

Relating Library User Education to Business Students' Information Needs and Learning Practices: A Comparative Study

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ABSTRACT

Purpose

To help business students make better use of library resources and improve their information literacy (IL) skills, libraries should carry out a variety of library instruction programs. However, students' information acquisition ability, library usage, and their perception towards library user education (LUE) are inevitably changing along with the rapidly evolving information landscape, as well as the socio-cultural environment driven by information technologies (IT).

Methodology

We invited 90 business students from three different majors at the Faculty of Business and Economics, the University of Hong Kong to participate in our online survey for comparison.

Findings

The findings of this study suggest that our subjects, in general, recognized the importance of library user instruction. However, when they encountered difficulties in information searching, they preferred to use search engines (such as Google) and to seek help from their classmates.

Practical Implication

The results of this study show that there were distinctive differences in library usage and views towards library instruction among students of three different majors. This study sheds light on the feasible actions of academic libraries to enhance library user instruction services and improve the information literacy skills amongst business students.

Originality

Although there is much research about the library instruction of academic libraries, scant research focuses on library usage and views towards library instruction of business students, especially on the comparison among different business majors.

Keywords: library instruction; needs assessment; business students; information literacy; quantitative study; user perceptions

INTRODUCTION

“The convenience brought by the Internet has revolutionized students’ and teachers’ ways of studying, teaching, and information collecting... All these new changes brought about through new digital technologies have created new and unprecedented pressures for libraries for the reason that librarians are seriously concerned about the under-utilization of library services and resources, especially in the academic environment. Hence, there is a great need for new methods and tools for evaluating the importance and values of academic libraries from different perspectives” (Allard et al., 2019).

As the ability to discover and analyze information is a crucial skill for working and studying in the business field, information literacy (IL) skills have become a prerequisite for business students, as well as their future lives as business professionals (Klusek & Bornstein, 2006). Academic libraries can help students develop information literacy skills through effective library instruction (Li, Leung, & Tam, 2007). Because of convenience and ubiquitous availability, especially with mobile devices, many students have turned to Internet search instead of libraries as their first source of information (Ko et al., 2015, Wai et al., 2018). Students tend to neglect the quality and specialized academic resources provided by university libraries, which brings new challenges to library instruction for academic libraries (Li, Leung, & Tam, 2007). Therefore, exploring the current relations between library usage and students’ views towards Library User Education (LUE) becomes vital for improving the IL skills of business students.

“Measuring the attitudes and perceptions toward the university library, and its user education programs are considered an effective way to develop new approaches, and doing so can allow librarians to continue improving upon existing library services” (Allard et al., 2019). According to Ogunmodede and Emeahara (2010), the essence of LUE is to equip library users with adequate knowledge and skills to use library resources effectively, efficiently, and independently. They also observed that in the current digital environment, library resources are so complex that an average library user may not be able to effectively use them without the assistance or guidance of LUE librarians.

The terms “library instruction,” “library user education,” and “bibliographic instruction” are often used interchangeably. They are defined as the teaching of using library access tools, such as library catalogs, abstracts, and other library reference resources to help users search for relevant information (Su, 2014). To implement library instructions effectively, programs should be tailored to individual students’ needs in different fields according to their understanding of essential reference materials (Liu et al., 2018; Allard et al., 2019). Besides the administrative support and the professional competence of

librarians, the choice in the form of library instruction program, and the convenience of library facilities are also factors affecting library instruction (Aseery, 2001). Thus, libraries should try to understand the effectiveness of library instruction implementation for business students by exploring their views.

The Faculty of Business and Economics at the University of Hong Kong (HKU) plays a leading role in the business and education sectors of Greater China and the Asia-Pacific region, with much innovative education and research. Its MBA program has been ranked first in Asia for eight consecutive years since 2010. The curriculum of the Faculty of Business and Economics has been specifically designed by business experts. It combines the advantages of six academic fields, including Accounting and Law, Finance, Marketing, Economics, Innovation and Information Management, and Management and Strategy. It attracts top business students worldwide and cultivates top talents to meet the challenges and opportunities brought by the rapid development of the Greater China region and its integration to the global economy, given Hong Kong's position as an international financial center. Further, HKU is a member of Universitas 21 (a consortium of leading global universities¹) as well as iSchool (a consortium of leading global library schools²). Therefore, this study selects the students of the Faculty of Business and Economics at HKU as the research target, which is of certain representativeness and significance.

The study aims to investigate the diversity of library usage and perceptions towards library instruction of business students by comparing three different majors of the HKU Faculty of Business and Economics. According to the analysis results, we also suggest some improvement measures of library services to enhance the business students' information literacy skills. Although there is much research about library instruction in academic libraries (Reynolds et al., 2017), scant research focuses on library usage and views towards library instruction of business students, especially on the comparison among different business majors. Therefore, this study aims to fill in this research gap.

LITERATURE REVIEW

Information Literacy and Business

Chu (2012) stated that Information Literacy (IL) was first proposed by the Information Industry Association in the 1970s to train and improve the skill set of working individuals for the application

¹ <https://universitas21.com/>

² <https://ischools.org/>

of information resources to their work (Mokhtar & Majid 2006). The importance of IL was later recognized by the Association of College and Research Libraries (ACRL), a division of the American Library Association (ALA). ACRL (2000) defines IL as “the set of abilities enabling individuals to recognize when information is needed and to locate, evaluate, and use effectively the needed information.” Thus, IL is a primary topic of library instruction, which is often course-related or course-integrated in academic libraries (Reitz, 2004). Numerous definitions with different emphases appeared over the past decades (Webber & Johnston 2000), but most of them still follow the core concepts of the ACRL (2000). According to Bawden (2008), IL shares a similar definition with the terms “library literacy,” “media literacy,” and “computer literacy,” which all concern “critical thinking” in assessing information gained from different perspectives, i.e., library, media, and computer. Lau and Chan (2020) argued that critical thinking is the ability to think clearly and rationally about what to do or what to believe, while someone with critical thinking skills can do the following :

- understand the logical connections between ideas
- identify, construct and evaluate arguments
- detect inconsistencies and common mistakes in reasoning
- solve problems systematically
- identify the relevance and importance of ideas
- reflect on the justification of one’s own beliefs and values

In a knowledge-based economy, training in IL to enable students with the ability of critical thinking in assessing information is crucial, as it can contribute towards ensuring a high quality, intellectual and productive workforce in the future (Chu, 2012). Evidence of an increased emphasis on IL in the workplace comes from surveys of business leaders, corporate studies of the strategic value of information, and observational studies of IL in the workplace (Katz et al., 2010; Kirk, 2004; Kuhlthau & Tama, 2001). Katz et al. (2010) conducted a case study at a comprehensive university located in East Los Angeles to investigate the relationship between IL and business writing, in which 166 university juniors and seniors completed a business communications course. The results reveal that students’ IL, regardless of language known best, is highly correlated to their business writing performance, which indicates that IL is a distinct set of skills to enhance business communication practice. Thus, Katz et al. (2010) argued that a similar usage for corporate training might help companies use their training budgets on business communications more effectively by identifying employees with a greater need for IL instruction.

Business Information Literacy

Business students are a unique group because their research habits and the information they seek are specific to their field of study (Bauer, 2018). Business students are often impatient information consumers, and business courses are designed to emphasize technological proficiency and decision timeliness, which often causes business students to prefer to seek more accessible and convenient electronic resources to support their research (Atkinson and Figueroa, 1997). However, Conley and Gil (2011) emphasize that business professionals need to have the necessary IL skills, because their study and work environment require more complex thinking and communication (Klusek & Bornstein, 2006).

The integration of IL skills into the business curriculum is a growing concern in colleges of business and in the academic libraries that serve them, because the concept of using IL skills in the marketplace is beginning to be acknowledged by industry and colleges (Wu & Kendall, 2006). On the other hand, business communication instruction and practice tend to view the acquisition of technological skills as distinct from critical thinking. In contrast, IL may be seen as a business communication curricular objective, incorporating critical thinking, writing, and technology into more effective classroom instruction (Katz et al., 2010). This approach of integrating IL and business communication could provide researchers, teachers, and practitioners with a model for strengthening core communication practices in anticipation of workplace performance.

In the current globalized economy, it is crucial to examine the expectation of students' business IL skills from the business domain in general. Cooney (2005) argues that Business IL (BIL) helps business students know when information is needed and have the ability to utilize it effectively. Based on a study on the relationship between students' IL and the hospitality and tourism curriculum, a specialized area in business studies, Sigala and Baum (2003) suggest that business students need to be adaptable, flexible, and effective workers. Besides, students need to be competent in not only evolving business practices but also knowledgeable in cultural and social domains. Further, Katz et al. (2010) emphasize that college's IL learning objectives should also help improve a student's lifelong learning ability to better cope with an ever-changing business environment.

IL and business education have been working together for nearly 20 years, and critical thinking has been identified as one of the BIL's key enablers (Stonebraker et al., 2017). In a longitudinal study that explores key attributes and methods of developing BIL for users from different backgrounds, Fiegen (2011) identified critical thinking and evaluation as a "preferred technique" among business librarians.

On the other hand, using conceptual business models that are already familiar to students, such as various business and marketing models, as well as critical theory in ethical conceptual models, could undoubtedly help familiar with BIL more effectively (Fiegen, 2011).

Exploring Ways of Improving Business Information Literacy

Katz et al. (2010) argued that more and more empirical evidence including surveys of business leaders (National Center on Education and the Economy, 2007; Workforce Readiness Project, 2006), corporate studies of the strategic value of IL (Kirton & Barham, 2005; Wu & Kendall, 2006), widely cited anecdotal reports (Cheuk, 2002; Feldman, 2004), and observational studies of IL in the workplace (Kirk, 2004; Kuhlthau & Tama, 2001) shows an increased emphasis on Information, Communication and Technology (ICT) in the workplace. Using a mixed-method studying 413 French Canadian future teachers enrolled at four universities located in Quebec, Canada, Simard & Karsenti (2016) evaluate how teachers utilize ICT to develop students' IL skill based on a conceptual model developed based on Boubée and Tricot (2010)'s IL model. Their findings indicate that students' ICT competencies required to access online content, process it, apply it, and share it is one of the key drivers to improve their IL capability. By utilizing ICT, teachers can help improve students' IL skills by filling their disciplinary and cultural knowledge gaps in which disciplinary knowledge includes business knowledge. On the other hand, ICT helps strengthen their ability to their overall information research process. Besides, based on a case study conducted at Massey University in New Zealand, Pastula (2010) argued that ICT is a key enable to enhance the IL Skills of distance learning students. The result reveals that ICT can be utilized to both encourage participation and assists them in acquiring the same IL skills on campus down the path of lifelong learning. This also challenges librarians to continually improve their ability to transfer knowledge through this online medium effectively.

Today, library information itself has become more digitized. With the widespread of the Internet and smartphone usage (Ko et al., 2015; Wai et al., 2018), information databases, electronic journals, and e-books have become mainstream facilities in libraries. As a result, students have an increasing preference for retrieving and accessing digitized material from electronic resources of libraries. Moreover, Chen et al. (2011) argued that even though current university students are more familiar with ICT than ever before, they still require library instructions to improve IL. The US Department of Education (2009) suggests that the library should combine problem-solving techniques with ICT in their instructions to help promote students' critical and analytical thinking in teaching students IL skills.

Last but not least, IL of K-12 students who reach a university-level learning environment based on the new National School Library Standards of the American Associate of School Libraries (AASL) stress the importance of extending IL skills to collaborative working environments. Recent research has revealed that current K-12 students often cannot apply knowledge to real-world contexts or work with people from diverse backgrounds (Gerrity, 2018; Diekema et al., 2019). The new AASL National School Library Standards emphasize the importance of developing IL abilities to establish connections with other learners, build on their prior knowledge, and create new knowledge. Therefore, developing students' IL skills in a collaborative approach aiming at knowledge creation should be the general objective of designing library instruction programs.

Rational of this study and research questions

Although many studies on LUE of academic libraries focus on library instruction services, scant studies were conducted on library instruction of business students to explore the needs of different majors. Therefore, this study contributes to filling the research gap, and our main research questions are as follows:

- RQ1. What are the similarities and differences in library usage of business students among different majors?
- RQ2. What are the similarities and differences in views towards library instruction of business students among different majors?
- RQ3. To what extent do these business students attach importance to library usage and library instruction?

METHODOLOGY AND DATA COLLECTION

For this study, an online questionnaire was designed to investigate the student respondents' views towards LUE programs. Students invited to take part in this survey study represented three different majors of the Faculty of Business and Economics at HKU, namely: (1) Information Systems (IS), (2) Accounting and Finance (Acc. & Fin.), and (3) Economic and Finance (Econ. & Fin.). The questionnaire comprised 12 questions, which were adapted from prior studies (Liu, Lo, & Itsumura, 2016; Allard et al., 2019), and required less than 10 minutes to complete. The online questionnaires were distributed through batch email, and other online social media platforms and online collaborative learning groups (e.g., Facebook, WhatsApp, WeChat, etc.) set up by the students at the Faculty of Business and Economics at HKU. A total number of 90 responses were collected from all three student groups (i.e., 30 responses received from each academic major). The data collection period was from May to July 2018. All student respondents took part in this questionnaire survey on a voluntary basis.

Despite these limitations, these data could still provide a reliable basis for data analysis. The data were analyzed using the statistical tools of Microsoft Excel and SPSS.

DATA ANALYSIS

Demographic characteristics

Table 1. Student respondents' demographic characteristics & gender ratio					
	Economics & Finance	Accounting & Finance	Information Systems	Overall	p-value
<i>Gender</i>					
Female	16 (53.3%)	14 (46.7%)	15 (50.0%)	45 (50.0%)	0.875 ^{ns}
Male	14 (46.7%)	16 (53.3%)	15 (50.0%)	45 (50.0%)	
Total	30	30	30	90	
<i>Level of Study</i>					
Freshman	17 (56.7%)	13 (43.3%)	8 (26.7%)	38 (42.2%)	0.232 ^{ns}
Sophomore	5 (16.7%)	9 (30.0%)	8 (26.7%)	22 (24.4%)	
Junior	3 (10.0%)	3 (10.0%)	8 (26.7%)	14 (15.6%)	
Senior	5 (16.7%)	5 (16.7%)	6 (20%)	16 (17.8%)	
Total	30	30	30	90	

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

A total number of 90 responses were collected for this questionnaire survey, representing three different majors from the Faculty of Business and Economics at HKU, namely: (1) Information Systems (IS), (2) Accounting and Finance (Acc. & Fin.), and (3) Economics and Finance (Econ. & Fin.). Regarding the demographic characteristics of the student respondents, 30 responses were collected from each major. The ratio between male and female respondents is 1:1 (see Table 1).

Information-seeking behaviors among respondents

The second part of the questionnaire was set out to examine student respondents' information-seeking behaviors, and to what extent they depended on the university library services when facing difficulties in finding materials for their research and assignments. The survey results (see Table 2) indicate that there were no significant differences in the information-seeking behaviors among the three student groups ($p > 0.05$ in a χ^2 test). More than half (62.2%) of the total student respondents would turn to Google or Google Scholar as their immediate solution. Meanwhile, 25.6% of the total student respondents preferred to ask their classmates for help when facing similar difficulty. For student

respondents who preferred to ask help from classmates, a majority of them were Economics and Finance majors. It is also interesting to note that out of all 90 respondents in total, only 3 (3.3%) would choose to consult their university librarians, while 2 (2.2%) said they would give up completely.

Table 2. Action taken when business students are unable to find materials for their research or assignments					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
Ask classmates for help	13	5	5	23 (25.6%)	0.143 ^{ns}
Ask tutors for help	1	1	1	3 (3.3%)	
Ask professors for help	0	2	0	2 (2.2%)	
Ask university librarian for help	2	0	1	3 (3.3%)	
Ask public librarian for help	0	1	0	1 (1.1%)	
Via Google	13	21	22	56 (62.2%)	
Give up completely	1	0	1	2 (2.2%)	
Total	30	30	30	90	

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

Views towards the perceived importance of LUE programs

By consulting with the HKU Business Subject Librarian, we summarized a series of library user education services provided by the HKU Libraries for business students, and we asked the business students to consider the importance of these services provided by the library. The Kruskal-Wallis test results (see Table 3) showed that there were significant differences on the importance ratings of “General library courses (e.g., Endnote Workshop),” “Subject-specific library courses (catered for specific business courses),” “Library orientation (e.g., library tour & hands-on practice on business e-resources),” and “Online information literacy instruction (e.g., how to cite properly)” among the three majors ($p < 0.01$). The total average score of business students in Information Systems is 3.71 was the lowest among the three majors. The students majoring in Information Systems participated less in library instruction than the other two majors’ students.

Table 3. Student respondents' perceived importance towards LUE programs 5-Point Likert scale (1 =not important at all, 2 =not so important, 3 =neutral, 4 =a little important, 5 =very important)					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
General library courses (e.g., Endnote Workshop)	3.97	4.27	3.50	3.91	0.001 ***
Subject-specific library courses (catered for specific business courses)	4.73	4.43	3.73	4.30	0.000 ***
Library orientation (e.g., library tour & hands-on practice on business e-resources)	4.53	4.23	3.67	4.14	0.000 ***
Database training and seminars (e.g., database demonstrations or talks delivered by vendors)	4.17	4.13	3.97	4.09	0.463 ns
Online information literacy instruction (e.g., how to cite properly)	3.83	4.47	4.13	4.14	0.009 **
eLearning Trainings and Workshops	3.77	3.77	3.43	3.66	0.101 ns
Research consultation services (e.g., give advice on effective information research pertaining to your research project)	3.77	4.00	3.60	3.79	0.101 ns
Virtual reference services (Ask a Librarian)	3.67	3.70	3.63	3.67	0.846 ns
Total average	4.05	4.13	3.71	3.96	0.003 **

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

Reasons why respondents did not participate in LUE programs

Table 4. Reasons why business students do not participate in LUE programs 5-Point Likert scale (1 =strongly disagree, 2=somewhat disagree, 3=neutral, 4=agree, 5=strongly agree).					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
I don't think they are useful for me at all.	1.17	1.77	2.53	1.82	0.000 ***
I am interested in, but I don't know when these user education programs are conducted.	2.70	2.40	2.83	2.64	0.099 ns
I want to go, but they always clash with my class schedule.	2.50	2.37	2.70	2.52	0.065 ns
The topics/format of the user education programs look very boring.	3.07	2.43	3.27	2.92	0.000 ***
I am not well informed by the details of the user education programs.	2.90	2.80	3.40	3.03	0.007 **
I don't know why.	2.50	3.00	3.03	2.84	0.028 *
Total average	2.47	2.46	2.96	2.63	0.000 ***

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

The Kruskal-Wallis test results (see Table 4) showed that there were significant differences in the reasons why business students did not participate in library instruction programs among the three majors ($p < 0.01$), especially in the following four reasons: "I don't think they are useful for me at all," "The topics/format of the user education programs look very boring," "I am not well informed by the details of the user education programs," and "I don't know why" ($p < 0.05$). The students majoring in Information Systems showed a more neutral attitude towards these four reasons than the other two majors' students. However, at the overall level, all business students maintained somewhat disagree or neutral attitudes towards these negative reasons, which showed that most of them would like to participate in library user education activities.

Effectiveness of LUE program promotion strategies

Table 5. Perceived effectiveness of promotion channels among business students 5-Point Likert scale (1=not effective at all, 2=not so effective, 3=neutral, 4=a little effective, 5=very effective)					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
Email announcements to all students	3.90	3.93	3.40	3.74	0.002 **
Making announcements on the homepage of the University Library website	2.60	2.43	2.53	2.52	0.758 ns
Making announcements on the homepage of social media (e.g., Facebook, Instagram, Twitter, etc.) of the University Library	3.40	2.90	3.50	3.27	0.043 *
University Library puts up posters throughout the entire campus	3.93	3.77	3.80	3.83	0.634 ns
University Library asks the professors to encourage the students to attend	3.27	3.57	3.53	3.46	0.414 ns
Total average	3.42	3.32	3.35	3.36	0.818 ns

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

The next question explored the business students’ views towards the effectiveness of the promotion channels of library instruction. The Kruskal-Wallis test results (see Table 5) showed that there were significant differences in the effectiveness ratings of “Email announcements to all students” and “Making announcements on the homepage of social media of the University Library” among the three majors ($p < 0.05$). The students majoring in Information Systems considered email announcements less effective than the other two majors’ students. Meanwhile, the average score of students majoring in Accounting and Finance on “Making announcements on the homepage of social media of the University Library” was 2.90, far lower than the other two majors, and they considered that this promotion way not so effective. At the overall level, business students maintained a neutral attitude towards the existing promotion ways of the university library.

Perceived effectiveness of incentives used for attracting students to participate in LUE

Table 6. Perceived effectiveness of incentives for participating in library instruction among business students 5-Point Likert scale (1=not effective at all, 2=not so effective, 3=neutral, 4=a little effective, 5=very effective).					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
Students will be given Cash Coupons after attending the library workshops.	4.67	4.60	3.73	4.33	0.000 ***
Students can take voluntary tests after attending the library workshops - students who get the highest scores will be awarded gifts (e.g., iPod or iPad).	4.47	4.23	3.30	4.00	0.000 ***
Students can earn credits (like other academic courses) after attending the workshops.	4.77	4.57	4.20	4.51	0.001 ***
Professors invite the subject librarians to teach library workshops, on the classrooms in person instead of waiting for the students to join.	3.77	3.77	3.47	3.67	0.187 ns
Professors compel the students to attend the workshops.	3.27	3.30	3.50	3.36	0.332 ns
Total average	4.19	4.09	3.64	3.97	0.000 ***

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

Question 5 of the questionnaire investigated the business students' views towards the effectiveness of the incentives of participating in library instruction. The Kruskal-Wallis test results (see Table 6) showed that there were significant differences among the three majors ($p < 0.01$) on the effectiveness ratings of "Students will be given Cash Coupons after attending the library workshops," "Students can take voluntary tests after attending the library workshops - students who get the highest scores will be awarded gifts," and "Students can earn credits after attending the workshops." The students majoring in Information Systems considered these three incentive ways less effective than the other two majors' students. At the overall level, business students considered these incentive ways quite effective.

Views towards professional competence of LUE librarians

	Econ & Fin	Acc & Fin	IS	Overall	p-value
Friendly	4.57	4.57	3.83	4.32	0.000 ***
Creative	4.03	4.00	3.33	3.79	0.000 ***
Patient	4.47	4.47	3.73	4.22	0.000 ***
Intellectual	4.17	4.20	3.47	3.94	0.000 ***
Helpful	4.40	4.40	3.83	4.21	0.000 ***
Professional	4.33	4.40	3.77	4.17	0.000 ***
Service-oriented	3.93	4.17	3.40	3.83	0.000 ***
Efficient at work	4.23	4.33	3.67	4.08	0.000 ***
They always know what I need, even though I am not good at expressing myself	3.43	3.70	3.23	3.46	0.075 ns
Boring	2.90	2.73	3.23	2.96	0.017 *
Total average	4.05	4.10	3.55	3.90	0.000 ***

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

Next, we explored the student respondents' ratings towards the professional competence of LUE librarians (see Table 7). The Kruskal-Wallis test results suggested that in comparison to the Information Systems majors, the Economics and Finance, and Accounting and Finance students gave significantly higher rating towards LUE librarians' professional competence in almost all aspects, except "Boring" (reversed) and "They always know what I need, even though I am not good at expressing myself" (insignificant).

Satisfaction towards overall contents and quality of LUE programs

Regarding the level of satisfaction towards the overall contents and quality of LUE, the Kruskal-Wallis test results (see Table 8) showed significant differences between the three student groups. Generally

speaking, Information Systems majors were less satisfied with the overall contents and quality of LUE services, when compared with the other two student groups. Given the relevance between the overall contents of LUE and students' research and assignments, the Economics and Finance majors gave a 3.5 rating score, which was the lowest among the three student groups. At the same time, the Economic and Finance majors gave a relatively high (4.00) rating score to expressive their strong belief that (i) the overall contents of LUE were clear and easy to follow, and (ii) library orientation was helpful in terms of building a positive image of about the University Library and its services amongst the students.

Table 8. Business students' satisfaction towards the content and quality of library instruction programs 5-Point Likert scale (1=strongly disagree, 2=somewhat disagree, 3=Neutral, 4=Agree, 5=strongly agree).					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
The overall contents are very clear and easy to follow.	4.00	3.87	3.70	3.86	0.044 *
The overall contents are very useful and relevant to my current research/assignments.	3.50	3.87	3.67	3.68	0.018 *
The overall quality of the user education programs provided by the University Library is satisfied.	3.97	3.83	3.60	3.80	0.035 *
The library orientation is helpful in terms of building a positive image of the University Library and its services amongst the students.	4.00	3.87	3.67	3.84	0.038 *
Total average	3.87	3.86	3.66	3.79	0.114 ^{ns}

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

Ratings towards perceived importance of LUE services

Table 9. Business students' views towards the importance of library instruction services 5-Point Likert scale (1=strongly disagree, 2=somewhat disagree, 3=Neutral, 4=Agree, 5=strongly agree)					
	Econ & Fin	Acc & Fin	IS	Overall	p-value
Library user education is one of the important parts of students' overall learning in the university.	3.80	3.03	3.07	3.30	0.010 **
The user education programs should be mandatory for students by the faculty.	1.97	2.37	2.50	2.28	0.011 *
All students should understand what library user education is before graduation.	3.03	3.03	2.77	2.94	0.601 ^{ns}
Teaching the skills of information literacy is one of the important duties of a reference librarian – i.e., teaching students how / where to find, evaluate, and apply information found in both printed and digital resources.	3.73	3.73	3.77	3.74	0.894 ^{ns}
Students still can make good use of the library collection and other resources, even they do NOT take part actively in the library user education programs.	3.60	3.93	3.73	3.76	0.063 ^{ns}
Total average	3.23	3.22	3.17	3.20	0.979 ^{ns}

Note: ns: $p > 0.05$, *: $p \leq 0.05$, **: $p \leq 0.01$, ***: $p \leq 0.001$

Last but not least, we explored the business students' views towards the importance of library instruction. The Kruskal-Wallis test results (see Table 9) showed that there were significant differences among the three majors ($p < 0.05$) on the importance rating of "Library user education is one of the

important parts of students' overall learning in the university" and "The user education programs should be mandatory for students by the faculty." The students majoring in Economic and Finance agreed more that library instruction was one of the important parts of business students' overall learning in the university than the other two majors' students, and they disagreed more that the library instruction programs should be mandatory for students by the faculty than the other two majors' students.

DISCUSSION

To improve LUE services for business students, together with the service gaps in students' (as users) expectations, it is necessary for libraries to understand these students' information needs, library usage patterns, and most importantly, their perceptions towards the overall LUE services. The undergraduate students who participated in this survey represented three different academic programs under the Business & Economics Faculty at HKU. The research results further reveal that students from these three Business majors had different information needs, as well as information-seeking behaviors and preferences due to the different curricular setups and requirements. Despite the limitation that a majority of the respondents were first-year students, this survey study has collected responses from students at different study levels. This study has provided an overview of the information-seeking practices and their views towards the range of LUE programs offered by their university library, as well as the perceived professional competence of the LUE services providers, i.e., the Reference Services librarians at HKU.

Google as the very first doorway

All three groups of Business students answered that Google was the very first thing that came to their minds when they encountered difficulties in finding information for their research or assignments. In the age of the Internet and mobile phones, it is natural that students (regardless of academic majors) expect instant gratification when it comes to information searching, regardless of whether they are looking for just quick facts or research articles of scholarly nature. Given Google's convenience, efficiency, accessibility, popularity, and user-friendliness, it is unsurprising to find that a majority of the student respondents would turn to Google or Google Scholar as their first stop, as it was "quick and easy," and had nothing to do with HKU LUE librarians' professionalism. For this simple reason, only a few student respondents would turn immediately to the HKU librarians for help. Similar findings were also reported in other cross-national and cross-cultural research carried out by Liu, Lo, and Isumura (2016) and Allard et al. (2019). In other words, "students turning to Google first" seems to be a phenomenon amongst students worldwide.

Promotion strategies of LUE

Business students from the three majors remained neutral in terms of their attitudes towards the LUE promotion strategies launched by HKU Library. The findings of this study indicate that the HKU Library rarely uses any incentives to attract the students to take part in the LUE programs. Some student respondents revealed that they did not take part in LUE programs offered at HKU Library, simply because they were not well informed of the details of such programs. As explained by Smith (2011), effective promotion strategies are crucial for encouraging students to take part actively in LUE, which would eventually help them understand the essential resources and services provided by their university library. For this reason, LUE librarians need to be continually thinking about how to improve marketing and promotion strategies and to stay relevant in students' learning and interests as a whole (Ashcroft, 2004).

Levels of satisfaction towards LUE

Business students from the three majors agreed that the overall contents and quality of LUE provided by their university library to be useful and satisfactory. Meanwhile, student respondents gave high ratings towards LUE librarians' professionalism, particularly in the following three areas: (1) user-friendliness, (2) patience in service interactions, (3) and helpfulness in service interactions. However, student respondents, in general, remained neutral when they were asked whether LUE librarians understood their needs, even when students were not good at expressing themselves. The service-oriented model requires librarians to be passive and proactive to meet the needs of users (Bausman, Ward, & Pell, 2014), and the subject librarian should help students improve their information competency (MacDonald, 2010). Therefore, librarians not only need the marketing skills mentioned above, but also need to improve their technology skills to integrate the content of the library instruction with the advanced technology in order to attract more business students (Nielsen, 2013).

Students' perceptions of LUE programs

It is interesting to note that in comparison to the other two student groups, the Economics and Finance majors preferred to seek help from their classmates. According to Shah (2014), information-seeking activities are not always conducted by individuals independently, and collaborative information-seeking behavior could be found very commonly at both workplaces and educational institutes (Shah, 2014). The findings of this study reveal that a majority of the Economic and Finance majors (as respondents) were first-year students. Because of their inexperience, the researchers speculated that they possessed a relatively lower level of IL skills, and also less proficient in using the library resources

independently. For this reason, they preferred to seek help from their classmates, or to team up with other senior students to look for their desired information. Further research is needed to validate researchers' speculation in this regard. On the other hand, this also suggests the effectiveness of training student library helpers and interns to expand LUE services and outreach.

Level of satisfaction towards overall contents of LUE

In comparison to the other two student groups, the Economics and Finance majors gave the lowest ratings towards relevance between the overall contents of LUE programs and the students' research and assignments. One of the crucial duties of subject librarians is to integrate the contents of library user education with students' research as a reflection of their professionalism (Smith & Oliva, 2010). Therefore, the library can consider to further customize related library courses for the Economics and Finance major.

On the other hand, Information Systems majors expressed a more neutral attitude towards LUE, in comparison to the other two student groups. It is also interesting to note that Information Systems majors considered various incentives for encouraging students to take part in LUE to be effective. Besides, in comparison to the other two student groups, Information Systems majors gave lower ratings towards the professional competence of LUE librarians, as well as the overall contents and quality of LUE services provided. According to the Association of College and Research Libraries and American Library Association (2000), "IL, while showing significant overlap with information technology skills, is a distinct and broader area of competence. Increasingly, information technology skills are interwoven with, and support, information literacy" (p. 3). Since business IL skills overlap with information literacy skills, the researchers speculated that the Information Systems majors had acquired a higher level of IT skills than the other two student groups. Therefore, Information Systems majors were more proficient and self-reliant in finding information and other materials related to their learning. Since Information Systems majors already acquired their IL skills elsewhere (outside their university library), it is expected that they already possessed a higher level of IL skills and are more independent as library users. Thus, their interests to take part in such LUE activities have diminished with their perceived lack of importance and needs.

Student respondents' perceived importance of LUE

Despite the convenience brought by Internet connectivity, together with the accessibility of different powerful search engines (e.g., Google), it is comforting to know that a majority of student respondents (of all three Business majors) saw LUE as an essential part of their overall learning. This also gives

academic libraries and subject librarians opportunities to enhance library instruction services and provide subject-related instruction on the use of advanced electronic tools for research (Atwong & Heichman, 2008). Therefore, the library may optimize the contents and quality of library instruction services and promotion channels to improve the information literacy of business students. The suggested ways to improve the library instruction and the students' attendance rate are as the follows: (1) As the globalized economy is evolving fast, the subject librarians should continuously improve and update their subject knowledge as well as the contents of the library user education programs, in particular, according to the change in business students' curriculum and assignment requirements; (2) Librarians should constantly innovate the teaching methods of library instruction program, such as adding gamification to attract the attention of business students and to engage them in the learning process (Wójcik, 2019); (3) User education librarians should continuously improve marketing activities, and innovate promotion channels and incentives, such as planning special events to promote the library instruction, and the use of social media and virtual communities (Fong et al., 2020; Deng et al., 2019).

CONCLUSION

Our research shows that although Business students at HKU preferred to use online search engines (e.g., Google) as the very first stop for finding research materials and information for their assignments, they still possessed a relatively positive attitude towards the of LUE programs provided by their university library. Among the three groups of Business students investigated, the Information System majors were less active in participating in LUE among the student groups, probably for the reason that necessary IL skills have already been embedded in their regular curricula.

This study has provided valuable insights into three different groups of Business students at HKU, their overall views towards LUE, and the relations to their information needs and learning practices. In particular, the remarkable differences in the learning needs of different Business majors call for further tailoring of LUE to the program level. Thus, program directors or department representatives should work more closely with librarians on LUE curricula design based on student needs, as well as the promotion of LUE programs.

According to the vision and mission of the HKU Faculty of Business and Economics³, although the Faculty is rooted in Hong Kong, it is fully engaged with China and truly international to provide leading business education through innovative and globally significant research. This is in line with

³ <https://www.fbe.hku.hk/about-us/mission-and-vision>

major business schools worldwide. Further, HKU is a member of the Universitas 21 consortium with frequent worldwide exchanges in students, credits, curricula, and researches among members, and they have similar curricula under the globalized knowledge economy. Thus, we expect the findings of this study could provide the basis for future developments of LUE services among Hong Kong, as well as in other regions.

As for future work, we are planning to investigate the relations of students' perceptions and participation of LUE to their information literacy level and overall learning outcomes. We are also investigating the different needs of students among different faculties, and among different majors in other faculties (such as the Medical, Engineering, and Arts faculties), especially under the current new technologies of social media (Lam et al., 2019; Fong et al., 2020) and mobile Internet (Ko et al., 2015; Wai et al., 2018). Last but not least, we are interested in the application of library makerspace for business innovation education (Maceli, 2019).

REFERENCES

- Allard, B., Lo, P., Liu, Q., et al. (2019). LIS Pre-Professionals' Perspectives towards Library User Education: A Comparative Study between Three Universities in Greater China, *Journal of Librarianship & Information Science*, in press. (doi:10.1177/0961000619874106)
- Aseery, S. S. S. (2001). Factors impacting the availability of library use instruction services in university libraries in Saudi Arabia. Unpublished doctoral dissertation. The Florida State University, USA.
- Ashcroft, L. (2004). Developing competencies, critical analysis and personal transferable skills in future information professionals. *Library Review*, 53(2), 82-88.
- Association of College & Research Libraries (ACRL) (2016). Framework for information literacy for higher education. Retrieved from <http://www.ala.org/acrl/standards/ilframework>
- Association of College and Research Libraries., & American Library Association. (2000). Information literacy competency standards for higher education. ACRL.
- Atkinson, J. D., & Figueroa, M. (1997). Information Seeking Behavior of Business Students. *The Reference Librarian*, 27(58), 59-73.
- Atwong, C. T., & Heichman T. L. J. (2008). Integrating Information Literacy into Business Education: A Successful Case of Faculty-Librarian Collaboration. *Journal of Business & Finance Librarianship*, 13(4), 433-448.
- Bauer, M. (2018). Ethnographic study of business students' information-seeking behavior: Implications for improved library practices. *Journal of Business & Finance Librarianship*, 23(1), 1-10.
- Bausman, M., Ward, S. L., & Pell, J. (2014). Beyond Satisfaction: Understanding and Promoting the Instructor-Librarian Relationship. *New Review of Academic Librarianship*, 20(2), 117-136.
- Bawden, D. (2001). Information and Digital Literacies: A Review of Concepts. *Journal of Documentation*, 57(2): 218-59.
- Boubée, N. & Tricot, A. (2010). *Qu'est-ce que rechercher de l'information?* Villeurbanne, France : Presses de l'ENSSIB.
- Chen, K.N., Lin, P.C. & Chang, S.S. (2011). Integrating library instruction into a problem-based learning curriculum. *Aslib Proceedings: New Information Perspectives*, 63(5), 517-532.

- Chu, SKW. (2012) Assessing information literacy: A case study of primary 5 students in Hong Kong. *School Library Research*, 15, 1-24.
- Conley, T., & Gil, E. (2011). Information literacy for undergraduate business students: Examining value, relevancy, and implications for the new century. *Journal of Business and Finance Librarianship*, 16(3), 213–228.
- Cooney, M. (2005). Business Information Literacy Instruction: A Survey and Progress Report. *Journal of Business & Finance Librarianship*, 11(1), 3-25.
- Deng, X., Gao, B., & Chen, L. (2019). Support while control: the influence of embeddedness on virtual community participation. *Library Hi Tech*, 37(2), 155-167
- Diekema, A., Gerrity, C., and Mitchell, P. (2019). Information literacy in Utah: a state of the state. *Reference Services Review*, 47(3), 224-256.
- Fiegen, A. M. (2011). Business information literacy: A synthesis for best practices. *Journal of Business & Finance Librarianship*, 16(4), 267–288.
- Fong, K. C. H., Au, C. H., Lam, E. T. H., & Chiu, D. K. W. (2020). Social network services for academic libraries: A study based on social capital and social proof. *The Journal of Academic Librarianship*, 46(1), 102091.
- Gerrity, C. (2018). The New National School Library Standards: Implications for Information Literacy Instruction in Higher Education. *The Journal of Academic Librarianship*, 44(4), 455–458.
- Katz, I.R., Haras, C. and Blaszczynski, C. (2010). Does Business Writing Require Information Literacy? *Business Communication Quarterly* 73(2) 135-149.
- Kirk, J. (2004). *Information and work: Extending the roles of information professionals*. ALIA 2004 Biennial Conference, Gold Coast, Australia.
- Kirton, J., & Barham, L. (2005). Information literacy in the workplace. *Australian Library Journal*, 54, 365-376.
- Klusek, L., & Bornstein, J. (2006). Information literacy skills for business careers: Matching skills to the workplace. *Journal of Business & Finance Librarianship*, 11(4), 3–21.
- Ko, E. H. T., Chiu, D. K. W., Lo, P., & Ho, K. K. W. (2015) Comparative study on m-learning usage among LIS students from Hong Kong, Japan, and Taiwan. *The Journal of Academic Librarianship*, 41(5): 567–577.
- Kuhlthau, C. C., & Tama, S. L. (2001). Information search process of lawyers: A call for “just for me” information services. *Journal of Documentation*, 57, 25-43.
- Lam, E. T. H., Au, C. H., & Chiu, D. K. (2019). Analyzing the use of Facebook among university libraries in Hong Kong. *The Journal of Academic Librarianship*, 45(3), 175-183.
- Lau, K. & Chan, J. (2020). What is critical thinking? Critical thinking web. The University of Hong Kong, Available at: <https://philosophy.hku.hk/think/critical/ct.php>.
- Li, L. F., Leung, S., & Tam, G. (2007). Promoting information literacy skills through web-based instruction: The Chinese University of Hong Kong library experience. *Library Management*, 28(8-9), 531-539.
- Liu, Q., Allard, B., Lo, P., Zhou, Q., & Jiang, T. (2018). Library User Education as a Window to Understand Inquiry-Based Learning in the Context of Higher Education in Asia: A Comparative Study between Peking University and the University of Tsukuba. *College & Research Libraries*, 80(1), 8.
- Liu, Q., Lo, P., & Itsumura, H. (2016). Measuring the Importance of Library User Education: A Comparative Study Between Fudan University and the National Taiwan Normal University. *The Journal of Academic Librarianship*, 42(6), 644-654.
- MacDonald, K. (2010). Entrepreneurship Outreach: A New Role for the Academic Business Librarian. *Journal of Business & Finance Librarianship*, 15(3-4), 158-160.
- Maceli, M. G. (2019). Making the future makers Makerspace curriculum in library and information science graduate programs and continuing education. *Library Hi Tech*, 37(4), 781-793.

- National Center on Education and the Economy. (2007). Tough choices or tough times: The report of the new Commission on the Skills of the American Workforce (Executive Summary). Washington, DC: Author. Available at: http://www.skillscommission.org/pdf/exec_sum/ToughChoices_EXECSUM.pdf.
- Nielsen, J. M. (2013). The Blended Business Librarian: Technology Skills in Academic Business Librarian Job Advertisements. *Journal of Business & Finance Librarianship*, 18(2), 119-128.
- Pastula, M. (2010). Use of Information and Communication Technology to Enhance the Information Literacy Skills of Distance Students. *Journal of Library & Information Services in Distance Learning*, 4(3), 77-86.
- Reitz, J. M. (2004). *Dictionary for library and information science*. Westport, CT: Libraries Unlimited.
- Research Information Network. (2006). *Researchers and Discovery Services: Behaviour, Perceptions and Needs; a Study Commissioned*. Research Information Network.
- Reynolds, L., Willenborg, A., McClellan, S., Linares, R., and Sterner, E. (2017). Library instruction and information literacy 2016. *Reference Services Review*, 45(4), 596-702.
- Shah, C. (2014). Collaborative information seeking. *Journal of the Association for Information Science and Technology*, 65(2), 215-236.
- Sigala, M. and Baum, T. (2003). Trends and issues in tourism and hospitality higher education: visioning the future. *Tourism and Hospitality Research*, 4(4), 367-75.
- Simard, S. & Karsenti, T. (2016). A Quantitative and Qualitative Inquiry into Future Teachers' Use of Information and Communications Technology to Develop Students' Information Literacy Skills. *Canadian Journal of Learning and Technology*, 42(5) 1-23.
- Smith, D. A. (2011). Strategic Marketing of Library Resources and Services. *College & Undergraduate Libraries*, 18(4), 333-349.
- Smith, D. A., & Oliva, V. T. (2010). Becoming a renaissance reference librarian in academy. *Reference Services Review*, 38(1), 125-151.
- Stonebraker, I., Maxwell, C., Garcia K. & Jerrit, J. (2017) Realizing critical business information literacy: Opportunities, definitions, and best practices. *Journal of Business & Finance Librarianship*, 22:2, 135-148,
- Su, D. (2014). 1 - Library instruction. In *Library Instruction Design* (pp. 1-17): Chandos Publishing.
- The Association of College and Research Libraries (2000). Information Literacy Competency Standards for Higher Education: 2. Chicago, IL: American Library Association.
- US Department of Education (2009), Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies, The Department, Washington, DC.
- Wai, I. S. H., Ng, S. S. Y., Chiu, D.K.W., Ho, K. K., & Lo, P. (2018). Exploring undergraduate students' usage pattern of mobile apps for education. *Journal of Librarianship and Information Science*, 50(1), 34-47.
- Wójcik, M. (2019). How to design innovative information services at the library?. *Library Hi Tech*, 37(2), 138-154.
- Workforce Readiness Project. (2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. Available at: http://www.21stcenturyskills.org/documents/FINAL_REPORT_PDF9-29-06.pdf
- Wu, Y.D. and Kendall, S.L. (2006). Teaching faculty's perspectives on business information literacy. *Reference Services Review*, 34(1), 86-96.