Interaction between Libraries and Library Users on Facebook

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Abstract

This study adopts the mixed method research design to investigate the interaction between libraries and library users on Facebook. The research objectives are: (1) To find out the performance of Facebook as a tool for interaction between libraries and library users; (2) To find out the differences in using Facebook to interact with library users between libraries in two regions: English-speaking countries and Greater China; (3) To find out the differences between academic and public libraries in using Facebook to interact with library users; (4) To find out the challenges for libraries in using Facebook to interact with library users. The study finds that quality interaction between libraries and users, like conversations and group networking, is still relatively rare on Facebook. Libraries in English-speaking countries seem more sophisticated in using this tool than their counterparts in Greater China, regarding the diversity of usages of Facebook, and the identification of the main audience on Facebook and their interests. Differences also exist between academic and public libraries, in the respects of the characteristics of user groups on Facebook and the usages of Facebook. Several challenges for libraries using Facebook are also identified, which are related to aspects of privacy, administration and the tool itself.

Keywords: Facebook; library; library user, interaction

1. Introduction

Boyd and Ellison (2007) concluded that social media were outstanding in constructing online communities and sharing links. They outperform Blog, Flickr, YouTube, and Wiki in initiating conversations as suggested by Burkhardt (2010). Among various social media, Facebook is one of the most significant, with over 750 million active users (Facebook, 2011) by now.

Due to its popularity Facebook becomes an important tool for libraries to interact with users. The applications of Facebook for interacting with library users are considered seriously by librarians. Facebook's functions and their meanings for communication were well elaborated and discussed in the report by Miller and Jensen (2007). Nowadays, libraries can create fan pages on Facebook to interact with library users instead of using Facebook accounts. By subscribing to libraries' fan pages, users can publish posts on the pages, read posts from libraries, and make comments on any post. At the same time, users' privacy is better protected. Unlike Facebook accounts, users' profiles could not be accessed through fan pages. These features make Facebook a promising tool in facilitating interaction between libraries and library users.

2. Literature review

2.1 Interaction on Facebook

Early research on interaction on social media was in the perspective of "connections" (Donath & Boyd, 2004). It was about how people form an online social network and maintain the connections. As to Facebook, a tool with much interaction between users, impact on personal relationships was explored, including both online and real-life impact (Ellison, Steinfield, & Lampe, 2007).

To examine the differences between social interaction in real world and that on Facebook, some researchers closely related interaction on Facebook to the theories of social network. High-level and low-level interaction were identified on Facebook by studying the strong ties and weak ties in online social network (Wilson, Boe, Sala, Puttaswamy, & Zhao, 2009). A further research on the evolution of interactive relationships on Facebook was also conducted, which studied the change of the strength of ties in online social network within a period of time (Viswanath, Mislove, Cha, & Gummadi, 2009). Besides conversations or sharing on user profiles, private messaging was also deemed as a kind of interaction on Facebook (Golder, Wilkinson, & Huberman, 2007). However, messaging is excluded in this study, since it is not available on Facebook fan pages.

2.2 Libraries using Facebook

Most studies in the field of "libraries using Facebook" are about academic libraries. Under the popularity of social media, academic libraries, in order to realize more communication between libraries and students / academic staff, set up their profiles on different social media. They expected much potential in social media for improving library services (O'Dell, 2010).

Graham's survey (2009) has found out that Facebook facilitated professional cooperation in and beyond the library. However, attitudes of users and librarians on academic libraries using Facebook were complicated and vague (Connell, 2009). Due to this, academic libraries hesitated to use Facebook. Chu during her study (2008) found that while other campus entities already had social networking profiles on MySpace or Facebook, the university library did not even start on it. Problems of bandwidth, increased traffic in the library, computer abuses and distractions were identified as the main concerns. Besides, libraries also perceived that long-time commitment for administering Facebook was unaffordable (Hendrix, Chiarella, Hasman, Murphy, & Zafron, 2009). These concerns have complicated librarians' attitudes towards online social network and even make some academic libraries banned access to Facebook in the library buildings (Charnigo & Barnett-Ellis, 2007). And on the user side, students preferred emails for academic activities rather than Facebook. Students were unwilling to become friends with libraries (Chu, et al., 2008), but this issue has been solved by a new development on Facebook. Nowadays, to share information on library profiles, libraries and users do not have to become "friends" with each other. Libraries can set up a "fan page" on Facebook for users to follow. And communication can be conducted on the page directly. Chu, Cheung, Hui, Chan, & Man's (2010) research on academic libraries using social networking tools showed that a larger number of academic libraries chose to use Facebook, comparing to other social media.

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For public libraries, in the early stage of using Facebook, they were much less proactive than academic libraries. Little literature can be found especially on public libraries using this tool. An OCLC's report by De Rosa (2007) attributed this phenomenon partly to the history of Facebook, which began as a social networking site for college students.

2.3 Research gap

Most studies on interaction on Facebook are about the interaction between users. Few studies are found on the interaction between educational institutes, like libraries, and their users on Facebook. How is the performance of Facebook as a tool for interaction between libraries and library users? How can libraries facilitate the interaction? The questions remain unanswered.

As to the research on libraries using Facebook, studies on the applications of Facebook in public libraries are far from sufficient. No more data can be found after 2007. Also, research on libraries in Greater China is much less than that in English-speaking countries. Hsu conducted a survey on how libraries in Taiwan used Facebook (Hsu, 2011). Several different usages were identified in her research but interaction between libraries and library users were not included.

3. Methodology

3.1 Research Objectives

The research objectives are: (1) To find out the performance of Facebook as a tool for interaction between libraries and library users; (2) To find out the differences in using Facebook to interact with library users between libraries in English-speaking countries and those in Greater China; (3) To find out the differences between academic and public libraries in using Facebook to interact with library users; (4) To find out the challenges for libraries in using Facebook to interact with library users.

3.2 Selected libraries

This research aims at giving a general understanding of the applications of Facebook in multiple libraries. Libraries are selected in both English-speaking countries (Canada, United Kingdom, and United States) and Greater China (Hong Kong and Taiwan). As shown in Table 1 below, there are 14 libraries in this study. Among them, 6 libraries are public and the other 8 are academic (see Table 1).

Table 1: Libraries being studied

Region / Country	Public library	Academic library
Canada	2	1
United Kingdom	1	1
United States	1	2
Subtotal for English-speaking countries	**4**	**4**
Hong Kong	0	1
Taiwan	2	3
Subtotal for Greater China	**2**	**4**
Total	**6**	**8**

For academic libraries in English-speaking countries, libraries are selected based on the Times Higher Education World University Rankings. For academic libraries in Greater China, libraries are selected based on QS Asian University Rankings. Libraries in universities that have higher rankings are selected in preference. For public libraries, those recognized as major are selected (e.g., national libraries or provincial libraries in developed countries). Rich information of the selected libraries is collected, through which causation can be explored to find underlying principles.

3.3 Data collection

A mixed method research design (Creswell, 2003) is applied in this study, employing both quantitative and qualitative methods to achieve our research objectives. Posts by libraries and dialogues between libraries and library users that are available on libraries' Facebook pages are harvested and analyzed. Quantitative methods are applied to the data that collected from libraries' Facebook pages. Posts on the pages are categorized. Descriptive data are gained through statistical analysis conducted on their posts. Besides, qualitative methods

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are applied in this research to gain insights and understandings of using Facebook in libraries. This research employs the semi-structured interview. An interview schedule is prepared, which is mainly organized by a set of predetermined open-ended questions. Other questions emerging form the process of interviews are also considered as part of the interview.

4. Findings and discussions

4.1 The targeted users for interaction on Facebook

Comparison between English-speaking countries and Greater China: In English-speaking countries, public libraries are now as active as their academic counterparts in using Facebook. Public libraries even seem to be more promising in using this tool (see Figure 1). By taking advantage of the fact that they have much more users than academic libraries, public libraries could attract more fans on Facebook than academic libraries.
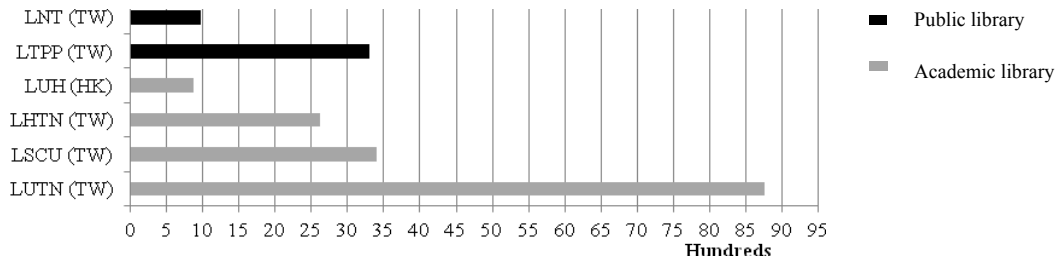
Figure 1: The number of "fans" of the studied libraries in English-speaking countries
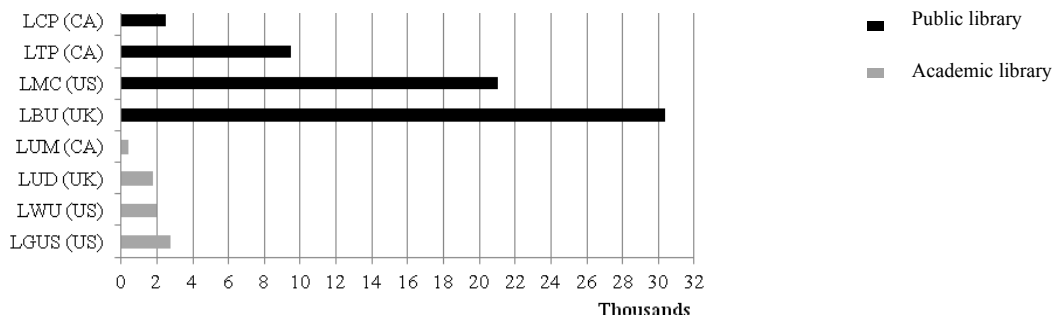
Notes: LCP, LTP, etc. are the codes of library names (Hereinafter the same); US = United States; UK = United Kingdom; CA= Canada

However, in Greater China, public libraries are lagging behind academic libraries (see Figure 2). There is no public library using Facebook in Hong Kong. And only a few public libraries are found using Facebook in Taiwan. It is similar to the situation 3 years ago in English-speaking countries, according to De Rosa's report (De Rosa, et al., 2007).
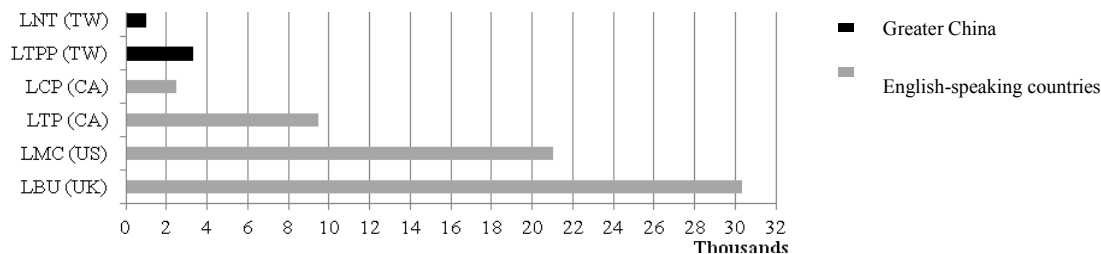
Figure 2: The number of "fans" of the studied libraries in Greater China

Notes: TW= Taiwan; HK = Hong Kong

For the studied public libraries, according to the performance of their Facebook fan pages, the diversity and frequency of interaction on Facebook increases with the number of fans grows. Unfortunately, there is a big gap in the number of fans between public libraries in Greater China and their counterparts in English-speaking countries (see Figure 3).

Figure 3: The number of "fans" of the studied public libraries

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Notes: US = United States; UK = United Kingdom; CA= Canada; TW= Taiwan

Though the performance of public libraries on Facebook is not as outstanding as those in English-speaking counties, in Greater China, academic libraries perform as well as or even better than the counterparts in English-speaking counties (see Figure 4).

Figure 4: The number of "fans" of the studied academic libraries
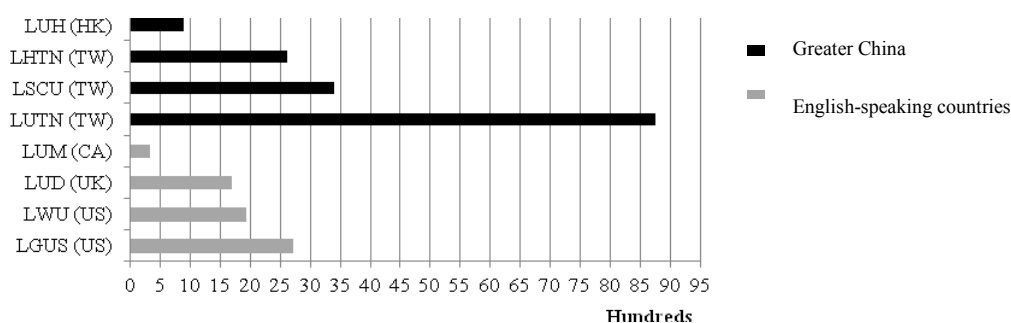
Notes: US = United States; UK = United Kingdom; CA= Canada; TW= Taiwan; HK = Hong Kong

From the comparisons above, it can be seen that on the early stage of using Facebook (like Greater China, in which libraries just use the tool for 1 to 2 years), public libraries are inferior to academic libraries in the number of fans. The reasons may be that for academic libraries, they can clearly perceive the need to use Facebook for communications with library users, since the main users of academic libraries, despite academic staff, are university students among whom Facebook are popular. For public libraries, the users are more diverse. They can be kids, primary-school students; middle school students; the olds and so on. Public libraries have to spend time in identifying which groups are the main audience of Facebook and publish posts that interest those most. Based on the trend of public libraries using Facebook in English- speaking countries, the gap of "fans" between the two regions, on the other hand, shows the great potential for public libraries in Greater China[1] to develop large Facebook fan bases and fulfill the interaction functions.

Comparison between academic libraries and public libraries: For public libraries, the number of fans is the main index for libraries to make decisions whether the Facebook fan page is helpful and worthy of continuing maintenance and further investment in it. This was indicated in the interview with LNT clearly.

"When we saw the number of fans keeps growing, we decided to continue using Facebook....Our library plan that when the user group grows larger, we will create some themes or event relevant to the community, host them on Facebook, making it a platform for communicating with and supporting the minor groups" (LNT)

In the beginning, LNT didn't create an official fan page as one output channel, but set up different accounts for different library departments ambitiously. After finding that each account attracted much fewer users than they expected, the library stopped running them and turned to the fan page.

For public libraries, the size of users on Facebook has determined the value of the social medium as a platform for interaction and communication within their communities. The influence of social media in their communities

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[1] The data are collected in May, 2011. The numbers continue growing every week. In the interview, one librarian from a public library told that library staff was excited with the growing number of fans. The number encouraged them to use Facebook more actively and systematically, like create events or establish themes on their Facebook page.

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is critical. They propose the medium to garner as many fans as it can, so that the tool can draw attention from different social groups and cover the whole communities. Due to this concern, How to promote the tool becomes an important and challenging issue for public libraries. And this issue does raise many concerns among librarians. Public libraries have already started trying various marketing approaches to attract more fans on Facebook, like Q&A with awards, posting links in groups, etc.[2]

On the other hand, for academic libraries, the number of fans do not weigh as much as it is for public libraries in evaluating successfulness in using the tool. Even though the numbers of fans are not significant, the academic libraries still stick to Facebook. Apart from following the trend of social media, another reason for this is that in the perspective of academic libraries, Facebook is a medium that aims at university students but not all the library users. They do not assume that researchers would use this tool to communicate with them, while micro-blogging is considered more favorable to researchers.

"I think that we Facebook is far more undergraduate, post-graduates, kind of... But I think it's more aimed at undergraduates and post-graduates. And then I think twitter is... well recently it has changed I think initially it's very much research staff in twitter, but I think we start to see more interaction from sort of undergraduates students."(LUD)

Traditional communicative methods are more helpful to researchers, suggested by LHTN, due to the nature of their research needs. Facebook page is not a good platform for this user group.

"Many enquiries about research are still conducted in person, on phone or emails, because questions of this kind are complex. You can't discuss them clearly or solve them through the Internet" (LHTN)

Facebook also have one more effect that is attractive to academic libraries, that is, it can reaches to youth who are not inclined to use any other media to communicate with libraries.

"Some students don't communicate with us before... They wouldn't go to the reference counter in person, or email us for enquiry...but this kind of students would ask us questions on Facebook. We won't ignore this minority. We want to serve as many students as we can" (LHTN)

LBHK admitted in the interview that they wanted Facebook to be "attractive" to students.

"Keeping in a style that how we think students use Facebook is much more informal. We don't think that students come to Facebook and expect highly formalized..." (LUH)

Using Facebook, to academic libraries, is to make the libraries more accessible to students and build up a friendly image among students. Interacting with students on Facebook is considered as part of the vision. Aiding students in academics or facilitating academic activities in students through the interaction on Facebook was not mentioned when academic libraries were asked the benefits of using this tool in the interviews.

4.2 Interaction between users and libraries on Facebook

Different types of interaction: There are 3 types of interaction on Facebook pages: "like", "conversation" and "group networking". Among them, "Like" is the interaction that happens most frequently. It is a prominent feature which is favored by users so much that the "like" button is used frequently as a marketing icon for Facebook. Though there is no actual conversation by just clicking "like", librarians still deem it as one kind of social interaction based on the fact that users are sharing their common interests with their friends, at the same time sending the messages about "what interest users" to libraries.

"...allow them to show what they are doing in their lives. But I think that it's valuable for them because they show their friends 'I like this', 'I like that'... so they will like many things by looking at some of the students you can see how many things that they 'like'." (LUH)

"It proves a little bit because I suppose you can see some of our posts at least get a few 'like's. We get a few comments, but still not many people like." (LUH)

But "like" is not satisfying enough for libraries. It is not a kind of interaction as quality as "conversation" which libraries are struggling for.

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[2] In a group of "Libraries using Facebook pages" on Facebook, one posted an enquiry: "I would like to know how all of you grew your fan base at your local library". And it stirred up an active discussion among public libraries on how to promote libraries' Facebook fan-pages. Some public libraries even mentioned "purchase an ad" on Facebook in their replies. See the link: http://www.facebook.com/groups/8408315708/

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"I also get the impression that they 'like' so many things, they may not pay so much intention to something, only to express their 'like'" (LUH)

There are conversations on library Facebook pages, include those initiated by users, (e.g., complaints, suggestions on improving library services; enquiries about library resources) and those initiated by libraries (e.g., posting open questions to conduct consultations about user needs). But there are only a few interaction of this kind on the library Facebook pages. As observed, most of the conversations on library Facebook pages are task oriented[3], like reference enquiry. However, one academic library suggested in the interview that users were more inclined to use Twitter to conduct task oriented interaction.

"I think twitter we got more night service questions. So...I just...when people has inquiries like about libraries print out or something that's going on, I think that far more interactive on twitter, so... I don't know, I think perhaps, loads interaction on Facebook, but perhaps more useful interaction happen on Twitter" (LUD)

Facebook is considered as a platform that has more potential in social interaction between users and libraries which builds up friendly connections with users, making users, especially the youth, more inclined to exploring library resources. Hence, quality social interaction may be what should be expected in "conversation".

"That's a long going challenge to... because we want to make it more social. More social on the way that we think student's that using Facebook with their friends, just on my own, using Facebook personally, you know, people have conversations, people have more comments on their friends' pages." (LUH)

This may explain why the feature of discussion forums on Facebook which are more suitable for task interaction are not used or underused by libraries. And "group networking" on library Facebook pages are mainly restricted to creating a reading group or setting up an event page, both of which are launched based on common interests[4], too. But unfortunately as the same as "conversation", "group networking" on the library Facebook pages is far from satisfying. Few users are interested in participating group network set up by libraries on Facebook.

"We created some groups or hosted events on Facebook before, but few students "like" the page[5] or participate in the activities." (LHTN)

"We used to create an event on Facebook, but few has paid attentions to it" (LNT)

Essentially, the imbalance among these 3 types of interaction is related to the usages of library Facebook fan pages. The study samples the posts every other three days on the Facebook fan pages of the studied libraries, which are published on of the months from Jan. 2011 to May. 2011. Based on their contents, the sampled posts are categorized into 6 types: (1) Announcement of event update[6]; (2) Announcement of facilities and references update[7]; (3) Enquiry[8]; (4) Discussion[9]; (5) Promotion of library services and resources[10]; (6) Sharing[11]. According to the posts captured from the Facebook pages, different usages incline to stir up different types of interaction on Facebook. To observe various types of interaction, LB, with the largest fan base on Facebook among the studied libraries bringing up various communications, was selected to explore the relationships between usages and interaction. The means of the numbers of replies and likes vary across different types of usages (see Figure 5).

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[3] Task oriented interaction is focused principally on the work, projects, plans and goals (Forsyth, 2006).

[4] To form a group, libraries have to gain approvals from users in terms of sending invitation to users.

[5] It means accepting invitations.

[6] Libraries use Facebook to invite people to join their events. Posts of this kind may include event details, e.g., the time and the venue, and event-related references with external link.

[7] For example, the libraries' opening hours during examination period and new gateway to access the existing databases.

[8] They are enquiries from users or open questions from libraries that collect suggestions from users for improving library services.

[9] Posts of this kind are topics are raised by libraries or users on Facebook which invites users to participate in discussion. The topics are not necessarily about libraries, but could be other social or cultural issues.

[10] Reference services or new resources are promoted. If necessary there would be hyperlinks that redirecting users to corresponding web pages.

[11] Libraries sometimes would post external links of news or websites in which contents are interesting or educative. Or users share photos and news on the Facebook pages.

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Figure 5: Means of the numbers of replies and likes across different usages on LB Facebook page
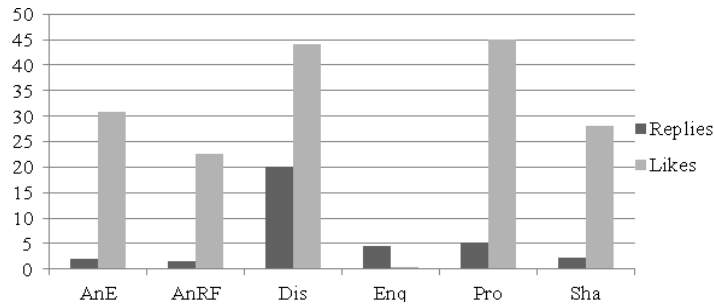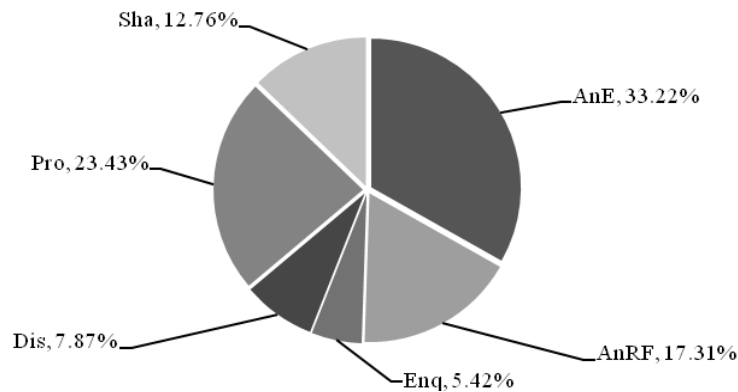

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing.

As shown in Figure 5, there are 4 types of usages with a high frequency of "likes" (above 20) but a low frequency of replies (under 5), which have common interest among a large group of users but are not inclined to trigger off quality interaction. In contrast, there is only 1 type of usage, "Discussion", with a high frequency of both "likes" and replies, showing the inclination of stirring up group networking. Also, there is only 1 type of usage, "Enquiry", with a low frequency of "likes" and a few replies, showing the inclination of stirring up conversations[12].

Further, the percentages of different usages are attained in the way that posts of all the 14 libraries are summed and divided according to the 6 categories (see Figure 6).

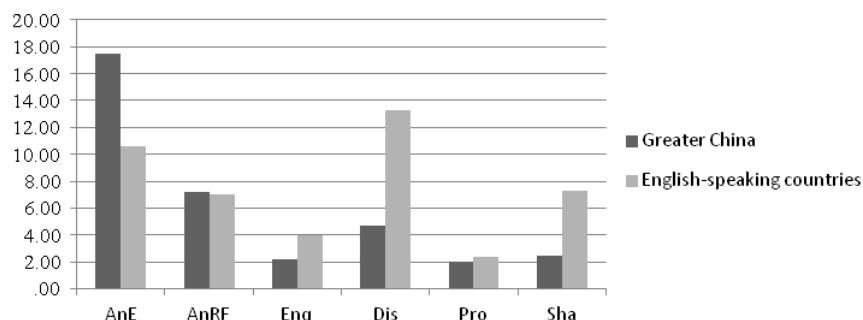**Figure 6: Percentages of different posts by the studied libraries**

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing.

It can be seen that in the sample, the most often usage of library Facebook pages is "Annoucement of event update" (33.32%) and "Promotion of library services and resources" comes next (23.43 %), both of which are most likely to attract "likes". However, the percentages of "Discussion" and "Enquiry", which most likely bring out group networking and conversations, are merely at 7.87% and 5.42% respectively. This partly explain why the most often type of interaction on library Facebook pages is "like", rather than quality interaction: "conversation" or "group networking". From the data above, it can be concluded that Facebook pages are primarily used as a platform of distributing information. Even though libraries are looking forward to quality interaction on Facebook, in practice, the usages of Facebook pages have impaired its performance in interaction.

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[12] This is because conversations are normally driven by individual interests not inclined to bring up many "likes" from others, while group networking are usually driven by common interest among a large group of users, inclining to bring up many "likes" and replies at the same time.

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Comparison between English-speaking countries and Greater China: The numbers of different posts are grouped and summed according to the regions the libraries located. Means of the sums are calculated and compared between English-speaking countries and Greater China, as shown in Figure 7.

Figure 7: Means of the frequencies of usages on library Facebook pages grouped by regions
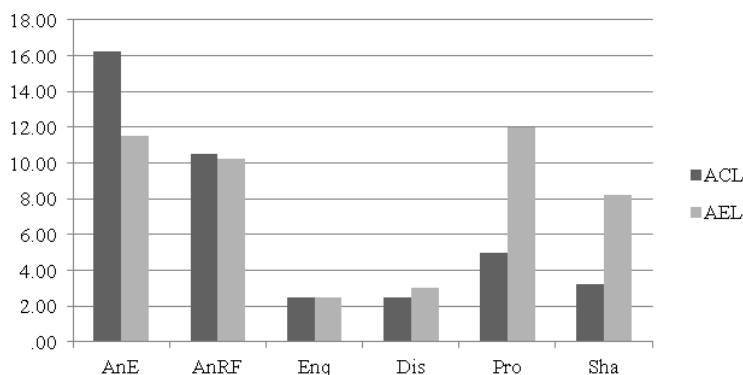

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing.

From the figure above, it can be seen that in "Promotion of library services and resources" and "Sharing", libraries in English-speaking countries have significantly more posts than libraries in Greater China. And in "Announcement of event update", contrarily, libraries in Greater China have significantly more posts than libraries in English-speaking countries.

When the data are further divided according to library types (academic or public), it shows that for academic libraries in English-speaking countries, the usages of Facebook pages are more diverse than their counterparts in Greater China (see Figure 8).

Figure 8: Means of the frequencies of usages on academic library Facebook pages grouped by regions

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing; ACL = academic libraries in Greater China; AEL = academic libraries in English-speaking countries.

As shown in Figure 8, for academic libraries in English-speaking countries, "Announcement of event update", "Announcement of facilities and references update", "Promotion of library services and resources" and "Sharing", the distribution of the 4 types of usages are relatively even. As to academic libraries in Greater China, however, data cluster under the usages of "Announcement of event update" and "Announcement of facilities and references update". The situation is also different in public libraries between English-speaking countries and Greater China (see Figure 9).

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Figure 9: Means of the frequencies of usages on public library Facebook pages grouped by regions
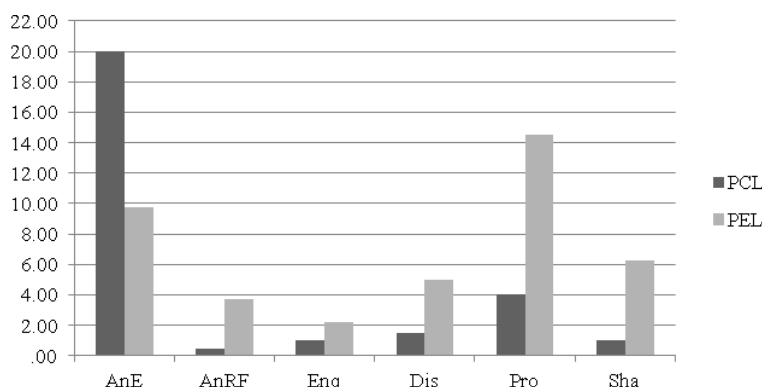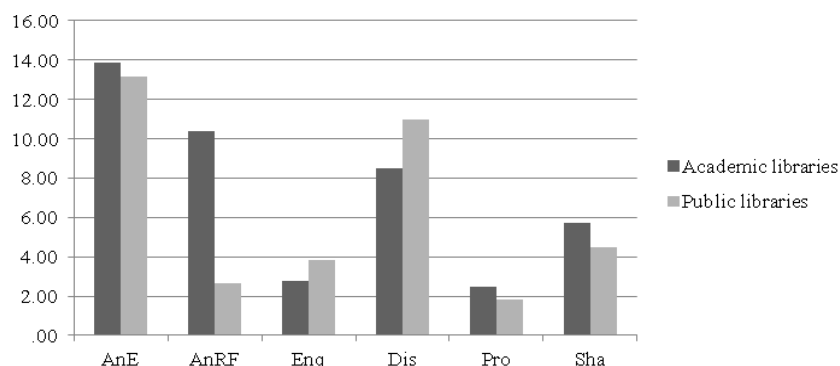

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing; PCL = public libraries in Greater China; PEL = public libraries in English-speaking countries.

For public libraries in Greater China, the data also cluster under the usage of "Announcement of event update", while interestingly the data of public libraries in English-speaking countries fall under the usages of "Promotion of library services and resources" and "Announcement of event update". And the former one has attracted many users' "likes" on their Facebook pages.

The differences between Greater China and English-speaking countries imply that in the beginning of using Facebook, libraries are conservative towards it. In Greater China, where libraries have shorter history in using Facebook than those in English-speaking countries, "Announcement of event update" seems the "safest" usage to libraries, which is unlikely to stir up quality interaction: conversions and group networking (see Figure 5). Vigorous interaction is not the thing that is looked forward to in the first place when necessary experience or research for administration on this social medium is absent. However, with accumulating experience of using this tool, like those in English-speaking countries, libraries would be more willing to try different usages other than "Announcement of event update" to draw interaction. And during this process, the main audience of their Facebook pages and their interests would be identified.

Comparison between academic libraries and public libraries: The numbers of different posts are also grouped and summed according to library types (academic and public). Means of the sums are calculated and compared between academic and public libraries. The result shows that academic libraries have significantly more posts than public libraries in "Announcement of facility and reference update" (see Figure 10).

Figure 10: Means of frequencies of usages on Facebook grouped by library types
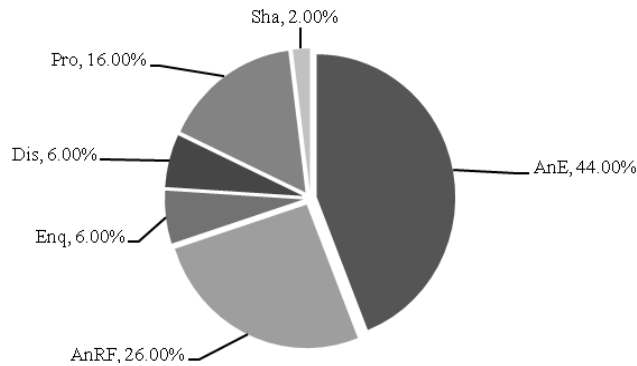

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing.

In the studied libraries, the academic library LUTN and the public library LB have the largest fan bases among the academic libraries and the public libraries respectively. At the same time, they also have more quality

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interation on Facebook pages than their counterparts. To further explore the data, the sampled posts of these 2 libraries are studied seperately (see Figure 11 and 12). The data shows that the proportions of the 6 types of usages are different from the assembled result shown in Figure 6.
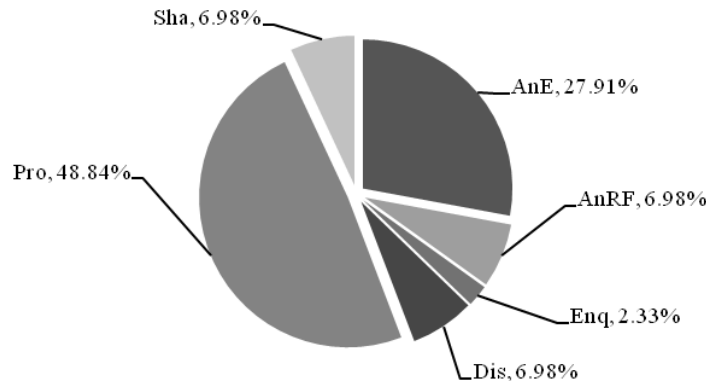
Figure 11: Percentages of different usages of LUTN Facebook page

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing.

As to LUTN Facebook page, "Promotion of library services and resources" only accounts for 16% of all the sampled posts. The usage "Announcement of facilities and references update", which is at 26%, has surpassed "Promotion of library services and resources", becoming the second most often usage next to "Announcement of event update".

Figure 12: Percentages of different usages of LB Facebook page

Notes: AnE = Announcement of event update; AntFR = Announcement of facility and reference update; Dis = Discussion; Enq = Enquiry; Pro = Promotion of library services and resources; Sha = Sharing.

In the situation of LB, the percentage of "Promotion of library services and resources" is very outstanding, accounting for nearly 50% of all the sampled posts. The usage "Announcement of event update" comes next, at 27.91%.

Based on the data from these two libraries, it seems that the high frequency of quality interaction on library Facebook pages is a product of a large fan base. And library Facebook pages, in the first place, attract users by useful information, but not by quality interaction. For public libraries, library services and resources are related more closely to community interest than events, facility or references. However, for academic libraries, as a kind of important academic facility in universities, these 3 kinds of information are more critical and related closely to academic life in universities. Therefore, to draw more interaction on library Facebook pages, the first

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step is to grow a large user base by providing quality and useful information. A survey about "what interest users most" is surely needed[13].

4.3 Challenges of using Facebook for interaction

Issues of privacy: As can be seen from the usages of Facebook pages, there are not many posts for enquiry. In the interviews, libraries suggested that this was mainly because users had to post their questions on the Facebook page in public. If they conduct their enquiries through this tool, the posts can be seen by users' Facebook friends and by the other fans on that page. Sending private messages or limiting accessibility to posts by privacy setting is unavailable[14]. The lack of protections on privacy has substantially hindered the interaction on Facebook.

"We found students are really reluctant post... you might know some of the Facebook pages... we had a discussion, but nobody or maybe only one or two. And even when we were encouraging discussions, such as offering rewards, and sort of competitions... you know when you post on the wall, you will enter a lucky draw. That was our big challenge, trying to get students to involve to interact with the Facebook page." (LUH)

Librarians could use Facebook personal accounts to solve the privacy issues. However, personal accounts cannot be listed in the side bar of fan pages. It's not easy for users to identify librarians' accounts and initiate interaction.

Absence of administrative policies: The inefficiency mentioned above in interacting with library users, is also caused by the absence of pertinent administrative policies to manage the vigorous interaction on Facebook. All the libraries being interviewed suggested that they had no formal policies especially for administering interaction on their Facebook pages. Instead, libraries had other alternative approaches for administering Facebook pages, including: (1) Applying the protocols of reference services in real world to Facebook; (2) Assigning a group of librarians to serve users on Facebook[15]; (3) Offering trainings on managing user responses, and providing some guidelines.

But these approaches are not formally established or stated publicly on Facebook. One librarian mentioned in the interview that when users expressed themselves in rude languages, he would remove the words and respond to the users by private messaging through his personal account. In situations like this, what other users see is the words are deleted. Without the knowledge about the administrative policies, users may misunderstand that libraries are not open to complaints or other suggestions, which also may discourages users to interact with libraries on Facebook pages.

Furthermore, these approaches are mostly about how to respond and serve users on Facebook. The coverage is far from comprehensive. Copyright issues about online content, authenticity of posts on Facebook pages by users other than the library, responsibilities and so on are not under considerations in these approaches. Libraries can be engaged in lawsuits due to lapses in administration. Hence, establishing a comprehensive administrative policy is a critical issue for libraries using Facebook.

Limitations in the administrative functions of Facebook: Templates for designing the interface of fan pages are unavailable on Facebook. In the interview, a library complained that unlike blog that has templates for designing interface, Facebook changes its design feature through apps which is not easy for librarians to adjust and manipulate[16].

*"Many features of the page are not easy to be realized. On blog, you know, you have the templates. You can design the page easily by using the templates. We intent to create a banner on Facebook, but we still can't succeeded after trying for several times. We are now considering having a try on Google plus."(*LHTN)

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[13] A few libraries have already conducted surveys of this kind on their Facebook pages through posting consulting questions like "what do you like to see on our Facebook page" or setting up voting with several typical options. But in those surveys, the numbers of respondents are too small to make any conclusion. Surveying through other tools should be taken under considerations.
[14] However, Twitter can achieve both of these privacy processes.
[15] This approach is applied by large libraries, which seems unrealistic for libraries short in human resources.
[16] Most library Facebook fan pages are not administered by IT technicians, but reference librarians.

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The librarian regarded that Facebook were limited in customization. When the library intended to promote an event or a discussion topic on Facebook, it tried to switch the banner and colors to the ones that were consistent to one theme so that the presence of the medium became stronger and thud able to gain more recognition from users. However, it found that Facebook was incapable or difficult to realize this design.

Besides, there are needs for libraries to detect different user needs and provide corresponding services on Facebook. Unfortunately, libraries cannot classify its fans by creating different groups on Facebook pages.

"There are many people in the Internet. The fans of our page can be students, can be teachers, and can be other citizens. It's better that we can identify them, classify them, so we can provide things that are pertinent to different user groups."(LHTN)

Without the function of classifying users, libraries cannot browse the comments or dialogues from one kind of users exclusively on Facebook. As a result, managing interaction on Facebook systematically becomes very difficult.

5. Conclusion

Facebook has great potential in facilitating interaction between libraries and library users. Libraries' Facebook fan pages are attracting new users every day. On the other hand, quality interaction between librarians and users, like conversations and group networking, is still relatively rare on Facebook. How to fulfill the potential to its full extent is a critical issue that libraries need to consider.

There are gaps in libraries using Facebook between English-speaking countries and Greater China. Compared with their counterparts in Greater China, libraries in English-speaking countries seem more sophisticated in using this tool to interact with library users, regarding the diversity of usages of Facebook pages, and the identification of the main audience on Facebook and their interests. The indicated gaps suggest that libraries still need to invest resources in surveying user needs.

In the respects of the characteristics of user groups on Facebook and the usages of Facebook, differences also exist between academic and public libraries. Public libraries lay accent on covering different groups in their communities by taking advantage of social characteristics of Facebook. Academic libraries lay accent on marketing, with an intention to build an accessible image among students by taking advantage of the popularity of Facebook. Hence, for libraries using Facebook, it is necessary to research how to make the tool work well with libraries' missions.

Several challenges for libraries using Facebook are also found in this study. They are related to aspects of privacy, administration and the tool itself. Further studies are needed on approaches to solve the problems brought about by them.

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