

## WILL THE INTERNET REPLACE LIBRARIES? – AN EXPLORATORY STUDY ON UNIVERSITY BUSINESS STUDENTS' PERCEPTIONS IN THE ELECTRONIC ENVIRONMENT

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### Abstract

*Traditionally, academic libraries have been viewed central to information seeking and acquisition of knowledge in learning. However, the Internet has become an alternative tool for university students in information seeking and access due to its convenience and ease of use. Some literature indicates that the popularity of using the Internet by students in learning is challenging the existence of physical libraries. The purpose of this study is to investigate undergraduate business students' perceptions of internet and library in academic information seeking. A total of 334 respondents from a private university participated in this research. The participants consist of Year 1 to Year 3 business students. Chi-square test was conducted to determine the relationships of demographic characteristics on two aspects: (1) how reliable the materials found at the internet compared to materials of the academic library; (2) the belief the internet will eventually replace libraries. The study examines the associations between the independent variables of gender, levels of study and years of computer technology experiences with dependent variables of non-parametric data. The results provide exploratory understanding of business students' perceptions of an information centre compared to an information portal in the electronic environment. On the issue of reliability of materials obtain on the Internet compared to academic library, majority (65%) of the respondents, regardless of their gender, year of study and year of computer technology experiences generally agreed that both sources are equally reliable. As for the students' belief of Internet will eventually replace libraries, significant relationship was found on the levels of study, but not on gender and years of computer technology experiences. Implications for the need of paradigm shift in academic librarians to reposition the role and services of academic library to one of its major target customers – students in users' training activities on the use of electronic resources; and the importance of inculcating information literacy in the digital environment are discussed.*

**Keywords:** Internet; Academic libraries; Undergraduate business students; Gender; Information Literacy

### INTRODUCTION

"You don't need libraries because everything is available on the internet." Does this comment sound familiar at this information age? A student named James re-printed an excerpted letter in his response to the fairly often heard such opinion in a newsletter of Decatur Public Library (2006) in the United States. An article "Will Internet replace libraries?" was posted in a personal Blog in February 2006 (Martin, 2006), a University's student presented himself "passed autumn semester" and "trust Google as my 'online catalogue'". These examples reveal the perception of the changing role of the Internet as convenient virtual space to get information.

Under economic pressure with speed and time concerns in obtaining information effectively, the Internet and digital networked facilities have posed challenges to academic librarians to keep connected with the continuous development of technological changes to remain relevant to changing environment. Koh and Gonyea



(2003) argued that the library is the physical manifestation of the core values and activities of academic life for students' engagement in learning. Furthermore the Internet provides unlimited access to information and this poses new challenges to librarians' to promote and cultivate students to develop a capacity for critical discernment to judge the quality and utility of information, during and after college. As users' expectations and perceptions of academic libraries are changing, Andaleeb and Simmonds (1998) suggested that it is important to investigate the choice of information technology or other information sources such as the libraries for the purposes of learning. It allows the university and academic librarians to target its information literacy initiatives through various approaches (O'Brien and Symons, 2005). This will prepare students to acquire the information skills in the environment of rapid technological changes with abundance of information choices for academic studies, personal lives and working lives. The ability to use information effectively, critically, ethically and legally through multiple media is regarded as the foundation of life-long learning (Association of College and Research Libraries, 2000).

Business professionals are expected to manage information effectively. Porter and Millar (1985) suggested that one of the key elements for companies' sustainable competitive advantage is information. Therefore, it is essential for business undergraduate students to be exposed to the technological uses of the Internet to keep abreast with the new paradigm of business enterprises, such as e-business (Gagnon and Krovi, 2000). Furthermore, it is suggested that early educational experiences has an impact on information behavior when they advances to higher education (Haras, Edward and Ferry 2008). Hence, Geffert and Christensen (1998, p.279) suggested that "a short knowledge test as well as questions about students' previous experience with libraries" could examine the university's students' attitudes towards the opinions about, and knowledge of libraries and research.

Koontz and Jue (2004) suggested that demographic information is essential for library research to identify and respond to different segments of services needs for diversify user groups. The review of literature reported by D'Esposito and Gardner (1999) on studies related to students' perceptions of the library in relations to the Internet were some examples of research findings conducted between 1994 – 1997 in Australia and the United States. The current study therefore contributes to students' perceptions of the library and the Internet from the sample of participants in Malaysia, which denotes different economics, social-cultural contexts and development.

This study employs two pre-determines questions presented to the respondents on the opinion of the Internet and the academic library to business undergraduates in a private university in Malaysia. The questions are related to three construct of factors: gender, levels of study, and years of computer technology experiences. It attempts to examine the respondents' feedback on the following research questions:

- R1 - Is there a statistically significant relationship between male and female students on the perception of how reliable the materials found at the Internet compared to materials of the academic library?
- R2 - Is there a statistically significant relationship between year 1, 2 and 3 on the perception of how reliable the materials found at the Internet compared to materials of the academic library?
- R3 - Is there a statistically significant relationship between years of computer technology experiences on the perception of how reliable the materials found at the Internet compared to materials of the academic library?



- R4 - Is there a statistically significant relationship between male and female students on the belief the Internet will eventually replace libraries?
- R5 - Is there a statistically significant relationship between year 1, 2 and 3 on the belief the Internet will eventually replace libraries?
- R6 - Is there a statistically significant relationship between years of computer technology experiences on the belief the Internet will eventually replace libraries?

## **LITERATURE REVIEW**

Esposito and Gardner (1999) explored the perceptions of the Internet among undergraduate students using focus group interviews. Their study found that the participants (n=14) generally regarded the Internet and the World Wide Web in interchangeable terms, and they thought of the Internet as a vast source of information where they could access information on almost anything. Within the past five months in July 1997, all participants reported had used the Internet to complete at least one course assignment, and used search engines (Yahoo, WebCrawler and Infoseek) when approaching research for assignments on the internet. The study concluded that the general perception of the library and the Internet were two separate and unrelated entities, and the participants did not think of asking a librarian for help when locating information from the Internet for research.

Selwyn (2008) surveyed 1222 undergraduate students studying in the United Kingdom higher education institutions on how academic use of the Internet are influenced by the factors of internet access and expertise, their year of study, gender, age, ethnic and educational background. Among the respondents, 50 percent reported on a frequent basis of "all the time" having used the internet to look for information relating to their university studies/assignments during the past 12 months. It was found that students who rated themselves higher self-efficacy in the Internet competencies were more likely to report looking for information on university's studies/assignments than "novice" users, but differences were not statistically significant. Male students were significantly more likely than female students to report searching the Internet for information about university studies/assignments, but no significant differences were notable for ethnic background, age and year of study (first, second, third/final).

Many studies reported on the use of computers and information technology at tertiary level of learning varied in measures and dimensions with varied findings. Li and Kirkup (2000) measured the Internet experience and usage patterns of males and females British students (n=245) and Chinese students (n=220) in a questionnaire survey found that men tended to report greater confidence in using the Internet. In both national samples, men reported themselves more confident in knowing how to use the search engines to find information, downloading materials from the Internet and keeping records of websites accessed. In both groups, men were significantly more likely to feel that the Internet was useful. In a study involved 509 students of different course majors at two Southeastern universities at the United States, Perry, Wilkinson, and Perry (1998) investigated the use of the Internet on seven types of online activities in their respective classes. Data were analyzed based on students' major consisted of Computer Information System (CIS), business other than CIS, education and others. The results found that CIS majors were regular use of the Internet (81.1%, n=53) compared to business (50.4%, n=113), education (30.6%, n=217), other (48.6%, n=72). Nevertheless, the findings on the internet use for seven activities of emails, prepares for class, obtain



hobby, download information/software, visit chat rooms, download/play games, access adult materials were varied from major to major of the types of activities engagement.

In business and management studies, the information behavior and exposure to electronic business information resources is imperative to business students in higher education. Foster (2001) argued that there is lots of evidence to suggest that the experience of students' information seeking behavior at tertiary levels of learning tends to use the electronic products whilst being educated to resurface when entering career in the organizational life. This was supported by Seal (2001) who argued that maintaining the status quo was not good enough for the contemporary reference librarians to meet the changing needs and expectations of the library clientele in view of the challenges brings along with the transformation of information environment by technology and the Web. The author contended that many students' computer skills and high degree of comfort with technology did not translate into their research skills. Even though using the Web may give university students the sense that they have the world's knowledge at their fingertips, but it does nothing to the critical thinking ability which is essential for conducting effective research. In this respect, Esposito and Gardner (1999) justified that the findings on the study of the university students' perceptions of the Internet give implications to two categories of library research: library instructions and promotion of library resources.

Geffert and Christensen (1998) conducted a study on 521 incoming college students and found correlations between students' performance and high school class size, gender, grade point average and previous experience in library research. Jacobson and Mark (2000) argued that many traditional first-year students arrived on college and university campuses with much experience of Internet searching in finding information for their research papers. However, most of them lack the critical thinking skills and information skills in database-searching proficiency in information search strategies. The authors further supported that higher education institutions endeavor to produce information literate graduates equipped to remain current through continued researching in their fields of knowledge and interest. In this regards, Kebede (2002) proposed the changing electronic information environments needs focuses on the prevailing information needs of users that are changing with the availability of electronic information contents for users' access.

## **METHODOLOGY**

The survey questions of this study were adopted in part and adapted from the study of Geffert and Christensen (1998). The questionnaires were administered to 400 undergraduate business students from three levels of study: Year 1, 2 and 3 at a private university in Malaysia. A total of 334 completed questionnaires were collected culling a response rate of 83.5%.

The questionnaires consist of two parts. Part A required respondents to fill up their demographic details: gender, race, current year of study, and years of using computer technology experiences for academic works. Part B required respondents to indicate their opinions based on the relationships of the two attributes: academic library and the Internet. The first question asked the respondents to compare the books and articles in an academic library to materials found on the Internet based on nominal scale of three values: More reliable, Equally reliable, and Less reliable. The next question asked on the belief that eventually the Internet will replace libraries based on five probabilities:



Definitely, Probably, 50/50 Chance, Probably Not and Definitely Not. Since the data collected are on the ordinal scale of measurement, a non-parametric statistical test of Chi-Square was considered in the analysis using SPSS V13.0 Statistical Package.

**RESULTS**

**Profile of respondents**

The respondents of the survey consisted of 217 (65%) female and 117 (35%) male. Among the respondents, there were 0.3% Malays, 98.2% Chinese, 1.2% Indians and 0.3% from other races. Among the respondents, 93 (27.8%) were in Year 1, 89 (26.7%) in Year 2 and 152 (45.5%) in Year 3. As for the years of computer technology experiences, 30 (9%) were in the category of less than 2 years, 144 (43.1%) from 2-4 years, 107 (32%) from 5-7 years and 53 (15.9%) had 8 years and above.

**Analyses of data**

Chi-square tests were used to examine students' perception on the reliability of materials found on the Internet compared with the academic library and the question "will Internet replace libraries?". The results of the Chi-square tests are presented and discussed below.

R1 - Is there a statistically significant relationship between male and female students on the perception of how reliable the materials found at the Internet compared to materials of the academic library?

Table 1 illustrates the result of the analysis. The results shown no significant relationship between male and female students on how reliable the materials found at the Internet compared to materials of the academic library ( $p > .05$ ). Therefore R1 was not supported. There were 31 (26.5%) male students and 60 (27.7%) female students responded that the Internet provides more reliable materials compared to academic library. There were 76 (65%) male students and 140 (64.5%) female students believe that the information obtain from the Internet is equally reliable compare to academic library. Generally, both male and female students viewed that the information provided by the Internet and the library are equally reliable.

Table 1: Chi-Square Test Result of Internet Reliability Compare to Library by Gender (n = 334)

Gender	Internet reliability compare to academic library			df	Asymp. Sig. (2 sided)
	More reliable	Equally reliable	Less reliable		
Male	31	76	10	2	.957
Female	60	140	17		

\*  $p < 0.05$

R2 - Is there a statistically significant relationship between year 1, 2 and 3 on the perception of how reliable the materials found at the Internet compared to materials of the academic library? Table 2 shows the results: there was no significant relationship between year 1, 2 and 3 students on how reliable the materials found at the Internet compared to materials of the academic library. R2 was not supported as  $p > 0.05$ . However, a cumulative of 216 respondents (65%), regardless of levels of study responded that the materials from Internet are equally reliable compared to the materials obtained from the academic library.



Table 2: Chi-Square Test Result of the Internet Reliability Compare to the Academic Library by Year of Study (n = 334)

Year of study	Internet reliability compare to academic library			df	Asymp. Sig. (2 sided)
	More reliable	Equally reliable	Less reliable		
Year 1	29	60	4	4	.422
Year 2	26	55	8		
Year 3	36	101	15		

\*  $p < 0.05$ 

R3 - Is there a statistically significant relationship between years of computer technology experiences on the perception of how reliable the materials found at the Internet compared to materials of the academic library? Table 3 indicated that there was no significant relationship between years of computer technology experiences on how reliable the materials found at the Internet compared to materials of the academic library. Thus R3 was not supported. A total of 216 (65%) respondents, regardless of their year of computer technology experiences viewed that the Internet and the academic library is equally reliable as sources of information.

Table 3: Chi-Square Test Result of Internet Reliability Compare to Library by Year of Computer Technology Experiences for Academic Work (n = 334)

Year of computer technology experiences for academic work	Internet reliability compare to academic library			df	Asymp. Sig. (2 sided)
	More reliable	Equally reliable	Less reliable		
< 2 years	9	18	3	6	.846
2 – 4 years	36	96	12		
5 – 7 years	28	72	7		
8 years & above	18	30	5		

\*  $p < 0.05$ 

R4 - Is there a statistically significant relationship between male and female students on the belief the Internet will eventually replace libraries? As  $p > 0.05$ , R 4 was not supported. There was no significant relations between male and female students on the belief the Internet will eventually replace libraries. Majority of the respondents (male: 93, 79.5% and female: 186, 85.7%) agreed with Definite/Probably/50-50 that the Internet will replace libraries. The remaining 24 (20.5%) male students and 31 (14.3%) female students responded with Probably/Definite Not (Table 4).

R5 - Is there a statistically significant relationship between year 1, 2 and 3 on the belief the Internet will eventually replace libraries? The result shows the  $p$  value =  $< 0.05$ , thus R5 was supported as there were significant differences between year 1, 2 and 3 students on the belief the Internet will eventually replace libraries. Table 5 shows the results: 51 (54.8%) for year 1, 39 (43.8%) for year 2, and 87 (57.2%) for year 3 students responded with Definite/Probably on the belief that Internet will replace libraries, and 17 (18.3%) year 1, 18 (20.2%) year 2, and 20 (13.2%) year 3 students agreed with Probably/Definite that Internet will not replace libraries. Generally, year 1 and year 3 students are more likely to believe that the Internet will replace academic libraries compared to year 2 students.



Table 4: Chi-Square Test Result of the Believe of Internet will Replace Libraries by Gender (n = 334)

Gender	The believe of Internet will replace libraries					df	Asymp. Sig. (2 sided)
	Definitely	Probably	50/50 chance	Probably not	Definitely not		
Male	17	40	36	15	9	4	.383
Female	32	88	66	24	7		

\* p < 0.05

Table 5: Chi-Square Test Result of the Believe of Internet will Replace Libraries by Year of Study (n = 334)

Year of Study	The believe of Internet will replace libraries					df	Asymp. Sig. (2 sided)
	Definitely	Probably	50/50 chance	Probably not	Definitely not		
Year 1	10	41	25	14	3	8	0.016*
Year 2	10	29	32	8	10		
Year 3	29	58	45	17	3		

\* p < 0.05

R6 - Is there a statistically significant relationship between years of computer technology experiences on the belief the Internet will eventually replace libraries? Table 6 shows that  $p = > 0.05$ , there was no significant relationship between the years of computer technology experiences and the belief the Internet will eventually replace libraries. Therefore R6 was not supported. As for the years of computer technology experiences, 16 (53.3%) respondents with less than 2 years, 79 (54.9%) respondents with between 2 – 4, 57 (53.3%) respondents with between 5 - 7 years and 25 (47.2%) respondents with 8 years and above of computer technology experience agreed with Definite/Probably. Overall, regardless of the years of computer technology experiences, the belief that the Internet will eventually replace library derived between 47% to 55% for all categories on years of computer technology experiences.

Table 6: Chi-Square Test Result of the Believe of Internet will Replace Libraries by Year of Computer Technology Experiences for Academic Work (n = 334)

Year of computer technology experiences for academic work	The believe of Internet will replace libraries					df	Asymp. Sig. (2 sided)
	Definitely	Probably	50/50 chance	Probably not	Definitely not		
< 2 years	4	12	5	5	4	12	.141
2 – 4 years	17	62	47	15	3		
5 – 7 years	19	38	30	12	8		
8 years & above	9	16	20	7	1		

\* p < 0.05



## DISCUSSION

The focus of this study is to investigate undergraduate business majors' perceptions of the Internet and library in the electronic environment. The study compares information technology (the Internet) and a representation of a body of collections of information sources – the academic library, exploring the differences between males and females, levels of study and year of computer technology experiences.

It was found that there is no significant relationship between male and female students, levels of study and year of computer technology experiences for the question on “how reliable the materials found at the internet compared to materials of the academic library”; but the other question on “the belief the internet will eventually replace libraries” found there is a significant difference, an association between the levels of study, but no significant differences in association with gender and years of computer technology experiences of the respondents.

On the issue of reliability of materials obtain on the Internet compare to academic library, majority (65%) of the respondents, regardless of their gender, levels of study and year of computer technology experiences generally agreed that both sources are equally reliable. This finding is consistent with the study of Geffert and Christensen (1998) research finding that 61% of the respondents agreed that the materials from the Internet are equally reliable compared to academic library.

There was significant relationship on levels of study but not for gender and year of computer technology experiences of the belief on the Internet will eventually replace libraries. Generally, year 1 (51, 54.8%) and year 3 (87, 57.2%) students chose Definitely/Probably that Internet will replace libraries than year 2 students (39, 43.8%). Year 3 (20, 13.2%) students agreed that Internet will Definitely/Probably Not replacing library compared to year 1 (17 or 18.3%) and year 2 (18 or 20.2%) students. The finding is supported by the report of Selwyn (2008) which indicated that 50% of the respondents used the Internet “all the time” to look for information about the university studies and assignments is a clear evident that Internet is gaining popularity in the electronic environment.

Conversely, Geffert and Christensen (1998) found that 26% of the respondents (n = 521) agreed on Definitely/Probably that Internet will replace libraries, while 46% of the respondents belief on that the Internet will not replace libraries. As the current research was conducted a decade after Geffert and Christensen (1998) research, the increased popularity of the Internet may have a moderating effect on the result of this study.

The finding of majority of respondents (64.7%, n=216) regardless of their gender, levels of study and year of computer technology experiences generally agreed that materials found on the Internet compared to academic library are equally reliable could be a reflection of the participants' thoughts. It is consistent reflection to the observation and finding of Cmor and Lippold (2001) who reported that students “gave discussion list comments the same weight as peer-reviewed journal articles”. Abram and Luther (2004) described people born between 1982 – 2002 as ‘Next Gens’ “will challenge librarians in ways undreamt of today, likely in ways greater than the challenge of the Internet.” (p.34). The findings give supportive feedback to the rationale of one of the indicators of Information Literacy Standards, “evaluate information and sources critically” (Association of College and Research Libraries, 2004,p.3) as one of the basis for life-long learning information skills.



### **LIMITATIONS AND FUTURE RESEARCH**

There are a number of limitations when interpreting the findings of this study. First, the samples consist of predominantly Chinese ethnic students. Moreover, as in any type of exploratory study, the inherent limitation associated with the problem of generalizing the findings of the research to the general population as a whole in Malaysia. Future research should endeavor to include a representative sample of the Malaysian university students. Third, it may be appropriate to expand the sample of the current study by including students of other courses of study. According to Selwyn (2008), there is a significant difference of information searching needs for students with different majors. Furthermore, a mixed method approach in qualitative inquiry such as participants' interview would strengthen the doubt of 'why' and 'what' factors that influence the respondents on the opinion that the Internet will eventually Definitely/Probably replace libraries. Subsequently, the library community may use the acquired surrogated information to take the necessary action to reposition itself to the library users.

### **CONCLUSION**

This study highlighted two major findings:

1. Generally, respondents regardless of gender, year of study and year of computer technology experience agreed that materials found at the Internet are equally reliable compared to the academic library.
2. Generally, majority (more than 70%) of the respondents agreed on Definitely/Probably or 50/50 chance on the belief that the Internet will eventually replace the libraries.

An increasing popularity of the Internet over the library as a portal for information sources in information seeking may poses as a threat to the existence of the traditional academic library. Hence it is important for the academic library to 'rebranding' itself to attract the users to use its services for academic learning and research. The findings of this study provides an impetus for the academic librarians to re-align the role of traditional library services to consider the impacts information communication technology (ICT) in information seeking behavior of the users, such as providing training on the use of library electronic resources, and evaluate Internet resources at the open web resources for the consumption of the users' information needs. Furthermore, the user education may need a paradigm shift to expand from the singly role of the information professionals to include the management and the faculty in promoting a cohesive information literacy initiative in the digital environment of this 21<sup>st</sup> Century. Gelbwasser (2004, p.3) argued that the ability to use information for challenges and problems solving in life issues is a mode of empowerment to individuals which increases with the development of information literacy skills.



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