that lets users publish short updates to their social network and interested observers via text messaging, email, mobile apps or the Web [2]. Most microblogs such as Twitter limit the number of characters of postings to 140. This short posting style is a distinguishing factor that makes microblogs a unique, asynchronous, fast mode of communication [3].

Microblogs have rapidly grown in popularity and are a valuable source of user-generated content [4]. Microblogging has been put to many different uses. People employ it for connecting with friends and family, organizations use it for marketing, celebrities use it for publicity, and universities employ it for teaching, to name a few examples.

The exponential growth of microblogging has attracted much academic research. For example, [5] analyzed the

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distinct classes of Twitter users, their geographical growth patterns and network size. Next, microblogs were also found to be useful for viral marketing because the most influential users on Twitter held significant influence over a variety of topics, and advertizers could employ such users to target their campaigns [6].

Nevertheless, amid this interest in microblogging in both practice and research, there are people who still do not use it. For example, in a study of social media use among small and medium enterprises, [7], found that 77% of enterprises surveyed used Facebook while only 55% used Twitter. In a survey of online users, only 15% of American adults were found to use Twitter [8].

Research into non-usage of microblogs is only emerging, with little work done in this area. Instead, current research primarily focuses on issues related to the usage of microblogging, behavior patterns, benefits and costs of microblogging, and motivations for microblogging, to name a few [9] [10]. While it is important to understand the reasons why people use microblogs such as Twitter, there is also value in uncovering why they do not use such platforms. Put differently, the phenomenon of non-use of microblogs is not as well understood compared to reasons for their use and adoption. Findings from such research would also have practical applications. For example, such findings could help platform developers decide on functionality to encourage the use of their respective systems. Marketers could also benefit as these findings could help them devise better social media strategies for the branding and promotion of their companies, products and services.

Thus, given the important role of non-users, this study sets out to bridge the gap and provide reasons for non-use of social media platforms, focusing in particular on microblogs.

II. LITERATURE REVIEW

A review of the literature on microblogging suggests two primary streams of research. The first describes the topography and characteristics of microblog communication. Here, several categories of user intentions during microblog communication were identified including daily chatter (where users discuss about events in their lives), seeking or sharing information, and reporting of news events [9]. The collaborative characteristics of microblog communication has also been studied (e.g. [11] [12]), with findings suggesting that microblogs enhance social presence and maintain connectedness in both formal and informal communication.

The second stream of research investigates microblog usage in various settings. For example, microblogs have contributed valuable, real-time information during

emergency situations to the public [13]. Microblogs were also analyzed as a form of electronic word-of-mouth (eWOM) communication for sharing consumer opinions about brands [14]. Findings indicated that the brand image of an organization was affected by positive and negative eWOM. Other examples include the use of microblogs for sharing travel information [2] as well as for social support in the grieving process [3].

Microblogs however are not universally adopted, given evidence cited earlier (e.g. [8]). There is however comparatively little work on why this is so. The few studies that are available yield some clues. For example, the previously mentioned Pew Internet study [8] found a correlation between Twitter use and smartphone ownership, meaning that people who did not own smartphones were less likely to use Twitter, hence suggesting a technology barrier. Other reasons however, were not investigated. In organizations, barriers to usage include uncertainty in terms of usefulness, lack of skills in effective usage, and effort involved [7]. However, that this particular study focused on social networking services in general, of which Twitter was just one of the examples included.

Next, [15] performed a content analysis to ascertain the perceived value of Twitter tweets and found that only 36% of tweets in their dataset were considered worth reading. This suggested that the lack of relevant content could be a barrier to sustained Twitter usage, although the authors did not delve deeper into the issue. Barriers to the creation and management of Chinese government microblogs was studied by [16]. Factors uncovered include content quality, lack of trust by the public, digital divide of citizens, and lack of management expertise. While insightful, the focus of the study was from the perspective of the Chinese government. Finally, [17] studied the usefulness of Twitter in distributed organizations. Although the work investigated the positive aspects of usage, anecdotal evidence of problems potentially leading to non-use were technological in nature, including the 140-character limit of Twitter, and a lack of group messaging functionality.

Beyond the limited number of microblogging studies available on non-usage, there is some research of the phenomenon in social media platforms as a whole, and more generally, for information technology. Joseph [18] identified three main factors preventing people from adopting a technology. These include functional barriers (such as poor interface design and hardware incompatibilities), psychological barriers such as when an individual perceives conflicts with their religious beliefs, value system or preferences, and finally, information barriers which refer to situations where an individual is not aware of the benefits or the individual is ill-informed.

Separately, [19] argued that the brevity and speed of social media can distort a message, making content uninformative for information gathering and dissemination. Other researchers have provided further reasons for not adopting new technologies, including personality traits, pressure, uncertainty, the loss of status or power, or switching costs [20] [21] [22]. Compatibility with cultures, personal values, and organizational norms, fear of losing autonomy will also impede technology adoption [23].

Non-users have also stated a number of reasons for not adopting social networking services. These include, lack of motivation [23], time constraints [24], preference for other communication tools (e.g. telephone) or other activities (e.g. sports) [25], cyber-safety (e.g. cyber-bullying) [26], and online self-representation [27]. Finally, parental concern and restrictions, and adoption rates by friends and families are also potential reasons for non-use [25].

While informative, these studies do not focus on microblogs per se. Given the importance and popularity of this platform, and the fact that microblogs possess characteristics different from other social media services, studying non-usage is therefore timely and relevant.

III. METHODOLOGY

The methodology for the present research is divided into two parts, a focus group and an on-line survey.

First, given the relative lack of literature in the microblog context, a focus group was undertaken to explore possible reasons of non-use of microblogging. Twelve working adults who were also pursuing their graduate degrees at a local university were recruited. All had experience with social media services and had either previously used microblogs but stopped, or had never used microblogs before. The interviews centered on reasons for non-usage. Participants were also queried on their social media preferences in general. The reasons extracted from the focus group responses were further complemented with those extracted from relevant literature in social media, information technology and human behavior such as those cited in the Literature Review.

Once these reasons were obtained, an online survey questionnaire was constructed, forming part two of the study. The first part of the survey included questions on demographic information and usage of social media. The second part contained questions related to the possible reasons for non-use of microblogs. Each question required participants to state their level of agreement on a 5-point Likert-type scale with values representing "not applicable", "not very applicable", "neutral" "applicable" and "very applicable" respectively.

Undergraduate and graduate students at a major local university were recruited for the survey. All participants were briefed about the purpose of the research and provided with information regarding their privacy and confidentiality of participation. Participation was voluntary and anonymous. For the purposes of this research, non-usage is defined as not having an account with any microblogging service, originally having an account but terminating it subsequently, or not using one's microblogging account for at least the past six months.

A total of 152 valid questionnaires were collected. In our sample, 77 were male and the rest were female. Their ages ranged from 20 to 37, with an average age of 29. With regards to the education background, 36% of respondents specialized in the computer science and IT technologies fields, 28% had engineering backgrounds while the remainder was in fields such as arts and social sciences, business, life sciences, education and tourism.

IV. FINDINGS

A. *Focus Group*

From the interviews, several reasons for non-usage of microblogging platforms emerged. These included lack of compelling content, the absence of friends and relatives on microblog platforms and technical problems that led to frustration and eventual abandonment. The lack of features, such as easy photo and video sharing also discouraged further use, as was an unwillingness to express oneself online. Interestingly, most interviewees frequented other social media platforms such as Facebook, resulting in little time to adopt another platform.

Altogether, the focus group interviews yielded ten potential reasons for non-use:

- Content quality: Perceptions of poor information quality on microblogs.
- Cybersafety: Includes issues such as cyber-bullying and cyber-victimization.
- Functional problems: Problems in using microblogs and their features.
- Information overload: Being overwhelmed by large amounts of information.
- Preference for other technologies or activities: Preferences for other technologies or activities over microblogging for recreation, communication, sharing and collaboration.
- Privacy: Issues about disclosure of personal information.
- Reluctance to accept new technologies: Staying away from microblogging due to inadequate knowledge or confidence in it.
- Self-representation: Degree of willingness to promote an impression of oneself to others online.
- Social connections: Issues related to establishing and maintaining relationships online.
- Time constraints: Availability of time to use microblogs.

B. *Survey*

The results of the survey are summarized in Figure 1. As shown in the figure, the top three reasons for not using microblogs as reported by our participants, were preference for other technologies/activities, privacy concerns and time constraints. Overall, this suggests that participants prioritized the limited amount of time they had to other endeavors, whether offline or online. They were also concerned that microblogging could lead to personal details being exposed to others.

At the other end of Figure 1, the third-to-last reason for not using microblogs was self-representation. This meant that participants were open to expressing themselves online but perhaps not through microblogs. Functional problems were not a major concern either, possibly because most of the respondents were familiar with social media. Finally, a reluctance to try new technologies was the least important reason of non-usage of microblogs, probably because the respondents were familiar with technology and social media platforms. Interestingly, most of the non-users actually used other social media services, with the majority (around 80%) using one social media platform at least once a day, with Facebook being a prominent example.
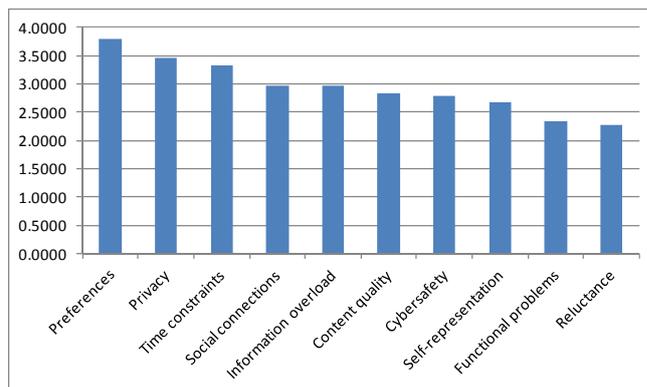

Fig. 1. Reasons for non-use of microblogs.

While Figure 1 summarizes the reasons for non-usage, we further sought to compare if there were statistically significant differences between them. To accomplish this analysis, a repeated measures ANOVA was conducted.

Here, the Wilks' Lambda test showed that there were significant differences across reasons for non-usage [Wilks' Lambda = 0.35, $F_{(9, 143)} = 29.43$, $p < 0.001$]. Next, Bonferroni pairwise comparisons specifically showed which reasons were significantly different from others. This is described in Table I. Note that non-significant differences are not shown for the purposes of brevity.

In analyzing the table, it can be inferred that preference for other technologies/activities, privacy concerns and time constraints were once again the most important reasons as participants rated them significantly higher when compared to the seven other reasons. In particular, non-users strongly agreed that they preferred other online communication channels such as Facebook or other forms of communication, such as face-to-face conversation or talking on the phone. Time constraints were another important reason contributing to non-use as participants felt they were too busy with other matters to use microblogs. With regards to privacy concerns, participants felt that microblogging platforms were unsafe and they did not like to reveal details about their personal lives to people they did not know.

A cluster of reasons that were moderately important to participants also emerged, as can be seen in middle of Table I. These reasons and specific concerns expressed by participants include social connections (friends/family not using microblogs), information overload (too much information that is difficult to search), content quality (uninteresting, irrelevant and untrustworthy information), cybersafety (fear of personal attacks) and self-representation (fear of expressing views using microblogs and concerns over whether these views will be appreciated).

In contrast, concerns over functional problems and reluctance to accept new technologies were rated significantly lower than the other reasons, suggesting that participants did not seem to consider them as important considerations for non-usage of microblogs. Specifically, participants found that the 140-character limit for posts was insufficient to express themselves appropriately. They were also unfamiliar with microblogging and how such platforms could be useful to them.

TABLE I
BONFERRONI PAIRWISE COMPARISONS FOR NON-USE REASONS

(I) Reason	(J) Reason	Mean Difference (I-J)
Preference for other technologies/activities	Time constraints	.47
	Social connections	.84
	Information overload	.84
	Content quality	.97
	Cybersafety	1.01
	Self-representation	1.12
	Functional problems	1.45
	Reluctance to accept new technologies	1.52
Privacy	Social connections	.50
	Information overload	.50
	Content quality	.64
	Cybersafety	.68
	Self-representation	.79
	Functional problems	1.12
	Reluctance to accept new technologies	1.19
Time constraints	Preference for other technologies/activities	-.47
	Social connections	.37
	Information overload	.37
	Content quality	.50
	Cybersafety	.55
	Self-representation	.66
	Functional problems	.99
	Reluctance to accept new technologies	1.06
Social connections	Preference for other technologies/activities	-.84
	Privacy	-.50
	Time constraints	-.37
	Functional problems	.62
	Reluctance to accept new technologies	.69
Information overload	Preference for other technologies/activities	-.84
	Privacy	-.50
	Time constraints	-.37
	Functional problems	.62
	Reluctance to accept new technologies	.69
Content quality	Preference for other technologies/activities	-.97
	Privacy	-.64
	Time constraints	-.50
	Functional problems	.48

(I) Reason	(J) Reason	Mean Difference (I-J)
	Reluctance to accept new technologies	.55
Cybersafety	Preference for other technologies/activities	-1.01
	Privacy	-.68
	Time constraints	-.55
	Functional problems	.44
	Reluctance to accept new technologies	.51
Self-representation	Preference for other technologies/activities	-1.12
	Privacy	-.79
	Time constraints	-.66
	Functional problems	.33
	Reluctance to accept new technologies	.40
Functional problems	Preference for other technologies/activities	-1.45
	Privacy	-1.12
	Time constraints	-.99
	Social connections	-.62
	Information overload	-.62
	Content quality	-.48
	Cybersafety	-.44
	Self-representation	-.33
Reluctance to accept new technologies	Preference for other technologies/activities	-1.52
	Privacy	-1.19
	Time constraints	-1.06
	Social connections	-.69
	Information overload	-.69
	Content quality	-.55
	Cybersafety	-.51
	Self-representation	-.40

All p-values < 0.05. Non-significant comparisons are not shown.

V. DISCUSSION

The main objective of this research was to investigate why people do not use microblogs, an increasingly popular social media platform. Specifically, the study identified ten reasons for non-usage through focus groups and a survey. Preference for other technologies/activities, privacy concerns and time constraints were the top three reasons, while a reluctance to accept new technologies and functional problems were less of a concern.

One noteworthy outcome of our study is that microblogs have to compete for the attention of users who may be using other technologies or occupied with other tasks. Hence they may not have the time to use microblogs. This is suggested by the top and third ranked non-use reason being a preference for other technologies and time constraints

respectively. In particular, from the survey, most participants reported using Facebook as their social media platform of choice. Being already occupied with other online and offline activities, they found little time for other online services such as microblogs. This finding is indicative that the switching costs as highlighted by [28] are rather high. For microblog service providers, studying how other popular platforms such as Facebook attract and sustain usage would be instructive to entice more users to adopt microblogging as the social media platform of choice.

For example, since preference for other technologies and activities was found to be the most important reason for non-use, developers of microblogging platforms could consider adopting popular features from other social media services to encourage usage. These may include photo/video sharing, private messaging within groups, and improved social networking functionality. In addition, online games, activities with incentives, collaboration with companies, or celebrity endorsements could be considered as possible features to compete with other social media platforms. By doing so, social connection issues could also be addressed if more users begin to adopt microblogs since one of the problems leading to non-usage is the lack of friends and family as users [29].

Another interesting finding was that privacy was an important reason for non-use of microblogs, being ranked second in our list. This came across as unusual because most of the participants used Facebook, and were reported to have no concern with divulging their personal information through that service. Thus, this concern might less be about what other people or platform providers may do with the posted information, but more about perceptions or feelings of insecurity over microblogging, perhaps due to unfamiliarity [30].

Nevertheless, privacy concerns cannot be ignored even if this is attributed to perceptions. Hence, disclosure of users' personal information as well as the content that they post should be handled prudently. Further, policies should be put in place to prohibit illegal or unethical trading of user information to third parties, and to act on such behavior swiftly and decisively to boost users' confidence. Additionally, features such as blacklisting of users and harassment reports could be introduced to protect the privacy of users. With such privacy features put in place, users may be willing to express themselves through microblogging platforms [31]. In addition, such policies could also alleviate concerns about cybersafety since users know that they have recourse should various forms of cyberbullying occur.

Next, to improve information quality and reduce information overload, better facilities for accessing information in microblogs could be introduced [4]. These include features such as filtering, searching, tagging and recommending, enabling users to better find the information they want. Content and user rating features could also be introduced to allow users to ascertain quality as well as establish trustworthiness within the microblogging community.

VI. CONCLUSION

The present study makes contributions to both research and practice. Firstly, to our knowledge, this is one of the first few studies which investigates non-usage of microblogging, an important platform in the social media suite of services. The reasons uncovered for non-use lay the foundation for further research in this area. Interestingly, the findings highlight that some of these reasons are primarily perceptual in nature (e.g. privacy issues), and work could be conducted to examine why this is so, and how such perceptions could be mitigated. Further, the reasons for non-use could be addressed by platform developers so as to alleviate potential users' concerns. For example, knowing that users prefer other technologies, developers could determine suitable features in competing platforms to incorporate, in a bid to drive usage numbers. Apart from functionality, marketers could also investigate how microblogs could be positioned to better attract users.

There are some limitations in the present study which may be addressed in future work. First, we did not consider differences between microblogs such as Twitter and Sina Weibo. These services offer different features and might lead to different reasons for non-usage. Further, this research targeted students and adults who were technology savvy and were mostly familiar with social media platforms. Other groups such as children, youths and seniors, as well as those who are primarily unfamiliar with social media platforms were not adequately represented. These groups should be studied as they are quickly picking up new technologies, and may have different reasons for non-use of microblogs. As part of future work, longitudinal studies to track usage patterns could be conducted to determine if there are behavior changes due to changes in perceptions, features offered, and/or other environmental factors.

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