Lists as Coping Strategy for Information Overload on Twitter

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ABSTRACT

When following too many users on microblogging services, information overload occurs due to increased and varied communication activity. Users then either leave, or employ coping strategies to continue benefiting from the service. Through a crawl of 31 684 random users from Twitter and a qualitative survey with 115 respondents, it has been determined that by using lists as an information management coping strategy (filtering and compartmentalising varied communication activity), users are capable of following more users and experience fewer symptoms of information overload.

Categories and Subject Descriptors

H.1.2 [**User/Machine Systems**]: Human information processing

General Terms

Human Factors, Verification, Measurement

Keywords

Information overload; Microblogging services; Coping strategies

1. INTRODUCTION

As the amount of information sharing and connections increase, information overload invariably occurs [1]. On microblogging services, information overload is exacerbated when a user follows too many other users (people, pages, etc) [1]. Users of computer mediated communication (CMC) tools benefit from each other through communication activity: the more there is initially, the more valuable the CMC becomes. As a result the CMC attracts new members and with it increased communication activity: up to a point where the users have to process increasingly varied communication. This creates churn in the social space as members leave due to experiencing information overload.

On microblogging services such as Twitter, users benefit primarily by following other people and receiving updates from them. Users will reach a point where the size of the resources base ('people you follow') reaches a critical point where benefit provision is at its maximum [1] [3]. With the diminishing returns of additional communication activity, information overload eventually occurs [1].

WWW 2013 Companion, May 13–17, 2013, Rio de Janeiro, Brazil.
ACM 978-1-4503-2038-2/13/05.

2. LISTS AS COPING STRATEGY

When information overload occurs, users can either choose to leave the group ('member churn') or employ various strategies to cope with it. One such strategy is through the extra effort of using information management tools [3], whereby users can decrease the information processing requirements. On Twitter, lists should help by constraining varied communication activity into separate feeds where the *context* is more easily understood (such as creating a list of musicians). Additional communication activity can thus be turned into further benefits. The purpose of the research is to determine if lists contribute to being able handle more communication activity (caused by following more people).

3. EXPERIMENT AND RESULTS

Following more people increases the amount of information a user has to process. If lists help in filtering this information, then users who use lists should be able to follow more users. By crawling the public timeline of Twitter, 31 684 users were randomly sampled along with information on whether they subscribe to lists or not.

A t-test found that there is a statistically significant difference in the means of the two populations. Of those who use lists, on average, follow 962 users. Those who don't use lists, on average, follow 388 users. The mode for people who use lists is 140 and the mode for people who don't use lists are equally 106 and 93. Of the whole population, only 16,67% used lists. This can be seen in Figure 1.[1]

A qualitative survey was done alongside this data analysis to determine users' attitude towards information overload. 115 respondents filled out a survey (solicited from various social media accounts) asking questions related to symptoms of information overload and their use cases of lists. The questions (on a likert scale) were 'I have felt in the past that I cannot keep up with all the tweets.', 'I often see irrelevant updates.', 'The content on Twitter is sometimes boring.', 'There is more non-interesting content on Twitter than interesting content.' and 'Sometimes I don't understand what people are tweeting about.' These questions were formed from various information overload literature [2] [3] [1] [4]. Of those who on average scored higher than 3 (above 'neu-

[1]Unless the user themselves have close to 2000 followers, Twitter caps the following of other users at 2000 to prevent spam accounts from following millions of users.

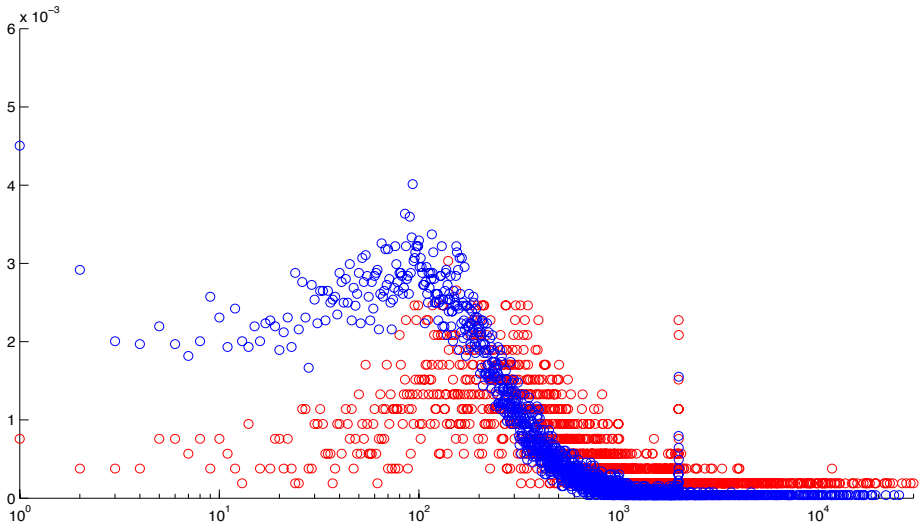

Figure 1: x = Amount of users a person a follows (log scale). y = Probability in population. Blue = Users who don't use lists. Red = Users who use lists.

Table 1: Reasons why people use lists

Reason	Amount
I use lists to put in my friends whose updates I want to see.	19
I use lists to filter my home feed into topics (news, sports, etc).	18
I use lists because my home stream became unmanageable.	13
I use lists because it was difficult finding relevant information in my home feed.	8
I use lists to put in people who I'm not sure I want to follow yet.	6
I use lists to filter people by location.	5

tral') for all questions (experiencing symptoms related to information overload), only 20,7% use lists. Of those who on average scored less than 3 (below 'neutral') for all questions (not really experiencing symptoms related to information overload), 48,4% use lists.

The reason why people use lists along with the amount are in table 1.

4. DISCUSSION AND CONCLUSION

By using lists, users are able to control the stream of information according to their preferences (such as filtering it into topics or by putting in friends whose updates they want to see). Other usage of lists include it serving as a possible information overload coping strategy through the process of constraining the varied communication that inevitably results from following too many users because: 1) users who use lists on average follow more people, 2) people who experience fewer symptoms related to information overload use lists more than those who experience more symptoms related to information overload.

5. FUTURE WORK

While the people who use lists are capable of following more people, it's not clear at what point they started using lists. By studying how a user's following rate changes over time and their usage of lists during this process it can further be determined whether lists are employed when users first start experiencing information overload, or whether the people who use lists understand it as a coping strategy and started using it from the beginning.

6. ACKNOWLEDGMENTS

The authors would like to thank the MIH Media Lab.

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