



**INFORMATION NEEDS AND SOURCES OF INFORMATION USED BY MINING  
ENGINEERING STUDENTS AT THE FEDERAL UNIVERSITY OF TECHNOLOGY,  
AKURE LIBRARY**

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**ABSTRACT**

*The study examined the information needs of mining engineering students at the Federal University of Technology, Akure. It also investigated the various information resources used by the students especially when they visited the library. The study was based on the assumption that most mining engineering students seldom used the library to satisfy their academic needs. Random sampling technique was used to select one hundred and ten students for the study. Copies of the questionnaire designed for the study were administered to all the selected respondents who were undergoing graduate and post graduate programmes. Only ninety-seven of them were returned and found usable. Students consulted for the study included those in their 2<sup>nd</sup> year (11 or 11%), 3<sup>rd</sup> year (19 or 20%), 4<sup>th</sup> (25 or 26%) and 5<sup>th</sup> year (33 or 34%), respectively. The opinions of 7 (7%) master students and 2 (2%) PhD students were also sought in the study. The study revealed that 37 (39%) FUTA mining engineering students occasionally visited the library, while 59 (61%) of them used it at various frequencies. Education (52%) ranked the highest as respondents' predominant information need. In order of preference, respondents were found to seek information on politics (21%) entertainment (16%) and health (11%), respectively. Rationale behind non-use of library information resources include-; difficulty in locating library materials (32.1%), unconducive reading environment (14.3%) and laborious card renewal exercise (7%). Challenges respondents claim to encounter in their attempt to use library materials include-; lack of adequate current textbooks in their field of study or related fields and inability to locate information materials. The latter may be comprehensible as most of the respondents (50 or 26%) perceived physical book collection as the most important service in the library. The study recommended the provision of information resources for all courses offered in the university. Also, library policy regarding card renewing exercise for students at the beginning of every session should be reviewed to meet latest ICT standards for library operations. Organizing user education programmes at regular intervals is also advised in order to create awareness of library operations and services.*

**Keywords:** *Information needs, Information resources, Mining engineering students, Library, Federal University of Technology, Akure*

**Introduction**

Over the years, institutes of technology are known to have played significant roles in the advancement of technical education and in the application of existing technologies for daily use in homes, schools, businesses, industries and in the society at large. In contemporary times, institutions of technology are regarded as institutions of higher education, advanced engineering and scientific research. They are also viewed as professional and vocational education institutions which specialize in science, engineering, technology or other kinds of technical subjects. The Federal University of Technology, Akure (FUTA) was ranked the first university of technology in Nigeria by webometrics in 2015 (<http://en.m.wikipedia.org/wiki/>). Up till present, it offers specialized programmes in subjects including those in Sciences, Engineering and Entrepreneurial Studies. Established since 1982, it now has eight faculties or schools. They include; School of Agriculture and Agricultural Technology



(SAAT), School of Engineering and Engineering Technology (SEET), School of Environmental Technology (SET), School of Science (SOS), School of Management Technology (SMAT), School of Earth and Mineral Science (SEMS), School of Health and Health Technology (SHHT) and School of Postgraduate Studies (SPGS). Mining Engineering as an academic programme is placed as a department in the School of Engineering and Engineering Technology. Students undertaking the course are expected to be trained and equipped with appropriate knowledge and skills required to operate in a mineral and oil industry. Also, it is expected that graduates of Mining Engineering should perform effectively in mining, processing and marketing of minerals in the mineral and oil sector of the nation's economy.

Universities are becoming increasingly aware of the need to graduate engineers with creative minds capable of designing new products and services, equipped with methods of recognizing market trends, detecting people's needs as well as evaluating social challenges (Morris, Web & Singhal, 2003) cited in (Chmykhalo, Khaliulina & Mikhailova, 2017). In order to successfully achieve this, engineering students particularly those majoring in Mining Engineering must be able to access relevant information resources to meet their information needs especially such that are pertinent to their course of study. The main objective of university libraries include the support of teaching, learning and research via means that are in accordance with the institution's mission and goals. They are expected to serve teaching and research needs of students and staff. (Okpokwasili, Afolabi & Solomon-Uwakwe, 2017). Federal University of Technology, Akure Library which is also known as Albert Ilemobade Library, endeavours to fulfill the institution's goals and objectives by acquiring relevant information materials in all the courses offered by the University. Information resources contained therein reflect most of the courses undertaken by students within the university.

### **Statement of the Problem**

Emerging trends in information and communications technology has enhanced the professional requirements of most engineering disciplines. As earlier emphasized by Chmykhalo, Khaliulina & Mikhailova (2017), engineering graduates of any field should be creative and equipped with various means of identifying latest marketing trends with the intent to meet the needs of the general populace. In order to achieve this, information needs of engineering students particularly those in mining engineering should be adequately met even from their institutes of learning. However, as shown by some studies, students still grapple with the tiresome task of accessing information resources for academic and professional use (Adeleke & Emeahara, 2016; Ekere, Omekwu & Nwoha, 2016).

There still exists inadequacy of information materials in print and electronic form in Nigerian academic libraries. Some the reasons given for this include; paucity of funds, little or no awareness of existing resources, poor ICT resources and equipment and low internet connectivity among others. Some of these challenges have made students and researchers bereft of relevant information materials that are essential for the completion of their work. This intellectual void and several other consequences that reflect academic frustration and lack of professional fulfillment bring about the need to investigate the information needs of mining engineering students and sources of information they use at the Federal University of Technology Library, Akure.

### **Objectives of the Study**

The objectives of the study are to:

- identify the course level of respondents used for the study;
- find out various information needs of mining engineering students;
- ascertain information sources used by mining engineering students;
- examine the frequency of library use by mining engineering students;
- investigate the problems affecting effective use of library resources by mining engineering students and;
- identify reasons for non-use of library materials among mining engineering students.

### **Literature Review**

Information refers to anything that can be known about a given topic. It can be defined as knowledge or fact learned about a specific subject or event. (The American Heritage Dictionary of English Language, 2016). Every piece of information should have the ability to inform, enlighten or dispense knowledge. In this study, information sources will share similar attributes with the concept of information as they will refer to anything that may inform or provide knowledge in a given subject. Information sources provided within institutions like the library have one primary function which is to meet basic information needs of clientele or library users. Miranda and Trapanoff (2008) as cited by Odefahan, Akinola and Odefahan (2016) explained information need as state or process which begins when one perceives that there is a gap between information and knowledge available to solve a problem and the actual solution of the problem. Barner and Tal (2012) emphasized this concept when they described information need as a gap or anomaly in one's state of knowledge which he or she endeavours to resolve. Furthermore, Nicholas and Herman (2009) believed that the need for information should drive individuals to do their jobs effectively, solve problems satisfactorily and pursue hobbies or issues of interest happily. In an ideal sense, information need is a major propeller to seeking information for constructive use.

Ramaniah (2010) mentioned seeking for information as the first among eleven reasons why people read. According to him, the quest for knowledge in individual areas of interest has motivated many people in present day society to read and consult information materials outside academic contexts. However, tertiary learning involves in-depth reading and study in order to satisfy information and research needs and achieve academic excellence. Several studies have investigated the information needs and information sources used by students and academics in tertiary institutions. Hussain, Kumar, Fatimar and Kumar (2010) investigated the information sources and services exploited by doctors, faculty members and students at the National Medical Library in India. A total of 492 respondents were consulted for the study using a random sampling technique. Major reasons for using the library as was discovered in the study included borrowing and returning of books, engaging in light reading and accessing the internet for research purpose. Findings also revealed that most of the respondents (87.5%) preferred the use of books to meet their information needs. This was closely followed by (86.25%) of respondents who had preference for the use of current periodicals.

This result however differed from that of Iwara (2015) who indicated that journal articles (57.4%) were more required for research work than textbooks/monographs (19.4%) by Institute of African Studies students of the University of Ibadan, Nigeria. According to her, predominant information needs met whenever the respondents used the library included academic information (54.8%) employment information (20%) and information for personal development (12.3%). Researchers would seem to be more comfortable with the use of printed resources for academic purposes as the findings from an experiment conducted by Ackerman and Goldsmith (2011) and reported by Tanner (2014) revealed. The study that centered on students' learning pace via digital and paper resources showed that the group of students who used pen on paper and studied from printed texts had a performance of 72.3% while their electronic-learning counterparts scored 63.2%. This is to say that students performed better academically when they read or study using printed information resources. This therefore alludes to the fact that in spite of widespread knowledge of electronic resources, printed information sources may never go into extinction solely because of their convenience in use.

The advent of information technology has brought about interesting ways of accessing information. According to Buhari (2016), the Internet has facilitated access to unlimited information from various sources and increased electronic resources use by clientele. A study by Das (2014) on the information needs and seeking habits of engineering students in the digital environment showed that 190 of 240 respondents consulted for the study were aware of e- resources and use them for their course work. In the report of Edem and Egbe (2016) cited by Omeluzor, Akibu and Akinwoye (2016) on the availability and utilization of electronic resources by post graduate students in a Nigerian university library, a sizeable number of respondents (86.39%) indicated that they met their information needs mainly through the use of electronic sources. These findings suggest that some tertiary education students are aware of existing electronic information resources and may use them for research purposes. For any academic library to provide adequate and qualitative services there is

need for the library to be equipped with relevant and quality information resources in both print and electronic format (Buhari, 2016). According to him, these resources include those highlighted by Popoola and Haliso (2009) namely; textbooks, journals, indexes, abstracts newspapers and magazines, reports, video recordings, Internet/ e-mail, CD-ROM databases, computers and other forms of storage devices. Information resources relating to mining engineering subjects should be made available in libraries to satisfy information and research needs of mining engineering students and scientists.

However, in this era of information overload, busy students, academics and researchers grapple with the need to access relevant materials as they have volumes of such from which they must extract what is useful for them. For them to be successful, the expertise of librarians or information specialists would be needed to sift from a very vast amount of information resources; relevant and usable information relating to their various research interests. This study therefore intends to emphasize the provision of adequate, relevant information resources as a major means of meeting information needs of academic users especially mining engineering students for the attainment of high academic excellence and exceptional professional relevance in academia and in the mineral and oil industry.

### **Methodology**

The survey design involving the use of questionnaire which is a data collecting instrument was adopted for the study as it allowed easy access to a relatively large population. The six objectives formulated to guide the study were found effective and useful to collect data and examine the information needs and sources of information used by mining engineering students at the Federal University of Technology, Akure, Library. A simple random sampling technique was used to select a sample size of one hundred and ten mining engineering students over a one week period. Ninety-seven copies of the questionnaire were returned and found useful. The questionnaire comprised fifteen questions which included queries on respondents' background, their preferred choice of information resources, media through which they obtain information materials in the library to meet their information needs as well as difficulties they encounter during the use of these resources. The study used frequency counts and percentages for data analysis.

### **Results and Discussion**

Data collected from the study focused on the information needs of mining engineering students and the library materials they sought to meet these needs. Information about their background and media through which these information sources are obtained in the library were sought. Information on the challenges experienced during access and use of the information sources by mining engineering students was gathered from ninety-seven respondents that participated in the study.

**Table 1: Distribution of the Respondents by Level of Study**

<b>Level</b>	<b>No of Respondents</b>	<b>Percentage</b>
200	11	11
300	19	20
400	25	26
500	33	34
Masters	7	7
Ph.D	2	2
<b>Total</b>	<b>97</b>	<b>100</b>

Of the 97 respondents used for the study, 11 (11%) of them were 200 level students and 19 (20%) were 300 level students. Respondents in their fourth year were 25 (26%) while 33 (34%) of them were in their fifth or final year in the university. Only nine (9) postgraduate students could be reached at the time of the study; 7 (7%) were masters students while the rest 2 (2%) respondents were undergoing Ph. D programmes as is indicated in Table 1. Opinions of students in their first year were not consulted during the study as most of them were relatively new and may not be active users of the

library at the time of the study. Moreover, as entry level students, they may not appreciate the use of library materials as those in higher classes.

**Table 2: Gender of Respondents**

Gender	No of Respondents	Percentage
Male	75	82
Female	16	18
<b>Total</b>	<b>91</b>	<b>100</b>

Table two shows that 91 of 97 respondents indicated their gender revealing a total of 75 (77.3%) respondents as males and 16 (16.5%) of them as females. The wide margin strongly affirms the general belief that very few of the female gender are inclined to taking up vocational training in engineering related fields.

**Table 3: Frequency of Library Visits**

Frequency	No of Respondents	Percentage
Daily	8	8
Thrice in a week	14	15
Twice in two weeks	10	10
Twice in a month	-	-
Once in a month	2	2
Occasionally	37	39
Never	25	26
<b>Total</b>	<b>96</b>	<b>100</b>

The students were asked how often they visited the library. Table 3 shows their responses indicating that (8 or 8%) of the respondents visited the library daily. Three times a week 14 (15%) respondents patronized the library while (10 or 10%) of the respondents used the library at least two times in two weeks. A few respondents (2 or 2%) went to the library once a month. Majority of the respondents (37 or 39%) occasionally use the library to meet their information needs while (25 or 26%) of the respondents disclosed that they had never visited the library. This account revealed that not very many mining engineering students use the library. It also showed how poorly the students use the university library for academic purposes.

**Table 4: Information Needs of Respondents**

Needs	No of Respondents	Percentage
Education	50	52
Politics/ Current Affairs	20	21
Entertainment	15	16
Health	11	11
<b>Total</b>	<b>96</b>	<b>100</b>

Regarding the information needs of respondents, table 4 shows that 50 respondents representing 52% sought information on education. This finding aligns with that of Iwara (2015) which showed a larger percentage of respondents seeking information resources to meet educational needs. Respondents who visited the library to seek information on politics were 20 (21%) while 15 (16%) and 11 (11%) respondents patronize the library to meet their needs on entertainment and health related issues respectively. Only 1 respondent indicated no information need.

**Table 5: Respondents' Reasons for Non-use of Library Resources**

Reasons	No of Respondents	Percentage
Difficult access to library materials	9	32
Unconducive library environment	8	29
No current textbooks	4	14
Laborious card renewal exercise	3	11

Too busy to visit the library	2	7
Adequate personal class materials	2	7
<b>Total</b>	<b>28</b>	<b>100</b>

People usually have reasons for using information or information resources. Similarly, reasons abound when information resources are under-utilized or not utilized as is the case shown in Table 5. Out of 97 respondents who filled the questionnaire, only 28 of them gave reasons for not using information materials in the library. Majority of them (9 or 32.1%) claimed to have difficult access to library materials. Following closely in ranking are respondents (8 or 28.6%) who claim to find the library and its environs uncondusive for reading. Some respondents (4 or 14.3%) indicated that there are no current textbooks in the library while 3 (11%) respondents described the library card renewal exercise as being too laborious. The least number of respondents (2 or 7%) each claimed to be too busy to visit the library and have enough reading materials, respectively.

**Table 6: Perceived Importance of Library Information Sources**

Information Resources	Very Important	%	Important	%	Neutral	%	Un-important	%
Textbooks	70	25	15	8	-	-	-	-
Books	60	22	19	10	-	-	-	-
Face to Face	57	21	21	11	14	2.8	3	8
Internet	35	13	37	20	10	9	5	13
Journals	20	7	26	14	28	25	13	34.2
Newspapers	18	6	34	18	29	26.6	10	26
E-mail	16	6	35	19	28	26	7	18.4

Findings from the study as shown in table 6 revealed various resources used by respondents according to their perceived level of importance. In tackling school assignments or conducting researches, most respondents (70 or 25%) perceived the use of textbooks a more regular and reliable source of academic information. Next in ranking are respondents (60 or 22%) who considered books apart from textbooks as very important sources to be used when carrying out academic tasks. Ranking third place are respondents (57 or 21%) who considered physical interaction with other people as a very important source of information. Respondents who believed internet sources are very necessary to use while seeking information for academic purposes were 35 (13%). Also, 16 (6%), 16 (6%) and 20 (7%) of the respondents are of the opinion that e-mail, newspaper and journals respectively, are very important to consult while conducting research. This is further emphasized as the statistics recorded became lower for those who perceived the use of e-mail (7), newspapers (10) and journals (13) as not important while seeking information for academic purposes.

**Table 7: Perceived Importance of Library Services**

Library Services	Very important	%	Important	%	Neutral	%	Unimportant	%
Physical book collection	50	26	25	13	6	5	2	3
Study/reading space	39	20	20	11	17	14	5	7.5
Electronic book collection	35	18	37	19	10	8	5	7.5
Access to current electronic journals	21	11	20	11	25	20	14	21
Assistance from library personnel	21	11	20	11	19	15	18	27
Library database	18	9	39	20	17	14	9	13
Document delivery	11	5	28	15	29	24	14	21

Table 7 reflects the level of importance respondents attach to various services in the library especially as it affects their use of the library. More than half of the respondents 50 (26%) were of the opinion that the physical book collection plays a very important role in enabling them access pertinent, relevant information for their school work. Some respondents (39 or 18%) considered conducive reading space as an important library service they would need. Some other group of respondents (39 or 20%) and (37 or 19%) perceived the provision of a comprehensive library database and a vibrant collection of electronic resources respectively, as important services the library should render. This was closely followed by document delivery which rates 15% as a library service that is required to enhance readership and effective use of library resources. Though (18 or 27%) and (14 or 21%) of the respondents respectively, viewed receiving assistance from library personnel and accessing current journals as not very important library services, 21(11%) respondents each regarded them as basic services required in enabling clientele to maximally use library information resources.

### Challenges in Library Information Resource Use

Challenges encountered by mining engineering students during the use of information resources in the library as revealed from their statements include:

- The library’s lack of adequate current textbooks in their field of study or related fields.
- Little or no awareness on how to locate library materials.
- Poor internet access in the library.
- Laborious card renewal exercise
- Unconducive library environment

### Conclusion and Recommendations

Most of the students used library materials especially textbooks to meet their academic needs and to complement their school work. However, some of the students have not enjoyed the maximal use of the library owing to inadequate library materials in their field of study or related fields. The provision of current information materials including electronic information resources will attract more mining engineering students to the library and will help to improve their perception of the library and its services. In order to effectively meet the information needs of mining engineering students of the Federal University of Technology Akure, this study recommends the following:

- There should be adequate provision of information resources that covers all subject areas including mining engineering in the library.
- Library policy regarding card renewal exercise should be reviewed. Full automation of the library should be encouraged. This will prevent students and other users from standing on long queues to get their registration cards renewed and will help them make maximal use of the time they spend in the library.
- Federal University of Technology, Akure Library should facilitate internet access by providing all the infrastructure and accessories required to establish strong internet connectivity so that



users including mining engineering students can benefit from existing or new information and communications technologies.

- Apart from orientation programmes held for entry level students, the library administration should allow for regular formal or informal orientation sessions in order to create awareness of available library services and resources and how these information resources can be easily accessed. Publicity regarding this should be done in various schools or faculties and departments to inform staff members and students of the library's operations and to encourage them to use the library.
- The university administration should provide funds to equip the library with adequate and appropriate furniture, equipment and resources. This will enable the library to meet up with the specifications for present day ICT driven libraries that accommodate more relaxed and conventional ways of study. Furthermore, it will attract students, researchers and academics to use the library for academic or research purposes.

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