

INFORMATION SEEKING BEHAVIOUR AMONG MILLENNIAL STUDENTS IN HIGHER EDUCATION

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ABSTRACT

This paper investigates various information seeking behaviour demonstrated by millennial students in higher education. The impact of disruptive technology changes the students' information seeking behaviour as millennial students nowadays depend on the Internet too much to locate the information for their academic purposes. Studies also found that millennial students have difficulty in learning and were marked by uncertainty because they are facing information overload, inability to obtain and evaluate the information. Identifying and recognising appropriate information seeking processes is crucial in determining the effectiveness of the information-seeking behaviour and the quality of the information gathered in order to support their learning process and experience. Therefore, this paper focuses on the behaviour applied by these students to fulfil demands of academic compliance especially in efforts to seek research-based information. About 328 students took part in this online survey. Findings of this research use quantitative descriptive analysis. From the findings, respondents claim that they are familiar with information seeking processes with mean value is 3.63,



however 30.5% respondents claim they still lacking in information seeking skills. This research provides a valuable insight regarding the information seeking behaviour of millennial students and make a recommendation that role of modern libraries should facilitated this demand by ensuring that services such as online library resources are accessible and set-up for use by the millennial students.

Keywords: *information seeking process, information seeking behaviour, millennials, academic purposes, higher education*

INTRODUCTION

Heidar Mokhtari (2014) explained, 'Searching various information resources is the routine way to identify and access the information needed to build knowledge in academic contexts and daily-life.' Nowadays, the development of modern libraries provide online information retrieval systems such as online catalogues, library resource sharing network systems and online networked databases. However, demands on knowledge enhancement and growth within a learning environment requires the acquisition of a set of skills specifically related to information seeking needs and the development of information seeking behaviour as a means of overcoming this overwhelming experience. This study is based on a group of students undergoing a research methods class at an institute of higher education. It would be expected that these students would utilise the facilities and technologies on hand to assist them in achieving their given tasks. However, from past research it has been found that students do not fully use library information resources provided. By which, students are said to frequently learn how to complete school assignments through trial and error (Gunn & Hepburn, 2003). Therefore, the objectives of this research are to identify the processes undertaken by millennial students of higher education in applying information seeking processes, as a reflection of information seeking behaviour, for academic purposes and to identify the challenges that these students face.

Millennial students are the generations that was born in the year of 1981 till 1996, and anyone born from 1997 onward will be part of post-millennials

as reported by Pew Research Center (2018). These millennial generations are still very much dependent on the Internet in their daily life. However, their focus may not be so much on information seeking processes for academic reasoning but a demonstration of information seeking behaviour. Students are exposed to mass information on a secondly basis causing them to gather, filter and discard information that is deemed useful or otherwise. Responsibility in managing various information during the process of acquiring, storing, processing and using of information demands for an ethical framework among information professionals such as librarians and carers of information (Hoq, 2012). In his article, Hoq explores notions of the moral dilemma, factors that influence decision making, as well as, making the right decisions. However, the conducts outlined need to be taught and embedded in users of information such as that of the millennial student to ensure that the use of this information is not abused. This paper therefore investigates the information seeking processes of students of higher education in order to identify the content of information seeking behaviour and what are their challenges in seeking information for academic purposes.

LITERATURE REVIEW

There is a significant amount of research aimed at how secondary students or adolescents use new trends in new technologies and what factors influence their searching behaviour related to learning processes (Graafland, J. H., 2018; Buchanan, S., & Tuckerman, L., 2016; Wu, D., & Cai, W., 2016; Pilerot, O., 2016; Al-Muomen, N. *et al.*, 2012, Morris, A., & Maynard, S., 2012; Kuhlthau, 1993; Fidel *et al.*, 1999; Hess, 1999). Most researchers have investigated search behaviours using electronic resources in order to interpret patterns in the learning process.

American Library Association, (American Library Association Presidential Committee on Information Literacy, Final Report, 1989, p.1) defined information literacy skills as ‘be able to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information’. Students use computers and access the Internet for their assignments and also for personal purposes. In recent higher education learning environment, students are increasingly using electronic resources

to support their information needs (Vignarajah *et al.*, 2016; Madden *et al.*, 2007; Large, Beheshti & Rahman, 2002). The study by Civilcharran *et al.*, (2015) indicates that the students of higher level of education have spent more time searching information through Web. Therefore, understanding the ways they use electronic resources has implications for information seeking processes and their information literacy skills.

Information seeking is a process of searching, obtaining and using information for a purpose when a person does not have sufficient prior knowledge (Vakkari, 1990). Ramirez *et al.* (2002, p. 217) defined interpersonal information seeking as ‘the pursuit of desired information about a target’. The study indicates that students in universities gained the knowledge for searching information on the Internet through self-experienced as compared to be given formal training (Civilcharran *et al.*, 2015). Vignarajah *et al.* (2016) discovered there are difference ways of using library for information needs between students in universities. Their information seeking behaviour is significantly difference between first-year and post-first-year students in using the Internet search engines as information-seeking process. The senior students were being more impacted by their mastery experiences, affective states and social feedback (Bronstein, J., 2014). Among factors that give influences to information seeking behaviour were the speed and ease of accessibility, and the students’ familiarity with the sources needed (Tury, S., Robinson, L., & Bawden, D., 2015).

Kuhlthau (2004) saw information seeking as a learning process. People will seek information ‘to broaden their understanding of the world around them and information seeking is a primary activity of life’. Furthermore, Kuhlthau suggested that the systems designed to provide the information should be matched with the information in the process of learning. Meanwhile information seeking strategies is a part of information-seeking process which explain what strategies information seeker does in order to seek information. This research adopts Kuhlthau’s (1993) model that identified six stages of information search process (ISP) with each stage encompassing three aspects: cognitive /thoughts (what is to be accomplished), affective/feelings (what the searcher was feeling), and actions/physical (what the searcher did) or strategies/ physical (what the searcher trying to achieve). This then identifies the objectives and associated research questions for this research.

According to Komissarov and Murray (2016), the instructors and librarians in universities have positive influence for students' information-seeking behaviour, thus give opportunities for their success. Therefore, in order to create an information literate person, lecturers and librarians should be aware of the importance of the value of information gained (such as resource selection, database searching, and database searching techniques), information evaluation (especially information retrieved from the Internet), information usage, electronic citation styles, and techniques for analytical thinking (Kamal & Othman, 2012).

RESEARCH METHOD

This study used descriptive and quantitative approaches to identify students information-seeking processes for academic purposes. Neuman (2006, p. 33) defines exploratory research as 'research in which the primary purpose is to examine a little understood issue or phenomenon to develop preliminary ideas and move toward refined research questions by focusing on the 'what' question'. According to Neuman (2006) the main reason for using descriptive research is to 'paint a picture' using words or numbers to present a profile, which may include a graph or tables to illustrate the narrative. Online questionnaires were used for data collection and SPSS version 28 for the quantitative data analysis.

The online questionnaires were design to cover the research questions of the study. This includes identification of information-seeking processes, problems and challenges in seeking information, and suggestions from respondents on how to improve information-seeking processes for students in higher education. Sections A and B were designed specifically to ascertain student demographic data and knowledge of the information seeking processes. Meanwhile, in Section C, the items in the questionnaire were selected from Kuhlthau's previous instruments of the Information Search Process (ISP) for higher education students. This study uses the non-probabilistic sampling strategy, which is commonly known as purposive sampling. Based on Neuman's description (2006, p. 22), purposive sampling is 'a valuable kind of sampling for special situations and it is used in exploratory research for the judgement of the selected sample population'. The respondents for this research are from four faculties within four cluster in

one institution of higher education, and they were considered to be exposed to and have experience of the phenomena under investigation (information seeking processes in academic setting, for research methodology classes. For this study, the research objectives and research questions as follow:

This research focuses on two main questions:

1. What are the processes undertaken by students when searching for information for academic purposes?
2. What are the challenges that students face when searching for information for academic purposes?

The objectives of this research are:

1. To investigate the processes undertaken by students when searching for information for academic purposes.
2. To identify the challenges that students face when searching for information for academic purposes.

FINDINGS

Findings of this research derived from quantitative descriptive analysis on what are the processes undertaken by students when searching for information for academic purposes and their challenges faced by university students when searching information for academic purposes. About 394 university students enrolled in the research methodology course from four different fields or faculties, however 328 students took part in this online survey. All of the results were analysed using the Statistical Package for Social Sciences (SPSS), whereby ranges of descriptive analysis were presented using frequencies to examine the distribution of the responses.

Table 1: Demographic Profiles

Demographic Variables	Measures	Frequency	Percentages (%)
Faculty/Cluster	Faculty A/ Management	131	39.9
	Faculty B/ Humanities	87	26.5
	Faculty C/Social Science	36	11.0
	Faculty D/Science & Technology	74	22.6
Mode of Study	Fulltime	221	67.4
	Part time	107	32.6
Level Programme	Undergraduate (Bachelor's Degree)	284	87.6
	Postgraduate (Master's Degree, Doctoral Degree)	44	12.4
Age	18-22 Years Old	117	35.6
	23-27 Years Old	141	43.0
	28-32 Years Old	35	10.7
	33- 37 Years Old	35	10.7
Gender	Male	116	35.4
	Female	212	64.6

Out of the 328 samples in this study, 131 respondents or 39.9% from Faculty A, while 87 respondents or 26.5% are from Faculty B, followed by 74 respondents or 22.6% representing Faculty D and remaining of 36 respondents or 11% from Faculty C. The total number of the undergraduate respondents was 284 or 87.6% of the entire sample and the postgraduate respondents contributed only 44 or 12.4% of the research sample. The main respondents were people aged between 23 until 27 years old which

was 141 or 43.0% out of the 328 total of the samples. It was followed by 117 respondents or 35.6% for the aged between 18 until 22 years old and 35 respondents or 10.7% for the aged 28 until 32 years old and while 33 years old and above share are 35 or 10.7% total respondents each. The total number of the male respondents was 116 or 35.4% of the entire sample and the female respondents contributed 212 or 64.6% of the research sample.

Table 2 : Information Seeking Process for Academic Purposes

Items	Mean	Standard Deviation
I use more than one search engine to find the information	3.70	1.551
I search information by myself	3.86	1.008
I get help from someone to find the information	3.35	0.993
I need someone to assist me to search the information	3.23	1.035
I have difficulty to find information	2.77	1.007
I utilise the search tools in locating information	3.45	0.958
I locate the printed sources and materials by scanning it	3.19	0.982
I use web environment to search the information	3.81	0.969
I am concerned with the type of publication to use for my course assignments	3.55	0.919
I use a variety of search methods to find information online	3.44	1.026
I discuss with others (lecturers, friends,) about the information	3.59	1.013
I recheck, evaluate and verify the quality of the information	3.63	0.964
Total Average	3.63	0.964

From the Table 2 above, there are 12 items measurer the perception on information seeking process. Likert scale used in this study is between 1 (strongly disagree) to 5 (strongly agree). The results found that the repondents were agreed that *I search information by myself* (mean=3.86)

followed by I use web environment to search the information (mean=3.81), I use more than one search engine to find information (mean=3.70), I discuss with others (e.g: lecturers, friends, etc) about the information (mean=3.59), I recheck, evaluate and verify the quality of the information (mean=3.63), I am concerned with the type of publication to use for my course assignments between popular (opinion-based) and scholarly (research-based) sources (mean=3.55), I utilise the search tools (e.g: catalog, index, abstract, etc) in location information (mean=3.45), I use a variety of search methods to find information online (eg: wildcard, Boolean operator and, or,not, etc) (mean=3.44), I get help from someone to find information (mean=3.35), I need someone to assist me to search the information (mean=3.23), I find and locate the printed sources and materials by scanning them directly from the shelves (mean=3.19) and I have difficulty to find information (mean=2.77). As overall of Information seeking processes findings , respondents familiar with it, as the results of mean value is 3.63.

Table 3: Challenges that Students Face When Searching for Information for Academic Purposes

Categories	Frequency	Percentage (%)
Limited Internet access	208	20.7
Technology literacy	202	20.1
Unfamiliarity role of library	266	26.4
Information seeking skills	307	30.5
Others	23	2.3
Total	1,006	100

The Table 3 above illustrate the types of challenges that respondents encounter in searching the information. There are eight items and been categorised into five main categories (as in Table 3). It shows that 30.5% respondents claim they still lacking in information seeking skills (i.e. *Inability to seek, obtain and evaluate information and inadequate skills in information seeking process*). It then followed by 26.4% of respondents *unfamiliarity with the oraganisation and mission of academic library, and hesitant to approach reference stations (desks/counters) and professional librarians*). About 20.7% of the respondents agreed that they are also facing difficulty in limited network and Internet access. The remaining of 20.1%

and 2.3% claim that they have difficulties in technology literacy and others such need proper guidance from lecturers and friends.

DISCUSSION

This research provides a valuable insight regarding the information seeking behaviour of millenials students for academic purposes as these generations are rely on so much on the use of the technology to support their learning processes. From the study, it found that as overall of information seeking processes findings, respondents familiar with it. Students demonstrate that they can search information independently in searching information for academic purposes. This results consistent with Civilcharran *et al.* (2015) indicates that the students of higher level of education have spent more time searching information through Web independently. Students agreed that their information seeking processes higly involved with the web environment and normally use more than one search engine to locate information from various types of publication resources. Students tend to recheck the information found with lecturers and friends. Finding show that students declare that they do have a difficulty to find information. As web environment become an integral fundamental to learning process to millennials students, limited network and Internet access seem to be perceived challenges affecting their information seeking for academic purposes. This circumstance can be well comprehended as Internet becomes the principal source and gateway for diverse electronic and web information resources to support learning and research activities for academic purposes (El-Maamiry, 2017; Shamila, 2013). In consequence, the effect of Internet access failure is rather clear-cut that students believe their ability to find, retrieve and utilise information is disrupted and having to fall into such situation can be assumed a real setback for the whole process involved, where 30.5% claim they still lacking of information seeking skills i.e information literacy skills. Meanwhile, there is no assured linkage between being proficient computer users and being skillful and well-behaved information seekers among students. This is relevant considering the finding by El-Maamiry (2017) asserting that early exposure to Internet during the elementary stage of learning and being highly confident in their ability to use technology have caused students in having poor information seeking behaviour and techniques. Suprisingly, on the role of librarian and library, fewer number of respondents relate their information

seeking obstacles with unwillingness to approach the reference desk and librarians, which is due to that students tend to use web environment for their information seeking process instead of using the physical library services. El-Maamiry (2017) indicates that the library staff factor does not contribute to students' barrier in relation to information seeking and behaviour. Only 4% of the participating students in his study share the perception that lack of qualified staff is an issue. Instead, from the current study, many students underline unfamiliarity with the library mission is hindering them in carrying out the information seeking process. The finding automatically hints that having a clearer picture of the library roles and functions is important to the students, especially to meet their web environment or virtual space services demand in the library. In fact, this is what the information literacy classes aim to provide, thus it gives an additional clue for the library to promote their user education programmes more assertively. Therefore, as emphasized by the respondents themselves about the need to attend the information literacy programmes, the classes organised by the academic library will be fruitful for students to gain skills and competencies, particularly relating to the technological, cognitive and ethical facets of information seeking processes (Calvani *et al*, 2009). Furthermore, another significant issue in this study is concerned with information ethics. In this aspect of information seeking process fortunately, students seem to possess good awareness as they are certain in their ability to access and use information responsibly, ethically and legally very much aligned with the privacy and intellectual property laws. Besides, in this study the respondents are also given the opportunities to put forth the suggested aspects of library services, resources, facilities, roles and competencies central to their information seeking and behaviour, as provided in the Table 4.

Table 4: Suggestions

Categories	Descriptions
Library network and Internet access	<ul style="list-style-type: none"> • Provision of upgraded, high-speed and stable network and internet connections (including wi-fi) to enhance students' capacity to find information, anytime, anywhere

Library facilities and services	<ul style="list-style-type: none"> • Enhanced computers and facilities provided within the library compound • Centralised, friendly and easy-to-use library systems and databases enabling a wide range of information to be sought by students in line with the needs of different courses
Roles of Libraries and librarians	<ul style="list-style-type: none"> • Libraries need to increase students' awareness on information services and educate them to search for and understand what they need • Librarians should be more friendly, approachable, cooperative and able to explain and guide students in finding the right information from the right sources, quickly and accurately
Skills of students on information seeking process	<ul style="list-style-type: none"> • Students must identify their information needs and plan how to search for information from appropriate channels, search engines and trusted sources • Students should learn information literacy to acquire information seeking skills and to use online databases and library systems accordingly
Information ethics	<ul style="list-style-type: none"> • Regarding information use with safety aspect at hand, students agree with the need to rely on trusted (authoritative) sources and manage risks of copying others' works by quoting, citing and rephrasing sentences to be used in their own works
Library's information sources and collections	<ul style="list-style-type: none"> • Acquisition of current, relevant, authentic and unlimited information for reference purposes, consisting of an increase number of books, other collections and digital or online resources that fit academic needs and other genres

CONCLUSION

In conclusion, research into the information seeking processes is crucial to identify the information seeking behaviour among higher education students especially majority of them known as millenials generation. As millenials generation, their information seeking behaviour so much rely

on web environment in order to complete their assignment. Students are empowered to design and control learning by themselves, therefore it is crucial to highlight the need for the lecturer and librarian to meet student's enthusiasm of learning experience and offer guidance to set proper strategies if the approach is to be really advantageous for student's benefit. Libraries need to increase students' awareness on information services and educate them to search for and understand what they need. As technology become an integral fundamental for millennials students, programme such as digital information literacy should be compulsory to all higher education students in order for them to seek and manage information ethically, and responsibility participate in the digital world for their learning experience.

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