

The Availability, Needs and Use of Information Sources By Lecturers and Researchers of the Faculty of Environmental Science, University of Jos, Nigeria

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Abstract

This article investigated the extent of availability, needs and use of information by lecturers and researchers of the Faculty of Environmental Sciences of University of Jos, Jos – Nigeria. Sampling technique with questionnaire instrument was used for data collection, data were analysed by the use of statistical packages for the social sciences software and statistics employed was simple percentages. Results were presented in a tabular form. The study revealed that the readily available and very often used channels of information are colleagues in the Faculty/Departments; the extent of need of dictionaries and encyclopedia as reference information resources by the lecturers is very often. Most used method of locating references by the lecturers is still colleagues internally. Use of databases among the lecturers is only fair-and only EBSCO-Host, AGORA and e-Granary are fairly put to use. More than fifty percent of the lecturers rate the subject librarian “Good” and above. The heavy dependence on the availability and need of their colleagues in the Faculty/Departments including searching their own shelves for locating references for their scholarly work has relegated the use of both print, e-resources and the Subject Librarian in the Library. Recommendation appropriate to the situation at hand was proffered.

Introduction

In this present day society, the adequate availability of information will normally prompt a reaction to its use particularly in the academia thus, this will stimulate progress and development in the overall system. The availability and use of information are critical and important activities, especially as it affects a group of lecturers – Environmental Scientists of the University of Jos, Jos Nigeria. In the recent past we have witnessed a dwindling statistics as to the use of both print and e-resources in the environmental sciences section of the University Library. Information is being produced today more than ever before; this has culminated to information explosion. And couple to the fact that the Librarian presented seminar on the available databases and how to retrieve them for their use; also considering that at any faculty board meeting he inform them on the latest arrival of new materials, yet the section’s statistics to the Use of those resources seems to be not encouraging. It is therefore pertinent to find out reasons with a view to adopting better ways of distributing needed information to this group of scientists. It may be noted in passing that there is always information needs and information seekers within those groups of scientists. The information needs has to be ascertaining through this process as is designed in this study.

Objectives of the Study

The objectives of this study are as follows:

- i. To assess the extent of availability of information channels for Lecturers and Researchers in the Library.
- ii. To find out the frequency of use of information channels among the lecturers in performing their scholarly activities.
- iii. To determine the extent of need of reference information resources among the Lecturers of the Faculty.
- iv. To investigate the methods most used in locating references by lecturers in performing their scholarly activities.
- v. To investigate the online databases (websites) subscribed most subscribed to by the University Library among the lecturers in performing their scholarly activities.
- vi. To determine the extent of the usefulness of the subscribed databases (website) for the lecturers scholarly activities.
- vii. To determine the rating of the Environmental Sciences Librarian in terms of service delivery.

Literature Review

In the last several years, many research studies have focused on how the generality of library users use both electronic and print resources. Their feelings towards the use of those resources in the library were drawn and conclusions to preferences of those resources were varied – at times contradictory and or unclear. Tenopir (2003), shed light on user behavior with electronic resources and made the following conclusions:

- That both faculty and students use and like electronic resources and most readily adopt them if the sources are perceived as convenient, relevant, and time saving to their natural workflow.
- That experts in different subject disciplines (work fields) have different usage patterns and preferences for either print or electronic resources.
- Print is still used for some reading and is part of research in almost every discipline.
- Subject experts use hyperlinks to view related articles.
- Personal subscriptions to journals continue to decrease, so users rely more on electronic subscriptions subsidized by the Library and on the Internet.

While feelings and behavior could depicts the types and sources of information to be used to solve problems, Igbeka and Atinmo (2002), submitted in their study among a group of engineers that they could seek for different types and sources of information but the available information is often the one used. This therefore, indicates that the availability of the resources in a given library correlates with their use among a group of professionals.

In other studies by Kling & Mckim, 1999; Covi, 1999; Eason et al. 2000; and Tenopir, 2003, it was observed that user's discipline and institutional context strongly affect the use of both print and electronic resources. However, that electronic resource is typically most widely used in natural and technical sciences. While in humanities and the social sciences they are less used.

In their project, Eason et al (2000) averred that disciplinary differences in the use of electronic journals were in part associated with differences in the coverage of the journal and the varied availability of competitive services. Hence we can safely say that there is indirect evidence that both scholars' discipline and the availability of relevant materials interact in the use of resources in Libraries. Contrary to that, Talja & Maula (2003), found that the provision of materials in scholars' research topics had a greater influence on the use of networked resources than their discipline. Also, in a similar submission by Torma & Vakkari (2004), they opined "that the perceived availability of key electronic resources by researchers in FINLIB was a stronger predictor of the frequency and purpose of use of its services than users' discipline."

In view of the fact that the relationships between availability, subject discipline and good competitive services as predictors to use of Library resources, Tamiyu (1986) ascertained that "certain objective characteristics of the sources themselves can be used to explain the use or non-use of the sources, namely: the subject content of the sources, the structural linguistics format in which the information is presented, as some information sources may be used more often than others because of the brevity with which they provide accurate information."

Information needs appraisal by its nature is a complex matter to establish, partly due to the demand for knowledge, which has a derived function, that is, the supply of knowledge alone may not satisfy a human need because information is needed as means to an end (Dervin, 1976, Wilson, 1981). While Dervin sees information needs as a complex matter to be established, Ingwerson, (1992) opined that it depends on worker's tasks and that such tasks imposes information requirements that must be met if they are to be completed. No one can claim to know all the information needs of academics especially in an information dependent society like Universities where there are new and rather complex researches every day. It is therefore safe to assert that the information needs of faculty academic revolve around the resolution of their primary tasks -- research, teaching and community service.

Research Methodology

The survey universe comprised of 68 lecturers/researchers distributed in three departments thus; Architecture – 22, Building – 23 and Geography and Planning – 23. However, 5 out of the lecturers were indisposed due to other academic engagements outside the University. Hence, the remaining 63 were sampled.

The tool used for data gathering was the questionnaire that was physically administered to the respondents. Out of the number sampled (65), 60 responded and this constitutes 95% return rate.

Data collected were analyzed employing the use of Statistical Packages for the Social Sciences (SPSS) and Statistics used are Simple Percentages and frequencies tabulated and presented with their appropriate headings.

Findings

A summary of the findings is presented below:

In order to explore the extent of availability of information channels for the lecturers, the means, frequency, percentages of availability were calculated according to degree of availability. (Table 1). Among the Information channels, the "readily available" are colleagues in the Department/Faculty (21.3%); followed by Global Mobile Satellite (GSM) (12.5%) and Radio (10.5%) in that order. Periodicals (7.5%) and Books (Monographs) (6.30%) rank behind television sets (8.8%). The least "Not available" information channels are colleagues or experts elsewhere (1.5%) and the Internet (2.4%). The most "Occasionally available" information channels are the government publications (9.9%). 48.6% of the respondents indicated that colleagues in the Department/Faculty as the "readily available" information channel. While 40.5% of the respondents indicated that Books (Conference proceedings) are "available" for them. However, more than half of the respondents (56.4%) indicated that sound recordings are "Not available."

Table 1 Extent of Availability of Information Channels for Lecturers

Information channels	Percent of Distribution					Percent of Cases				
	RDA	A	OA	RAA	NA	RDA	A	OA	RAA	NA
Periodicals	7.5	5.2	9.4	4.4	6.3	17.1	21.4	39.1	18.4	33.3
Books (Monographs)	6.3	8.6	6.8	6.3	3.4	14.3	35.7	28.3	26.5	17.9
Books (Conference-proceedings)	1.3	9.8	6.3	6.3	3.9	2.9	40.5	26.1	26.5	20.5
Research reports	3.5	5.7	7.3	6.3	6.8	8.6	23.8	30.4	26.5	35.9
Gov't Publications	-	2.9	9.9	8.3	5.4	-	11.9	41.3	34.7	28.2
Microforms	-	0.6	2.1	6.3	8.3	-	2.4	8.7	26.5	43.6
Maps & atlases	6.3	5.2	5.7	6.3	7.3	14.3	21.4	23.9	26.5	38.5
Films (pictures)	-	-	3.6	7.8	8.8	-	-	15.2	52.7	46.2
Sound Recordings	-	-	2.1	8.7	10.7	-	-	8.7	35.7	56.4
Video tapes	-	0.6	4.2	9.2	9.8	-	2.4	17.2	38.8	51.3
Computer print out	3.8	8	4.7	4.4	3.9	8.6	33.3	19.6	18.4	20.5
Radio	10	6.9	2.6	2.9	4.9	22.9	28.6	10.9	12.2	25.6
Television	8.8	9.2	3.1	1.5	3.4	20	38.1	13.0	6.1	17.9
Conferences	5	6.9	8.9	3.4	2.4	11.4	28.6	3.7	14.3	12.8
Colleagues in the Dept/Faculty	21.3	6.9	5.2	1.9	2.0	48.6	28.6	21.7	8.2	10.3
Colleagues or experts elsewhere	6.3	8	8.3	4.9	1.5	14.3	33.3	34.8	29.4	7.7
Internet	7.5	8.6	3.6	7.8	2.4	17.1	35.7	15.2	32.7	12.8
Global Mobile Satellite (GSM)	12.5	6.3	5.7	1.5	4.9	28.6	26.6	23.9	6.1	25.6
Others	-	0.6	0.5	1.9	3.9	-	2.4	2.2	8.2	20.5

Key. RDA - Readily Available, A - Available, OA - Occasionally Available, RAA - Rarely Available, NA - Not Available

Table 2 shows the frequency of use of information channels among the lecturers' in performing their scholarly activities. The "Very often" -used information channels are colleagues in the Department/Faculty (13.4%) and the Internet (11.3%). The "often" -used information channels are Books (monographs) (12.1%). And the most "Never" used information channels are sound recordings (13.5%). 54.3% and 45.7% of the respondents "very often" use their colleagues in the Department/Faculty and the Internet as their information channels respectively; while 12.2% and 26.5% of them "occasionally" use these information channels. Almost sixty percent (59.4%) of the respondents "Never" use microforms as their information channels.

Table 2 Frequency of Use of Information Channels among the Lecturers' in Performing their Scholarly activities

Information channels	Percent of Distribution					Percent of Cases				
	VO	OF	OC	RA	NV	VO	OF	OC	RA	NV
Periodicals	8.5	8.1	8	2.2	2.6	34.3	3.6	32.7	7.3	15.6
Books (Monographs)	8.5	12.1	5	1.4	2.6	34.3	5.4	20.4	4.9	15.6
Books (Conference-proceedings)	8.5	7.2	7	5.1	3.1	34.3	3.2	28.6	17.1	18.8
Research reports	6.3	8.1	7	4.3	2.6	25.7	3.6	28.6	14.6	15.6
Gov't Publications	1.4	4	10.5	5.1	6.8	5.7	18	42.9	17.1	40.6
Microforms	-	0.9	2.5	10.9	9.9	-	4	10.2	36.6	59.4
Maps & atlases	3.5	5.4	4	7.2	6.8	14.3	2.4	16.3	24.4	40.6
Films (pictures)	2.1	2.2	5	10.9	7.3	8.61	10	20.4	36.6	43.8
Sound Recordings	2.8	-	2.5	8.7	13.5	1.4	-	10.2	29.3	81.3
Video tapes	2.1	2.7	5	10.9	8.3	8.6	12	20.4	36.6	50
Computer print out	3.5	7.2	6	6.5	2.1	14.3	3.2	24.5	2.2	12.5
Radio	3.5	3.1	4.5	6.5	7.3	14.3	1.4	18.5	2.2	43.5
Television	3.5	4.9	5.5	7.2	6.3	14.3	2.2	22.4	24.4	37.5
Conferences	3.5	8.5	5	1.4	4.2	14.3	3.8	20.4	4.9	2.5
Colleagues in the Dept/Faculty	13.4	6.3	3	1.4	2.1	54.3	2.8	12.2	4.9	12.5
Colleagues or experts elsewhere	8.5	6.3	7	3.6	2.6	34.3	2.8	28.6	12.2	15.6
Internet	11.3	9.4	6.5	2.9	2.6	45.7	42.5	26.5	9.8	15.6
Global Mobile Satellite (GSM)	9.2	3.6	6.5	3.6	4.7	37.1	1.6	26.5	12.2	28.1
Others	-	-	-	-	4.7	-	-	-	-	28.1

Key VO Very Often, OF- Often, C Occasionally, RA Rarely, NV Never

In order to determine the extent of needs of reference information resources among the respondents, a list of the available reference sources in the library were given (Table 3) Among these, Dictionaries (12.1%) are needed "very often", followed by Encyclopedia (10.1%). Bibliographies (9.0%) and Periodicals (9.0%) have the same weight of needs. However, Bibliographies of Bibliographies (11.4%) is the most "occasionally" needed and Almanac (16.3%) is the most "never" needed information source.

64.90% of the respondents "very often" need Dictionaries and 54.1% of them "very often" need Encyclopedia for their scholarly activities. However, 72.2% "Never" saw the need for Almanac as reference resource.

Table 3: Extent of need of Reference Information Resources among Lecturers of the Faculty

Information channels	Percent of Distribution					Percent of Cases				
	VO	OF	OC	RA	NV	VO	OF	OC	RA	NV
Encyclopedias	10.1	8.5	7.4	7.5	-	54.1	36.4	27.1	24.1	-
Dictionaries	12.1	9.4	5.7	2.2	-	64.9	40	20.8	6.9	-
Directories	4.5	7.7	7.4	12.9	2.5	24.3	32.7	27.1	41.4	11.1
Indexes	4	9.4	5.1	7.5	7.5	21.6	40	18.8	24.1	33.3
Abstracts	6.5	9.4	6.3	2.2	5	35.1	40	22.9	6.9	22.2
Bibliographies	9	5.6	3.4	7.5	7.5	48.6	23.6	12.5	24.1	33.3
Bibliographies of Bibliographies	4.5	4.3	11.4	2.2	10	24.3	18.2	41.7	6.9	44.4
Geographical sources, e.g. maps.	4.5	6.4	8.6	11.8	7.5	24.3	27.3	31.3	37.9	33.3
Yearbook/annuals	6	5.1	5.7	11.8	7.5	32.4	21.8	20.8	37.9	33.3
Almanac	2	3.8	10.3	6.5	16.3	10.8	16.4	5.5	20.7	72.2
Periodicals	9	7.3	2.3	4.3	8.8	18.6	30.9	8.5	13.8	38.9
Manuals	8	6.4	4.6	6.5	6.3	43.2	27.3	16.7	20.7	27.8
Handbooks	5	8.1	6.3	6.5	3.8	27	34.5	22.9	20.7	16.7
Guides	8	3.4	8.0	4.3	7.5	43.2	14.5	29.2	13.8	33.3
Summaries of British Standards for Building	6.5	5.1	7.4	6.5	10	35.1	21.8	27.1	20.7	44.4
Others	-	-	-	-	-	-	-	-	-	-

Key: VO - Very Often, OF - Often, OC - Occasionally, RA - Rarely, NV - Never

Investigating the most used method in locating references by the respondents to perform their scholarly activities, table 4 shows that the "very often" method used in locating reference is searching own library shelves (14.9%). Consulting experts (12.2%) is the most "rarely" method used in locating references among the methods, while the most "never" used method is consulting specialist bibliographies (34.6%).

Almost sixty three percent (62.5%) of the respondents "very often" search their own library shelves to locate references in performing their day-to-day scholarly activities and 57.1% of them "often" discuss with colleagues internally. However, 81.80% of the respondents "never" used specialist bibliographies.

Table 4: Methods Used in Locating References by Lecturers in performing their scholarly activities

Methods of locating references	Percent of distribution					Percent of cases				
	VO	OF	OC	RA	NV	VO	OF	OC	RA	NV
Abstracts and indexes	11.9	9.4	5.8	10.8	-	50	35.7	18.8	18.6	-
Consulting experts	9	8.5	9	12.2	-	37.5	32.1	29.2	20.9	-
Discussion with colleagues internally	11.9	15.1	5.2	1.4	-	50	57.1	16.7	2.3	-
Discussion with colleagues elsewhere	6	11.8	9.7	8.1	3.8	25	44.6	31.3	14	9.1
Searching library catalogues	10.4	8.5	8.4	10.8	11.5	43.8	32.1	27.1	18.6	27.3
Searching own library shelves	14.9	8	5.8	2.7	-	62.5	30.4	18.8	4.71	-
Searching other library shelves	3.7	8.5	11.6	9.5	7.7	15.6	32.1	37.5	6.3	18.2
Consulting your Librarian	4.5	6.1	16.8	6.8	23.1	18.8	23.2	54.2	11.6	54.5
Specialists Bibliographies	6	4.7	6.5	20.3	34.6	25	17.9	20.8	34.9	81.8
References in books and journals	11.9	11.8	6.5	2.7	-	50	44.6	20.8	4.7	-
Book review	6	6.6	12.9	8.1	19.2	25	25	41.7	14	45.5
Others	3.7	0.9	1.9	6.8	-	15.6	3.60	6.3	11.6	-

Key: VO - Very Often, OF - Often, OC - Occasionally, RA - Rarely, NV - Never

Table 5, shows the most used online database subscribed by the University Library among the Faculty's lecturers for their scholarly activities. EBSCO Host

(23.5%), AGORA (23.5%) and e-granary (23.5%) are concurrently “very often” used; however, e-granary (53.8%) is the most “occasionally” used online database. The most “never” used online database is Hinari (19.7%). The same number (44.6%) of the respondents “very often” use EBSCO host, AGORA and E-granary to do their scholarly work, but almost sixty one percent (60.9%) “Occasionally” used E-Granary, 78.1% “Never” used HINARY.

Table 5 Use of Online Databases (Websites) Subscribed By The University Library Among The Lecturers For Their Scholarly Activities.

Databases	Percent of distribution					Percent of cases				
	VO	OF	OC	RA	NV	VO	OF	OC	RA	NV
EBSCO Host	23.5	9.1	11.5	11.1	18.9	44.4	14.3	13	33.3	75
Oxford university Press Journals	17.6	36.4	11.5	12.7	15	33.3	57.1	13	38.1	59.4
HINARI	5.9	9.1	3.8	20.6	19.7	11.1	14.3	4.3	61.9	78.1
Nigerian Virtual Library	5.9	13.6	11.5	25.4	15.7	11.1	21.4	13	76.2	62.5
AGORA	23.5	4.5	7.7	1.9	17.3	44.4	7.14	8.7	57.1	68.8
E-Granary	23.5	27.3	53.8	11.1	13.4	44.4	2.9	60.9	33.3	53.1

Key: VO - Very Often, OF - Often, OC - Occasionally, RA - Rarely, NV- Never

On the use of databases subscribed by the University Library, 35% of the respondents indicated that the online databases are “very useful” and 16.7% responded as “useful” However, 21.7% did not indicate the usefulness of the available databases, (table 6).

Table 6: Extent of the Usefulness of the available Online Databases Subscribed by the Library To Lecturers Scholarly Activities.

Extent of Use	Frequency	Percent %	Valid Percent	Cumulative Percent
Very useful	21	35	44.7	44.7
Useful	10	16.7	21.3	66
Just useful	4	6.7	8.5	74.5
Rarely useful	5	8.3	10.6	85.1
Not useful	7	11.7	14.9	100
System	13	21.7	100	
Total	60	100		

To determine the rating of the Faculty Librarian in terms of service delivery to the Lecturers; a scale was provided that ranges from Excellent to Neutral (Table 7). 8.3% of the respondents scored him as excellent, and 31.7%, 46.7% scored him as very good and good respectively. None however, scored his services as poor, nevertheless, 5% of them were neutral.

Table 7: Rating of the Librarian (The Environmental Sciences Librarian) in terms of service delivery in percent

	Frequency	Percent %	Valid Percent	Cumulative Percent
Excellent	5	8.3	9.1	9.1
Very good	19	31.7	34.5	43.6
Good	28	46.7	50.9	94.6
Neutral	3	5	5.5	100
Total	55	91.7	100	
System	5	8.3		
Total	60	100		

Discussion and Conclusions

This study explored on the extent of availability, needs and use of information resources within the context of the library resources and the reach of the faculty's members. The fact that colleagues in the department/faculty are the readily available information channels. -this has posed a challenging question as to whether the lecturers use the prints and the electronic sources of information. Whereas colleagues in the faculty and in their respective departments could possibly give more of directional information, print and electronic resources could direct them to a more strictly academic information resource. That colleagues in the Faculty/Departments are the readily available information channel (Table 1), also, they are the very often-used information channel (.54.3% of the respondents use them while a fairly percentage 45.7% very often used the Internet frequently). Perhaps this is a matter of convenience as posited by Tenopir (2003), that, both faculty and students use and like electronic resources and most readily adopt them if the sources are perceived as convenient, relevant and time savings to their natural work flow (40.5% of the respondents indicated that Books (conference proceedings) are available for their use. However, the often used information channels are Books (monographs) (12.1%) and 54% of the respondents often used them (Table 2).

Sound recordings and microforms are the most "Not available" and the "Never" used information channels among the respondents. This is possible because group of experts in a particular subject discipline use a peculiar information channel suitable to their needs and preferences. Sound recordings and microforms are most needed and peculiar to the Arts and Educational studies.

When respondents were asked on the extend of need of reference information resources, Dictionaries and Encyclopedia are the very often needed reference information resources; almost sixty five percent (64.9%) and (54.1%) of the respondents need Dictionaries and Encyclopedia very often respectively for their scholarly work. It is important to note here that these needed reference information resources include subject/ specific Dictionaries and Encyclopedias. The preference of need of Dictionaries and Encyclopedias over the other reference information resources is expected, since

respondents (62.5%) mostly locate references searching their own library (Table 4). Among the methods of locating references by the respondents only 18.80% of them consult their librarians very often, yet when asked to rate the faculty Librarian in terms of service delivery, almost fifty one percent (50.9%) rate him as good (Table 7). The frequency of need of colleagues internally for channeling, locating and use for referring to references is overwhelming.

EBSCO host, AGORA and E-Granary are very often used databases. It is surprising however to note that less than fifty percent of the respondents in all cases use these databases for their scholarly activities. There is low usage of these databases certainly is not as a result of competence in the use of computer and the Internet; this is evident from the submission of Abubakar, D. & Embu, R. (2003) in their work on internet access competence among University of Jos academic staff. Besides, the Librarian demonstrated the use of these databases and techniques of information retrieval from the Internet to the same group of people. Perhaps certain characteristic objectives might have brought the low usage of these databases such as the subject content, and or presentation of the information. Alternatively, the respondents have not perceived the availability of the databases as an enormous source of literature that will eventually promote it's high frequency of use. The "Never" use of HINARY by the respondents (78.1%) is expected because most of the literature contained there are medically inclined. Despite his persuasions and demonstration on databases and print materials available in the library, they have not fully availed themselves to there use. Because of frequent and heavy use of colleagues internally this could have been the reason for low use of library e-resources. Tolja and Maula (2003) buttress this fact by submitting "the provision of materials in scholars' research topics had greater influence on the use of networked resources."

The readily available information channels among the lecturers' are their colleagues in the Faculty/Departments and they use same as frequent channel of information. The extent of need of reference information sources are high on Dictionaries and Encyclopedias respectively. This has significantly reflected on the low use of the university library resources because the lecturers consult their colleagues and search on their own library shelves very often. There appears to be a complicating rating of the subject of Librarian with the use of both print and e-resources available in their library. A fair percentage of the lecturers use the subscribed online databases in the library, which is free for use either in the Library or from a remote source, networked within and around the campus.

Recommendation

The fact that lecturers of the Faculty readily available channel of information are their colleagues internally; also the extent of need and use of their colleagues internally is very often compared to the need and use of the available documented sources of

information (Print and electronic) in the university library that are more authentic, stationed and available over the verbal information received from their colleagues. It is therefore imperative to re-launch and urgent and aggressive user education on the enormous available resources in the Library, particularly on the different databases subscribed by the University library as it affects the lecturers' scholarly work. Since the writer of this article is the subject librarian to the Faculty, I will ensure this is done within the shortest possible time with a view to achieving the noble objective.

References

- Abubakar, P. & Eshin, R. (2003). Internet access, Competence and use among University of Jos Staff. *Borno Library Archival and Information Science Science Journal*, 56-70.
- Covatta, C. (2003). Digital mastery: situating digital library use in University research practices. *Information Processing and Management*, 35 (3), 293-316.
- Dervin, L. (1983). The development of strategies for dealing with the Information needs of University of Washington school of Communication. Phase 1. Citizen study. *Journal of Documentation*, 38(1), 5-640.
- Eason, K., Richardson, S. & Yu, L. (2000). Patterns of Use of Electronic Journals. *Journals of Documentation*, 56 (5), 477 – 504.
- Igbeka, J.U. and Atimomo, M.I. (2002). Information seeking behaviour and Information utilization of Agricultural Engineers in Nigeria based on their different places of work. *Nigerian Libraries Vol* 36 (1): 9-21.
- Ingiwerson, P. (1996). "A Cognitive view of three elected online search facilities" *Online Review* (5)
- Kling, R. & Eshin, R. (1999). "Cholery communication and the continuum of electronic publishing" *Information Technology* 50(10), 890-906.
- Popoola, O. and Onyekwu, C.O. (1999). Information searching habits of unemployed University students in Lagos Metropolis, Nigeria. *Nigeria Libraries Vol* 33 (2): 9-17
- Sajja, S. & Mehta, H. (2003). Reasons for the use and non-use of electronic journals and databases: a domain analytic study in four scholarly disciplines. *Journal of Documentation*, 59 (6), 677-691
- Tenopir, C. (2003). Use and users of electronic library resources: an overview and analysis of recent research studies. Washington, D.C. Council on Library and Information Resources
- Tiamiyu, M. (1989). Factors underlying the Use of Information sources in Government Institutions in Nigeria. Ph.D. Thesis, University of Western Ontario London.
- Torma, J. & Jalakari, P. (2004). "Discipline, availability of electronic resources and the Use of Finnish National Electronic Library – FINLIB" *Information Research*, 10(1) Paper 204 [Available at <http://informationR.net/ir/10-1/papepr204.html>]
- University of Jos, Faculty of Environmental Sciences Handbook, 2004/2006 sessions.
- Wilson, T.D. (1981). On user studies and information needs. *Journal of Documentation*, 37 (a): 3-15.