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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v8-i5/4109>

DOI: 10.6007/IJARBSS/v8-i5/4109

Received: 23 April 2018, **Revised:** 14 May 2018, **Accepted:** 21 May 2018

Published Online: 23 May 2018

In-Text Citation: (Ngessa, 2018)

To Cite this Article: Ngessa, V. (2018). User Challenges and Top used Online Databases: A Survey of Higher Education Institutions in Tanzania. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 382–396.

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Vol. 8, No. 5, May 2018, Pg. 382 – 396

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User Challenges and Top used Online Databases: A Survey of Higher Education Institutions in Tanzania

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Abstract

The study aimed at finding user challenges for the commonly used online database systems in Higher Education Institutions in Tanzania (HEIs). Two research objectives were formulated as a means to guide and meet the research aim stated above. The study adopted a case study with both quantitative and qualitative methods approach in which a survey was run across 12 HEIs in Tanzania. In order to draw a representative sample of the population, a simple random sampling strategy was adopted in which all participants were given equal chance of being selected. As a result, a total of 559 students, and 149 Academic Staff participated in the study.

The major findings show that Wiley online library, Google Scholar, ScienceDirect and JSTOR are the commonly used databases but the level of access is very low (mostly to students) due to internal and external challenges like slow internet connection, the difficulty of using online databases, unavailability of online databases, and poor support. The overwhelming evidence collected from the survey suggests that HEIs ought to do enough to ensure the value for money on the subscribed online resources.

Introduction

Introduction and Background to the Problem

Fewer students are visiting the physical library while more are retrieving information electronically (Dilevko, & Gottlieb, 2002; Moncrieff, Macauley, & Epps, 2007) from online databases. Moyo (2004, pg. 188) identifies online databases “virtual library patron” as-one whose accesses/use of library services and resources is unbounded by space or time.

Today, in developing world, the students’ utilization of digital technology has inspired college officials to rethink services provided on-campus and off (Gardner, & Eng, 2005). More recently, libraries are integrating library services with learning management systems and providing streaming video instruction (Nicholas, & Tomeo, 2005). Students-no longer tie the resources traditionally associated with the library solely to its physical place Gardner et al. (2005).

The growth of online learning and Information Technology has resulted in librarians accommodating fewer materials in the physical building while providing more access to digital resources (Johnson, Trabelsi & Fabbro, 2008). Online learning library support for virtual patrons has evolved into the digital or virtual component of the academic library (Moyo, 2004). Virtual services and resources provided by libraries generally consist of (a) reference assistance, (b) e-books, (c) electronic journals and magazines, (d) online databases, (e) an online library catalogue, (f) tutorials, (g) an interlibrary loan form, (h) book delivery, (i) instant or quick search, and (j) Internet links (Blackman, 2003; De Rosa, Cantrell, Hawk, & Wilson, 2006; Moyo, 2004; Song, 2004). Rapid changes to Information and Communication Technology have altered the information-seeking behaviors of college students (Nicholas, 2008; Williamson, Bernath, Wright, & Sullivan, 2007).

Statement of the Problem

Institutions of higher learning in Tanzania have subscribed to several online databases. These online databases are subscribed at both free use and subscription fees. When subscribing, Institutions expect significant use by students and staff in particular. They want to ensure that there is return on investment. When doing so, Institutions aim at facilitating learners and instructors with current educational materials. For students, the use of online resources is expected to broaden their skills and knowledge; enable them produce quality reports and acceptable results on their assessment. For academic staff, online databases are expected to supplement their research for both teaching and publications.

However, to attain these advantages, institutions encounter a number of challenges. This study aimed at assessing the top used online databases by higher learning institutions in Tanzania as well as finding out challenges these institutions face in the process of using the databases. The findings will help the management in the institutions, users of the databases and the general public to devise strategies to handle the challenges and as a result attain effective use of online databases.

Research Objectives

The study aimed at finding out the most used online databases in achieving main objective in higher learning institutions which are training, research, and consultancy and challenges users face. Specifically, the research aimed to:

1. Assess the most commonly used online databases in HEIs.
2. Find out the challenges facing users of online database systems in HEIs.

Research Questions

A general research question meant to address the commonly used online database systems in HEIs in Tanzania.

In order to provide answers to the general research question, two research questions were used to achieve the research objectives:

1. What are the most commonly used Online Databases in HEIs.
2. What are the challenges facing users of online database systems in HEIs?

Significance of the Study

The study is a contribution to the existing body of knowledge specifically on the use and effectiveness of online database systems subscribed by HEIs in Tanzania. The following are the main contributions of the study:

1. The study has exposed some areas of improvement over the current usage of the online database systems in HEIs in Tanzania.
2. The study provides best practices and standards, based on the research findings, on usage and subscription, and much emphasis on how effectively and efficiently to use the online database systems in HEIs in Tanzania.
3. The study provides a basis for further studies related to the online database systems in the context of developing countries.

Scope of the Study

The study focused on finding commonly used online databases and user challenges of online databases in HEIs in Tanzania. The selected fifteen (12) HEIs in Tanzania were surveyed. The study concentrated on only these variables and excluded other variables in order to ensure manageability and comprehensiveness of the study.

Limitations of the Study

The research was threatened by a participant error (Saunders, Lewis, & Thornhill, 2009:149). This was especially due to time difference in completing the questionnaire between participants in one HEI and the others (Robinson, 2011: 86). This was controlled through the use of research assistants who ensured data is collected at the same time scale. The use of research assistant at each of the HEI helped to resolve the participant bias, observer error and observer bias (Robinson, 2011: 87). The research assistants were known to respondents.

Literature Review

Studies have been carried out in the area of database system and in particular, online databases. However, these studies have not concentrated on use and challenges users face when fulfilling training, research and consultancy for the higher learning institutions in Tanzania. This is to say, in the context of Tanzania as far as challenges of online databases is concerned, for higher learning institutions, little has been done.

Kinner, & Rigda (2009) in their study of the Integrated Library System argues that, the evolution of internet necessitates a number of services to run over the internet. There are many systems running through web browsers. Most of these systems are database driven. Some examples of such systems are online booking systems, customer management systems, mobile phone service provider database, just to mention a few. Online database systems provide quick access to everyone at any time in 24/7 days throughout the year. In this study, the usefulness of such system in the areas mentioned remains untouchable.

According to (Edmeades, 2005) full distributed databases have become a reality and that the current trend towards centralization of database will continue. This advancement reduces communications costs, with increased volume and availability of data.

Online databases enable users to retrieve data by specifying the data or information they desire, rather than how to retrieve them (McLeod, 2005). Users of online database system can search, upload and download files in word documents, pdf and other file formats.

McLeod (2005) in his paper entitled *why online database*, argues that, online database systems can be easily accessible for untrained users. For example users are able to request data in a more natural language and natural database technology will anticipate user's data needs based on past queries and relevant database changes.

According to Blackman (2003) online database systems maximize the value of web-based environment by integrating the world's leading content into workflow by surfacing the most important relevant data. Online database system responds to the ever changing benchmark of sustainability and corporate social responsibility, and constantly updates the contents to reflect current practices.

Furthermore, online database create succinct reports for busy professional by mentioning thousands of sources and ensuring access to millions of records. This enables professionals to quickly find quality articles for publications that they may not have had access to or the time to check otherwise. The articles and other publications are provided on user- friendly platforms (Lyman, & Varian, 2003).

Online databases are a reliable content and Information Technology provider. They provide an outstanding track record of hosted solutions, on-time services delivery and superior communications with partners (Kinner, & Rigda, 2009).

Use of Online Databases in Education

According to Ainsley (2009), Liu, & Yang (2004), Nicholas (2005) & Fabbro (2008) the common uses of online database systems as summarized from several studies carried out between 2003 and 2008 for users and administrators of online database systems are: to allow library collections to be available 24/7, to access titles you may not be able to afford alone, to give students and researchers a 'head start' for tertiary studies, to accommodate the youth culture and to save time and money. These uses are sometimes referred to as the driving forces to the consideration of an online database system.

Online Database Subscriptions and its Management

The number of online database systems will continue to grow and its importance is at the highest peak (Kelley, 2003). Institutions will continue searching and collaborating with many online database systems. In turn, this will continue calling for management attention in the management of the subscriptions. Subscriptions must be managed to ensure efficiency and effective use of the resources for learning purposes. Online subscriptions need management and authentication for every institution subscribed. Librarians need to spend sometimes in training and supporting users at institutional levels. Moreover, online databases have online help sections for its subscribers to use. This help equip users and customers search techniques and skills so that they can effectively and efficiently use the resources.

Obstacles in using Online Databases

A number of obstacles have been found that cause ineffective use of the online resources. Students as well as staff in higher learning institutions have been experiencing many problems in the cause of using them. Even though this has been found out in a number of studies but the studies have indicated that users are willing to continue using online resources. Existence of the challenges facing users of online databases have been reported in many studies; Gupta (2011), Raza, & Kumar (2006), found the lack of training, slow Internet speed and its connectivity as challenges affecting users of online databases. Another study that looked at challenges of online databases is that of Ahmed (2013) who found faculty members widely using online databases but were subjected to problems like slow downloading speed, limited access to back issues and inability to access the resources from their home. As a result users of the online resources were reported to have not been satisfied when using them. Addressing challenges of online databases, also, Kwadzo (2015) identified online access problems and the difficulties when searching as among obstacles users face when using online database systems. Surveying on faculty awareness and use of library subscribed online databases, Larson (2017) found the main challenges facing online database users as no access to the online databases outside the university campus, some current articles could not be accessed freely, slow internet connectivity, passwords for some of the databases not working, and others said it was time consuming to search the databases. It can be seen from above the obstacles are almost the same with some variations from one place to the other.

Methodology

Research Design

In order to achieve the research objectives, the researcher adopted a survey study approach. The design helped in collecting large amount of data from a sizeable population of twelve (12) HEIs (Saunders, Lewis, & Thornhill, 2009). Each of the twelve HEIs was equally represented in the survey.

Research Population (Units of Inquiry)

The population of the study is all Higher Education Institutions in Tanzania. The selection of the population was motivated by the research aims and objectives in which online database systems are commonly used (Robinson 2011: 270). The following higher learning institutions participated: Bugando University, College of Business Education, Institute of Accountancy Arusha, Mzumbe University, St. Augustine University of Tanzania, Sokoine University of Agriculture, Tumaini University, and the University of Dodoma.

Sampling Techniques

From the population of all HEIs in Tanzania, a sample was selected, which consisted of twelve institutions. The selection considered institutions, which without prejudice to sampling techniques were those from the researchers' knowledge, that they possess adequate infrastructure to support online database systems. The selection also considered the geographical distribution of HEIs in the country. All major cities (that is, Dar es Salaam, Mwanza, Arusha, and Dodoma) were included. Other towns included Morogoro, Mbeya, and Iringa. The eight locations selected represent the Tanzania big centers for higher education. Furthermore,

the selection of participating HEIs considered a mixture of Institutions under the NACTE and the TCU. The selection was thought to be a representation of the HEIs population.

Probability sampling strategies were used to obtain participants (Saunders, Lewis, and Thornhill, 2009:207). For example, the sampling strategy started with a stratified sampling in which a HEI population was divided into two groups using a role attribute of being a students and an academic staff who are users of the online database systems (Saunders et al. 2009:221). This helped to get two sampling frames of participants: students and academic staff.

Secondly, from each of the sampling frame, the researchers adopted a simple random sampling technique. At this stage of sampling, all participants had an equal chance to be selected for participation.

Sample Size

From each of sampling the frames described above in 3.4, a sample was drawn from both students and academic staff. Specifically, a sample of 660 students, and 180 academic staff was obtained. The sample consisted of 55 students, and 15 academic staff from each participating HEI.

Data Collection Methods

Questionnaire

In this study questionnaires were used as the main tool for data collection. Principal researcher assisted by research assistants distributed questionnaires to all the units in the sample. In order to ensure high returns, researcher and his assistants physically distributed and collected the questionnaires. Both closed and open ended questions were used in the questionnaires.

Personal Interviews

Since this was a survey study, interviews were conducted as a follow-up to the questionnaire analysis. This ensured maximum data collection and helped to collect a large amount of data from twelve HEIs in Tanzania.

Documentary Reviews

Some organizational documents were requested and reviewed for the purpose of clarification of policy and procedural issues. Various documents were sought and used for the purposes summarized in table 3.1.

Types of Data Collected

Large amount of data were collected from both primary and secondary sources. For example, primary data were collected from the questionnaires and interviews. On the other hand, secondary data were collected for review of institutional policies and annual documents as summarized in table 3.1.

Table 3.1 Types of Data collected and the methods

Type	Method	Purpose
Primary Data	Questionnaires	To capture the opinions of respondents, including academic staff, administrative staff, Information services staff and students.
	Interviews	To follow up on unanswered questions and on hidden facts.
Secondary Data	Documentary reviews	To get the historical background of portals in the institutions, to know about the existing ICT policies, and to get a state of the art of the current portals.

Data Analysis and Interpretation

The analysis of data was done in two ways. The qualitative data came from the interviews. These data were summarized into themes which were used as a follow up on the quantitative data. The qualitative data were used to provide more insights in addition to the quantitative data collected using questionnaires. The quantitative data were analyzed through the SPSS using descriptive statistics.

Data Presentation and Analysis

Introduction

This part presents the research findings, data analysis, and the interpretation of the findings. The demographic data from the participants is provided below. This part shows the research findings, according to each objective of the study. The discussion of the findings is provided alongside each research objective. This approach seeks to create a coherent flow of the findings, discussion, and interpretation of the research.

Respondents Demographic

There were 595 students and 149 academic staff participating in the research. This makes a total of 744 participants. This is equivalent to 88.57% turn up of about 840 sampled respondents. From the students, the turn up was 595 of 660 which is equivalent to about 90.15% and for the academic staff, the turn up was 149 of 180, which is about 82.77%. According to gender, there were 308 female equal to 41.4% and about 436 male equal to 58.6% of all participants.

Objective One: Assess the most commonly used online databases in HEIs

The first objective assessed the most used online databases in HEIs in Tanzania. This question was asked to both students and academic staff who participated. The data collected from students and academic staff were analyzed and grouped into related themes. Then, each theme was quantitatively analyzed to determine the frequency and further analysis using the descriptive statistics techniques. The findings are summarized in Table 4.1.

Table 4.1 The Commonly used online databases in HEIs.

SNO.	NAME	Lecturers'		Students'	
		Number	Percentage	Number	Percentage
1	GOOGLE SCHOLAR	126	85%	264	44%
2	AFRICAN JOURNALS ONLINE (AJOL)	57	38%	179	30%
3	DIRECTORY OF OPEN ACCESS BOOKS	49	33%	35	6%
4	EMERALD	36	24%	20	3%
5	JSTOR	97	65%	118	20%
6	EBSCO	15	10%	24	4%
7	DIRECTORY OF OPEN ACCESS JOURNALS (DOAJ)	67	45%	2	0%
8	ScienceDirect	89	60%	146	25%
9	Taylor and Francis Journals	3	2%	15	3%
10	Sage Journals	34	23%	50	8%
11	IMF eLibrary	56	38%	47	8%
12	Palgrave Macmillan	46	31%	17	3%
13	Cambridge University Press	36	24%	21	4%
14	IEEE XPLORE	6	4%	0	0%
15	OXFORD ONLINE	34	23%	60	10%
16	WORLD BANK OPEN KNOWLEDGE REPOSITORY	5	3%	3	1%
17	WILEY ONLINE LIBRARY	82	55%	47	14%
18	OECD LIBRARY	4	3%	38	6%

In Table 4.1, the third and fourth columns shows number and percentages of academic staff who often uses the mentioned online databases listed on the second column. The fifth and sixth columns show findings from students about the commonly used online databases.

According to the results in Table 4.1, majority of academic staff and students in HEIs surveyed have used a free Google scholar. In addition, the Google Scholar was also found in the list of the subscribed online databases in some of the HEI Library sites. This indicates that some academic staff in HEIs prefer to use it over the rest of the databases.

The findings above shows that, Google Scholar had 85% for academic staff and 44% for students. AJOL was chosen by 38% by academic staff and 30% by students. JSTOR got 65% for academic staff as compared to 20 % from students. DOAJ was selected by 45% by academic staff and 0% by students. Sciencedirect (which is a website that provides subscription-based access to a large database of scientific and medical research) got a 60% rating for academic staff and 25% for students. WILEY had 55% academic staff saying they use it and 14% for students.

In a follow up interview to academic staff, it was further revealed that Google Scholar is ease and free to access and download a recent publication than the other online databases. On the other hand, students revealed that they learned about the online library databases from their lecturers and from fellow students and librarians. Regarding the choice of the most commonly used

databases, their choices were influenced by availability, and ease of use. In a discussion chapter, there is more discussion about the commonly used online databases.

Objective Two: Find out the challenges facing users of online database systems in HEIs

Objective two aimed to expose the challenges facing users of the online databases in HEIs in Tanzania. Table 4.2 summarizes quantitatively the common challenges. These challenges were collected from the questionnaires and grouped into related categories. Then, the categories were subjected into quantitative analysis techniques. A total of nine common challenges were identified and ranked as summarized in table 4.2.

Table 4.2 The Common Challenges facing users of Online Databases in HEIs

SNO.	Challenge	Lecturers		Students	
		Number	Percentage	Number	Percentage
1	Inadequate Support	23	15%	205	34%
2	Poor User awareness	34	23%	287	48%
3	Inadequate User training	23	15%	325	55%
4	Fewer facilities	13	9%	348	58%
5	High Cost for users	36	24%	7	1%
6	Environment not conducive	4	3%	153	26%
7	Difficult to access	81	54%	340	57%
8	Availability is a problem	54	36%	245	41%
9	Poor security	2	1%	3	1%

The first column shows the serial number with the maximum being 9. The second column shows the name of the challenge/problem identified, where nine were identified. The third and fourth columns show the number and the corresponding percentages of lecturers who mentioned the challenge. The fifth and sixth columns show the number and the corresponding percentages of students who chose the challenge.

Looking at the Table 4.2 above it can be seen that more students (percentage wise) experience more challenges as compared to academic staff when accessing or trying to access the online database systems.

For academic staff it can be seen that the top challenges are those related to access issues 54%, challenges related to availability of the online journals 36%, high cost for users 24%, inadequate user awareness 23%, and inadequate support and user training each had a response rate of 15% each. For Students, fewer facilities 58%, difficult to access 57%, inadequate user training 55%, poor user awareness 48% and poor availability 41% were identified as major challenges they encounter when accessing online database systems.

Generally, the challenges are similar between the students and the academic staff. This implies that both students and academic staff use the online databases in similar environment.

Some interviews were carried out to 10 academic staff and 15 students as a follow up on the common challenges facing users of online databases. The findings showed similar results as identified above.

"I face problems like slow internet speed and sometimes these databases are not available outside the campus. But these does not stop me from using them"

Source: Lecturers Interview Data.

In addition, students mentioned poor wireless internet connection, and availability and lack of awareness on the available online databases.

"The wireless internet is good but sometimes unavailable or slow connection. Another problem is education on what the university has subscribed and how to access them. I know some databases but not the password to access them."

Source: Students Interview data.

Discussion of the Findings

The first objective sought to assess what were the most commonly used online databases in HEIs. The results above shows the first five academic staff preferences are Google Scholar, JSTOR, DOAJ, ScienceDirect and WILEY Online library. On the other hand, students' preferences included Google Scholar, AJOL, JSTOR, ScienceDirect and WILEY online library. There were several reasons for the choice of these online databases. For example, the responses were influenced by the knowledge about the ease of use, and availability. The mentioned online databases were either free or obtained through their higher learning institutions library subscription to COTUL. COTUL (Consortium of Tanzania Universities and Research institution Libraries) is a formal association of academic and research libraries for the purpose of engaging in joint information provision activities particularly; acquisition of electronic information sources, Research, Training, Consultancy and others deemed critical in the attainment of academic excellence in learning, teaching and research in academic institutions.

In a related study at the University of Ghana, Kwadzo (2015) found out that about 50% used JSTOR, 34.4% used EBSCO and Emeralds, 25% used ScienceDirect, and 18.8% used AGORA. However, the use and awareness about the online databases depends on the subscriptions and options chosen by a respective HEI. For example, at the University of Ghana there were about 83 online databases subscribed based on the courses offered at the University. This means, students and academic staff responses were highly influenced by the available online databases at their disposal. Almost the same case hold in this study. COTUL in Tanzania has a list of online databases from which higher learning institutions can subscribe and access its online resources. A higher learning can choose which online databases to subscribe to depending on the nature of the courses it offers. In turn, students and academic staff are able to get free access to these subscribed resources and hence their responses were highly affected by this fact.

The researcher found that not all electronic resources (e.g. Articles and Books) were free for access in these subscribed online databases.

In the second objective, the research sought to find out the challenges facing users of online database systems in HEIs. The major challenges found were categorized into two categories:

students and academic staff challenges. Looking at the Table 4.2 it can be seen that more students experienced challenges as opposed to academic staff (looking at percentages of Lecturers against those of Students)). For the students' challenges, the top five challenges are those related to inadequate user training, fewer facilities and problems related to online resource access. On the other hand, the academic staffs major challenges are those in connection with cost of access, access issues and availability related.

Looking at the available literature, the above challenges were also found in a study conducted by (Kwadzo, 2015), who found similar results as shown above. Two years back, the scholars such as Ahmed (2013) and Mbabu, Bertram and Varnum (2013) whose studies were on higher education, had found similar results such as weak ICT infrastructure, difficult to use the online databases, difficult to access online databases from home, low internet bandwidth, and other access problems. Given the evidences provided above, HEIs have the challenges which need to be solved in order to enhance the access, usage, and efficiency of online databases.

Conclusion and Recommendations

Conclusion

The research has provided answers on the aims which sought to evaluate the common challenges for the most used online databases in achieving the main functions of higher education institutions which are training, research, and consultancy. The general aim above was attained using two specific objectives.

In order to meet the objectives, a methodology was designed based on the existing best practices, approaches and methods. A survey was viewed as the most appropriate and a mixed methods approach through questionnaire and interviews were used. The data collected were then analyzed and presented and later the discussion provided.

The research findings have revealed that:

Firstly, the research findings have indicated online databases preferences for the academic staff and students in higher learning institutions. Google Scholar, JSTOR, DOAJ, Sciencedirect, and WILEY were found to be more popular with academic staff while Google Scholar, JSTOR, AJOL, Sciencedirect, and WILEY were found to be more popular with students. Additionally, it can be seen that preferences for both academic staff and students are similar to preferences mentioned in other sources of literature reviewed. However, the choices have been influenced by the availability, cost and ease of use of the online databases.

Lastly, the research has revealed the major challenges facing both the students and the academic staff in the use of online databases. The challenges include inadequate training, access problems, poor availability, awareness, and fewer facilities to access the online databases.

Reflections and Further Studies

The following are the recommendations and suggestions for further studies:

First, in relation to the first objective:

1. Put in place information pack that will guide on access issues and the required credentials to enable both students and academic staff to easily access the online databases.

2. Put in place an awareness strategy on the available online databases subscribed on by the respective HEI.
3. Inform users of free online resources.

Second, in relation to the last objective:

1. Include in the institutional plans and commitments strategies to identify the existing users' challenges regarding the online databases.
2. Involve key stakeholders in all efforts towards resolving the Institutional challenges.

Acknowledgement

The Author acknowledges the work done by Dr. John Marco Pima and Victor Ngessa in their research report titled: Assessing the Usefulness of Online Databases: A Survey of Higher Learning Institutions in Tanzania from which this Article among others draws its findings.

For the two Objectives, which were initially inadequately answered by respondents (in the report), the questionnaire was rerun. The older responses were not taken into account for this work.

I would also like to express my special thanks to my employer, the Institute of Accountancy Arusha and its management for financing this research work. Special thanks should go again to Dr. John Marco Pima who his guidance in preparing this Article was of paramount importance. Furthermore, I would like to thank all higher academic institutions, their staff as well as students who were respondents for this research work. Without their feedback and other help they provided this work could have not been a success. Lastly, my thanks should go to all students who volunteered to be research assistants for giving me a hand in this tiresome work.

References

- Ahmed, Z. S. (2013). Use of electronic resources by the faculty members in diverse public universities in Bangladesh. *The Electronic Library*, 31(3), 290-312. doi:<http://dx.doi.org/10.1108/EL-05-2011-0081>
- Blackman, R. F. (2003). *A study of the perceptions and attitudes regarding library services available to students enrolled in online degree programs* (Doctoral dissertation). Available from ProQuest Dissertations database, (UMI No. 3126987)
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319-339 [Online] Available from: <<http://www.jstor.org/stable/249008>> Retrieved [10 October 2017]
- De Rosa, C., Cantrell, J., Hawk, J., & Wilson, A. (2006). *College students' perceptions of libraries and information resources* [Online] Available from <<http://www.oclc.org/us/en/reports/perceptionscollege.htm>> Retrieved [15 September 2016]
- Dilevko, J., & Gottlieb, L. (2002). Print sources in an electronic age: A vital part of the research process for undergraduate students. *Journal of Academic Librarianship*, 28, 381-392.
- Edmeades, C. (2005). *Why online database?* [Online] Available from: <www.aiswalibraries.org.au/onlinedases.pdf> Retrieved [4 September 2016]

- Gardner, S., & Eng, S. (2005). What students want: Generation Y and the changing function of the academic library Portal. *Libraries and the Academy*, 5, 405-420.
- Gupta, D. K. (2011). Use pattern of print and electronic journals at the Kurukshetra University, India. *Electronic library and information systems*. 45 (2), 213- 230
- Kelley, K., & Orr, G. (2003). *Trends in distant student use of electronic resources. College and Research Libraries*, 64, 176-191. [Online] Available from: <<http://www.ala.org/ala/mgrps/divs/acrl/publications/crljournal/collegeresearch.cfm>> Retrieved [4 September 2017]
- Kinner, L., & Rigda, C. (2009). The Integrated Library System: From Daring to Dinosaur? *Journal of Library Administration*; Jun 2009, Vol. 49 Issue 4, pp. 401-417, 17p, 3 Black and White Photographs, 1 Graph
- Kwadzo, G. (2015). Awareness And Usage Of Electronic Databases By Geography And Resource Development Information Studies Graduate Students In The University Of Ghana. *Library Philosophy and Practice, e-journal*. [Online] Available from <<http://digitalcommons.unl.edu/libphilprac/1210>> Retrieved [20 June 2017]
- Larson, A. (2017). *Faculty awareness and use of Library subscribed online databases in the University of Education, Winneba. Ghana: A survey.* [Online] Available from <<http://digitalcommons.unl.edu/libphilprac/1515>> Retrieved [February 13, 2018]
- Liu, Z., & Yang, Z. Y. (2004). Factors influencing distance education graduate students' use of information sources: A user study. *The Journal of Academic Librarianship*, 30, 24-35.
- Lyman, P., & Varian, H. R., (2003). *How much information?* [Online] Available from <<http://www.sim.berkeley.edu/how-much-info-2003>> Retrieved [25 April 2017]
- Mbabu, L. G., Bertram, A., & Varnum, K. (2013). Patterns of undergraduates' use of scholarly databases in a large research university. *Journal of Academic Librarianship*, 39(2), 189-193. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0099133312001589>
- McLeod, I. (2005). *Why online database?* [Online] Available from <<http://www.aiswalibraries.org.au/onlinedases.pdf>> Retrieved [12 June 2017]
- Moe. (2011). *Higher Learning institutions* [Online] Available from: <http://216.15.191.173/pdf/HEDP_VERSION_FOR_UPLOAD.pdf> Retrieved [1 June 2016]
- Moncrieff, J., Macauley, P., & Epps, J. (2007). My universe is here: Implications for the future of academic libraries from the results of a survey of teachers. *Australian Academic & Research Libraries*, 38, 71-83 [Online] Available from <<http://alianet.alia.org.au/>> Retrieved [11 January 2016]
- Moyo, L. M. (2004). The virtual patron. *Science & Technology Libraries*, 30(12), 12-13. [Online] Available from <<http://www.tandf.co.uk/journals/WSTL>> Retrieved [7 May 2017]
- Nasir, M. (2013). Use of online and printed journals by research scholars of faculty of Life Science and Agricultural Science, AMU: a comparative study. *Online International Interdisciplinary Research Journal*, 3(5), Sept-Oct 2013, 417-432. Available from <https://www.researchgate.net/publication/271846552_Use_of_online_and_printed_journals_by_research_scholars_of_faculty_of_life_science_AMU_a_comparative_Study> Retrieved [7 May 2017]

- Nicholas, M., & Tomeo, M. (2005). Can you hear me now? Communicating library services to distance education students and faculty. *Online Journal of Distance Learning Administration*, 8(2), 1-8 [Online] Available from <http://www.westga.edu/~distance/ojdla/search_results_id.php?id=298> Retrieved [11 June 2017]
- Nwaogu, H. O., & Ifijeh, G. I. (2014). The Use of Electronic Journals by Lecturers: A Case Study of University of Ibadan, Nigeria. *International Journal of Education and Social Science*, 1(1), 66-73. [Online] Available from <<http://www.ijessnet.com/wp-content/uploads/2014/08/8.pdf>> Retrieved [December 04, 2017]
- Pima, J. M., & Ngessa, V., (2016). *Assessing the Usefulness of Online Databases: A Survey of higher learning institutions in Tanzania* (A Report). Arusha, Institute of Accountancy Arusha.
- Raza, M. M., & Kumar, U. A. (2006). Usage of E-journals by researchers in Aligarh Muslim University: A study. *The International Information & Library Review* (2006) 38, 170–179. doi:10.1016/j.iilr.2006.06.009
- Robinson, C. (2011). *Real World Research* (3rd ed.). London: A John Willey and Sons, Ltd Publications.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Edinburgh: Pearson Education Limited.
- Williamson, K., Bernath, V., Wright, S., & Sullivan, J. (2007). Research students in the electronic age: Impacts of changing information behavior on information literacy needs. *Communications in Information Literacy*, 1(2), 47-63.