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FACTORS AFFECTING THE PATTERN OF INFORMATION USE BY FINAL YEAR UNDERGRADUATE STUDENTS IN FEDERAL UNIVERSITY LIBRARIES OF NORTH CENTRAL, ZONE, NIGERIA

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FACTORS AFFECTING THE PATTERN OF INFORMATION USE BY FINAL YEAR
UNDERGRADUATE STUDENTS IN FEDERAL UNIVERSITY LIBRARIES OF NORTH
CENTRAL, ZONE, NIGERIA

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Abstract

The aim of this study was to investigate the information use pattern of final year undergraduate students in North-Central Nigeria. Specifically, five purposes and research questions guided the study. It adopted a descriptive survey design and had a population of 3365 registered undergraduate final year student library users from three selected federal universities. The study used proportionate stratified random sampling technique to sample 200 final years Undergraduate library users. From the above population two hundred (200) questionnaire were distributed with one hundred and eighty five (185) returned; representing a return rate of 93%. The data collected were analysed using descriptive statistics of frequency tables and mean scores. And the decision rule for research questions one through five was based on whether the mean score value was lower than or equal to and above the criterion mean value of 2.50 for either rejection or acceptance. The findings of the study revealed that: final year undergraduate student uses graphical, research, bibliographical, product, patent information among others in their university libraries; Other findings of the study were that both personal, environmental, professional, social and technological factors affects the patterns upon which they use their information; and provision of adequate information, systematic planning time schedule for use of information as well as the provision periodic training in technicality for the use of information resources are adequate strategies for improving the information use pattern of students. Finally, this study recommended the provision of conducive atmosphere/condition/equipment towards amelioration of the state factors that impede the information use pattern of undergraduate library users of federal universities in the zone.

CHAPTER ONE

INTRODUCTION

Background of the study

The pattern of use of information by the final year students and indeed every other students in the university is of utmost importance so that they may be guided. The word pattern refers to “a regular and intelligible form or sequence discernible in the way in which something happens” OR “an excellent example or model for others to follow” OR “a model or design for doing something (Hornby, 2010). From this definition, it connotes that the word pattern seeks to show how something is being used, the tools cum methods used and the purpose of use. From a psychological point of view, pattern according to Philip (2002) refers to a model of behaviour that is systematically designed to be used by a person or group of persons who functions in a given setting, environment or units. Collectively, the term pattern can be defined as a reliable sample of trends, arts, tendencies or other observable characteristics of a person, groups or situation.

Therefore, in this study the term pattern are viewed from the perspectives of the frequency of use, format of use and mode of searching information resources. Subsequently, it follows that the pattern of information use relates to the series of ways or processes that together show how information are normally utilized in an information centre. In this regard, pattern of information use can as well be seen as a model or design for the use of information. Thus, the kinds of information resources used by students, their pattern of using such information, purpose for such pattern of information use, and strategies for improving on the problems encountered by students in such patterns of information use are as highlighted below.

In a university environment, students make use of varying kinds of information resources depending on their area of study. Specifically, they use such information resources

as factual, biographical, graphical, statistical, products, patents, research, professional, online and digital among others (Northern Virginia Resource Centre, 2013). The Centre further stated that these varying information materials ranging from books, journals, reference materials, patents, to non prints material which students extensively use are encapsulated in the varying kinds of information pattern.

In addition, students pattern of information use according to Research Information Network (2009), are series of actions or stages such as identification of information needs (that is what exactly the student needs) in the form of queries; searching for the needed information (via library catalogues, google search, mails, interaction with the resource persons in the library); collection of needed information (ie. Information gathering and collation from the library); organisation of the needed information (through note making, outlining of points and summary); interpretation of the collected information (via tagging of the collected information to the enquiries queries); storage of the collected information (by printing it, archiving, saving in e-mails boxes, etc); and the use of information (for class work, assignments, seminar reports and project reports). From this scenario, it could be observed that the pattern of use of information by students are accomplished in stages and are thus cycled events. This is because as soon as the information is used by the student for the intended purpose (s); the cycles starts again, as the students have unsatisfactory needs for information (Rani, 2009).

However, there exist hindrances and or factors as regards students' pattern of information use. Akira and Paivi (2010), in that respect argued that many factors militate against student's pattern of information use. These, according to the authors include lack of technical/special knowledge; insufficient general knowledge base; lack of critical thinking; emergence of new perspectives in information management; and unstable emotional fulfillment among others. Similarly, Akira and Paivi further found out that other factors that

hinders the students' pattern of information use includes, the complexity of the information itself; the form of existence of information; the level of organisation of information in libraries and accessibility status of the information. In view of the above, it is evident that hindrances to the students' pattern of information use collectively emanated from the student, the information itself and the library.

Irrespective of the extent of hindrances, there are strategies for improving the students' patterns of information use. In this regard, Akira and Paivi suggested such strategies to include: possession of sound technical/special knowledge by the students; broad general knowledge base; possession of critical and creative thinking on the part of the students as well as the provision of non complex and easy to understand information materials in the libraries; provision of information in form that will be readily accessible by students; and improving the accessibility levels of information to students among others.

The provision of the above strategies becomes imperative as university libraries of third world / developing countries lacks physical and current information resources capable of fostering lasting and uninterrupted teaching and learning in the university. Moreso, with the Nigerian students paying less attention to their university libraries' instruction programme (though most at times not detailed); they found it very difficult to make effective use of the information resources at their disposal. Similarly, the datedness of the information resources as well as the environmental condition of the libraries (climate, temperature, light, noise and security) limit students from the use of information resources therein least the modeling of the use for it (Doraswamy, 2012). These indeed according to Doraswamy are the situation of things at the university libraries of sub-saharan Africa which militate against the structuralized ways of information utilization by students.

Subsequently, having discussed the concept of university libraries, information, students, types and kinds of information, patterns of information use; purpose (s) for the

pattern of information use, factors/hindrances to the pattern of information use, and the strategies for improving the patterns of information use among students of north-central federal university libraries vis-à-vis the location and area of establishment of those university libraries.

Statement of the Problem

The researcher found out that despite the fact that students and mostly final year students spend enormous time in the library in the quest for information, they often complain of not having their information needs fully satisfied. This circumstance could be as a result of some factors affecting the pattern of information use adopted by the students. Similarly, it could be that undergraduate student seeks for information without a structured pattern of use for such information, which may account for their inability to satisfy their goal of utilizing the information needed.

This study is conducted to fill this gap. It has become imperative because no specific study seems to have been carried out on factors affecting the pattern of information use by final year undergraduate students in Federal University Libraries in North Central, Nigeria.

Purpose of the Study

The general purpose of this study is to investigate pattern of information use by final year students in federal university libraries in North-Central Zone of Nigeria. Specifically, the study intends to:

1. Ascertain the pattern of information use (that is frequency, format and mode of use) by final year undergraduate students in federal university libraries in the zone.
2. Determine the factors affecting the pattern of information use by final year undergraduate students in federal university libraries in the zone.

3. Determine the strategies for improving on the pattern of information use by final year undergraduate students in federal university libraries in the zone.

Research Questions

The following research questions will guide the study:

1. What are the patterns of information use (that is frequency, format and mode of use) of final year students in federal university libraries in the zone?
2. What are the factor(s) affecting the pattern of information use by final year students in federal university libraries in the zone?
3. What strategies could be adopted for improving the patterns of information use of final years' students in federal university libraries in the zone?

Scope of the Study

This study will cover North-Central Zone of Nigeria. The zone is composed of Kogi, Benue, Kwara, Nasarawa, Niger, plateau states and the Federal Capital Territory (FCT), Abuja. However, the study will be conducted in three selected federal university libraries. These include university of Jos library in Plateau state, federal university of technology library, Minna in Niger state; and federal university of agriculture library, Makurdi in Benue state. The study will restrict itself to the investigation of the pattern of information use by final year students encompassing types of information used; patterns of information used; purpose(s) for the pattern of information use; factor(s) affecting the pattern of information use; and the strategies for improving the patterns of information use. Finally, the study will use the opinion of final year undergraduate students of three faculties of sciences, engineering, education and arts from the selected universities.

REVIEW OF RELATED LITERATURE

University Libraries

In general, Uzuegbu (2012) opined that apart from the role of the university libraries in teaching, learning and research, it must collect, preserve, promote and disseminate information to her users. Thus, the university libraries are organized to meet the information needs of the students, staff and school/faculty members of the universities. In view of this, the university libraries as an academic library are essentially the heart of the institution that provides the students, lecturers and research scholars with the tools for the acquisition and advancement of knowledge (Chaturvedi, 1994). Therefore, based on the afore stated roles of university libraries, they are indeed the most essential library across the universe courtesy of its statutory role in education and research globally. Subsequently, the users of university libraries especially students expects the library to make available directly or remotely and in real-time the needed information resources and services, formats notwithstanding (Anunobi and Edeka, 2010).

Information is broadly refers to as accurate, timely, specific and organized data that are presented within a context that gives it meaning and relevance to an increased understanding and a decreased in uncertainty of facts (Web-Finance, 2013). From the definition of information, it follows that information simply means processed data that are meaningful for decision making (that is raw facts that has been processed and organized for use by its intended users). Hence, information use denotes the state of using information for an intended goal of satisfying the users' needs (Oyinkepreye, 2012). According to the author, the quest for information use relates to:

- ❖ The conscious and unconscious need for information not existing in the remembered experience of the investigators (querying of information sources).

- ❖ The conscious mental description of an ill-defined area of decision (inquiry from an authority in the field).
- ❖ Forming of a rational statement of a question (the rational and unambiguous description of the inquirer's doubt).
- ❖ The question as presented to the information systems (databases).

The term pattern connotes a number of meanings from varying authorities. Business Dictionary (2010) defined pattern as consistent and recurring characteristics or trends that helps in the identification of a phenomenon or problem and serves as an indicator or model for predicting its future behaviour. The source further proclaimed that pattern relates to a model or original used as an archetype that are worthy of imitation. In these circumstances, pattern refers to a plan, method, model or diagram used as a guide in making something. From a psychological point of view, pattern according to Philip (2002) refers to a model of behaviour that is systematically designed to be used by a person or group of persons who functions in a given setting, environment or units. Collectively, the term pattern can be defined as a reliable sample of trends, arts, tendencies or other observable characteristics of a person, groups or situation.

Users of information especially the undergraduate students certainly have pattern upon which they use such information. It is in line with this that scholars across the globe implicitly and explicitly contributed their quota on the pattern of use of information. Vijayalaxmi and Maheswarappa (2001) stated that the principle pattern of information use by students relates to the frequency of use of such information. To them, students, depending on their time schedule, fashion out how they intend to use information at their disposal either in their libraries or elsewhere. The authors also emphasized that as information is an essential commodity for the sustenance of teaching and learning in an academic environment, the

frequency of use of such information becomes imperative. As such, they were of the opinion that information is used by students in relation to their time frame. Hence according to them information is used hourly, daily, weekly and monthly depending on how urgent it is needed.

In another development, undergraduate students base their pattern of information use on the format of the information itself (Akande, 2013). In this aspect, Akande opined that information format undermines the pattern upon which students use such information. According to the author, students, based on their favoritism may decide to use particular information simply because of the format that information is packaged. In this context, the author is of the view that information appears in varying formats as such as textual, pictorial, graphical, and electronical (digital), among others and students use them based on their affinity for a particular format. Akande further argued that some students are addicted to using textual information where as others may prefer electronic (digital), pictorial, graphical information, e.t.c.

Psychologically, central to the pattern of information use by undergraduate students, in relation to format of the information Odunewu and Omagbemi (2008) reported that students of this millennium have preference for electronic (digital) information and occasionally patronize textual, pictorial, and graphical information. Therefore, from their assertion it follows that information format plays an important role in shaping and reshaping the pattern upon which undergraduates student uses information in fulfilling their desired academic, research and recreational needs.

Doraswamy (2010) opined that topmost on the patterns of information use by students is the mode of search upon which they use information. In this regard, Daraswamy stated that undergraduate students have mode upon which they use information at their disposal. By this, the author may mean that the mode of information searching adopted by students depend on their individual likeness and preference. For instance, the author emphasized that students,

depending on the variety of access mode made available by their university libraries, adopts a number of searching mode patterns such as manual searching (querying of databases), online searching (surfing of the World Wide Web) and querying of the librarians. This means that mode of information use or ways of obtaining information is another formidable pattern upon which undergraduate students use information to satisfy their needs (Doraswamay, 2010).

Similarly, Mishra (2011) reported that a number of patterns abound upon which students use information. Such pattern according to Mishra includes:

- frequency of information use: (ie how often does student use a particular or a number of information materials cum sources in the libraries);
- format of information use (this relates to the physical nature and characteristics of the information materials or sources viz electronic (digital), pictorial, textual and graphical information); and
- the mode upon which they search and use the information (ie the methods of obtaining the information from their varying sources such as manual searching, browsing the library catalogue and shelves, electronic searching(querying of databases), online searching and assistance from library personnel (querying the librarians).

Factors Affecting Information Use Pattern of Undergraduate Students

As patterns relates to systematic approaches to document and classification recurrent problems and their solution based on empirical observation. Prominent factors have been identified by scholars to have affected the information use pattern of students. For example, Taylor (2008) stated that top most among the factors affecting information use pattern are the personal factors of the students (which includes age, sex, education level and trait); Information characteristics factors (including information types, structure, formats and

sources); time allocation factors (such as frequency and period of information use); and environmental factors (such as political, economic, technology and support systems). The author also argued that professional factors such as level of study, length of study, information system use, literacy level and specificity of the achievable tasks equally affects the information use pattern of students.

Closely related to the above is that personality trait of the student, volume of information needed by the students, knowledge creative ability of the students, formats of the information and their carriers and access status of the information; all play important role in the information use pattern of undergraduate students (Ronlogan and Tedd, 2006). They emphasized that the above factors determines to a large extent how students especially the undergraduates formulate how to efficiently pattern their information use. Consequently, they concluded that student should be emotionally stable and devoid of disturbances from the above factors cum influences; if they must fashion out a formidable and workable information use pattern for themselves.

Pors (2008) reported that for students (higher school students) to effectively have functional framework of their individual information use pattern; they should be able to address the threat posed by such factors as: Information characteristics, information types and information sources. Broadly, Pors discussed those factors to include:

Information Characteristics: Consisting of attributes of information such as subjectivity, timeliness, specificity, clarity, comparability, trustworthiness, unbiased, useful, flexibility and truthfulness.

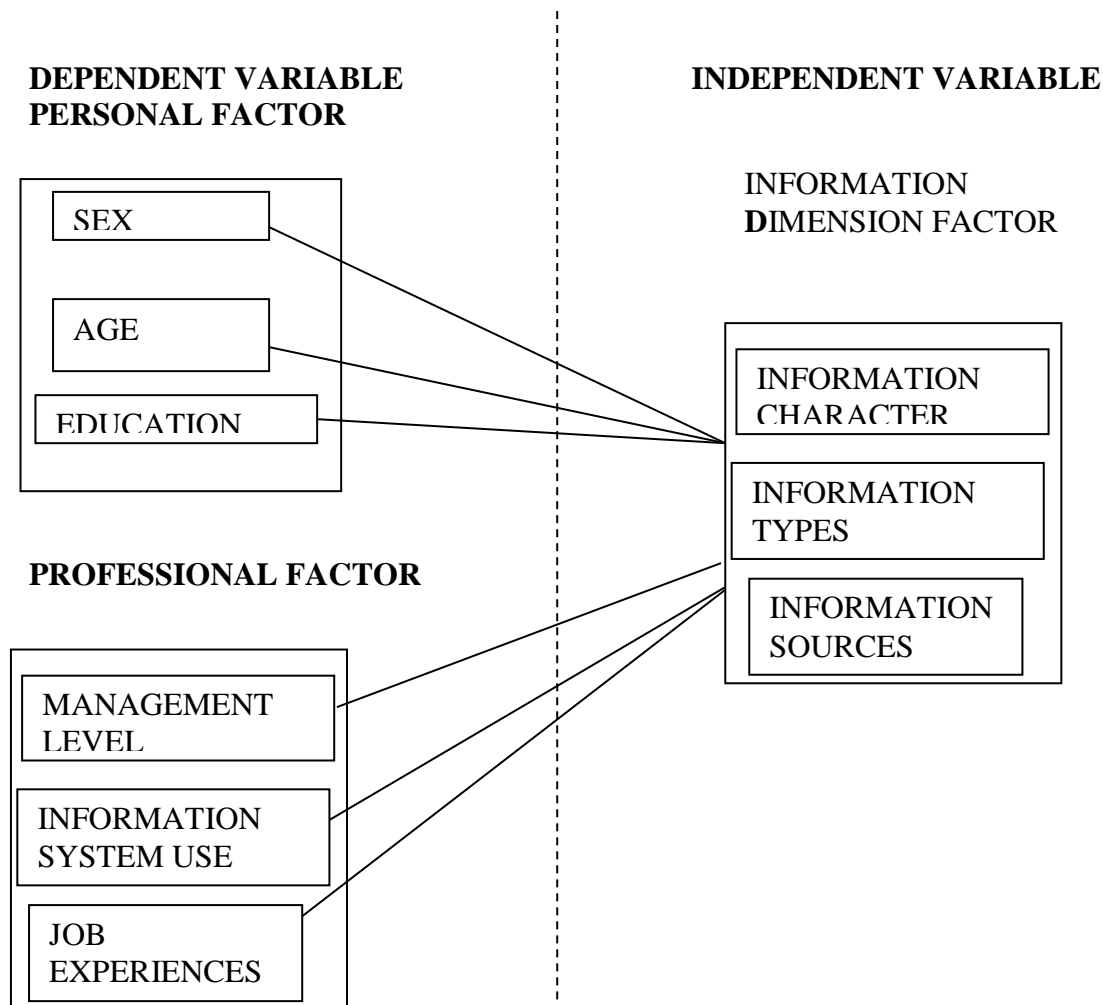
Information Type: Encompassing varying types of information such as research data, factual facts, biographical data, statistical data, primary, secondary and tertiary information among others.

Information sources: Including information sources such as traditional sources (prints), electronic sources, online sources, audio sources, visual sources, audio-visual (AV) sources, gray sources, and among others.

From the above discussion, Pors summarized that these factors take centre stage in the formulation of information use pattern of students irrespective of cadre and as such intrinsically and extrinsically affects the design of such pattern in all ramifications.

Almutairi (2011) formulated a relational model to illustrate the factors affecting the information use of managers of public civil services in Kuwait. In the model, dependent and independent variable (factors) were identified. The dependent variables identified were personal factors (sex, age and education) and professional factors (management level, information system use and job experience); while the independent variables identified is the information dimension (consisting of information characteristics, types and sources). Using the model to conduct the study, the findings revealed that age, education and information system use are the only dependant variables that make a difference in the three information dimensions (type, characteristics and sources). It also revealed that there are significant differences in terms of the age, educational level and information system use, sex, management, professional factors. The model is as shown below:

Schematic Diagram of Models of Factors Affecting Information Use/Seeking Pattern



Source: Almutairi (2011) model of factors affecting information use/ seeking pattern.

As can be seen from the model, the dependent variables (personal and professional factors) affect the independent variable (information dimension factors); thereby having a cross-sectional effect on the information use pattern of the managers of public service of Kuwait ministries (government).

Strategies for Improving the Pattern of Information Use of Undergraduate Students

A number of experts as well as renowned authorities had in the pasts contributed their scholarly quotas on the strategies to be adopted by students for an improved information use pattern of students and indeed the undergraduates to be specific.

Kumar and Kumbar (2013) pointed out that among the arrays of measures toward an improved information use pattern among undergraduate students of autonomous engineering colleges in Kanataka; the following measures are outstanding: Information materials and sources to be provided in different types, formats and structures; students should possess sound personality traits worthy of coping with their information needs; libraries to have defined, users-tailored and formidable volume of information; student to possess sound and creative knowledge for the synthesis of information at their disposal; and libraries to set viable access status on their collections P.210.

They further added that libraries as a matter of necessity should endeavour to package and repackage their information/ collection; so as to enable for an improved information use pattern of their clientele (students). In this manner, they opined that students with average creative ability will be able to formulate a viable model upon which he/she would be able to use specific information for a particular need.

Similarly, King and Tenopir (2013) asserted that library management through their public services division should engage in a broad base user orientation programme; so that users especially students will be acquainted with the needed knowledge on the use of the libraries, its tools and information therein. These according to them will hitherto improve the pattern upon which the students use the information/ collection of the libraries. From their assertion, it is imperative that well planned and articulated library instruction program to be put in place by the library for its clientele which ultimately serves as a catalyst for improving the information /collection /resources use pattern of the students. Therefore, full-scale library

orientation programme should be encouraged and supported by the library and her parent institution such that there will be an improved adoption and utilization of information use pattern by the undergraduate student of the institution-universities (King and Tenopir, 2013).

In addition, Almutairi (2011) argued that with improved information characteristics, defined information type and sources; and appropriate personal factor integration, there will be an improved information use pattern of students in a particular library. This is because, information provided by the library targets a particular audience (in terms of age, sex and level of study). Thus, library management should within the information dimension factors (information characteristics, type and sources) targets whether they are meant for a particular audience or profession. As this will in no doubt improve the information use pattern of their clientele.

Kohis (2013) stated that the strategies to be put in place by the libraries for an improved information use pattern by the clientele are enormous. And a run down of some of them includes proper education of the user; provision of conducive environment in forms of building, infrastructure and security; systematic departmentization of the libraries (in relation to facilities, field of study, the structure of collections, among others); and provision of information in more than one format (ie combination of prints and non-prints) with the latest technology. In addition to that, Kohis also explained that the above strategies, if properly integrated, packaged and presented in form of seminar for library management and users will definitely provide for improved information use patterns among students. In summary, the author itemized more measures as follows:

- Provision of information using social media such as electronic mails, face book, twitter, etc.
- Provision of information via consortium, Selective Dissemination of Information (SDI) and Current Awareness Services (CAS).

- Provision of information and services in real-time using the World Wide Web (WWW) and other local network (internet).
- Installing a steady and uninterruptible security alert system to be monitored via close circuit television network within the library.
- Provision of first hand and point-to-user information services by the library staff.
- Installation of robust Information Delivery System (IDS) by the library management.
- Acquainting the library users with the new technologies in the libraries periodically via exhibition.
- Educating the library users on the use of the libraries through comprehensive and systematic library instruction programme.
- Repackaging of the information (types, characteristics and sources) such that there will be less accessibility constraints.
- Encouraging users with diverse personality traits via proper counsel and viable public relation techniques.

Nagata, Kytomaki and Toda (2010) studied students' pattern of library use and their learning outcomes. The study examines student's use of electronic libraries and tries to classify what educational outcomes are achieved in relation to their patterns of library use. The area of the study is Japan. The population of the study was made up 700 graduate students of university of Tsukuba, Japan. It was an experimental research design study with three study groups namely: Learners group, extended use group and place and personal computer use group. The data were collected using focus group interviews and questionnaires. The data collected were analyzed via simple percentage, and correlation analysis.

The findings of the study revealed that the learners group uses the library for its material and research purposes with their uses most likely having direct connection to

students educational outcomes; strolling among the bookshelves is notable because it has strong links between it and educational outcomes and motivation for students learning; among others. The study finally recommended that the appraisal of library services, needs to be done by its receiver and that more strollers group students at the same university followed “teacher’s in-class tips for library use”.

In relation to the current study, they both dealt with the “use pattern” and students but in this case graduate students. On the contrary, the area of the study, design of the study, method of data collection and analysis differs. However, there is little relationship in the method of data collection as the current study intends to use questionnaire while the former used focus grouped interviews and questionnaires. Above all, the current study intends to adopt an aspect of the method of data collection and the scope of the study “use pattern” of students.

Rani (2009) studied library use pattern of undergraduate students in minority colleges in Andhra Pradesh, India. The purpose of the study was to evaluate and assess in detail the types of material sources and services used by the students and the extent of students’ satisfaction. The area of the study was Andhra Pradesh, India. And the population of the study was composed of 822 teachers and 8870 students from 17 minority colleges in Andhra Pradesh. The study adopted survey design and used purposive sampling technique and Gull and Bogg table to sample 240 teachers and 1705 students. The methods of data collection used by the study include structured questionnaire, scheduled interviews, observation and documented sources. Data collected were analyzed using descriptive statistics of frequency counts, simple percentage and pie charts and inferential statistics of chi square.

The result of the studies shows that 43.2% of the student visit their libraries daily while 27.4% visit once a week and 22.5% visit more than once in a week; students use the

library more when they are free and 83.3% were satisfied with the present working hours of their respective libraries; and 77% of the students were satisfied with their present library services. Also, on the purpose of library usage, note preparation (62.5%), project report preparation (32.5%). The study recommended that library orientation and user education are essential activities of the non-academic professional to enable the users to understand the system of classification, arrangement of stocks, tapping of different sources and resources. It was concluded that the utilization of college libraries in this state can be enhance by adopting the modern formats like audio-visual material and electronic resources such as CD, DVDs and the internet. Above all, automation of libraries according to new technologies is very essential to cope up with the present scenario.

Comparatively, the above study is related to the current study in the design of the study (descriptive survey), population of the study (undergraduate students), scope (use pattern) and method of data collection (questionnaire). The current study therefore, will adopt the above areas of study and sample and sampling techniques in the study.

CHAPTER THREE
RESEARCH METHOD
RESEARCH METHOD

The study adopted a descriptive survey design and had a population of 3365 registered undergraduate final year student library users from three selected federal universities. The study used proportionate stratified random sampling technique to sample 200 final years Undergraduate library users. From the above population two hundred (200) questionnaire were distributed with one hundred and eighty five (185) returned; representing a return rate of 93%. The data collected were analysed using descriptive statistics of frequency tables and mean scores. And the decision rule for research questions one through five was based on whether the mean score value was lower than or equal to and above the criterion mean value of 2.50 for either rejection or acceptance.

PRESENTATION OF DATA

This chapter embodies the analysis and presentation of data collected. Such presentations are guided by the five research questions of the study. Specifically, the tables presented below represents the responses form one hundred and eighty five (185) distributed and returned questionnaire representing (93%) response rate.

Research Question One: What are the patterns of information use (that is frequency, format and mode of use) of final year undergraduate student in federal universities of the zone?

Table 1: Mean scores of respondents on the pattern of information use adopted by final year undergraduate students.

UNIVERSITIES		JOS N = 77	MKD N = 49	MIN RNK. N = 59	OVR N = 185	DEC.	
S/NO.	Pattern of Information use	\bar{X}_1	\bar{X}_2	\bar{X}_3	\bar{X}		
FREQUENCY OF USE							
1	I use the information daily	4.00	3.78	2.51	3.46	A	1 st
2	I use the information hourly	3.92	3.00	2.76	3.31	A	2 nd
3	I use the information weekly	3.44	2.53	2.02	3.00	A	3 rd
4	I use the information as at when due	2.71	2.00	1.49	2.19	D	4 th
FORMAT OF USE							
5	I use textual information	4.00	4.00	3.07	3.70	SA	1 st
6	I use digital (electronic) information	4.00	4.00	2.90	3.65	SA	2 nd
7	I use graphical information	3.58	3.00	2.31	3.02	A	3 rd
8	I use vocal information	2.49	1.49	1.12	1.78	D	4 th
9	I use gray information	2.49	1.63	1.12	1.75	D	5 th
MODE OF USE							
10	I obtain information	4.00	3.80	2.34	3.42	A	1 st

	electronically via querying of database and web sites						
11	I obtain information conventionally via manual searching	3.92	3.00	2.68	3.28	A	2nd
12	I obtain information by querying the information custodians both conventional and electronically,	3.70	3.00	2.10 3 rd	3.02	A	

Key: SA – Strongly Agree, A – Agree, D – Disagree, Dec – Decision, MKD = Makurdi, MIN = Minna, OVR = Over all mean and RNK = Ranking

Table 2 above revealed that final years undergraduate students of federal universities of the zone adopt varying pattern of information use in relation to their frequency, format and mode of use. Specifically, the table revealed that frequency-wise; three of the four items were agreed on to have been adopted by the student in their use of information from their university libraries with only one disagreement. Those agreed upon includes daily, hourly and weekly usage of information in that order whereas there were disagreement on the use of the information as at when due. In addition, based on the format of use, two items were strongly agreed upon, one item agreed on and two items disagreed upon respectively. In this regard, majority of the student strongly agreed that they use both textual and digital information and also agreed that they use graphical information. However, they disagreed on the use of vocal and gray information. Moreso, as regards their mode of using the information they agreed on the three items of obtaining their information electronically, manually and both in that order.

Research Question Two: What are the factor(s) affecting the pattern of information adopted by final year undergraduate student of federal universities in the zone?

Table 2: Mean responses on the factor(s) affecting pattern of information use adopted by students.

UNIVERSITIES		JOS N = 77	MKD N = 49	MIN N = 59	OVR N = 185	DEC.	RNK
S/NO.	Factors affecting patterns of Information use	\bar{X}_1	\bar{X}_2	\bar{X}_3	\bar{X}		

1	Inadequacies of the library's information system	4.00	4.00	3.53	3.85	SA	1 st
2	Non – availability of the required information in the libraries	4.00	4.00	3.37	3.80	SA	2 nd
3	Professional factors like level of study, length of study, literacy level and specificity of the achievable tasks	4.00	4.00	3.34	3.79	SA	3 rd
4	Lack of experience on the use of information by the students	4.00	4.00	3.14	3.72	SA	4 th
5	Technological factors such as: information use literacy, knowledge of the library use and information organisation / processing	4.00	4.00	3.02	3.69	SA	5 th
6	Time allocation factors such as frequency and period of information use	4.00	3.08	2.81	3.34	A	6 th
7	Personal factors of the students as: age, set and level	4.00	3.20	2.36	3.26	A	7 th
8	The volume of information used by the students not defined	3.91	3.00	2.63	3.26	A	8 th
9	Environmental factors as library space, comfortability of library seats / tables / shelves	4.00	3.45	2.10	3.25	A	9 th
10	Social factors such as political issues, and public relations issues.	3.69	3.00	2.53	3.14	A	10 th
11	Information characteristics such as type, structure / formats and sources	4.00	3.35	1.58	3.05	A	11 th

Key: SA – Strongly Agree, A – Agree, \bar{X} - mean score and Dec. – Decision, MKD = Makurdi, MIN = Minna, OVR = Over all mean and RNK = Ranking

Table four revealed that: of the eleven items, five were strongly agreed upon to have constituted factors affecting the information use pattern adopted by the students of federal universities of the North-Central zone of Nigeria. Those items as contained in the table includes: inadequacies of library's information systems, lack of experience on the use of information by the students, technological factors as information use library, knowledge of library use and information organisation among others. Also the table also showed that six items were agreed on as factors effecting information use pattern of students. And they includes: time allocation factors as frequency and period of information use, the volume of information used by the student not defined, information characteristics such as type, structure/format and sources, among others.

Researcher Question Three: What strategies could be adopted for improving the information use pattern of final year undergraduate students of federal universities in the zone?

Table 3: Questionnaire responses on the strategies to be adopted to improve the information use pattern of students.

S/N	Improvement of information use pattern	4	3	2	1	\bar{X}	Dec.	Rank
	There should be adequate information resources in the library	176	04	02	03	3.91	VA	1 st
	Student should be exposed to the use of information at their disposal	174	06	03	02	3.90	VA	2 nd
	Periodic training of the technicality of library use and literacy of information system used to be encouraged	169	11	03	02	3.88	VA	3 rd
	Professional factors like student level of study, length of study as well as specificity of the achievable task should be properly addressed by student concerned	172	04	05	04	3.86	VA	4 th
	Personal factors of the student such as age, sex and level should be given utmost attention by the library management	152	12	11	10	3.65	VA	5 th
	Library management should properly addressed the environmental factors of: library space, comfort of seats, chairs, tables and shelves	139	21	11	14	3.50	VA	6 th
	Information needed by the student should be made available	107	53	12	13	3.37	A	7 th
	Both the students and the libraries should be systematically plan their time allocation schedule in relation to frequency and period of information use.	90	65	15	15	3.24	A	8 th
	The information characteristics factors should be properly addressed in terms of type, structure/format and sources.	76	80	20	09	3.21	A	9 th
	Effort should be made by the authorities concerned to reduce the social factors of political and public relation issues.	80	72	23	10	3.20	A	10 th
	The volume of information to be used by the student should be properly defined	68	81	21	15	3.09	A	11 th

Key: VA – Very Appropriate, A – Appropriate, \bar{X} - Mean score, Dec. – Decision

Table 3 above, show that of the eleven items enumerated six of them were very appropriate and five were deemed appropriate for improving the information use pattern of undergraduate students of the federal universities in the North-central zone of Nigeria. A further overview of these strategies revealed that: there should be adequate information resources in the library, student should be exposed to the use of information at their disposal, library management to properly address the environmental factor of library space, comfort of seat, chairs, tables and shelves among others were very appropriate for improving the information use pattern of students by the respondents. Similarly, other strategies as: Information needed by the student to be made available by the libraries, efforts to be made by authorities concerned toward reducing the social factors of political and public relation issues, the volume of information needed by the student to be properly defined among others were deemed appropriate by the respondents for improving the information use pattern of students.

Discussion of Findings

The patterns of information use adopted by final year student of federal universities in North-Central Nigeria. The findings as contained in table two revealed that there are patterns upon which student use information at their disposal. Such patterns include the frequency of use, format of use and mode of use. From the findings of this study, it follows that student use information on hourly, daily, weekly and monthly basics. This finding was supported by the assertion of Vijayalaxmi and Maheswarappa (2001) which states that information is used hourly, daily, weekly and monthly by students depending on how urgent the information is needed.

With the finding of this study showing that format-wise, the final year undergraduate student use textual, electronic and graphical information. It is evident that this finding is heavily supported by the report of Akande (2013) who opined that student based on their favoritism and choice; format-wise uses textual, digital/electronic and graphical information. Also, the finding shows that the student equally has their pattern of information use based on the mode upon which they obtain the information such as: electronically, manually and querying of the information custodian both conventionally and electronically. In general, the above findings were in line with the opinion of Mishra (2011) who outlined the patterns of information use adopted by students to include: the frequency upon which they use the information, the format upon which they use the information and the mode of obtaining the information.

The factors affecting the information use pattern of final year student of federal universities of North-central Nigeria and analysed. The result of such analysis as is contained in table four depicted that five factors were strongly agreed on to have affected the student

information use pattern in the zone. Such factors as revealed by table four includes: inadequacies of library's information systems, non-availability of the required information resources in the libraries, professional factors as-level of study, length of study, literacy level and specificity of the achievable task among others. Moreover, the table also revealed that technological factors, time allocation factors, personal factors, social factors, information characteristics factors as well as the volume of the information used by the student were agreed to have affected the pattern of information use among final year student of federal universities in the zone.

In accordance with the above findings, Alumutairi (2011) in his relational model for factors affecting information use pattern of student highlighted that factors, such as professional factors and information dimension factors affects the information seeking pattern of students. Also Pors (2000) stated that information characteristics, information types and information sources determine to a greater extent pattern upon which the student use the information at their university libraries. And Taylor (2000) equally reported that topmost among the factors affecting the information use pattern of students are personal factors of the students (age, sex, education level and trait), information characteristics factors (types, structure, formats and sources) and environmental factor (support system, weather, temperature, humidity) among others.

Hence, from the foregoing, the findings from these table (four) collectively showed that both personal, environmental professional, technological and information characteristics factors all play important role in favouring the information use pattern of final year student; especially those from federal universities of North-central Nigeria.

The strategies for improving the information use pattern of final year undergraduate student of federal universities in North-central Nigeria and analyzed. The findings of the analysis as shown in table five revealed that six of the strategies were very appropriate and

six were appropriate for improving the information use pattern of students (undergraduate final years) in the zone. Prominent among those strategies that were deemed very appropriate by the respondent are: provision of adequate information resources in the libraries, student to be exposed to the use of information at their disposal, periodic training of students on the technicalities of library use and literacy in information system use to be encouraged, among others. While those strategies that were appropriate for improving the information use pattern of student include: availability of information needed by the student, students and library management to plan their time allocation schedule properly and define the volume of the information needed by the students among others.

Consequently, from literature, reports from the following studies supported the above findings – Kumar and Kumbar (2013), King and Tenopir (2013) and Kohis (2013). For instance, King and Tenopir (2013) reported that full-scale training of library users to be encouraged in the library so as to build strong patterned utilization of information in the university libraries. Whereas, Kumar and Kumbar (2013) also stated that student should be exposed to the information resources in the libraries, libraries to provide adequate information resources, in different formats ...

Kohis (2013) on the other hand, highlighted that the provision of first hand and point-to-user information services by the library staff provides for a patterned use of information among student. Kohis also stated that information and services should be provided in real-time so as to improve the patterns upon which student uses information. Thus, from these finding it is evident that any means of encouraging the ease with which student use information in their university libraries is a means of improving their information use pattern.

Recommendations

1. The provision of adequate information resources in the university libraries.
2. Sensitized the students on the technicality of library through harmonized library instruction program.
3. There should be adequacies of library's information systems and availability of the required information resources in the libraries.
4. Library management should properly addressed the environmental factors of: library space, comfort of seats, chairs, tables and shelves.

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