The impact of using databases in raising the level of scientific research in Jordan from the viewpoint of faculty members at Jordanian Universities

Article · November 2016

CITATIONS
0

READS
21

5 authors, including:

Mohammad Naqrash
Al-Balqa' Applied University
9 PUBLICATIONS **3** CITATIONS

SEE PROFILE

Khaldoon Al Dwairi
Al-Balqa' Applied University
18 PUBLICATIONS **23** CITATIONS

SEE PROFILE

Global Science Research Journals

ISSN: 2449-0601 Vol. 4 (4), pp. 130-138, November, 2016

http://www.globalscienceresearchjournals.org/

Global Educational Journal of Library and Information Science

Full Length Research Paper

The impact of using databases in raising the level of scientific research in Jordan from the viewpoint of faculty members at Jordanian Universities

Dr. Mohammad Niqresh[1], Dr. Khaldoun Al Dweiri[2] and Dr. Ali Kh. Tawalbeh[3]

[1,2,3] Al Balqa Applied University

Accepted 2 November, 2016

This study aimed to know the viewpoint of faculty members at Jordanian Universities on the impactof using databases in raising the level of scientific research in Jordan, and also aimed to investigate the effect of gender, experience, qualification, academic rank on the point of view of faculty members. The study sample consisted of 60 faculty members 31 males and 29 females from the three Jordanian universities. Means and standard deviations and t-test were used to analyze the results .The results showed that there were statistically significant differences in the views of the faculty members on the impact ofusing databases in raising the level of scientific research in Jordan, also showed a statistically significant differences at the level of significance (α=0,05) in their views attributed to the experience, as there are statistically significant differences at the level of significance (α=0,05) in their views attributed to gender, and results also showed the existence of clear statistically significant differences in the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to the Qualification and academic Rank variables.

Key words: The views of faculty members, Databases, Level of scientific research

INTRODUCTION

Previously libraries have evolved in their quest to continue to play avital role in ensuring quality education and research. With the advent of informationand communication technologies such as the internet and the web, electronicresources have become a widely accepted scholarly resource for both students andfaculty. Technological advances have brought about radical changes in the waymodern organizations operate, and the library is no exception. It has influenced theway libraries gather, store, organize, retrieve and disseminate information (Sharma,2009).

According to Dadzie (2005), electronic resources are invaluable resources thatcomplement print based resources. They have also been shown to be very helpful,especially, to post graduate students and distance learners who may have limitedaccess to library resources in traditional formats (Egberongbe, 2011; Sharma, 2009). The use of citations for evaluating research is based on the assumption that citation counts are anobjective measure that credits and recognizes the value, impact, quality, or significance of an author'swork (Borgman& Furner, 2002; Holden, Rosenberg, & Barker, 2005; Moed, 2005; vanRaan, 2005; Wallin, 2005)

Many scholars have argued for and against the use of citations for assessing research quality.Proponents have reported the validity and reliability of citation counts in research assessments as well asthe positive correlation between these counts and peer reviews/assessments of publication venues (Aksnes&Taxt, 2004; Holmes & Oppenheim, 2001; van Raan, 2000; Warner, 2000).

Statement of the Problem

The last decade witnessed a great spread of using technology in all aspects of life, among which is using databases in scientific research. Faculty members same as other portions of the society use these databases to cope with the rapid spread of information and rapid development in technology. The researcher in this study tried to shed light on faculty members' perspectives towards the impact of using databases in the development of scientific research in general

Purpose of the study

The purpose of the study is to know the viewpoint of faculty members at the Jordanian universities on the impact ofusing databases in raising the level of scientific research in Jordan, and also it aimed to investigate the effect of gender, experience, qualification, academic rank on the point of view of faculty members

Questions of the study

1. What is the point of view of faculty members at the Jordanian universities on the impact ofusing databases in raising the level of scientific research in Jordan?
2. Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to gender (Male, Female)?
3. Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to the teaching experience (less than 5 years, 5 years and over)?
4. Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to scientific qualification (MA, PhD)?
5. Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to the academic rank (assistant professor, associate professor, professor)?

Definition of Terms

Research databases: are organized collections of computerized information or data such as periodical articles, books, graphics and multimedia that can be searched to retrieve information. Databases can be general or subject oriented with bibliographic citations, abstracts, and or full text. The sources indexed may be written by scholars, professionals or generalists.

LITERATURE REVIEW

Many researchers conducted studies to investigate the effectiveness of using databases by faculty members or even by students in raising the level of scientific research in all fields. The researcher reviewed some of these studies as follows:

Calvert (2000) has evaluated the impact of electronic journals and aggregate databases on interlibrary loan activities. His findings reveal that results are not significant enough to justify searching, borrowing requests in aggregate databases and changing current inter-library loan procedure for searching request before ordering.

Goodrum et al. (2001) and Zhao and Logan (2002) compared citations from Cite Seer/Research Index, a Web-based citation indexing system, with those from ISI's Science Citation Index (SCI) in the field of computer science. Both studies found a 44.0% overlap among the top-25 cited authors and concluded that Cite Seer/Research Index and SCI were complementary in their coverage of the field.

Singh and Gautam (2004) focused on access toinformation through online or CD-ROM media that has remained a challenging effort for both the userand the intermediary. It further reveals that many of the e-databases are being created and madeavailable today in India for use both within the country and outside.

More recently, Pauly and Stergiou (2005) compared citation counts between WoS and GS for papersin mathematics, chemistry, physics, computing sciences, molecular biology, ecology, fisheries,oceanography, geosciences, economics, and psychology. Each discipline was represented by threeauthors, and each author was represented by three articles (i.e., 99 articles in total). The authors alsoexamined citations to an additional 15 articles for a total of 114. Without assessing the accuracy orrelevance and quality of the citing articles, the authors reported such good correlation in citation countsbetween the two sources that they suggested GS can substitute for WoS.

Bauer and Bakkalbasi (2005) compared citation counts provided by WoS, Scopus, and GoogleScholar (GS) for articles from the Journal of the American Society for Information Science andTechnology published in 1985 and in 2000. They found that WoS provided the highest citation counts forthe 1985 articles and GS provided statistically significant higher citation counts than either WoS or Scopusfor the 2000 articles. They did not find significant differences between WoS and Scopus for either year.The authors, however, stated that more rigorous studies were required before these findings could beconsidered definitive, especially because the scholarly value of some of the unique material found in GSremained an open question.

Agaba, Kigongo-Bukenya and Nyumba (2005) examining the utilization of electronic information by academic

staff of Makerere University identified the lack of good telephone services as one of the major obstacle to computerization and networking by libraries in Uganda. Their results indicated that 82% of respondents mentioned inadequacy of existing infrastructure and slow speed or low bandwidth as some of the reasons that prevented them from accessing electronic resources.

Shija (2009) assessing the usage of electronic resources via the internet inspecial libraries in Tanzania observed that awareness, lack of enough internet skills,poor infrastructure and connectivity were the major reasons for the low patronage ofelectronic resources.

Moreover, Swain, (2010) in his study reveals that the majority of students are aware of EBSCO, and Emerald Management Xtra.

DESIGN AND METHODOLOGY

Population of the study

The population of the study consisted of all faculty members in three universities: Al al-Bayt University, Al Balqa Applied University, and Al Tafila Technical University.

Sample of the Study

The sample of the study consisted of 60 faculty members, 31 males and 29 females from three Jordanian universities: Al al-Bayt University, Al Balqa Applied University, and Al Tafila Technical University, a questionnaire was distributed among them.

Instrument of the Study

A questionnaire was distributed among the faculty members in three Jordanian universities: Al al-Bayt University, Al Balqa Applied University, and Al Tafila Technical University, a questionnaire was distributed among them. And this questionnaire was designed by the researchers themselves, it consisted of 25 items. Many variables were included such as the gender of the faculty member, experience, qualification and academic rank.

Reliability of the Instrument

To ensure the questionnaire reliability, the researcher applied it to a pilot sample of (10) faculty members excluded of the study sample in the same universitiesfrom which the sample was chosen with a two-week period between the first and second time it was distributed. The reliability of the questionnaire was calculated using correlation coefficient sand it was found 0.87 which is suitable to conduct such a study.

Procedures of the Study

A questionnaire about faculty members' point of view towards the impact of using databases in raising the level of scientific research in Jordan was given to 60 faculty members (31 male, and 29 female). After that the researcher collected the questionnaires and collected data, and then this data was analyzed statistically.

Statistical Analysis

The results were analyzed for each item in the questionnaire using suitable statistical methods such as mean and standard deviation. The researcher also used figures to clarify the results more.

FINDINGS OF THE STUDY

The purpose of the study is to know theviewpointof faculty membersat the Jordanian universitieson the impact ofusing databases in raising the level of scientific research in Jordan, and also it aimed to investigate the effect of gender, experience, qualification, academic rank on the point ofview of faculty members

A questionnaire was distributed among60 faculty members, 31 males and 29 females fromthree Jordanian universities: Al al-Bayt University, Al Balqa Applied University, and Al Tafila Technical University. Means and standard deviations and T-test were used to analyze the results

To answer the first question about faculty members' point of view towards the impact ofusing databases in raising the level of scientific research in Jordan:What is the point of view of faculty members at the Jordanian universities on the impact of using databases in raising the level of scientific research in Jordan? A questionnaire was distributed among them and means and standard deviation were calculated. Results were shown in Table 1

Table 1: Faculty members' point of view towards the impact of using databases in raising the level of scientific research in Jordan

Item	Mean	Std. Deviation
Q1	4.61	.698
Q2	4.49	.715
Q3	4.42	.805
Q4	4.49	.858
Q5	4.33	.848
Q6	4.32	.767
Q7	4.59	.693
Q8	4.51	.732
Q9	4.18	.907
Q10	4.43	.877
Q11	3.97	1.000
Q12	4.23	.884
Q13	4.47	.905
Q14	4.46	.880
Q15	4.30	.837
Q16	4.41	.806
Q17	4.47	.759
Q18	4.39	.879
Q19	4.54	.741
Q20	4.44	.784
Q21	4.33	.945
Q22	4.63	.679
Q23	4.52	.755
Q24	4.54	.672
Q25	4.42	.812
QALL	4.42	.584

Table 1 shows that there are statistically significant differences in faculty members' point of views about the impactof using databases in raising the level of scientific research in Jordan. It shows the results of the questionnaire which was distributed among (60) faculty members about their point of views towards the impact of using databases in raising the level of scientific research in Jordan. Means and standard deviations were calculated and results show that question 22 got the highest meanwhich was (4.63); question 11comes next with a mean of (3.97).

Standard deviation for question 22 was (0.679) which is higher than (α≤0, 05) so it means that it is statistically significant. Standard deviation for question 11 was nearly the same; it was (1.000) which is also statistically significant.

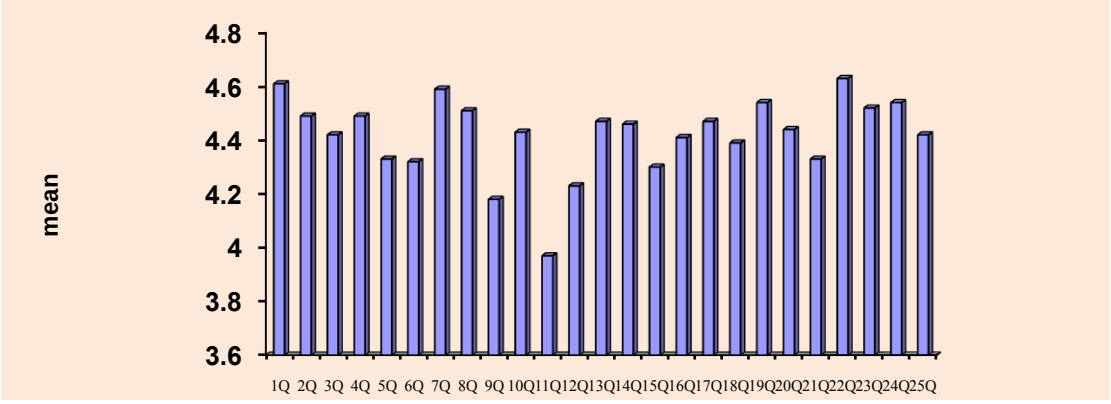

Diagram 1: Faculty members' point of views about the impact of using databases in raising the level of scientific research in Jordan

It is clear in the diagram that the mean of question 22 was the highest mean, question 1 comes next. The mean of the (4, 8, 19, and 24) are nearly the same, so faculty members' point of view about the impact of using databases in raising the level of scientific research in Jordan are positive.

To answer the second question about faculty members' point of views and gender:Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to gender (Male, Female)?Means and standard deviations were computed and table 2 shows the results.

Table 2 shows there are statistically significant differences due to academic level variable. It shows the results of the questionnaire which was distributed among (60) faculty members about their point of views on the impact ofusing databases in raising the level of scientific research in Jordan. Means and standard deviations were calculated and results show that female faculty members got a higher mean than male faculty members which was (4.53, and 4.31) respectively; this indicates that the academic level have an effect on faculty members' attitudes.

Standard deviation for female faculty members was (0.425) which is higher than (α≤0, 05) so it means that it is statistically significant. Standard deviation for male faculty members was higher; it was (0.685) which is also statistically significant.So, Table 2 shows there are statistically significant differences due to gender variable in favor of females.

Table 2: Means, standard deviations and t-test according to gender variable

Gender	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Male	31	4.31	.685	-2.542	168	.012
Female	29	4.53	.425			

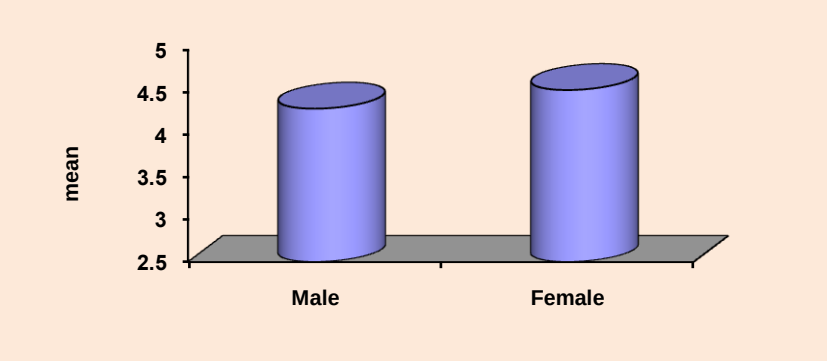

Diagram 2: Means, standard deviations and t-test according to gender variable

Diagram 2 shows that male faculty members' point of views are less positive about the impactof using databases in raising the level of scientific research in Jordan than female faculty members.

To answer the third question about faculty members' point of views and experience:Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to the teaching experience (less than 5 years, 5 years and over)?Means and standard deviations were computed and Table 3 shows the results.

Table 3: Means, standard deviations and t-test according to experience variable

Experience	N	Mean	Std. Deviation	t	Df	Sig. (2-tailed)
Less than 5 years	27	4.26	.722	-3.387	168	.001
5 years or above	33	4.55	.385			

Table 3 shows there are statistically significant differences due to experience variable. It shows the results of the questionnaire which was distributed among (60) faculty members about their point of views about the impact of using databases in raising the level of scientific research in Jordan. Means and standard deviations were calculated and results show that faculty members whose experience less than 5 years got a lower mean than faculty members whose experience above 5 years which was (4.26, and 4.55) respectively; this indicates that experience have an effect on faculty members' point of views.

Standard deviation for faculty members whose experience less than 5 years was (0.722) which is higher than (α=0.05) so it means that it is statistically significant. Standard deviation for faculty members whose experience above 5 years was lower; it was (0.385) which is also statistically significant.So, Table 3 shows there are statistically significant differences due to experience variable in favor of five years or above.

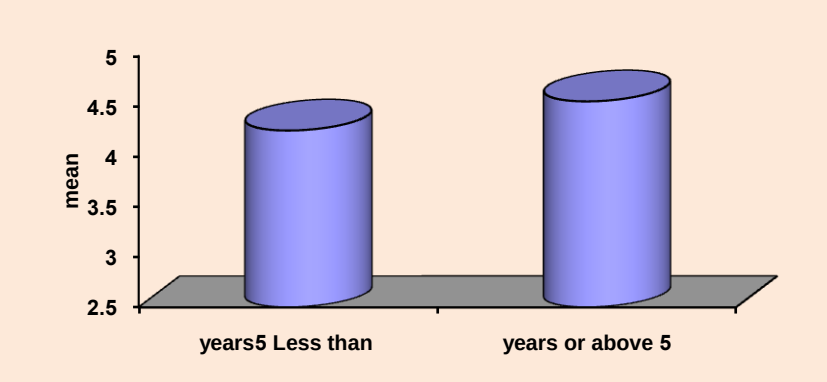

Diagram 3: Means, standard deviations and t-test according to experience variable

Diagram 3 shows that faculty members whose experience are 5 years or above got positive point of views about the impact of using databases in raising the level of scientific research in Jordan than faculty members whose experience less than 5 years.

To answer the fourth question about faculty members' point of views and their qualification:Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to scientific qualification (MA, PhD)?Means and standard deviations were computed and Table 4 shows the results.

Table 4: Means, standard deviations and t-test according to qualification variable

Qualification	N	Mean	Std. Deviation	t	Df	Sig. (2-tailed)
Master degree	20	4.22	.853	-2.299	168	.023
PhD	40	4.47	.482			

Table 4 shows there are statistically significant differences due to qualification variable. It shows the results of the questionnaire which was distributed among (60) faculty members about their point of views about theimpact of using databases in raising the level of scientific research in Jordan. Means and standard deviations were calculated and results show that PhD faculty members got a higher mean than master faculty members which was (4.47, and 4.22) respectively; this indicates that qualification have an effect on faculty members' point of view.

Standard deviation for PhD faculty members was (0.482) which is higher than (α=0.05) so it means that it is statistically significant. Standard deviation for master faculty members was higher; it was (0.853) which is also not statistically significant. So, table 4 shows there are statistically significant differences due to qualification variable in favor of PhD faculty members.

So, table above shows there are statistically significant differences in faculty members' point of views due to qualification variable in favor of PhD faculty members.

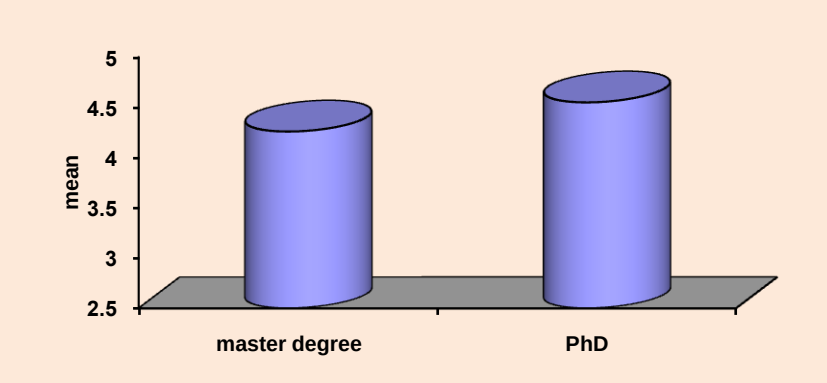

Diagram 4: Means, standard deviations and t-test according to qualification variable

Diagram 4 shows that PhD faculty members got positive point of views about the impact of using databases in raising the level of scientific research in Jordan than master faculty members.

To answer the fifth question about faculty members' point of views and their academic rank: Are there any statistically significant differences between the views of the faculty members on the impact of using databases in raising the level of scientific research in Jordan due to the academic rank (assistant professor, associate professor, professor)? Means and standard deviations were computed and Table 4 shows the results.

Table 5: Means, standard deviations and t-test according to academic rank variable

Academic Rank	N	Mean	Std. Deviation
Assistant prof	41	4.30	.657
Associate prof	17	4.51	.509
Professor	2	4.65	.296
Total	60	4.42	.584

Table 5 shows there are statistically significant differences due to academic rank variable. It shows the results of the questionnaire which was distributed among (60) faculty members about their point of views about theimpact of using databases in raising the level of scientific research in Jordan. Means and standard deviations were calculated and results show that Assistant Professors got the lowest mean, next comes Associate Professors, and finally Professors got the highest mean which was (4.30,4.51 and 4.65) respectively; this indicates that academic rank have an effect on faculty members' point of views.

Standard deviation for Assistant Professors was (0.657) which is higher than (α=0.05) so it means that it is not statistically significant. Standard deviation for Associate Professors was lower; it was (0.509) which is also not statistically significant. Standard deviation for full Professors was the lowest; it was (0.296) so, table 5 shows there are statistically significant differences due to academic rank variable in favor of Full Professors.

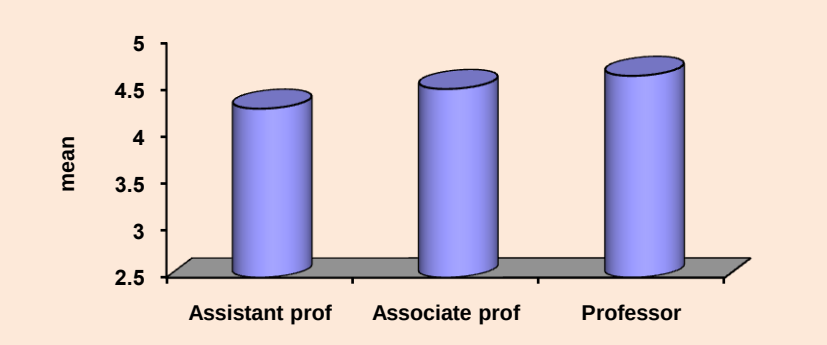

Diagram 5: Means, standard deviations and t-test according to academic rank variable

Diagram 5 shows that full Professors' points of views about the impact of using databases in raising the level of scientific research in Jordan are positive.

The researcher also used post Hoc comparison to show the difference between the three groups: Assistant Prof, Associate Prof, and Professor. Table 6 shows the analysis.

Table 6: Post Hoc comparison to show the difference between the three groups

(I) academic rank	(J) academic rank	Mean Difference (I-J)	Std. Error	Sig.
Assistant prof	Associate prof	-.21(*)	.098	.030
	Professor	-.35(*)	.129	.008
Associate prof	Assistant prof	.21(*)	.098	.030
	Professor	-.13	.138	.329
Professor	Assistant prof	.35(*)	.129	.008
	Associate prof	.13	.138	.329

Table 6 shows that the mean difference is significant at the .05 level.

CONCLUSION

The real purpose of any academic library is to provide its users with relevant up todate information in order to fulfill its core function of facilitating teaching, learningand research. In today's contemporary world where the internet has become crucialto the survival of any establishment, it is incumbent on academic libraries to provideits users with access to online academic databases. The study established clearly thatfaculty members depend highly on online electronic resources not only for thepurposes of research, but also to support their teaching. However, despite thisoverwhelming revelation it was realized that the patronage of the library's onlineacademic databases was very low. This was largely because faculty members wereeither not aware of the existence of these databases or were not aware that the librarysubscribes to these databases.

RECOMMENDATIONS

The researcher recommended the following:

- Conducting further studies to investigate the impact of using databases on higher education students' academic development
- Conducting studies that tackle other variables
- Conducting studies to focus on faculty members in private universities.

REFERENCES

Agaba D, Kigongo-Bukenya I and Nyumba J (2005). Utilization of electronic information resources by academic staff at Makerere University in Uganda.University of Dar el Salaam Library Journal, 6(1), 18-28.

Aksnes D and Taxt R (2004). Peer reviews and bibliometric indicators: A comparative study at a Norwegian university. Research Evaluation, 13(1), 33-41.

Bauer K and Bakkalbasi N (2005). An examination of citation counts in a new scholarly communication environment. D-Lib Magazine, 11(9). Retrieved June 25, 2016, from http://www.dlib.org/dlib/september05/bauer/09bauer.html.

Borgman C and Furner J (2002). Scholarly communication and bibliometrics.Annual Review of Information Science and Technology, 36, 3-72.

Calvert H (2000). "The impact of electronic journals and aggregate database on interlibrary loan: A case study at Ball State University Libraries", New Library World, Vol. 101 No. 1153, pp. 28-31.

Dadzie P (2005). Electronic Resources: access and usage at Ashesi University College. Campus–wide Information Systems, 22 (5). Retrieved on 5th September, 2016 fromhttp//www.emeraldinsight.com

Egberongbe S (2011). The Use and Impact of Electronic Resources at the University of Lagos. Library Philosophy and Practice (e-journal).Paper 472. Retrieved on 8th September, 2016 from http://digitalcommons.unl.edu/libphilprac/472

Goodrum A, McCain K, Lawrence S and Giles C (2001). Scholarly publishing in the Internet age: A citation analysis of computer science literature. Information Processing&Management, 37(5), 661-675.

Holden G, Rosenberg G and Barker K (2005). Bibliometrics: A potential decision making aid in hiring, reappointment, tenure and promotion decisions. Social Work in Health Care, 41(3-4), 67-92.

Holmes A and Oppenheim C (2001). Use of citation analysis to predict the outcome of the 2001 Research Assessment Exercise for Unit of Assessment (UoA) 61: Library and Information Management, Information Research, 6(2). Retrieved September 10, 2016, from http://informationr.net/ir/6-2/paper103.html.

Moed H (2005). Citation analysis in research evaluation, Springer, Berlin.

Pauly D and Stergiou K (2005). Equivalence of results from two citation analyses: Thomson ISI's citation index and Google's scholar service. Ethics in Science and Environmental Politics, 33-35.

Sharma C (2009). Use and Impact of E-Resources at Guru Gobind Singh Indraprastha University (India): A Case Study. Electronic Journal of Academic and Special Librarianship, 10 (1), 58-64.

Shija H (2009). E-resources use via the internet improvement is a must: a case of special libraries in Tanzania. Retrievedon 9th October, 2016 from www.ais.up.ac.za/digi/docs/paper_shija.doc

Singh A and Gautam J (2004). “Electronic databases: The Indian scenario”, The Eiectronic Library, Vol. 22 No. 3, pp. 249-60.
Swain D (2010). “Students’ keenness on use of e-resources”, The Electronic Library, Vol. 28 No. 4, pp. 580-91.
vanRaan A (2000). The Pandora's box of citation analysis: Measuring scientific excellence—the last evil?In B. Cronin & H. B. Atkins (Eds.). The Web of knowledge: A festschrift in honor of Eugene Garfield (pp. 301-319). Medford, NJ: Information Today.
vanRaan A (2005). Fatal attraction: Conceptual and methodological problems in the ranking of universities by bibliometric methods. Scientometrics, 62(1), 133-143.
Wallin J (2005). Bibliometric methods: Pitfalls and Possibilities. Basic & Clinical Pharmacology&Toxicology, 97(5), 261-275.
Warner J. (2000). A critical review of the application of citation studies to the Research Assessment Exercises. Journal of Information Science, 26(6), 453-459.