Social Network Services for Academic Libraries: A Study Based on Social Capital and Social Proof

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Abstract

Despite the potential of social networking services (SNS) as a tool for communication between academic libraries and users, many academic libraries are yet to successfully optimize their SNS. As a result, their social proof and social capital of various SNS do not perform well. This research aims to evaluate the SNS effectiveness of the University of Hong Kong Libraries (HKUL) based on social capital and social proof concepts. We hope that our recommendations according to our findings will be applicable to other academic library contexts. We have found that: (i) there are no major differences between undergraduate and postgraduate students in their attitudes and behaviors regarding the SNS of HKUL on various platforms; (ii) low social proof is related to a lack of user interaction and promotion; (iii) low satisfaction with SNS contents may lead to low social capital. As such, understanding user information need, setting goals and metrics for each SNS, and formulating a formal SNS policy are the keys to further develop library SNS.

Introduction

Given the trends of using social networking services (SNS) as information receiving channels (Steiner, 2012), the administrators of the SNS of academic libraries need to know about various types of SNS and use them to promote library collections and services (Solomon, 2011). For example, the University of Hong Kong Libraries (HKUL) have established its SNS on Facebook, YouTube, Issuu, and Twitter since 2012 to deliver library-relevant information. While it is easy to establish different SNS, librarians or the administrators of the SNS of the academic libraries should emphasize on establishing connections with patrons in order to maximize the value of their SNS (Harrison, Burress, Velasquez, & Schreiner, 2017).

While HKUL has established their SNS for nearly five years, most of its contents do not draw their patrons' attention (Lam, Au, & Chiu, 2019). It may be due to the inability to fully the concepts of SNS, especially in building social capital and social proof (Stvilia & Gibradze, 2017). The weakness in building social capital and social proof in the SNS context may, therefore, affect the ability of librarians or SNS administrators to use SNS to engage and to build relationships with users (Kirsh, 2010).

Although recent studies have explored the most prevalent types of information emerging from university libraries' SNS (Enis, 2013; Lam, Au, & Chiu, 2019; Stvilia & Gibradze, 2017), scant relevant studies explained the reasons that academic libraries failed to build relations with library users via different SNSs, especially in the Asia-Pacific region. Therefore, the main purpose of this study is to fill this knowledge gap and to provide critical analyses and recommendations on library SNS. We hope that our findings can be beneficial to HKUL and other academic libraries, since librarians and SNS administrators can refer to our research results to understand what kinds of problems exist in their usage of the SNSs and how other universities promote their SNSs successfully. As such, the following research questions (RQ) were proposed:

RQ1: What is the level of social proof in HKUL social networking services?

RQ2: What is the extent of social capital in HKUL social networking services?

RQ3: How can HKUL further improve their social networking services?

Literature Review

Social Networking Services (SNS) in academic libraries

Social media may be considered as an online platform that allows individuals to contact one another for communicating, collaborating, and sharing contents (Boyd & Ellison, 2007). One of the notable examples is Facebook, which was launched in 2004 and had 2.41 billion active users by the end of 2018 (Zephoria, 2019). Owing to its popularity, social media has been adopted in many different contexts, including education (Au & He, 2014; Lam et al., 2019), social media marketing (Lui & Au, 2017; Nord, Espinosa, Paliszkiewicz, & Mądra-Sawicka, 2018), and civic engagement (Au & Ho, 2019). More specifically in the academic libraries context, librarians and SNS administrators have adopted social media to establish their SNS as cost-effective and efficient ways to disseminate news, to promote services, and to communicate with their patrons (Chu & Du, 2012). Table 1 shows some previous applications of different social media in academic libraries.

Social Media	Applications in Academic Libraries
Facebook	Tomaiuolo (2012) indicates libraries may establish Facebook pages to communicate with their patrons and to illustrate the application of different library resources. Libraries may also adopt chatbots to offer users automatic answers for some frequently asked questions or links to different online catalogs and databases (Enis, 2013; Harrison et al., 2017)
YouTube	As a video-sharing service with social features, YouTube allows librarians to set up channels for library users to subscribe to or just simply view them (Martin, 2017). A major strength of YouTube is to create a community for users to interact, comment, and view/post videos of specific interests. As such, it allows libraries to reach their users with videos (Landis & Kroski, 2010; Martin, 2017). Among different types of videos, Tomaiuolo (2012) identified that the most popular types of video uploaded by academic libraries are usually related to user education, such as tutorials of searching Google Scholar.

Issuu	As a free social media for organizations to publish newspapers and magazines, Issuu has 85 billion of users in 2015 (Chubb, 2015). It may help expand the way that libraries promote their collections and services to patrons, as librarians can share any part of a publication (e.g., newsletter) by uploading it to their SNS (Hall, 2013).
Twitter	Created in 2006, Twitter had 330 million active users by 2019 (Statistia, 2019). In the library context, Twitter may be used for broadcasting information, and thus establishing stronger bonds with users (Barone & Mallette, 2013; Bradley, 2015; Young, 2017).

Table 1. Application of different social media in academic libraries

As illustrated in Table 1, a major purpose for academic libraries to use SNS is to establish the bond with their users, encourage more users to utilize their services, and participate in events. Besides, libraries would also expect an establishment of credibility. The job of convincing users' participation and establishing a network, at its nature, may be understood as establishing social proof and social capital. To address the phenomena of using SNS in the context of academic libraries, we, in turn, review the literature about social proof and social capital.

Social Proof

Schnuerch and Gibbons (2015) define social proof as the psychological phenomenon whereby people copy the actions of others because they assume this action is acceptable when others are doing it. In the context of digital communities, where users can communicate and interact with one another, the influence of social proof also exists in SNS (Weinberg & Pehlivan, 2011). The number of followers, likes, views, and even comments are playing important roles in affecting other users' perceptions of the organization. Yet, the purpose of operating SNS should be engaging the patrons and potential users, rather than solely having a huge number of followers.

Social Capital

Social capital may be defined as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit" (Nahapiet & Ghoshal, 1998, p. 243). SNS has a strong correlation to the increase in bonds and

bridges capital since it helps people stay connected to individuals through online communities (Ellison, Steinfield, & Lampe, 2007). According to OECD (2016), the social capital of such bonds is defined as the links to people based on a common identity, and bridge refers to the links that stretch beyond a shared sense of identity. Furthermore, Solomon (2013) noted that having social capital is equal to having credibility in a certain online community, which means users perceive the library SNS as a premium choice to find value contents and then further promote library contents to others. Solomon (2011) also emphasized that librarians can only earn social capital through quality participating in the community.

Research Method

Our study applied a quantitative research approach to investigate the applications of SNS in the academic library context, with the library of the University of Hong Kong (HKUL) as our data collection site. We conducted a survey for collecting data from student users. Next, we analyzed the statistics to investigate users' attitudes, opinions, and behaviors into the collected data (Gray, 2013). There were in total 16 questions for understanding participants' backgrounds and opinions on different HKUL SNS services. We also included some semi-closed-ended questions for discovering deeper insights for the users (Creswell, 2014). The level of SNS attraction would be measured through using a scale rating from "1" for least attractive to "4" for most attractive, so that mean scores for each type of resources could be calculated and compared. After collecting the data, we analyzed the data by various measures of statistical analysis using IBM SPSS Version 25, including descriptive statistics for depicting overall pictures and t-tests for comparing between the undergraduate (UG) and postgraduate (PG) groups.

Results

With 101 participants in total, the demographic information of our subjects is outlined in Tables 1 and 2.

Table 1. Gender and age

Age	Undergraduate (UG)			Postgraduate (PG)		
	Overall	Male	Female	Overall	Male	Female
1. 18 -22	38	13	25	3	2	1
2. 23 - 26	11	7	4	40	14	26
3. 31 or over	1	0	1	8	5	3
Total	50	20	30	51	21	30

Table 2. Students by faculty

Faculty	Overall (N=101)	UG (N=50)	PG (N=51)
1. Faculty of Education	50.5% (N=51)	56.0% (N=28)	45.1% (N=23)
2. Faculty of Social Sciences	17.8% (N=18)	16.0% (N=8)	11.8% (N=6)
3. Faculty of Arts	13.9% (N=14)	10.0% (N=5)	2.0% (N=1)
4. Faculty of Science	7.9% (N=8)	8.0% (N=8)	7.8% (N=4)
5. Faculty of Business and Economics	5.9% (N=6)	6.0% (N=3)	29.4% (N=15)
6. Faculty of Architecture	2.0% (N=2)	2.0% (N=1)	2.0% (N=1)
7. Faculty of Dentistry	1.0% (N=1)	2.0% (N=1)	0.0% (N=0)
8. Faculty of Engineering	1.0% (N=1)	0.0% (N=0)	2.0% (N=1)

Current users of HKUL social networking service

Table 3. The number of HKUL SNS users

Items	Overall (N=101)	UG (N=50)	PG (N=51)	P-value	SD
1. "Like" the HKUL Facebook Page	66.3% (N=67)	82.0% (N=41)	50.9% (N=26)	<0.001	0.475
2. "Subscribe"" the HKUL YouTube channel	19.8% (N=20)	18.8% (N=12)	19.5% (N=8)	0.299	0.400
3. "Follow" the HKUL Issuu page	9.9% (N=10)	9.4% (N=6)	9.8% (N=4)	0.489	0.300
4. "Follow" the HKUL Twitter	7.9% (N=8)	7.8% (N=5)	7.3% (N=3)	0.449	0.271

As shown in Table 3, Facebook was the most subscribed (followed or liked) among all SNS channels adopted by HKUL. Besides, there was a significant statistical difference between UG and PG about "liking the HKUL Facebook page." For other SNS, there was a significantly smaller adoption rate for both UG and PG.

Table 4. Satisfaction on HKUL SNS content

Items	Overall	UG	PG	P-value	SD
1. Satisfaction on the content of HKUL Facebook Page (N=67)	2.67 (N=67)	2.80 (N=41)	2.46 (N=26)	0.112	0.860
2. Satisfaction on the content of HKUL Twitter (N=8)	2.50 (N=8)	2.60 (N=5)	2.33 (N=3)	0.725	0.926
3. Satisfaction on the content of HKUL YouTube channel (N=20)	1.85 (N=20)	1.75 (N=12)	2.00 (N=8)	0.571	0.933
4. Satisfaction on the content of HKUL Issuu page (N=10)	1.60 (N=10)	1.83 (N=6)	1.25 (N=4)	0.214	0.699

Notes: (1) Scale: 1: Not at all Satisfied; 2: Partly Satisfied; 3: Satisfied; 4: Very Satisfied

Regarding the satisfaction level (Table 4), no significant differences were found between the level of study and the satisfaction of HKUL SNS content, while the Facebook contents (M = 2.67, SD = 0.860) were found to be the most satisfying, but the overall mean value still cannot reach to "3: Satisfied" or above. Besides, it was interesting to notice the satisfaction of Twitter (M = 2.50, SD = 0.926) is ranked second among other SNSs. As HKUL Twitter had the smallest user number among other SNS (Table 4), this result might hint that the number of users and their satisfaction did not necessarily have close relationships. For the other SNSs, YouTube and Issuu, their satisfaction scores are only 1.85 (SD = 0.933) and 1.60 (SD = 0.699), respectively. These results reflected that HKUL librarians and SNS administrators might need to improve the quality of their contents to increase library users' satisfaction.

For the content-sharing frequency, Table 5 illustrates the number of times that users had shared HKUL SNS contents. The results indicated that most respondents are unwilling to share contents from any SNS of HKUL.

Table 5. Number of shares on SNS

Items	Overall	UG	PG	P-value	SD
1. Share the content of HKUL Facebook Page (N=67)	1.13 (N=67)	1.12 (N=41)	1.15 (N=26)	0.714	0.334
2. Share the content of HKUL YouTube channel (N=20)	1.10 (N=20)	1.08 (N=12)	1.13 (N=8)	0.776	0.308
3. Share the content of HKUL Issuu page (N=10)	1.10 (N=10)	1.17 (N=6)	1.00 (N=4)	0.447	0.316
4. Share the content of HKUL Twitter (N=8)	1.00 (N=8)	1.00 (N=5)	2.33 (N=3)	<0.001	0.000

Notes: Scale: 1: 0 time; 2: 1 - 2 time; 3: 3- 4 time; 4: More than 5

Potential users of HKUL social networking service

Regarding the reasons for the non-usage on Facebook, 61.8% of the respondents were not aware of the presence of the Facebook page, while 58.8% of them were not interested (See Table 6). One of the UG respondents especially pointed out HKUL Facebook could not cause her interest because most of its contents are mainly about some notices, such as emergency exit testing. Similarly, the low usage of YouTube could be explained by the lack of interest (49.4%) and unawareness (49.4%). The low awareness issue also existed in Issuu despite the existence of the Issuu logo on the homepage of HKUL (52.3% of respondents were not aware of that).

Furthermore, 44.1% of respondents mentioned that they did not use Twitter since they did not recognize its academic value, while 4.3% of them did not even own a Twitter account. These findings indicated that HKUL needed to spend more time and resources to enhance its visibility and to enrich the contents of their SNS.

Table 6. Reasons for not using HKUL SNS

Items	Overall	UG	PG	P-value
1. Facebook				
1.1. I simply do not know HKUL have a Facebook page	61.8% (N=21)	20.6% (N=7)	41.2% (N=14)	0.262

1.2. I am lacking interest on HKUL Facebook page	58.8% (N=20)	11.8% (N=4)	47.1% (N=16)	0.321
1.3. No friend shares the information of HKUL Facebook page	35.3% (N=12)	17.6% (N=6)	17.6% (N=6)	0.021
1.4. I don't think HKUL Facebook page can help me to study	17.6% (N=6)	5.9% (N=2)	11.8% (N=4)	0.686
1.5. Other reasons	2.9% (N=1)	2.9% (N=1)	0% (N=0)	0.096
2. YouTube				
2.1. I am lacking interest on HKUL YouTube channel	49.4% (N=40)	24.7% (N=20)	24.7% (N=20)	0.588
2.2. I simply do not know HKUL have YouTube channel	44.4% (N=36)	14.8% (N=12)	29.6% (N=24)	0.029
2.3. I don't think HKUL YouTube channel can help me study	29.6% (N=24)	13.6% (N=11)	16.0% (N=13)	0.901
2.4. No friend shares the information of HKUL YouTube channel	27.2% (N=22)	12.3% (N=10)	14.8% (N=12)	0.874
3. Issuu				
3.1 I simply do not know HKUL have Issuu page	52.3% (N=45)	17.4% (N=15)	34.9% (N=30)	0.004
3.2 I am lacking interest on HKUL Issuu page	40.7% (N=35)	23.3% (N=20)	17.4% (N=15)	0.189
3.3 I don't think HKUL Issuu page can help me study	31.4% (N=27)	15.1% (N=13)	16.3% (N=14)	0.980
3.4 No friend shares the information of Issuu page	29.1% (N=25)	16.3% (N=14)	12.8% (N=11)	0.374
4. Twitter				
4.1. I don't think HKUL Twitter can help me study	44.1% (N=41)	18.3% (N=17)	25.8% (N=24)	0.240
4.2. I am lacking interest on HKUL Twitter	34.4% (N=32)	16.1% (N=15)	18.3% (N=17)	0.835
4.3. I simply do not know HKUL have Twitter	28.0% (N=26)	9.7% (N=9)	18.3% (N=17)	0.100
4.4. No friend shares the information of HKUL Twitter	26.9% (N=25)	16.1% (N=15)	10.8% (N=10)	0.178
4.5. Other reasons	4.3% (N=4)	1.1% (N=1)	3.2% (N=3)	0.344

Value of SNS contents

Respondents were requested to rate the information of HKUL SNS from not very attractive (1) to most attractive (4) with a Likert-scale (See Table 7). Among four types of information, "e-resources recommendation" (M = 2.96, P = 0.324, SD = 0.799) was the most appealing information on Facebook. Many respondents found the contents of collection promotion and library materials being attractive on YouTube, while "library collections poster," "library tutorials hand out," and "library newsletter" were equally attractive, scoring around 3.0 in the context of Issuu. Last but not least, in the context of Twitter, most respondents found "reading news," "library services," and "university news" as attractive information.

Tables 8 and 9 show the recognition of the role of HKUL SNS. There is summarized information about the UG and PG students' trustiness of HKUL SNS contents in Table 8. The finding showed there are no significant differences between two separate groups (P > 0.005), while both UG and PG respondents believed HKUL SNS contents are trustworthy (M = 3.05, SD = 0.590). These discoveries reflected students generally trust in the information issued by HKUL even if they rarely read the information of HKUL SNS.

Furthermore, it is important to note the overall mean value in every item was scored as above 3.00, no matter on Facebook, YouTube, Issuu, and Twitter. The findings clearly reflected that students generally agreed on the different functions of HKUL SNS, such as promoting library services, facilitating information and knowledge sharing, and improving the use of library collections. The findings also supported the previous statement that students trusted HKUL SNS contents in Table 8.

Table 7. Attractive information in SNS

Items	Overall (N=101)	UG (N=50)	PG (N=51)	P-value	SD
1. Facebook					
1.1. E-resources recommendation	2.96	3.04	2.88	0.324	0.799
1.2. University news	2.88	3.06	2.71	0.036	0.852

Items	Overall	UG	PG	P-value	SD
1.3. Printed collections recommendation	2.45	2.26	2.63	0.055	0.964
1.4. Library notice	2.17	2.08	2.25	0.422	1.087
1.5. News about reading	2.11	2.10	2.12	0.928	0.979
1.6. Library event	1.98	1.92	2.05	0.556	1.010
1.7. Library recruitment	1.93	1.98	1.88	0.377	0.552
2. YouTube					
2.1. Collections promote	3.12	3.14	3.10	0.791	0.791
2.2. Library tutorial	3.00	3.08	2.92	0.337	0.825
2.3. Library event	1.99	1.94	2.04	0.632	1.034
2.4. Library news	1.92	1.92	1.92	0.994	0.977
2.5. Book talk	1.87	1.62	2.12	0.012	1.007
3. Issuu					
3.1. Library collections poster	2.97	3.06	2.88	0.270	0.806
3.2. Library tutorials handout	2.93	3.06	2.80	0.147	0.886
3.3. Library newsletter	2.78	2.98	2.59	0.024	0.879
3.4. Library event poster	1.91	1.84	1.98	0.479	0.991
3.5. Library annual report	1.75	1.72	1.78	0.711	0.865
4. Twitter					
4.1. News about reading	3.15	3.26	3.04	0.149	0.767
4.2. Library services	3.08	3.24	2.92	0.025	0.717
4.3. University news	3.08	3.22	2.94	0.083	0.808
4.4. Library resources	3.07	3.16	2.98	0.197	0.697
4.5. Library event	1.94	1.76	2.12	0.072	0.998

Notes: (1) Scale: 1: Not very attractive; 2: Less attractive; 3: Attractive; 4: Most attractive

Table 8. Trustiness of HKUL SNS contents

Items	Overall (N=101)	UG (N=50)	PG (N=51)	P-value	SD
1. Trustiness of HKUL SNS websites	3.05 (N=101)	3.12 (N=50)	2.98 (N=51)	0.236	0.590

Notes: (1) Scale: 1: Very distrustful; 2: Distrustful; 3: Trustworthy; 4: Very trustworthy

Table 9. Helpfulness of SNS

Items	Overall (N=101)	UG (N=50)	PG (N=51)	P-value	SD
1. Facebook					
1.1. Promote library services	3.27	3.36	3.18	0.134	0.615

1.2. Facilitate information sharing	3.23	3.38	3.08	0.018	0.646
1.3. Facilitate knowledge sharing	3.22	3.40	3.04	0.003	0.626
1.4. Improve use of library collections	3.22	3.36	3.08	0.031	0.657
2. YouTube					
2.1. Facilitate information sharing	3.13	3.14	3.12	0.862	0.643
2.2. Improve use of library collections	3.11	3.18	3.04	0.252	0.615
2.3. Facilitate knowledge sharing	3.11	3.14	3.08	0.643	0.662
2.4. Promote library services	3.10	3.14	3.06	0.555	0.686
3. Issuu					
3.1. Facilitate information sharing	3.08	3.18	2.98	0.119	0.643
3.2. Promote library services	3.07	3.16	2.98	0.197	0.697
3.3. Improve use of library collections	3.05	3.14	2.96	0.199	0.698
3.4. Facilitate knowledge sharing	3.03	3.16	2.90	0.058	0.685
4. Twitter					
4.1. Facilitate information sharing	3.13)	3.24	3.02	0.077	0.627
4.2. Facilitate knowledge sharing	3.10	3.24	2.96)	0.032	0.656
4.3. Improve use of library collections	3.10	3.22	2.98	0.073	0.671
4.4. Promote library services	3.09	3.20	2.98	0.097	0.665

Notes: (1) Scale: 1: Strongly disagree; 2: Disagree; 3: Agree; 4: Strongly agree

Discussion

In general, there are no major differences between undergraduate and postgraduate students in their attitudes and behaviors regarding HKUL SNS on various platforms. The structure of this section is based on the RQs related to the use of SNS.

What is the level of social proof in HKUL social networking services?

As shown in Table 5, most HKUL users tend not to share the SNS contents, which aligned with the findings of De Rosa, Gauder, Limes, and Cellentani (2007) about users' unlikelihood of contributing contents, indicating the low level of social proof of HKUL SNS. Given users are not interested in entering SNS platforms with few contents (Potter, 2012), librarians and SNS administrators need to proactively resolve this issue by various measures, such as following the page with their personal accounts and asking their colleagues, student volunteers, and friends to do the similar. Librarians and SNS administrators may also follow the pages of other departments on

campus to increase the library page's visibility (Witte, 2014). Through collaboration with other departments, the information provided by libraries could be distributed within the community more broadly and quickly. Colleagues, student volunteers, and friends should also be encouraged to leave comments on the Facebook page more actively to create a warm discussion atmosphere, to encourage more interactions and thus to improve the social capital (Neal, 2012). Moreover, librarians and SNS administrators should increase the SNS presence of the library by different printed and digital means, such as promotional posters at service counters and digital library newsletters on other internal communications networks (Brookbank, 2015) and online advertising on SNS platforms to attract new patrons and promote library's brand (Chan, 2011).

What is the extent of social capital in HKUL social networking services?

In general, HKUL did not adequately build its social capital via its SNS. Tables 4 and 5 indicate that HKUL users are not satisfying and thus not sharing its SNS content. Low share rate and satisfaction are not conducive to establish social capital or to build an online community. Tables 8 and 9 show that HKUL SNS remain high potential values for developing social capital because of the high trust value and its functional identity. Users' trust in information professionals is important since they can leverage that trust by becoming beacons pointing to high-quality information (Haciyakupoglu & Zhang, 2015). Based on this advantage, once librarians and SNS administrators can ascend library users' satisfaction, users would be more willing to share HKUL SNS contents that they believe to be accurate and valuable to other users. Hence, improving the satisfaction of SNS is the key to address the above issues.

Some researchers mention that different SNS have their own characteristics, while librarians and SNS administrators may improve the quality of library SNS through providing appropriate contents (Fergie, Hunt, & Hilton, 2016; Hunsinger & Senft, 2013). Their studies outline the advantages of each SNS platforms: Facebook allows librarians and SNS administrators to provide the opportunity to discuss something with library users; YouTube is a helpful tool when it comes to any video that the library can associate with their activities; Issuu is a good way to allow users to read library

publications, and; Twitter highlights the library activities to the users. Although Table 9 indicates the positioning of HKUL SNS is consistent with the above literature, the satisfaction of HKUL contents is not so prominent.

Furthermore, HKUL uses their SNS to promote their current activities more than to share information about university news, while the information HKUL posted is more often related to library notices than digitized images from the collections. Although the sharing of general information, contents, and news about the library are all worthwhile goals, the point of Facebook is to be interacting with other users (Chu & Du, 2012). Table 7 shows the student information needs are e-resources recommendation, university news, and printed collections recommendation. Not surprisingly, not many activities are seen in HKUL SNS when there is a gap between the information provided by the library and the information that the reader considers as attractive. Additionally, Table 9 indicates the major types of information on HKUL Facebook, YouTube, and Twitter is related to library events. Cahill (2017) emphasizes social media as a complex tool and thus one size does not fit all; in other words, the same type of information might receive significantly different feedback on different platforms and for different patrons. Hence, we infer the reason behind the low satisfaction being related to the contents of SNS not meeting users' expectations.

How can libraries further improve their social networking service?

Librarians and SNS administrators should begin by understanding users' needs, possibly by both surveys and focus groups on a regular basis. Given the application of SNS constantly changing, it is essential for libraries to understand the users' preference of SNS contents and other needs, so that librarians and SNS administrators can provide more accurate and updated information to the users, and thus increase the overall SNS presence and engagement. For example, when the examination period is reaching, the library may want to update the users about the extended opening hours of library facilities and other resources available for students' examination preparation.

Besides, librarians and SNS administrators can set modest and measurable goals for the presence and performance of the SNS on different social media based on different impact measurement models such as the model of Patterson (2012), which includes the factors of conversation, sharing, and SNS referrals. Librarians and SNS administrators can also apply contemporary metrics to analyze and evaluate the library's posts. For example, the user engagement assessment framework of Bonsón and Ratkai (2013) determines the effectiveness of the interaction between librarians and patrons, and the semantic content analysis of Al-Daihani and Abrahams (2018) identifies patterns or words to achieve a high level of engagement. Yet, the goals should serve for evaluating and improving the services rather than judging the performance of the SNS or the librarians and SNS administrators (Bradley, 2015). These metrics provide a more completed image for the librarians and SNS administrators to identify the problems and their solutions, and thus may gain better support from the senior management of the library in SNS (Steiner, 2012).

Without doubt, social media platforms provide various features and customizability than the traditional classroom, offering educators opportunities to create interactive and creative instructional materials (Au & He, 2014). Thus, mastering emerging technology skills would be an advantage in teaching and learning as well as related support. Further, Bradley (2015) notes that looking at other libraries' practices is an effective way to overcome their own shortcomings. Librarians and SNS administrators may follow pages of other institutions that could help them keep up to date with emerging trends and learn new technical skills from others. Moreover, as social media evolves and transforms rapidly, it is necessary for libraries to establish their SNS policies in order to manage their SNS and to achieve their purposes (Evgenia & Emmanouel, 2015). Such policies may include guidelines for content management and employees' effort appreciation (Khan & Bhatti, 2012) as well as privacy and ethical issues (Rosenberg, Terry, Bell, Hiltz, & Russo, 2016).

Concluding Remarks

In the light of the nature of HKU as a comprehensive university and the high digital literacy rate in Hong Kong (Lai, Wang, & Lei, 2012), we contend the value of our study and the recommendation that we made about how SNS can be used in academic libraries. However, we agree that future research may cover the context of different libraries for testing the boundary conditions of our findings. More specifically about the future research direction, we suggest future researchers to explore the performance of different posts in SNS, to study the relationship between like and satisfaction on the contents, or to investigate the issues from the perspective of academic librarians and the SNS administrators of academic libraries. In addition, various changes in browsing, reading, and learning habits of students on mobile devices should be considered (Wang et al., 2016; Wai et al., 2018).

In different contexts, social media require a long-term process of building relationships with individuals. When libraries are posting Facebook status updates, uploading YouTube videos, publishing new items in Issuu or tweeting on Twitter, it is all about building relationships. Although SNS allow libraries to create goodwill and direct connections with library users, building relationships with them is still not an easy task. Hence, this article provides some insights for librarians to understand the challenges of using SNS and how they may overcome such challenges.

Indeed, we discovered that the HKUL librarians have not fully utilized the potential of their existing SNS. We recommend the librarians of both HKUL and other academic libraries to break the ice by interacting more with users' comments, on top of treating the pages simply as online notice boards. The contents should be more user-oriented, in terms of both format and content, in order to address users' needs.

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