

What Motivates People Use Social Tagging

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Abstract. Motivation for tagging is one of the topics in the research of social tagging systems. Most studies on motivations have focused on tag creators without consideration of tag consumers. In this study, we tried to address this issue with a survey. The survey was conducted through several tagging sites aiming to study the usage of tags on the internet, including why and how people use tags, as well as their perspectives of the existing tagging websites. The results revealed that most frequent tag creators use the tags very often. However, there are users who use others' tags frequently without bothering creating tags by their own. The results also indicate that search is the primary motivation of creating tags as well as using tags. Besides searching, more than half of the respondents selected other types of motivations like "organizing" and "navigation".

Keywords: social tagging, motivation, tag creator, tag consumer.

1 Introduction

Social tagging systems (e.g. del.icio.us) enable users to organize their own resources and to search for new information. Related research has covered a broad range of topics, including vocabulary problems [5-7], motivation for tagging [4], [9], [11], [14], and presentations and functions of tags [2], [8], [10], [13].

Research has shown that social tagging system can be better designed to reflect user goals if their incentives of tagging were understood better. Marlow, Naaman, Boyd, and Davis [11] proposed six types of user incentives: future retrieval, contribution and sharing, attract attention, play and competition, self-presentation, and opinion expression. Ames and Naaman [1] further organized tagging motivations by tagging audience and tagging functions on Flickr, the public photo sharing website. They distinguished three categories of audiences: self, family and friends, and the general public. Similar research includes [12] and [3].

However, most of previous studies focused on investigating the user motivations of creating tags.

Tags are created to be used by the tag creators as well as the other users. There might also be users who do not frequently create tags but still use tags a lot for various purposes. Though research has been done on which kind of tasks users could perform with tags, the actual motivations of why users use tags were seldom mentioned. Kim and Rieh [9] investigated user perceptions of tags in an interview and separated "taggers" (tag creators) from non-taggers. They reported that the Web users

were not certain about the nature and value of tags. However the participants of their interview were Internet users who reported “having seen tags” [9, p672] and were not necessarily frequent tag users.

In this study, we tried to address user motivations by covering both tag creation and tag consumption processes in a survey. The survey was distributed on several popular social tagging websites. We aim to study why and how people use tags, as well as their perspectives of the existing tagging websites. The tagging behavior of the users from different websites was also compared.

In the rest part of this article, we will describe the methodology, results, discussion and conclusions in sequence.

2 Methodology

2.1 Population and Sampling Method

The target population is the users of various social tagging websites. The existing tagging websites are different in terms of type of resources, source of materials, tagging rights, tag representations, etc. We believe that a better evaluation could be made by comparing different systems. As a result, the target tagging sites include flickr.com, last.fm, delicious.com, CiteULike.org, and movielens.umn.edu. These sites were selected based on their popularity and the ease of contacting their users. The survey was distributed by posting topics on the forum and by sending messages directly to the users. Fig. 1 shows the screenshots of some of these sites.



Fig. 1. Resource differences of the tagging websites

2.2 Survey Design

The survey is composed of demographic information and social tagging system use. In the first part, such information as age, job, education, user experiences in search engine usage and social network tool usage was elicited. In the second part, three types of questions were asked, including (1) the frequency of using social tagging

system; (2) the motivation and behavior of the users in tag creation process and tag consumption process; and (3) user evaluation on the systems according to their various motivations as well as different tag representations. Table 1 lists some of the critical questions in the survey. It would take the participants around 15 minutes to complete the questionnaire. The survey was based on voluntary and the participants did not receive any compensation.

Table 1. Sample survey questions

Type of the questions	Question
Use frequency	Which is your favorite tagging website?
	How often do you log on to the website?
Tag creation	How often do you create tags?
	What is your purpose when creating tags?
	How often do you pick from your history tags when tagging a resource?
	How often do you choose from recommended tags/tags created by others when tagging a resource?
	How often do you apply your own new tags when tagging a resource?
Tag consumption	How often do you view/use tags created by yourself and others?
	What do you use tag for when using/viewing the tags?

3 Results and Discussion

3.1 Demographic Characteristics and Use Frequency

The survey has 63 completed responses in June through September, 2012. Table 2 summarizes the demographic characteristics of the participants. There are more males than females in the study. 47.6% of the participants are in their twenties and the others range from 30 to 50 and above. 74.6% of the participants have bachelors or higher degree.

Fig. 2 shows the frequency of using tagging websites. Most users (about 76%) used tagging sites very frequently. We further separated the process of tag creating and that of tag using. Table 3 indicates that most frequent tag creators use the tags very often. However, there are users who use others' tags frequently but did not bother creating tags by their own. Thus, a better designed social tagging system is important for these kinds of users. There is no significant difference among participants of different gender and different educational level. However, 87.9% of the participants of age 30+ are frequent tag creators while the rate for participants in their twenties is only 58.6%. This difference is significant ($p=0.009$).

Table 2. Demographic characteristics of the participants

characteristics	value	# subjects
Gender	Male	50
	Female	13
Age	18-29	30
	30-39	13
	40-49	11
	50-	9
Educational level	Middle school	2
	High school	11
	Bachelor	28
	Master	14
	PhD	5
	other	3

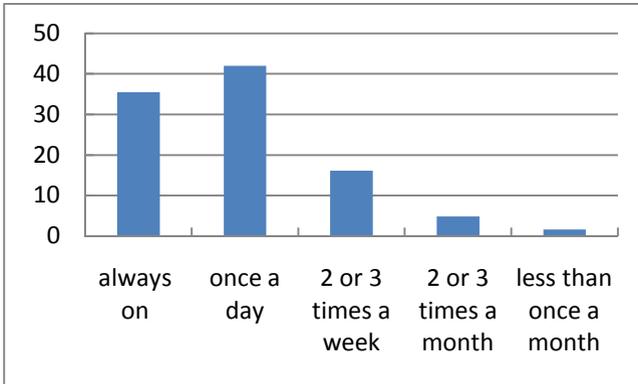


Fig. 2. Frequency of using the tagging websites

Table 3. Tag creators vs. Users

	Frequent user	Non-frequent user
Frequent tag creator	35	8
Non-frequent tag creator	10	6

3.2 User Motivations

In our study, we provided four options of tag creating motivations, i.e. “organize my stuff”, “for future retrieval/finding/search”, “share and express myself”, and “comment or annotate resources provided by others”. As shown in table 4, “for future retrieval/finding/search” is the primary motivation to tag (78.8%). After correlating the additional information provided by the users, we discovered that the “future retrieval”

refers to the retrieval performed by the users themselves as well as by others. Some users also indicated that they would use their unique tags to make their resources easily retrievable from the crowd. These findings are consistent with the three types of motivation proposed by [11], that is, “future retrieval”, “attract attention”, and “self-representation”. According to table 5, search is the primary motivation for users to use tags. About 82% users use tags for searching. No significant difference was found among participants of different gender, age, and educational degree.

Search is not the only tag creating motivation. Over 50% of users also selected “express myself” and “organize my stuff” as their motivations of creating tags. On the other hand, “navigation” and “get an impression of what the resource is about” are also important reasons of what users use tags for. These findings agree with the results of [11] that most users are motivated by a number of motivations.

Table 4. User motivation of creating tags

Purpose of creating tags	Percentage %
Organize my stuff	57.3%
For future retrieval/finding /search	78.8%
Express myself	59%
Comment or annotation	26.2%
Other	14.8%

Table 5. User motivation of using tags

Purpose of using tags	Percentage %
Navigation	55.2%
Search	82.8%
Get an impression of the resource	46.6%
Other	3.4%

3.3 Comparison of User Behavior on Different Websites

Creating Tags for Search

Among the 63 respondents, 46% indicated that their favorite tagging website is Flickr.com while 42.9% said that they visited Last.fm most frequently. Motivations of participants from the two websites were then compared. Participants from both websites put “for future retrieval/finding/search” as their primary purpose of creating tags. However, they responded differently when being asked of “do you think the tags help you in performing the tasks above? Why or why not?”. It was observed from the answers that most Flickr users create tags to make their photos easily retrieved by themselves as well as by the others. For example, a Flickr user said:

“These tags make finding pictures much easier. I have so many, so it keeps everything straight”.

Another said:

“Yes... so others can find my images when they search”.

On the other hand, Last.fm users also use tags to organize, as one participant said:

“it makes it much faster to organize things”

As to search, they are more likely to use tags to explore new music, as one users said:

“...it helps me to find similar artists that I may not have yet heard...”.

One possible reason which can be used to explain the difference is the different nature of these two websites. Flickr is a photo sharing website, which means the users upload their photos then share. When they create tags, they are trying to make their own resources retrievable from the thousands of photos. While on Last.fm, there might be fewer users who are there to share their own work. Most users may want to explore songs and bands which are similar to what they are familiar with.

Tagging Behavior

The differences found in tagging purpose may affect the way the users create tags. Table 6 and 7 compares the tagging behavior difference between these two sites. Compared to Last.fm user, Flickr users applied new tags more frequently and selected less recommended tags. Since Flickr users create tags mainly to aid search of their own photos, they may tend to apply unique tags. For Last.fm users, as they search for similar music based on other people’s experiences, they may pay more attention to popular and general tags.

Table 6. How often do you apply new tags?

	Most of the time	often	sometimes	seldom	never
Flickr	46.4% (13)	35.7% (10)	10.7% (3)	3.6% (1)	3.6% (1)
Last.fm	24% (6)	8% (2)	56% (14)	8% (2)	4% (1)

Table 7. How often do you choose from recommended tags/tags created by others when tagging a resource?

	Most of the time	often	sometimes	Seldom	Not applicable
Flickr	3.6% (1)	14.3% (4)	50% (14)	14.3% (4)	17.9% (5)
Last.fm	12% (3)	60% (15)	24% (6)	0% (0)	4% (1)

4 Conclusions

In this study, a survey was conducted, aiming to find out the user motivations of creating tags as well as using tags. The survey was targeted at frequent users on several popular social tagging websites. The results indicate that besides frequent tag creators, there are frequent tag consumers who use tags frequently but do not create tags often. The needs of this type of users have been underestimated in the previous studies. The result reveals that users create and use tags for multiple reasons. However, the primary reason of creating and using tags is “search”. We also found that the different tagging behaviors among different website users could result from different interpretation of “search”. The Flickr users create tags to facilitate future search for their own photos performed by themselves as well as by the others so they might want to apply more unique tags. The Last.fm users care more about exploring music similar to what they are familiar with so they might use more general and recommended tags.

This study generated some interesting findings. But limitations exist in terms of the limited number of participants and questions asked in the survey. Based on the results that most people create tags to facilitate future retrieval and use tags to search, our next step will be about how to better perform search with tags. The new study will involve user interface design for facilitating tag creation process and searching process.

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