

## **DETERMINING GENDER AS PERSONAL CHARACTERISTIC THAT INFLUENCE UTILIZATION OF ONLINE LIBRARY SERVICES BY DISTANCE STUDENTS AT THE UNIVERSITY OF NAIROBI, KENYA**

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### **ABSTRACT**

The purpose of this study was to determine factors influencing utilization of online library services by distance students at the University of Nairobi. Specifically the study sought to achieve one objective; to examine how gender as a personal characteristic influence utilization of online library services by distance students at the university of Nairobi. The researcher applied an eclecticism research paradigm. The study adopted descriptive survey design. Data was collected using self-administered questionnaire and interview schedule. The study targeted a total of 1000 students and 14 librarians in the school of continuing and distance education. The sample therefore comprised of 278 distance students and 14 librarians. A pilot study was conducted with 28 student respondents and 1 librarian. This constituted 30% of the study sample. The reliability of the instruments was 0.72. The researcher applied captive audience technique to collect data from the respondents. Data were analysed using frequency counts, the mean and standard deviation and hypothesis was tested using Chi-square, T-test, one way ANOVA and Regression analysis at 0.05 level of significance. The key findings revealed that, there was no significant relationship between distance students gender and utilization of online library services at the University of Nairobi. For example, 49.3% of the male respondents considered using online library services daily, twice and once a week compared to 13.6% of the female gender. The findings have important implications in utilization of online library services. For instance, all distance students irrespective of their gender should be encouraged to use online library services provided by the university. A study may be carried out to investigate the effects of personal characteristics and institutional based factors on effective utilization of online library services in private universities. The researcher considered the ethical considerations so as to avoid plagiarism and ensured confidentiality.

**Key terms:** Gender, characteristic, library services, Distance, Students, Kenya

### **Statement of the problem**

The University of Nairobi online library service is designed to operate on a self-service mode where students are expected to maximally utilize the library as their main source of information to support their learning and knowledge acquisition activities. However, noting from observations and frequent request for assistance from library staff by distance students, it was assumed that distance students do not use online library services as required. This implies that distance students are disadvantaged in accessing online library services provided by the University of Nairobi. Again during presentation of research projects by post graduate students, majority of them are unable to provide adequate literature in support of their research. The assumption that one can derive from the above statement is that distance students at the University of Nairobi could be experiencing technical problems in accessing online library services which are available in abundance and accessible using provided services such as the internet, wireless fidelity and a computer lab with full connectivity to the university library and information system consortium. This study therefore aimed at establishing factors influencing utilization of online library services by distance students at the University of Nairobi. The information gained would form the basis for making decision to design an appropriate library user education programme for distance students in Kenya and the rest of the world.

### **Introduction**

Distance learning according to Rowland and Robert (2001) is often described as the formalized learning received while the student is on a location outside the university campus. Both the teacher and student are expected to have minimal physical contact, but much reliance on electronic communication and independent study. Distance learning is an education program designed for those who could not be for family, financial or some other reasons, attend existing educational institutions to acquire learning without necessarily becoming regular students of such institutions. He stressed that distance education is

considered as a branch of adult education where the clientele may comprise of those who have no exposure of any kind of formal education or those who dropped out of the formal school system and those who wish to supplement their formal education (Oladeji, 2000).

Distance learning usually refers to open learning applied to situations in which there is a geographical separation between the learner and the learning institution. The focus is on the need of the individual students and is more learner-centered. The learner chooses the place of study, time and pace of learning. Distance learning is particularly beneficial to the student as they could learn from chosen system locations which could be thousand miles away (Olajedi, 2000). Distance learning has become more popular in recent times because it is cost-saving for universities to reduce the number of residential and full-time students. However, distance learning normally should demand much use of library resources, audio-visual media and information and communication technology. These are essential for communicating with a large group of people especially in distance locations. They also make for interactive sessions with groups and individual students. On the other hand, the learners also need to read all kinds of texts and information materials when they are not in school. This is to prepare them for the course content and examination. Thus the students need to use libraries and information centers for reading and for information search (Sacchanand, 2002).

Distance education programmers in Africa are provided generally in two organizational models. There is the single model, in which, the distance education programme is the sole mandate of the university. In this model, the university does not offer its programme full-time on campus; rather its mandate is to provide education at a distance. This type of model exists in many countries. The oldest University operating this model in Africa is the University of South Africa (UNISA) Pretoria, which was established in 1946. Other university in Africa that operates this model includes the National Open

University of Nigeria, Lagos, the Zimbabwe Open University, Harare, Zimbabwe, The Open University of Tanzania, Dar-salaam, Tanzania (Aiona, 2008).

Many African governments are promoting the concept of distance education. If it is properly run, a university-based distance education programme can accommodate all eligible learners. It is therefore not surprising that many universities in Africa offer their programmes in the distance education mode. One fundamental assumption is that programs offered in the normal full-time mode are equivalent to those offered in distance education mode. It is therefore expected that the qualifications obtained in the distance education mode would not be inferior to those offered in full-time mode on campus. Unfortunately, the assumption is flawed (Rodrigs,1996).

It is not unusual for universities that offer both modes to discriminate against those who obtained their qualifications through distance education mode by stating specifically on their certificates that the qualifications were obtained through the distance education mode. This presupposes that even the universities recognize that programmes in the distance education mode are inferior to campus-based University programmes. This is so because the environment under which distance education programmes are offered is not as conducive as to those who are on campus (Riggs, 1997).

There are many factors responsible for this, some of which include lack of adequate basic infrastructure such as, electricity, telephone, good roads, poor postal system; inadequate funding; poor library facilities, etc. however, inadequate library and information service support is perhaps the most fundamental problem affecting the quality of distance education programme in African Universities (Riggs, 1997). The library is the nerve Centre of any educational institution as it promotes the acquisition of reading, inquiry and independent thinking through the provision of resources to support

teaching and learning activities Mabawonku (2004).It normally houses information materials in various formats such as electronic information sources like CD-ROM, the internet, etc. Library services are essential support services to distance education students. Most researchers in distance learning are in agreement that library support is a key element in distance education programmes (Caspers, Fritts, and Gover (2001).

According to Rowland and Robert(2001) in their study in information needs of distance learners, they reported that library needs of distance learners are not unique and that distance learners have the same library and information need as on-campus students, further they reported that university library in Africa did not cater for the specific needs of distance students. Distance learners' expectation of library services as revealed in the literature, demonstrate a great need (Niemi, Ehrhard, & Neeley (1998). University students patronize their university libraries to search and retrieve relevant and current information in electronic/online format for effective teaching, learning and research purposes. University patrons includes undergraduate, postgraduates students, researchers, information professionals, staffs and other users from outside the university who intends to use the university library. The distance students are expected to read further after class instructions to collect and retrieve information for class work, assignments, seminars, term papers, dissertations, theses and project and this information could be retrieved from online library resources (Ganiyu, 2013).

Online library services are an integral part of the research process for these students. After doing preliminary research, such as speaking with their professor or looking at the references in class readings students turn to online library databases to begin their research process. Online Resources is defined as any work encoded and made available for access through the use of a computer-based device (Library of Congress. Collections Policy Statements: Online Resources. 1999).These materials may require the use

of peripheral directed connected to computer (CD-ROM drive; or a connection to computer network, like Internet.

According to Kindilchie & Samarraie (2008) computers, online library resources and e-resources are now playing a central role in higher education. University libraries and students in many countries are working regularly with Internet resources and search engines, and using e-mail as a normal form of communication. The benefits of online library information resources are often faster than consulting print indexes, especially when searching retrospectively and are more straight forward when wishing to use combinations of keywords. They open up the possibility of searching multiple files at a time, a feat accomplished more easily than when using printed equivalents. Online resources can be printed and searches saved to be repeated at a later date they are updated more often than printed tool. One main benefit especially to distance learners or those with limited time to access the library is their accessibility from outside the library by dial-up access (Ray & Day, 1998). The benefits of using Online library resources include: information being available frequently, the ability to work from any location, the information being available all in one place, the diversity of resources provided and the availability of services that they would not have access to otherwise. Students believe online library services improve the quality of their papers by allowing them to spend less time in the research phase and more time in the writing phase. Online library services also result in students obtaining more services, a diversity of services, and more up-to-date services (Ray & Ray, 1998).

The work of Aiona (2008) surveyed four major institutions offering distance education programmes in Africa, the Open University of Tanzania, the University of Nairobi, Kenya, the University of South Africa and the University of Botswana. He found out that the library and information support services to distance education learners in the universities surveyed were almost non-existent, except the University of South Africa (UNISA) which had embraced the latest information technology in providing library and

information services to its learners. The entire collection of the library was accessible through the internet to the learners. He concluded that distance education programmes in Africa were so much disadvantaged compared with their on-campus counterparts in terms of library and information support.

Studies by Kascus and Aguilar (1991), reported that libraries are expected to be an integral part of quality education. Thus, the role of library in distance education must be acknowledged by planners of distance education, as library support constitutes a library, information services and support for distance education programmes in African universities. Vital part of quality education is that it should be available to all learners, whether on campus or off campus.

In Kenya, Kavulya (2004) conducted a study on the library services provision for distance education in selected universities. The study involved interviews with chief librarians from four universities, namely; the University of Nairobi, Kenyatta University, the Africa Virtual university and the United States international University – Africa, all in Nairobi, Kenya. The study revealed that, the learning that library and information services provided by the university were inadequate. The exception was the Africa Virtual University, Nairobi, which used modern information technology to provide library and information services to its learners. The catalogue of the library was available on the internet to all its learners and the universities were able to provide a digital library consisting of e-journals, e-books and online archives. The United States international University –Africa, Nairobi, Kenya also made available its 6,000 electronic journals with full text on the internet to its learners.

According to Ojera and Yambo (2014) utilization of library and information resources and services has been a concern from the time libraries changed from being cultural monuments to knowledge acquisition and information communication centers. In view of these developments, libraries conceived the idea of educating the library user in finding and locating information they need on their day-to-day activities.

The earliest evidence of library user education was reported at Harvard College in 1820s (Tiefel, 1995). These early librarians were professors with part time library appointments who taught students to use libraries for academic purposes. The practice gained acceptance and in the late 1800s, separate courses were reported at the University of Michigan, Azarian Root at Oberlin College and (Tiefel, 1995).

Integration of information communication technologies (ICT) in library services initially was viewed as a solution to utilization problems created by information explosion. The rapid democratization of education and increased complexity of libraries has made information seeking more difficult from students in academic libraries. In realization of the problem, individual institutions in groups have been exploring possible solutions. For instance, in Africa, all the 54 countries and territories have access to electronic information resources especially in their capital cities (Omollo, Kute & Yambo 2016).

In Kenya, all the public universities have information services such as the library or learning resources centers to support both the teaching and research activities of the entire university community. However, provision of these services presumes that the entire university community can be presented with information in similar way. First, in public universities where distance students have been admitted, the challenges of providing library services for distance learning revolve around the fact that until very recently, most library collections as well as services were designed for on-campus programmes and were not well suited for the needs of online learning students. Therefore, the very characteristics of distant locations of students demands fresh ways of delivering services, based on constantly evolving technologies, new programmes offerings, increasing enrolments and learner needs (Yambo 2014).

In the face of this, the host institution libraries have the primary responsibility for identifying, developing, coordinating, providing and assessing the value and effectiveness of online library resources and services designed to meet both the standard and unique information and skills development needs

of the distance learning community. In other words, student's characteristics are some of the important considerations for quality online library delivery and utilization of services (Odini, 2010).

Concerns for ensuring the delivery and utilization of equivalent online library services to distance students in the remote setting was the basis of this investigation. This stems from the increasingly critical factors such as non-traditional study having rapidly become a major element in higher education, an increase in diversity of educational opportunities, an increase in the number of unique environments where educational opportunities are offered, an increased recognition of the need for online library resources and services at locations other than main campuses; an increased demand for equitable services for all students in higher education no matter where the classroom is located, may be a greater demand for online library resources and services by students at distance learning sites and an increase in technological innovations in the transmittal of information and the delivery of courses (Odini, 2000). This study therefore was an attempt to critically analyze factors that influence utilization of online library services offered to distance students at the University of Nairobi.

### **Distance students' gender and utilization of online library services**

Gender as a variable in technology use has been studied in pre-university, university and work environments. While the findings shows differences and variations in male and female usage and attitudes to technology use, the gender gap seems to be narrowing, but remains persistent, even as the profile seems to be changing. From educational policy perspectives, although the gap seems to be less of an issue, males and females appear to use educational technology differently leading to conclusion that there is little to no gender gap in terms of actual access (Godfrey, 2011). Further, Godfrey (2011), observes that, there does seem to be some consensus regarding the fact that men and women are different in terms of their frequency of use, duration and content when accessing the internet. In another study by Zhon and Xu (2007) on gender factor in technology adoption learning environments between

1986 and 2006 in Chicago, USA, the findings revealed that gender gap persisted. This finding was supported in a previous study by Koohang, (2004) on student's perception towards use of digital library, which acknowledged that gender was a significant factor in digital library utilization. For example males had significantly higher positive perceptions of the use of digital library.

Moreover, Enock and Socker (2006) conducted a similar study on age, gender, ethnicity and the digital divides among university students in open University and found out that gender was a significant factor in post-secondary learning. In another study conducted by Crystal (2008) on effects of personal characteristics on learners online learning readiness, the findings reveal that there was significant mean difference of learning preferences, For example, the analysis of the hypothesis indicated that,  $F(1, 302) = 8.580$  hint  $P < 0.05$ . The null hypothesis was rejected and the alternative hypothesis was accepted, which stated that learning preferences were significantly different across gender.

Later, Inuone's (2000) carried out a study on university students' reference for learning by computer assisted instructions (CAI). The results of ANOVA indicated that the main effect of gender was not significant, whereas the main effect of academic status was significant. The study further observed significant difference between undergraduate females and graduate males, supporting the assumption that computer experience has stronger effect than do gender differences on attitudes towards use of computers in learning.

In a study conducted by Ganiyu (2013) on influence of demographic factors on use of online library resources by undergraduate students in two private Nigerian university libraries, the findings revealed that there was no significant relationship between gender and use of online library resources ( $r = 0.44$ ;  $P > 0.05$ ).

The work of Okiki (2011) examined the factors that influence the use of online information resources among postgraduate and undergraduate students. The study covered six Universities in the South West. Nigeria namely: University of Ibadan. University of Lagos. Olabisi Onabanjo University. Ogun State: Federal University of Technology. Akure: University of Agriculture Aheokuta and Lagos State University. The results show that males seem to enjoy browsing on the internet for enjoyment while female tend to only use it for work related purpose.

The work of Ford, Miller and Moss (2001) also found that females tended to experience more difficulty finding information online, to feel competent and comfortable using the internet. to use the internet less frequently than males and to make use of a less varied set of internet application, though found a similar result in studying faculty members: while males tended to have computing skills than females, age and year of obtaining highest educational qualifications were also important factors in establishing computers skills.

### **Research Methodology**

The study adopted descriptive survey design. In his work, Orodho (2003), define descriptive survey as a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. It can be used when collecting information about peoples attitudes, opinions, habits or any of the variety of education or social issues. The study targeted students enrolled for B.Ed (Arts), B.Ed (Science) and B.Com of the school of continuing and distance education of the University of Nairobi. Those students that were in their third year were selected for this study. The group level was considered experienced enough to provide the kind of information required. Current records from the three departments revealed that B.Ed (Arts) had a total of 700 students out which 443 were male and 257 were female. The department of B.Ed (Science) had a total of 260 students out which 160 were male and 100 were female. In Bachelor of Commerce department a total of 40 students had registered for their course

out of which 27 were male while 13 were female. The study therefore targeted all the fourteen library administrators out of which 9 were male while 5 were female and a total 1000 students, out of this number, 630 were male and 370 were female.

**Table 1: Population and sample size of 3rd year students in the school of continuing and distance education**

Category	TOTAL POPULATION			SAMPLED POPULATION		
	Male	Female	Total	Male	Female	Total
B.Ed (Arts)	443	257	700	123	72	195
B.Ed (Sci)	160	100	260	44	28	72
B.Com	27	13	40	7	4	11
TOTAL	630	370	1000	174	104	278

Source: School of continuing and distance education (2013)

The work of Best and Khan (2006) states that sampling is taking any portion of a target population or universe as a representative of that population or universe. The sample size for this study was determined by using the formula suggested by Krejcie and Morgan (1970) as quoted in Isaac and Michael (1981). After determining the required sample size of 278 students' respondents, the researcher applied three sampling techniques to select the sample. These were; stratified, purposive, and simple random sampling technique.

Two instruments were used to collect data: questionnaire and in-depth interview. One set of questionnaire for students was developed by the researcher as research instrument. The researcher found the questionnaire adequate for the study because it minimizes bias on the side of the researcher and the respondents (Kombo and Tromp, 2006). According to Orodho (2003), in-depth interview provide data that is not possible to get using questionnaires. He further said that it is possible for the interviewer to

clarify questions that are not clear in the interview schedule. Probing was used where the respondents not clear.

## Results and Discussions

The objective of this study was to examine how gender as a personal characteristic influenced utilization of online library services by distance students at the university of Nairobi. The investigation therefore involved scoring of items that focused on utilization of online library services verses students' gender. The respondents were asked to state how frequently they used online library services. Cross tabulation was carried out using Chi-square statistics. The results of Chi-square test are presented in Table 2

**Table 2: Distribution of respondents according to gender and utilization of online library services**

Student Gender	Use of online library services						Total
	Daily	Twice a week	Once a week	Monthly	Never		
Male	9(5.2%)	58(33.2%)	70(40.2%)	23(13.2%)	14(8.0%)	174(100%)	
Female	8(7.7%)	6(5.8%)	24(23.1%)	25(24.0%)	41(39.4%)	104(100%)	

**$\chi^2 = 6.781$ ,  $df = 4$ ,  $P = 0.148$ , Critical Value of Chi-square=9.488**

Data from Table 2 shows that 9 (5.2%) of the male respondents used online library services daily compared 8 (7.7%) of the female respondents. The results also reveals that 58(33.2%) of Male respondents used online library services twice a week while their female counterparts recorded 6(5.8%). About 70 (40.2%) of the male respondents used online library services once a week compared to 24 (23.1%) of the female respondents. A few of the male respondents 23 (13.2%) and another 25 (24.0%) of female respondents could only use the online library services once in a month, this was found to in line with Ojera and Yambo (2014).

The findings further reveal that only 14 (8%) of the male respondents have never used online library services compared to a majority 41 (39.4%) of the female respondents. The impression one can derive from this result is that 49.3% of the male respondents considered using online library services daily, twice and once a week compared to 13.6% of the female gender. Similarly 13.3% of the male respondents indicated using online library either once in a month or never compared to 23.7% of the female respondents. The implication of the findings is that male students frequently used online library services than female students in distance education programme at the University of Nairobi. This finding agrees with Crystal (2008) as the interview findings, for example, when asked whether gender as a personal characteristic influenced utilization of online library services by distance students. One of the librarians responded by saying;

*“Generally boys love the computer or the machine for itself and like to spend long hours tinkering and game playing on computers, whereas girls are far more likely to reject emotional identification with the computer or the machines a second self and instead think of in dispassionate and instrumental terms as just a tool”*

Another librarian however responded by saying;

*“Male students have significantly higher positive perceptions towards the use of online library and students who have more prior experience with the internet have significantly higher positive perceptions towards the use of online library”*

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This implies that gender influenced utilization of online library services by distance students at the University of Nairobi. A Chi-square test was computed to determine the relationship between gender as a personal characteristic and utilization of online library services by distance students at the University of Nairobi. The null hypothesis was formulated as follows;

**H<sub>0</sub>1: There is no significant relationship between gender as a personal characteristic and utilization of online library services by distance student at the University of Nairobi.**

The hypothesis was tested and  $\chi^2 = 6.781$ ;  $df = 4$ ;  $P = 0.148$ ; Cramer's  $V = 0.156$  and the Chi-square critical value (9.488). The relationship between gender and use of online library services was however moderate (Cramer's  $V = 0.156$ ). Since the Chi-square calculated value (6.781) is less than the Chi-square critical Value (9.488) confidence level, the null hypothesis was therefore accepted and conclusion made, that the utilization of online library services and students gender were independent this concurs with Yambo (2014) and Ganiyu (2013).

A t-test was also carried out to determine the differences in mean scores with respect to students' gender and utilization of online library services. The results of the t-test are provided in Table 3.

**Table 3: Group statistics on utilization of online library services by students' gender**

Gender	N	Mean	Std. dev.	Std Error
Male	174	3.95	1.152	0.087
Female	104	3.82	1.237	0.121

The group statistics shown in Table 3 indicates that the mean score (3.95) obtained by male respondents was higher than of their female counterparts (3.82). The result suggests that male respondents used online library services than female respondents (Odini, 2000). The results of t-test are presented in Table 4.

**Table 4: Independent two sample t-test on utilization of online library services by distance students.**

Lavene's test for quantity of variance							95% confidence interval of the difference	
	F	Sig	T	df	Sig (2 tailed)	Mean difference	Stddff	Lower Upper
Equal variances assumed	2.690	0.102	0.931	276	0.353	0.137	0.147	-0.152 0.426
Equal variance not assumed			0.915	204.770	0.361	0.137	0.149	-0.158 0.431

The result of independent sample t-test in Table 4. shows that the mean scores were not significantly different since P-value 0.353 was more than 0.05. These findings suggest that utilization of on line library services and student's' gender were not significantly different.

This result also concurs with findings of Inoure's (2000) who carried out a study on university students preference for learning by computer assisted instruction, the findings of the study showed that the main effect of gender on performance for learning by Computer-Assisted Instruction (CAI) was not statistically significant.

This result contradicts findings by Sofia (1998) who conducted a study on gendered irrationalities and computer culture in New York State University; which indicated that boys had a high level of acceptance to online library usage than girls. In other words male students had significantly higher perceptions towards the use of digital library. Further, the findings deviates from an earlier report by Koohang (2004), who conducted a study on student perception towards use of digital library in USA. The findings showed that although internet use among males and females had increased, males were more likely to use web based instruction in an Open University.

### **Summary of Findings**

One of the concerns of the study was to determine how personal characteristics influence utilization of online library services by distance students at the University of Nairobi. The personal characteristics discussed under here included gender, age and computer experience. The findings are discussed in subsequent sub themes:

#### **Gender as a personal characteristic and utilization of online library services**

Objective one of this study was to examine how gender as a personal characteristic influenced utilization of online library services by distance students at the University of Nairobi. The findings from the quantitative analysis indicated that gender influenced utilization of online library services. For example, 49.3% of the male respondents considered using online library services daily, twice and once a week compared to 13.6% of the female gender. Similarly 13.3% of the male respondents indicated using online library either once in a month or never compared to 23.7% of the female respondents. The

implication of the findings is that male students frequently used online library services than female students in distance education programme at the University of Nairobi.

The results as indicated by the testing of the hypothesis no 1 revealed that  $\chi^2 = 6.781$ ;  $df = 4$ ;  $P = 0.148$ ; Cramer's  $V = 0.156$  and the Chi-square critical value (9.488). The relationship between gender and use of online library services was however moderate (Cramer's  $V = 0.156$ ). Since the Chi-square calculated value (6.781) is less than the Chi-square critical Value (9.488) confidence level, the null hypothesis was therefore accepted and conclusion made, that utilization of online library services and student gender were independent.

The results also show that male students had a mean of 3.95 while female students had a mean of 3.82. This implied that male students used online library services than female students.

The results further showed that the two-tailed t-test for independent samples gave  $P = 0.353$  which was more than 0.05 significant level. The result suggests that gender of students does not determine their utilization of online library services. However, although no significant difference was recorded, the male students exhibited a slightly higher use of online library services than female students at the University of Nairobi.

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