



## **ADAPTATION OF BIG6 SKILL MODEL IN THE ASSESSMENT OF INFORMATION NEEDS AND SEEKING BEHAVIOR OF UNIVERSITY OF ILORIN STUDENTS**

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### **ABSTRACT**

*Study of information need and information seeking behavior tends to examine the sources and services employed by information seekers while striving to solve a particular phenomenon. This study carried out an assessment of information need and information seeking behavior of undergraduate student of faculty of Communication and Information Sciences (CIS), University of Ilorin, Nigeria using the Big6 Skill Model. That is, it examined the relevance of Big6 Skill Model in information searching process of undergraduate, identified undergraduate most preferred source of information, ascertained information sources at their disposal and as well pinpointed the least information source consulted when searching for information. A survey approach was adopted in identifying the information need and information seeking behavior of the respondents. The population of undergraduates in Faculty of CIS stood at 1,677 from which sample size of 333 respondents were drawn as suggested by Istreal Sample Size Determination Table. Findings from the study revealed relevant of the Big6 Skill Model in information searching process of undergraduate students. Work load from course of study informed their major information need; follow by health, research and recreational purposes. Information sources at the disposal of respondents are internet, library, expert, friends and personal collections, but they ranked internet as their first port of call for information followed by the library. The study recommended inclusion of information literacy skill in the curriculum of all students irrespective of field of studies, academic libraries should improve their online present for the marketing of library services and that further study on models testing and models expansion should be encourage.*

**Keywords:** *Information need, Information seeking behavior, Model, Undergraduate, Faculty, Nigeria*

### **Introduction**

Information need is a concept attributed to information science which could be understood as individual or group desire for information to fill a knowledge gap. In advocacy to that Khan and Shafique (2011) underscored that information need is an individual or group's desire to locate and obtain information to satisfy a need. In a more technically restricted sense, it could be seen from a hazy or ambiguous state of mind indicating the need to seek for knowledge on a particular phenomenon. In corroboration to the above was Okoh and Ijiekhuamhen (2015) expression which stated that information need is an innate desire that prompt leading to a search for information that tends to resolve the state of anomaly. In most cases information need is not always treated in isolation but often alongside information seeking behavior. Information seeking behavior is observed to be a complicated form of actions people slot in while seeking information. Wilson in 1981 coined the concept, information seeking behavior when he observed that information needs could not be directly observed without observing pattern of information seeking behavior.

Information seeking behavior is the totality of human behavior in relation to their conduct when searching for information which could be influence by several factors such as education background of the searcher, cultural belief, awareness of sources, experience and many more. In consonance to that, Padma, Ramasamy and Sakthi (2013) stressed that Information seeking behavior is a broad term, which encompasses some sets of actions that an individual takes to express information needs, seek information, evaluate and select information, and finally uses this information to satisfy a need. Mahajan (2009) also attested to this expression by asserting that information seeking behavior involves gathering or sourcing for information for personal use, knowledge update and development. Just in congruence with the foregoing, information seeking behavior encapsulate all activities an information user engaged-in when defining the phenomenon at hand, the search strategies, as well as the effective utilization of such information.

Several factors determine the information seeking behavior of an information users, therefore, it is desirable to understand the purpose for which information is required, the environment in which the user operates, users' skills in identifying the needed information, channels and sources preferred for acquiring information, and barriers to such information. Also in corroboration with that was Aina (2004) who asserted that information seeking behavior of a user depend on user education, access to library and length of time devoted for information search. Study of information need and information seeking behavior tends to examine the sources and services employed by information seekers while striving to solve a particular phenomenon, which is perfect in line with the broad objective of this study, that seek to assess the information need and information seeking behavior of undergraduate students of faculty of Communication and Information Sciences (CIS), University of Ilorin, Ilorin, Nigeria while adapting the Big6 Skill Model of Eisenberg and Berkowitz (1990).

The Faculty of Communication and Information Sciences (CIS) was formally established via the decision of the Senate at its 193rd (Special) meeting held on 20th June, 2008. Part of that Senate decision was the movement to Faculty of Communication and Information Sciences (CIS) of the Department of Computer Science from the Faculty of Science; and the movement to Faculty of CIS of the Department of Mass Communication from the Faculty of Business and Social Sciences. In addition to the decision to move these two Departments, was also the decision to formally commence activities in the departments of Library and Information Science, Information and Communication Science, and Telecommunication Science. The Faculty of Communication and Information Sciences is the University's flagship faculty designed to take full advantage of multidisciplinary interactions of the science and technologies of computing, information and communication and its undergraduate curriculum is designed to reflect this.

### **Statement of the Problem**

With the advent of information need and information seeking behavior research, different models were proposed for identification of different stages involved in the information search process (Khan & Shafique, 2011). One of such models was Big6 Skill Model by Eisenberg and Berkowitz (1990). The Big6 skill model is a process model for solving information problem. The process is a systematic approach to information-solving that relies upon critical thinking skills.

A detailed review of literature revealed that a lot have been written on information need and information seeking behavior of various groups (unit of analysis), yet there is still a gap in the study of information needs and information seeking behavior as regard to (Eisenberg and Berkowitz, 1990) Big6 Skill Model, which recorded least adaptation from researchers. More so, to the best knowledge of the researcher, the information need and information seeking behavior of the Faculty of Communication and Information Sciences, University of Ilorin has not been carried out. Bridging this empirical gap as well as the dire need to evaluate the current state of affairs constitute the rationale for this study.

### **Research Objectives**

The broad objective of this study was to adapt Big6 Skill Model in assessing the information needs and information seeking behaviour of undergraduate students of the Faculty of Communication and Information Sciences, University of Ilorin, Ilorin, Nigeria. The specific objectives were to:

1. examine rate at which Big6 Skill Model is applicable to information needs and information seeking behavior of undergraduate;
2. identify the sources of information at undergraduate disposal; and
3. assess the undergraduates' preference as regard to sources and locations of information.

### **Information Needs and Information Seeking Behavior**

Information need denotes the state of anomaly of information seeker. Buttrressing this assertion was Kuhlthau (1993) who identified information need as vague awareness of something missing. Information treated in isolation is that needed in decision making so that uncertainty would be reduce. Information need is a generic term (because it hides more than it reveal) as there are several dimension to it. Information need of individual or group could range from educational, research, professional recreational, cultural and personal activities. It could be seen as a state or process started when one perceives that there is a gap between the information and knowledge available to solve a problem. In a more concise manner, it could be understood as the desire to locate and access information to satisfy a need. The rationale for studying information need could be delineated into: need to observed phenomena of information use or expressed need, prediction of information uses and improvement on information utilization. Elaborating understanding of information need was Taylor (1962) who identified four (4) levels of information needs. Thus the:

1. conscious and unconscious need for information not existing in remembered experience;
2. conscious mental description of an ill-defined area of indecision;
3. A rational and unambiguous description of the inquirer's doubts; and
4. The question as presented to the information system.

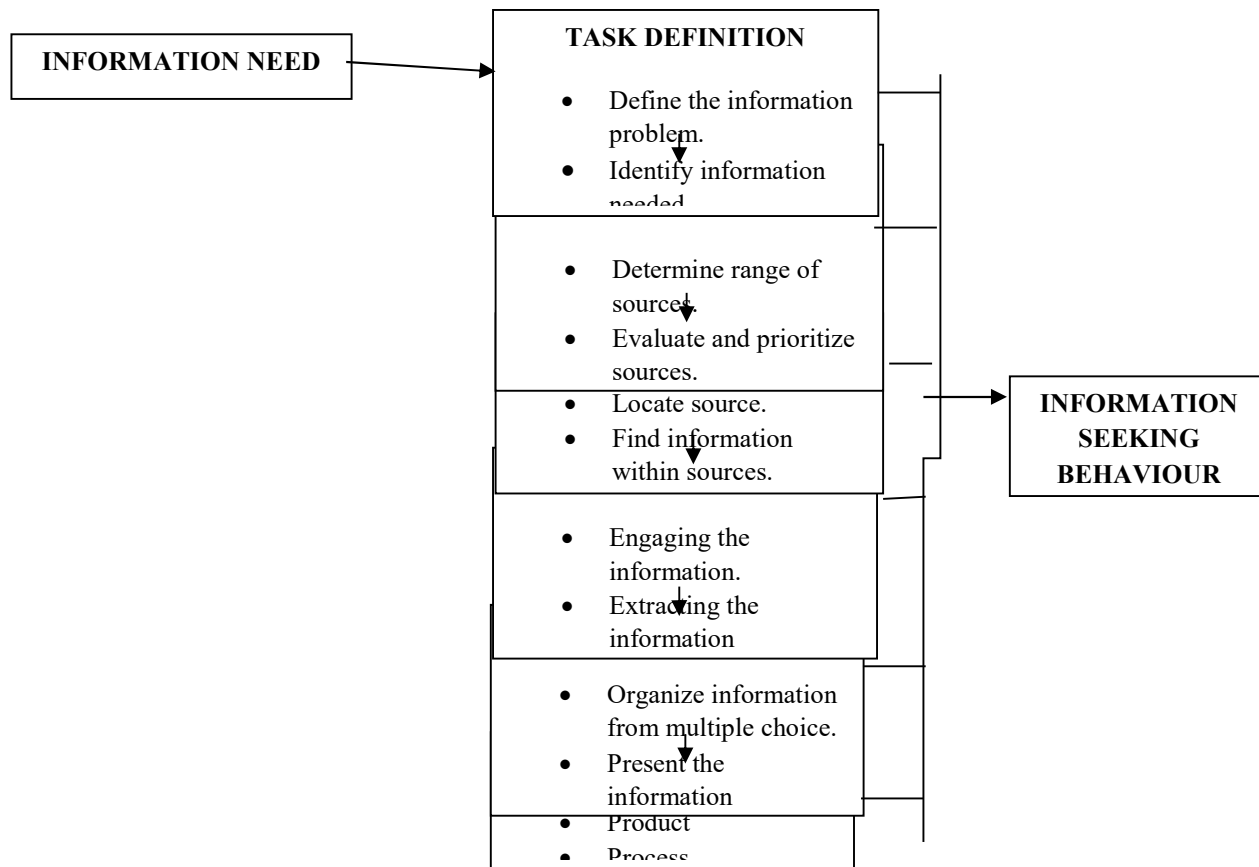
Information seeking behavior, on the other hand, could be understood from a point of view of behavior of the information searcher in interacting with information systems. Padma, Ramasamy, and Sakthi (2013) stressed that information seeking behavior is a broader term which involves a set of actions that an individual takes to express information needs, seek information, evaluate and select information, and finally uses this information to satisfy his/her information needs. Case (2012) defines information seeking as the conscious effort to acquire information in response to a need or gap in knowledge. Just in advocacy to that, El-Maamiry explained information seeking behaviour as human behaviour when they search for information to fill up a knowledge gap in a purposeful way. Information seeking behavior as describe by Tella (2009) is the individual ways and manner of gathering information for personal use, knowledge updating, and development. Khan and Hedge (2010) also opined that information seeking behavior is those activities a person engaged in when striving to fill a knowledge gap, utilized and as well transferred the knowledge. Information seeking behavior is mainly concern with who need what, kind of information, for what reason, how information is found, evaluated and utilized.

### **The Big6 Skill Model**

Eisenberg and Berkowitz (1990) developed this process which guide students information problem-solving as well as providing basic framework for information literacy. The Big6 skills consist of six stages thus:

1. Task Definition: In this stage, the student determines what the information problem is, and the specific information related to the problem.
2. Information Seeking Strategies: After task definition, focus turns to range of possible information sources appropriate to the define task.

3. Location and Access: This is where the information user located and accessed relevant information from various sources.
4. Use of Information: After location and access to sources of information, users extract information using note taking, citations, copying etc.
5. Synthesis: This is where extracted information from various sources are being restructured, repackaged into new idea or fact; new information is brought to play with link to pre-existing knowledge.
6. Evaluation: This is where the success of the information search process is being put to test.



Source: Adapted Big Six Skills Model (Eisenberg & Berkowitz, 1990)

### Empirical Studies

Fasola and Olabode (2013) carried out a study of information seeking behavior of students at Ajayi Crowther University, Oyo, Nigeria and result of their findings revealed that 66% of the respondents sought information for academic purposes and the library (62.8%) was their preferred place of searching for information resources, and that their course of study (47.6) influenced the format (55.4%) they want information in. Majority of the respondents (53.2%) also expressed satisfaction with the library for being able to meet their information needs. Baro, Onyenania and Osheni (2010) study of information seeking behaviour of undergraduate students in the humanities in Nigeria discovered that undergraduates mostly seek for information relating to their field of study as attested by 233 (93.2%) of the participants. Owolabi, Jimoh and Okpeh (2010) carried out a study of information seeking behaviour of students of Akanu Ibiam Federal Polytechnic, Unwana Nigeria, their findings shown that 285 (59.4%) of respondents seek academic related information.

Another study by Mahanjan (2009) which seek to assessed the information seeking behavior of students of Panjab University, India find out that students are more satisfied with the access tools (library OPAC) in the library for searching book and document. In congruence to previous studies, Oyadeyi (2014) study of information needs and information seeking behaviour among the students of Ondo State University of Science and Technology, Okitipupa, Nigeria, also reported that 51 (62.2%) of respondents attested to course-work and assignment as the major reason why they seek information. Consistency in outcome of the above studies indicated that academic performance is of great paramount to undergraduate students as compared to other information needs.

### Methodology

Descriptive survey was adopted in this study as phenomenon of information and information seeking behavior could not be observed directly without seeking the opinion of the respondents. Descriptive survey has a wide capacity for broad application in many field of study and is widely used in library and information science research.

### Study Population

The population for the study comprises of undergraduate students of Faculty of CIS, University of Ilorin, which consist of five (5) departments: Computer Science, Information and Communication Science, Library and Information Science, Mass Communication and Telecommunication Science. Their population as at 2017/2018 session stood at 1,627.

**Table 1: Faculty of Communication and Information Sciences' Population Table**

Departments	100 Level	200 Level	300 Level	400 Level	Total
Computer Science	93	115	125	154	491
Information and Comm. Sci.	66	68	69	72	275
Library and Information Sci.	140	86	74	37	337
Mass Communication	51	86	68	58	263
Telecommunication	100	50	53	58	261
<b>Grand Total</b>					<b>1,627</b>

Source: Faculty of CIS Undergraduate Students' Records

### Sample Size and Sampling Technique

A stratified random sampling technique was adopted to give every department and level of studies in the faculty adequate representative proportionate to their population. The Israel sample size determination table (Israel, 2003) was later applied to determine the sample size for the study. This sample size table states that for a population of 1,627, a sample size should be 333 at 5% precision level.

**Table 2: Israel Sample Size Determination**

The sample size for  $\pm 3\%$ ,  $\pm 5\%$ ,  $\pm 7\%$  and  $\pm 10\%$  Precision Levels where Confidence Level is 95% and  $P=.5$ .

Size of Population	Sample Size (n) for Precision (e) of:			
	$\pm 3\%$	$\pm 5\%$	$\pm 7\%$	$\pm 10\%$
2,000	714	<b>333</b>	185	95
3,000	811	353	191	97

Source: Israel Sample Size Determination Table (2003).

**Table 3: Sample Size**

<b>Departments:</b>	<b>Computer</b>		<b>ICS</b>	<b>LIS</b>	<b>Mass Com</b>	<b>Tele-Com</b>	<b>Total</b>
100 Level	19	13	29	10	21		92
200 Level	24	14	18	18	10		84
300 Level	25	14	15	14	11		79
400 Level	32	15	7	12	12		78
<b>Sample Sizes</b>	<b>100</b>	<b>56</b>	<b>69</b>	<b>54</b>	<b>54</b>		<b>333</b>

*Data Collection Instrument*

An instrument was designed for the collection of data in this study, questionnaire titled “Information Needs and Seeking Behavior Questionnaire (INISBQ)” (see the Appendix). The instrument was divided into 2 sections: section 1 of the questionnaire required the biographical data information and section (2) consisted of the items that captured data on the objectives of the study. The instrument was design in corroboration with the Six (6) stages in Eisenberg and berkowitz’s Big Six Skill Model. Items in each of the sections were tailored toward answering the research questions to achieve the objective of the study.

*Validity and Reliability of the Instrument*

To ensure content and construct validity mechanism, the INISBQ was given to five experts to check the appropriateness of language and the relevance of the contents for measuring what it was expected to measure. The comments and suggestions led to the modification of the items in the questionnaire, and thereby ensured the face and content validity of the instrument. (The Appendix provides the final version of the modified questionnaire). The reliability of the instrument was ascertained using a test-retest method with a 3-week interval. The results obtained were compared using Cronbach’s alpha and the reliability coefficient return of  $r=0.825$ . This justified the questionnaire as reliable for data collection.

*Data Collection Procedure*

Administration of the questionnaire was carried out in the Faculty of Communication and Information Sciences, University of Ilorin on the 26<sup>th</sup> 27<sup>th</sup> and 28<sup>th</sup> of February, 2018 by the researcher and two research assistants. The whole 333 copies of the questionnaire was fully completed constituting 100% returned rate.

**Data Analysis**

The data collected with the instrument, INISBQ was subjected to statistical analysis using frequency distribution and percentage.

**Table 4: Demographic Information of the Respondents.**

<b>Demographic Information</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Gender: Male	170	51%
Female	163	49%
<b>Total</b>	<b>333</b>	<b>100%</b>
Department: Computer Science	100	30%
Information and Information Science	56	17%
Library and Information Science	69	21%
Mass Communication	54	16%
Telecommunication Science	54	16%
<b>Total</b>	<b>333</b>	<b>100%</b>
Levels: 100	110	33%
200	70	21%
300	63	19%



400	90	27%
<b>Total</b>	<b>333</b>	<b>100%</b>
Age Bracket: 16-20	157	47%
21-25	117	35
26-30	49	15%
31 and above	10	3%
<b>Total</b>	<b>333</b>	<b>100%</b>

Source: Field Survey

The demographic information of the respondents in the table 4 above indicated that 170 (51%) of the respondents were male while 163 (49%) were female which illustrate almost equal distribution of gender but male students have more participants than their female counterparts. Out of the 333 respondents, 110 (33%) are in 100 level, 90 (27%) in 400 level, 70 (21%) in 200 level and 63 (19%) in 300 level. Similarly, 100 (30%) is from department of computer science, 69 (21%) from library and information science department, 56 (17%) from Information and communication science department, 54 (16%) from department of mass communication, and 54 (16%) from telecommunication science department. The majority of the respondents are within the age bracket of 16-20 which constitute 157 (47%), followed by 21-25 which recorded 117 (35%), age of 26-30 have 49 (15%) and 30- above recorded least distribution of 10 (3%).

**Table 5: Information Needs of the Respondents**

Information Needs	Frequency	Ranking
Information relating to my course work	333	1
Health Information	316	2
Information on research I'm working on.	211	3
Recreational information	181	4
Information about country politics	179	5

Source: Field Survey

This table showed the ranking of information need of undergraduate ranging from information relating to their course of study as their number one priority, followed by health information, research, recreation and country politics.

**Table 6: Task Definition of the Respondents**

Task Definition Remark	Agree	Disagree	
	Frequency (%)	Frequency (%)	
Defining the information problem	306(92%)	27(8%)	Agree
Identifying the information needed	296(89%)	37(11%)	
Agree			
Identifying the questions I needed to answer	316(95%)	17(5%)	Agree

Source: Field Survey

Result from the table revealed that 306 (92%) of respondents agreed to Eisenberg and Berkowitz's Big6 skill model which stated that information searching process started with task definition, followed by identification of the information needed to solve uncertainty at hand, which was also agreed upon by 296 (89%) of the respondents. Participants constituting 316(95%) also agreed on identification of questions information users needed to provide answer to as part of task definition required for information searching.

**Table 7: Information Seeking Strategies by the Respondents**

Information Sources	5(most preferred)	4	3	2	1(least preferred)	Mean	Ranking
The library	101	112	63	36	21	39.07	2
The internet	126	93	91	8	15	41.33	1
Friends	11	38	38	126	120	21.87	5
Expert	42	42	89	84	76	28.13	3
Personal collections	53	48	53	78	101	27.60	4

Source: Field Survey

Participants are asked to ranked sources of information, and the study revealed that the first port of call of most respondents is the internet which was ranked first, followed by the library which came second and expert, personal collection and friends which ranked third, fourth and fifth respectively.

**Table 8: Location and Access to information by the Respondents**

Information Access Point	Frequency	Ranking
News media	148	8
Library catalogue (OPAC)	299	2
Bibliography	169	5
Internet search engine	327	1
Database	268	4
Text books	282	3
Index and Abstract	164	7
Citation (reference)	167	6

Source: Field Survey

Participants were asked access point of information they were aware of and the study shown that undergraduate are more familiar with search engine than other access point, followed by library catalogue (OPAC), which ranked second, text books ranked third and databases, which ranked forth. The least in ranking are bibliography and citation, which ranked fifth and sixth respectively.

**Table 9: Use of Information by the Respondents**

Use of Information Remark	Agree	Disagree	
	Frequency (%)	Frequency (%)	
I engaged myself through reading	331(99%)	2(1%)	Agree
I summarized through highlight and note taking	280(84%)	53(16%)	Agree
I extracted information from sources I found useful	326(98%)	7(2%)	Agree

Source: Field Survey

Respondents constituting 331 (99%) agreed they fully engaged themselves in information search process by reading through all accessible information; 280 (84%) also attested highlighting and note taking after reading through all the gathered relevant information and 326 (98%) agreed they extracted only useful information. Participants accession to this process of information searching process indicated that Big6 Skill Model is still very relevance in today users information searching process.



**Table 10: Critical Analysis of the Gathered Information (Synthesis) by the Respondents**

Synthesis	Agree	Disagree	Remark
	Frequency (%)	Frequency (%)	
I extract relevant information from the information sources	333(100%)	0(0%)	Agree
I relate information extracted together	320(96%)	13(4%)	Agree
Information gathered was organized and assessed.	263(79%)	70(21%)	Agree

Table 10 revealed that information retrieved from various sources by undergraduate are subjected to scrutiny as the whole respondents, 333 (100%) agreed that they only extract relevant information from avalanche of information gathered, participants that constitute 320 (96%) also attested that they synthesis relevant information extracted together, and that the information that are synthesis were organized in systematic manner as agreed upon by 263 (79%) of the respondents. The study illustrated that respondents only extracted relevant information from various sources, and then relate information gathered together, and as well organized them for final presentation as suggested in Big6 Skill Model.

**Table 11: Information Evaluation by the Respondents**

Evaluation Remark	Agree	Disagree	Frequency
	Frequency (%)	Frequency (%)	
I checked for the scholarship authority of the information sources	250(75%)	83(25%)	Agree
I evaluated the information I derived from information sources	320(96%)	13(4%)	Agree
I checked for satisfaction and state of knowledge after search	280(84%)	53(16%)	Agree

Source: Field Survey

The table above indicated that respondents embarked on evaluation of both process and product after every search for information as 75% (250) of respondent agreed to checking of Scholarship authority of the sources, 96% (320) agreeing to assessment of level of satisfaction as well as level at which information problem raised initially have been solved.

### Discussion of the Findings

The findings from this study proved beyond reasonable doubt that the Big6 Skill Model of Esienberg and Berkowtz is highly prominent and relevant in information searching process of the undergraduates. The study demonstrated that the model is still very much relevant in today digital age and globalization.

The findings of the study revealed the information need of undergraduate to be information relating to their course of study, followed by health information, research, recreational and country politics respectively. This result is in consonance with Fasola and Olabode (2013) study of information seeking behavior of undergraduate of Ajayi Crowther University which also indicated information for academic purpose as the major information needs of undergraduate. This finding also tally with Oyediji (2014) study of information needs and information seeking behaviour among the students of Ondo State University of Science and Technology, Okiti-Pupa. Also in congruence with the current study was Baro, Onyenania and Osaheni (2010) study of information seeking behaviour of undergraduate students in the humanities in Nigeria, which also reported academic related information as the major need of undergraduate. Another study with similar result was Owolabi, Jimoh and Okpeh (2010) study of information seeking behaviour of students of Akanu Ibiam Federal Polytechnic, Unwana Nigeria.

Respondents were asked to ranked information sources at their disposal and they ranked internet to be their most preferred information source, and this result is in corroboration with Adeboye and Tella (2007) study of information seeking behavior of undergraduate in University of Botswana which observed internet as the most consulted information source.

## Conclusion

Evidence from this study was that Big6 Skill Model is still very much relevant in information search strategies of undergraduate. Most of the respondents assert to fact that they strive to define their information problem in order to identify what information is needed for task at hand (Task Definition). They were in hurry to search internet for information as they have quick access to the internet and subsequently to Library OPAC with their Laptops and Tablets before consulting an expert, personal collections and friends (Information Search Strategies). The following access tools are within their reach; internet search engines, library OPAC, textbook, databases, and others (Access and Location). Respondents engaged themselves through reading so as to determining relevant sources (Use of Information). They retrieve and extract relevant information which they reorganized and synthesis. In the end of every search, respondent evaluated the process and the end product of every search (Evaluation). The study also established that the undergraduates understand the importance of information for their academic performance as well as knowledge updating. Most of the participants prefer internet as their primary source of information because students from Faculty of Communication and Information Sciences (CIS), University of Ilorin have access to the internet and as well owns a laptop/tablet individually as mandated by the university authority.

## Recommendations

The result of study's findings gives rise to some recommendations to enhance information searching skills of undergraduate and also improve further studies in information needs and information seeking process/behavior. IL skills should be adopted in the curriculum of all undergraduate irrespective of field of study, as this would prepare them not only for labour market but personal development. This skill will enable them to identify when there is a need for information, know the right sources of information, how the resources is being organized, the retrieval tools, evaluation of sources, utilization of the information.

The university libraries should improve their present in an online environment, as users are becoming technology savvy. This online present should re-enforce marketing of library services to users.

Studies on information need and information seeking behavior need to be encouraged as the information gathered in the study helped in making an informed decision on how libraries and other information providers can provide dynamic information services to users.

Study on model testing should also be encouraged in order to test relevance of such model to current trends and also to improve on them where it is necessary.

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