



IDENTIFYING THE INFORMATION-SEEKING BEHAVIOURS AMONG SCHOOL OF COMPUTING UNDERGRADUATE STUDENTS

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ABSTRACT

The purpose of this study is to investigate information-seeking behaviours among School of Computing undergraduate students within the context of searching information for university tasks. As university students, having the skills to gather information, both from the library and the Internet will help them to complete university tasks such as course assignments and project papers. With the advent of information technology, gathering information is so much faster and easier. It is therefore imperative that undergraduates are equipped with some information-seeking skills. A survey method was used to collect data for this study. A questionnaire was randomly distributed to 170 undergraduate students at School of Computing, Universiti Utara Malaysia in Malaysia. The overall response rate was 100%. The collected data was analysed by using Statistical Package for Social Sciences (SPSS) for Windows version 19.0. The findings show that academic information is the most needed information for completing university tasks and Google search engine is the most frequently used search engine by the students when searching academic information. Therefore, this study concludes that most of the students prefer to use search engines to search academic information.

Keywords: *Information needs, information search, information-seeking behaviour, undergraduate student*

1. INTRODUCTION

Information technology (IT) has allowed users to create and store various forms of information ranging from basic data, to images, etc. All this information can be retrieved by any one with Internet access. Nevertheless, some skills and IT related knowledge are required before one can successfully get the information. Some users are obviously Internet savvy which means that they are very adapt to the method of getting the required information while others struggle to find the same information. The result is the existence of different information-seeking behaviours among users [1].

Information-seeking behaviour differs between each student due to the specific information needs and information gaps that exist within the student. Thus, relevant information is needed to fill these gaps. According to Wilson [2], information needs are “information seeking toward the satisfaction of needs” which may satisfy physiological, cognitive or affective needs.

In seeking for information effectively and efficiently, students' understanding of their information needs and different types of information sources that can be utilized in searching information are very important. “The approach involved in retrieving the relevant information or also known as the information-seeking behaviour should begin with identifying the needed information. This is followed by selecting the appropriate sources of information and finding the required information by using selected strategies” [3, p168].

There is a need for a study on students' information-seeking behaviour to understand how students obtained, managed and used the required information [4]. A recent study conducted by Che Rusuli, Yaacob, Tasmin and Norazlin [5] discovered that undergraduate students' information-seeking behaviour was at a low level and they lacked basic skills on how to use and seek information effectively. Even though some undergraduate students have good academic qualifications, they were found lacking in

information-seeking skills [6]. Similarly, Ajiboye and Tella [7] stated that undergraduate students showed poor level of information-seeking behaviour and require more exposure to the process of searching for information. Therefore, this study intends to identify undergraduate students' information-seeking behaviour.

This paper consists of six sections. In this section, the research background has been introduced. Section two describes the objectives, followed by section three which discusses the review of literature. Section four describes the methodology used in the study. Section five discusses the results of the study. The final section will conclude the paper.

2. OBJECTIVES

The objectives of this study are:

1. To identify undergraduate students information needs.
2. To investigate the methods used by undergraduate students to search academic information.
3. To identify the problems that undergraduate students encounter in searching for academic information.

3. LITERATURE REVIEW

Information-seeking behaviour is a broad term that comprises information needs, use of information sources, information retrieval and use of information [8]. Information-seeking behaviour is also described as a way of gathering information for use, knowledge updating and development [7].

Fidzani [9] conducted a study to determine graduate students' information-seeking behaviour at the University of Botswana. It was found that students frequently relied on journals, library books and textbooks when searching information for coursework assignments and writing research papers.

A study done by Majid and Ai [10] in Singapore found that computer engineering students prefer to use books, refer to lecturers, the Web and friends as their sources of information. Although the students used a wide variety of information sources, the findings of the study showed that they preferred to use printed information sources than electronic information sources in the process of searching for information.

Another study conducted at University College Dublin, compared the information-seeking behaviour between first year and final year students. The main similarities were that both groups placed high importance on the handouts from lecturers, textbooks and the Web as their source of information for their coursework [11].

Ajiboye and Tella [7] examined the information-seeking behaviour of undergraduate students at the University of Botswana. The study found that academic information was the type of information needed by the students and the Internet was their main source of academic information.

In a another study done by Weber and Flatley [12] at Kutztown University, students preferred to use electronic information sources especially the Web to locate information. It seems that as a result of the growth of information technology, more students prefer to find information through the Web before using other information sources for searching information. Similarly, a study on undergraduate students' information-seeking behaviour by Martin [13] revealed that majority of students preferred to use the Web when searching for information.

The findings on students' information-seeking behaviour survey by Onuoha and Awoniyi [14] indicated that students at Babcock and Solusi Universities sought information from textbooks and electronic sources for the purpose of updating their knowledge, preparing for examinations and doing assignments. However, the relevant materials were often not available or obsolete.

A survey on students' information-seeking behaviour in digital environment was conducted by Bhatia and Rao [15]. It was found that less than fifty percent of the respondents at Dev Samaj College were not aware of the availability of e-resources. The students, who were aware of e-resources, accessed the e-resources for updating their knowledge and seeking information for academic assignments.

A comparative study was done by He, Wu, Yue, Fu and Vo [16] to identify undergraduate students' interaction with online information sources in their academic tasks. The results concluded that undergraduate students used different information sources for various academic tasks and electronic information sources including search engines were the most commonly used to seek information.

Natarajan [1] survey on information-seeking behaviour of students of the Management Institutions in NCR, Delhi supported He et al. [16] findings. The study reported that students used the

Internet as the major source of information, as it is online and available anytime, anywhere.

A recent survey by Nadzir and Salim [3] found that majority of graduate students at Universiti Kebangsaan Malaysia preferred to search for information by surfing the Web and using other electronic information sources such as online databases. The findings also indicated that the most frequent type of information searched by the students was information on past research related to their field of study. This information was needed to carry out a comprehensive literature review of the research topic.

According to Che Rusuli et al. [5], majority of undergraduate students at Universiti Tun Hussein Onn preferred library books, lecture notes and handouts and textbooks as references in their studies. It showed that they “probably did not know how to utilize the information available on the Internet which might be useful and related to their assignments.”

Another study done by Singh and Kumari [17] supported Nadzir and Salim [3] findings. The study revealed that majority of students in Bhagat Phool Singh Institute of Higher Learning rated electronic information sources as very useful in seeking information. The study concluded that most of the students preferred information in electronic format.

4. METHODOLOGY

Sample

The participants in this study comprised of 255, 2014/2015 session students from different semesters enrolled in the Bachelor of Science in Information Technology with Honours [BSc. (IT)] at Universiti Utara Malaysia (UUM). Sample size was determined by using Krejcie and Morgan table of guideline for sample size decisions [18]. Based on the guideline, the sample size for 260 population size should be 155. However, bigger sample size was targeted to ensure that the collected questionnaires would be able to represent the population. Therefore, a sample size of 170 was determined in this study. Then, simple random sampling technique was used to select 170 respondents to participate in the study.

Survey instrument

A self-administered questionnaire was developed to collect data for this study. The questionnaire was adapted from Nadzir [19] and revised for the purpose of identifying undergraduate students' information needs and their

behaviour in searching for the required information for preparing or completing university tasks. The Cronbach alpha used to measure the reliability of the revised questionnaire was 0.79, which showed that the reliability of the questionnaire was acceptable [18].

Administration

The survey was administered in October and November 2014. The questionnaires were given to course representatives to be distributed to the respondents at the end of lecture. A token of appreciation was given for each submitted questionnaire. By distributing the questionnaires at the end of lecture, 100% response rate was attained.

Analysis

The data obtained from the survey were analysed using Statistical Package for Social Sciences (SPSS) for Windows version 19.0. Descriptive statistics analysis was used to analyse the data in the study.

5. RESULTS AND DISCUSSION

The survey involved 170 undergraduate students, comprising 119 females and 51 males. As shown in Table 1, the majority of the respondents were between 20 and 25 years old ($n = 169$ or 99.4%) and the majority were Malays ($n = 108$ or 63.5%). Most of the respondents were third year BSc. (IT) students ($n = 90$ or 52.9%).

Table 1: Demographic information

Demographic item	Frequency ($n = 170$)	Percentage ($n = 170$)
Gender		
Female	119	70.0
Male	51	30.0
Age		
20-25	169	99.4
26-30	1	0.6
Race		
Malay	108	63.5
Chinese	38	22.4
Indian	15	8.8
International	8	4.7
Others	1	0.6
Year		
1	51	30.0
2	22	12.9
3	90	52.9
4	7	4.1

5.1 Information Needs

The types of information needed by undergraduate students were identified based on analysis of the feedback from the questionnaire. As shown in Table 2, the most important information needed by these students to carry out university tasks is academic information (mean = 4.32).

Next is research information (mean = 4.13) followed by information related to higher education (mean = 4.07) and general information (mean = 4.07). Meanwhile, the least important information is business information (mean = 3.70).

Table 2: Types of information needed by undergraduates

Types of information	Mean (n = 170)
General information	4.04
Health information	3.91
Academic information	4.32
Research information	4.13
Information for personal development	3.92
Current affairs information	3.76
Business information	3.70
Information related to higher education	4.07

5.2 Searching Methods

The searching methods used by undergraduate students to obtain academic information were analysed based on their responses to the questionnaire. Table 3 reveals that majority of the students prefer to use Google and other search engines to search relevant academic information (mean = 4.48). The findings also show that most of the students prefer to surf the Internet to retrieve academic information for their university tasks (mean = 4.37). They prefer to search academic information by surfing the Web because the Web is accessible 24/7 and it usually provides up-to-date information.

Table 3: Information on searching methods

Searching methods	Mean (n = 170)
Visit the UUM library	3.83
Refer to printed information sources	3.94
Surf the Web	4.37
Use Google and other search engines to search academic information	4.48
Ask other students	3.77

The findings supported the study by Sriborisutsakul et al. [20] which showed that majority of the students frequently used search engines when searching for information to complete their assignments. They frequently used search engines because of its convenience and ease of use.

Unlike Onuoha and Awoniyi [14] who specify that the main searching method by students are discussions with colleagues, this study found that only some students searching academic information for university tasks by asking other students (mean = 3.77).

Figure 1 illustrates that majority of undergraduate students prefer to use Google (97.6%) as the main search engine when searching for academic information to complete their assignments. The findings are consistent with the results of previous study by Bhatia and Rao [15] which found that search engines were the most frequent method used by students to access electronic information sources for their information needs.

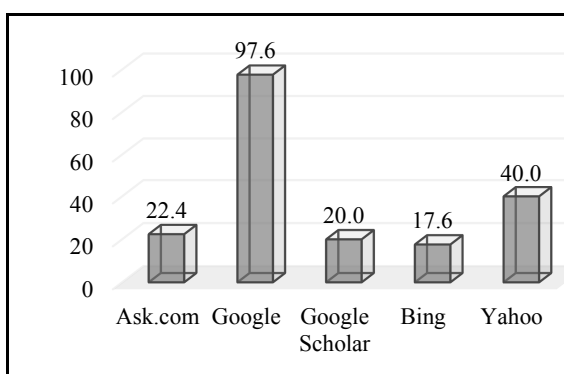


Figure 1: Preferred search engine

As illustrated in Fig. 1, the other two search engines mostly used by the students are Yahoo (40%) and Ask.com (22.4%). Only 20 % of the students use Google Scholar when searching academic information through the Web. Undergraduate students who were not using Google Scholar were most likely not aware of the availability of Google Scholar search engine to find academic information on the Web [13].

5.3 Searching Problems

The problems faced by undergraduate students while in the process of searching academic information for university tasks were analysed based on their responses to the questionnaire. Table

4 indicates that the most problematic searching situation for the students when searching for academic information is when some of the required books are not available at the UUM library (mean = 3.53). As shown in Table 4, the least problematic searching situation is obtaining too much information through the Web while in the processes of searching academic information (mean = 2.95).

The findings of this study are similar with Singh and Kumari [17] and Onuoha and Awoniyi [14] who identified that the main problem faced by students when searching for information was the unavailability of required materials in the library.

Table 4: Problems Encountered When Seeking Information

Searching problems	Mean (n = 170)
Some books cannot be obtained at UUM library	3.53
Unable to borrow thesis	3.49
Unable to retrieve search results from OPAC	3.39
Problems in obtaining information using online databases	3.39
Retrieving limited information through the Web	3.34
Obtain too much information through the Web	2.95
Limited knowledge on the use of keywords	3.07
Irrelevant search results	3.36

6. CONCLUSIONS

The study aims to explore information-seeking behaviour among the undergraduate students at the School of Computing, UUM within the context of searching information for university tasks. In this study, information-seeking behaviour comprises identifying information needs and searching the required information using selected methods in order to fulfil the needs.

This study found that academic information is the most important information needed by undergraduate students for preparing and completing university tasks. In addition, the majority of the students prefer to use Google which also happens to be the most popular search engines compared to Yahoo and Ask.com when searching for relevant academic information. Furthermore, this study revealed that the most problematic

searching situation encountered by students when searching for academic information is when some of the required books are not available at the library. Finally, more research should be conducted by using other methods for modelling students' behaviour when seeking academic information.

ACKNOWLEDGEMENT

This research was funded with a grant sponsored by Universiti Utara Malaysia (*Geran Penyelidikan Kolej*-13005).

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