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# **GENDER IMPLICATION IN AWARENESS AND USE OF SEARCH ENGINES BY PRIVATE UNIVERSITY LECTURERS IN SOUTH-SOUTH, NIGERIA.**

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## **Abstract**

*This study investigated the implication of gender in awareness and use of search engines by private university lecturers in South-South, Nigeria. Descriptive survey method was used in this study. Lecturers in private universities in South-South, Nigeria were the target for the study while those in Delta and Edo States were selected through a balloting process from a ballot container involving all the six South-South States with equal chance of selection. The other States that were not selected are Akwa-Ibom, Bayelsa, Cross River and Rivers States. The questionnaire was used in the study and 75 copies were duly completed and returned. Biodata were analyzed using frequency count and percentage, while hypotheses were tested using SPSS version 16 for windows. The findings indicate that there is significant difference ( $t$  (df:73) is 3.69 and it is significant at 0.001) between male and female lecturers' level of awareness of search engines, and the extent of utilization of Google search engine is also significantly different ( $t$  (df:73) is 4.80 and it is significant at .000). However, the extent of utilization of Yahoo search engine did not indicate a significant difference between male and female lecturers ( $t$  (df:73) is 1.16 and it is not significant at 0.05). It was therefore recommended that university libraries should put up an ICT policy document that promotes gender equity in the delivery of library and information services to clientele.*

**Keywords:** Search Engines, Private Universities, Libraries, Lecturers, Nigeria.

## **Introduction**

Electronic information sources can be seen as one of the most recent developments in the fields of information science, librarianship and information technology. Electronic information sources are becoming

more and more important for the academic community in the 21<sup>st</sup> century (Kumar and Kumar, 2008). Electronic resources are now used more often than print resources by university lecturers owing to the nature of their job which is primarily information dependent. Globally, university education thrives on adequate access to information resources for teaching, learning and research. This is the reason why the library forms an integral part of the educational system with the primary responsibility of providing information resources to lecturers, students, staff and researchers in their respective institutions. There is no doubt therefore why university lecturers make extensive use of Information resources for effective teaching and research. In this way, the need for adoption of information and communication technology in university libraries cannot be underestimated. As a matter of fact, the Internet is now considered a key resource and asset in every university library.

According to Grillon (1994) the Internet has changed the format of information storage and retrieval. It has also transformed the jobs and functions performed by all and sundry. Today, the Internet has further transformed the world into a knowledge economy. The knowledge economy is an economy where knowledge is the key raw material and source of value for development (Grillon, 1994). Thulasi (1999) identified knowledge resources to include databases, data sets, books & references, organizations, conferences, courseware/tutorials/guides, manuals, discussion groups, electronic journals, patents, preprints, projects, news, software, standards, technical reports, theses and dissertations, abstracting and indexing databases (bibliographic databases), citation databases, digital collections (images, audio, video), equipment/ product catalogues, scientific data sets (numeric, property, structural databases), library catalogues (including union catalogues), museum and archives, virtual libraries, books, reference sources (dictionaries, encyclopedias, biographies, handbooks, abbreviations, thesauri), maps etc.

The tools for accessing Internet information are different from those used to access library materials. Catalogues, bibliographies, indexes, abstracts, shelf lists, accession registers are used to access materials in the library, while search engines and directories are used to search the Internet.

A search engine is defined by Microsoft Encarta Dictionary (2008) as a computer program that searches for specific words and returns a list of documents in which they were found, especially a commercial Internet service. According to Williams and Sawyer (2007) a search engine is a search tool that allows one to find specific documents through keyword searches and menu choices, in contrast to directories, which are lists of websites classified by topic. Aina (2004) viewed keyword as a combination of few words or phrases that represent what the information seeker is looking for; giving enough information about each document that will enable a user to retrieve the desired document when needed. Some popular search engines and their web addresses include: All The Web (<http://www.alltheweb.com/>), AltaVista (<http://www.altavista.com/>), Excite (<http://www.excite.com/>), Google (<http://www.google.com/>), Hotbot (<http://www.hotbot.com/>), Lycos (<http://www.lycos.com/>), MSN Search (<http://search.msn.com/>), Teoma (<http://teoma.com/>), WiseNut (<http://www.wisenut.com/>), Yahoo! (<http://search.yahoo.com/>).

Through the utilization of search engines, lecturers would be able to retrieve relevant resources from online journals and e-books stored in diverse Internet sources and databases. Some of the sources for online journals and e-books include the Directory of Open Access Journals (DOAJ) ([www.doaj.org](http://www.doaj.org)), Best of the web Directory ([www.botw.org](http://www.botw.org)), Yahoo Directory ([www.dir.yahoo.com](http://www.dir.yahoo.com)), Wikipedia ([www.en.wikipedia.org](http://www.en.wikipedia.org)), African Journals Online (AJOL) ([www.ajol.info](http://www.ajol.info)), J-STOR African Access Initiative ([www.jstor.org](http://www.jstor.org)), Health Inter Network Access to Research Initiative (HINARI)

([www.healthInternetnetwork.org](http://www.healthInternetnetwork.org)), ebrary ([www.ebrary.com](http://www.ebrary.com)), Google Books ([www.books.google.com](http://www.books.google.com)), Books Directory ([www.booksdirectory.com](http://www.booksdirectory.com)), Ebookee ([www.ebookee.org](http://www.ebookee.org)), E-Book Directory ([www.ebookdirectory.com](http://www.ebookdirectory.com)), Online Bookstore ([www.freeonlinebookstore.org](http://www.freeonlinebookstore.org)), etc. While most of the resources are free, others require subscription payment for full text access.

Although there is a wide range of up-to-date information resources in all fields of human endeavor, Kyung (2010) reported that Nigerian University Communities do not make effective use of journals and e-books available on the Internet. Wilson (1997) therefore noted that gender is one of the intervening variables in information retrieval processes. Even Cadena (2008) stated that men and women search for information differently on the Internet. Hotchkiss (2008) also pointed out that there are differences between men and women in the use of many Internet applications. UNESCO (2003) believes that unless gender issues are fully integrated into technology analyses, policy development and programme design, women and men will not benefit equally from ICTs and their applications. UNESCO went further to suggest that gender awareness and use of ICT need to be taken into account in further studies. This study therefore seeks to investigate the role of gender in the awareness and utilization of search engines by lecturers in private universities in South-South, Nigeria.

## **Purpose of the Study**

The major purpose of this study is to investigate the role of gender in the awareness and utilization of search engines by lecturers in private universities in South-South, Nigeria. The specific objectives are:

1. To find out if there is gender difference in awareness of search engines.
2. To find out if there is gender difference in utilization of search engines by lecturers.

## **Research Hypotheses**

The following hypotheses were tested in this study:

1. There is no significant difference between male and female lecturers' level of awareness of search engines.
2. There is no significant difference between male and female lecturers' use of Google search engine in information retrieval.
3. There is no significant difference between male and female lecturers' use of Yahoo search engine in information retrieval.

## **Review of Related Literature**

### **Concept of Search engine**

A search engine is an information retrieval system on the Internet that helps users to retrieve any information from huge Internet databases by crawling the web to retrieve information from web pages (Capra & Quinones, 2005). The search engine software is a kind of information retrieval program that has two major tasks. First, it searches through billions of terms recorded in the index (web pages) to find what matches the user's keyword, and ranks retrieved records in order to decide most relevant (Chowdhury, 1999). Usually, Internet users prefer search engines to access required information from the Internet because search engines crawls the web and retrieves information from millions of web sites. One of the main

components of search engines is a robot which is called Web Crawler (or Spider). A web crawler is a kind of computer program that browses the Web in a methodical, automated way (Hu, 2001). This process is called web crawling or spidering. Search engines use spidering to provide up-to-date information. The most important aim of web crawler is copying all visited web pages for later searches to make next searches faster (Batzios, 2007).

According to Schwarts (1998) there are two types of search engines. First, the search index, which is a vast catalog made up of every word taken from all the web pages searched by crawler. Google is an example of a search index type of search engine. Second, the web directory, which organizes web pages into categories and subcategories for easy retrieval. Yahoo is a typical example of web directory. There are many general-purpose search engines available on the Web. Here are some popular search engines and their web addresses (in alphabetic order): All The Web (<http://www.alltheweb.com/>), AltaVista (<http://www.altavista.com/>), Excite (<http://www.excite.com/>), Google (<http://www.google.com/>), Hotbot (<http://www.hotbot.com/>), Lycos (<http://www.lycos.com/>), MSN Search (<http://search.msn.com/>), Teoma (<http://teoma.com/>), WiseNut (<http://www.wisenut.com/>), Yahoo! (<http://search.yahoo.com/>).

### **Gender and awareness of Internet resources**

Choudrie & Dwivedi (2005) noted that gender, education, and social class will definitely have an imperative role in explaining the users' awareness of Internet resources. In this regard, Chandran (2008) carried out a study on the use of Internet information resources in S.V. University Tirupathi, India, and did not find any significant difference between male and female awareness of diverse online journals, databases and e-books. Notwithstanding, Kwapong (2009) observed a high gender difference in awareness of Internet resources in the deprived regions in Accra than the endowed regions. He noted that gender breakdown revealed that awareness of Internet resources is relatively higher amongst men than women in the most endowed region, in Accra, than the deprived regions (Kwapong, 2009). Also, Thanuskodi (2011) stated that more males than females are aware of e- journals availability on the Internet. However, Bavakutty and Salih (1999) conducted a survey at Calicut University and indicated that students, research scholars and faculty members are aware of Internet materials in their specific interest areas irrespective of gender differences.

Furthermore, Madhusudhan (2007) stated that most research scholars at Delhi University are aware of information resources. However, no gender difference in awareness was reported. Increasingly, Salaam and Okorie (2010) surveyed the awareness level of the National Virtual Library of Nigeria in some selected universities in South-West, Nigeria, and reported that both male and female library users are significantly aware of electronic resources available in the virtual library. Similarly, Parameshwar and Patil (2009) opined that both men and women are equally aware of online journals as well as other Internet sources. Bar-Llan, Peritz & Wolman (2003) pin-pointed that there is a high degree of awareness and acceptance of electronic resources in seven Israeli universities among male and female Internet users. They however stated that disparities in awareness exist between disciplines and ages. Also, Connell, Rogers & Diedrichs (2005) reported a high level of awareness and extensive use of electronic resources in Ohio State University.

In another development, Gbaje (2010) discovered significant lack of awareness of open access journals among male and female editors in Ahmadu Bello University Zaria, Nigeria. Similarly, Martinez-Pineda, De Arcaya and Jimenez-Sosa (2006) found low level of awareness of open access journals that are

accessed through the Internet by using search engines among Spanish medical researchers. Moreso, Ezeama (2009) equally lamented the lack of awareness of African Journals published on the Internet among male and female researchers. Consequently, majority of the articles published in so many journals and e-books are only read by authors and reviewers as against the targeted audience (Meho, 2007).

### **Gender and search engine utilization**

A large body of research supports the existence of small, but significant, gender differences (Burman, Bitan, & Booth, 2008). Commonly reported cognitive and psychosocial gender differences include female advantage in language and cooperation and male advantage in visual-spatial reasoning and competitiveness (Bonanno & Kommers, 2005). Such gender differences have found its way into online environments (Lee, 2007; Cooper, 2006). According to Lee & Chae (2007) among 10 to 12 year old children, boys were more likely than girls to play online games, while girls were more likely than boys to be involved in online communities. Correspondingly, Papastergiou & Solomonidou (2004) found that boys used the Internet more than girls for entertainment and Web page creation. Similarly, Cooper (2006) stated that males are more comfortable with technology than females. He explained that the roots of the gender digital divide lie deep in the socialization patterns of boys and girls. Therefore, Colley (2003) noted that girls had a greater work orientation and appreciation for email while boys showed a greater affinity for online games.

Increasingly, studies have demonstrated that females are more productive, prolific, and effective than males in online environments (Caspi, Chajut, & Saporta, 2006; Li, 2006). For instance, Jackson (2007) reported that girls visited more geographic and environmental websites than boys. In a recent Canadian survey of Internet use, girls tended to prefer social network and music websites while boys were more interested in sports and games sites (Media Awareness Network, 2006). In addition, based on a large sample of school children, Murphy & Beggs (2003) concluded that girls were more positive than boys regarding the educational utility of the Internet, while boys were more positive than girls about the play-value of the Internet.

Contemporary research increasingly reports no significant adolescent gender differences. Most scholars agree that the gender gap in Internet use has narrowed significantly in the college age group (Goodson, McCormick, & Evans, 2001); as well as the general population (Ono & Zovodny, 2003). For example, among Taiwanese children in fifth and sixth grade, Lin and Yu (2008) could not find gender differences in motives for using the Internet (i.e., searching for information, socializing, and boredom avoidance were equally reported by boys and girls). Similarly, Jackson (2007) found no gender differences in the overall number of websites visited by children but a difference in the category of sites visited. Tapscott (1998) had earlier predicted that individuals born into the digital-age would experience gender equity in Internet technology utilization.

Meanwhile, gender differences have been found in attitudes toward technology acceptance, intensity of Internet use, online applications preferred, and experience in cyberspace. In a study of college students' attitudes toward technology for instance, Smith & Necessary (1996) found that males had significantly more

positive attitudes towards the Internet than females. Jackson (2007) also found that females in general reported less favorable computer attitudes.

Other literature, however, contradicts these findings. Several investigations have reported that gender had no significant effect on any of the dimensions of computer attitude, while another found significant effect on computer attitudes (Jennings & Onwuegbuzie, 2001; Zhang, 2002). The inconsistency in these findings might be attributed to differences in methodology, or might reveal how the increasing number of female Internet users is altering women's attitudes regarding computers and the Web.

Be that as it may, Goh (2011) investigated gender differences in sms-based mobile library search system adoption by students. The study was based on a sample of 90 students, the results suggest that there are significant differences in perceived usefulness and intention to use but no significant differences in self-efficacy and perceived ease of use between genders. The findings reveal that SMS efficiency has a significant influence on self-efficacy for males but not for females. Online Public Access Catalog (OPAC) experience has a stronger but less significant influence on self-efficacy for females but very little influence for males. Perceived usefulness is still the driving force behind intention to use for both genders (Goh, 2011).

Nevertheless, Ono & Zavodny (2002) examined whether there are differences in men's and women's use of the Internet and whether any such gender gaps have changed within a five-year period. The researchers used data from several surveys during the period 1997 to 2001 to show trends in Internet usage and to estimate regression models of Internet usage that control for individuals' socioeconomic characteristics. They found that women were significantly less likely than men to use the Internet in the mid-1990s, but the gender gap in usage disappeared by 2000. However, women continue to be less frequent and less intense users of the Internet. The results suggest that there is little reason for concern about sex inequalities in Internet access and usage now, but gender differences in frequency and intensity of Internet usage remained (Ono & Zavodny, 2002). They concluded that one frequently noted dimension of inequality in Internet access and usage is gender (Ono & Zavodny, 2002).

In the bid to identify the reason for the differences in male and female use of the Internet, Bimber (2010) explained that gender differences exist because men and women differ, on average, in socioeconomic status, which influences computer and Internet access and use. Another reason is that men tend to be more interested in computers than women, on average, contributing to gender differences in Internet use (Shashaani, 1997). Such intergroup differences tend to eventually diminish, although not necessarily disappear altogether, as a technology diffuses over time (Compaine, 2001). Gender differences in Internet access and usage are important because groups that have lower usage, risk being excluded from job and educational opportunities as well as losing political influence as the Internet becomes increasingly important to how people live and work (Norris, 2001). Gender differences in computer use in classrooms and at home noted by many studies may carry over to Internet usage (Shashaani, 1997). In addition, Bimber (2000) contends that the Internet is biased toward men, dominated with male-oriented pornography, and filled with online sexual harassment toward women. Not surprisingly, male college students are significantly more likely to have accessed sexually explicit materials online, while more female users reported sexual

harassment on the Internet (Goodson et al., 2001). The sexuality of the online environment is bound to affect how both sexes feel about the Internet in general and the specific Web sites encountered.

However, NTIA (2002) noted that the sex difference in Internet usage rates declined from about 4% in 1997 to nearly zero in 2000 and remained near zero in 2001. Even, Ono & Zavodny (2002) observed that women were more likely than men to use the Internet by 2001. Women were significantly less likely than men to use the Internet in 1997 and 1998 both at home, conditional on computer ownership, and anywhere, not conditional on computer ownership or use. Transforming the results for 1997 into odds ratios, women were 68 percent as likely as men to use the Internet at home and 78 percent as likely to use the Internet anywhere. In 2000 and 2001, in contrast, women were significantly more likely to use the Internet anywhere. Women were also more likely than men to use the Internet at home in 2001. Women may be more likely than men to use the Internet outside the home. This difference may result from women being more likely to use computers and the Internet at work, as previous studies report (Ono & Zavodny, (2002).

Nonetheless, Bimber (2000) argued that the gender gap in the Internet is larger where web applications such as search engines are involved. Thus, females are less intensive Internet users than males. Bimber (2000) attributes this result to a combination of gendered technology embodying male values and content that favors men.

Moreover, the percentage of women using the Internet according to Pew Internet & American Life Project (2012) falls slightly behind the percentage of men. According to the Project, Women under 30 and black women outpace their male peers. However, older women trail dramatically behind older men. Men are slightly more intense Internet users than women. Men log on more often, spend more time online, and are more likely to be broadband users (Pew Internet & American Life Project, 2012). Ono and Zovodny (2003) also found women to be less frequent and less intense users of the Internet. Increasingly, male college students are more likely than their female counterparts to use the Internet for recreational purposes (e.g., playing games online, visiting adult-only sites, gambling, accessing news groups and discussion forums, staying abreast of news developments, and seeking information for personal use), while females are more likely to use the Internet to talk to family and friends (Goodson, McCormick, & Evans, 2001; Jackson, Ervin, Gardner & Schmitt., 2001). These findings appear to reinforce the widespread assumption that men prefer to use the Web for information gathering and entertainment and women prefer to use the Internet for communication (Shaw & Gant, 2002).

According to Pew Internet & American Life Project (2012) men are more avid consumers of online information than women. The scope of information searched online by men is also wider than what women search for. Men are more likely than women to use the Internet as a destination for recreation information. Men are more likely to gather material for their hobbies, read online for pleasure, take informal classes, participate in sports fantasy leagues, download music and videos, remix files, and listen to Internet radio (Pew Internet & American Life Project, 2012). It was increasingly noted that though men and women value the Internet as a gateway to information, men however reach farther and wider for topics, from getting financial information to political news (Pew Internet & American Life Project, 2012). Along the way, they



work search engines more aggressively, using engines more often and with more confidence than women (Pew Internet & American Life Project, 2012).

Similarly, Maghferat & Stock (2010) found that men tried to use professional information services as well as search engines for search, regardless of the difficulty of the search task and its formulation. In contrast, women behaved cautiously in choosing search sources. They decided either on sources, which they knew skillfully or where their use was assigned. Women were generally more satisfied with the obtained results as men. In this regard, Dubi & Rutsch (1998) examined the Internet information search behavior of students with different type of schooling in an exploratory study. In the study, significant gender differences were reported. It was observed that the female students lacked self-confidence. They behaved with less certainty than the male students while using the Internet (Dubi & Rutsch, 1998). Maghferat & Stock (2010) in their study of gender specific behaviours reported that men use scientific databases more often than women, but women tend to use more operators while formulating a search query. They also reported that men tend to find search results accidentally, while women are more targeted in their searches. Increasingly, women were found to be more satisfied with the search results, regardless of using search engines or scientific information services, but men tried to use both professional information services and search engines, regardless of the question and its formulation (Maghferat & Stock, 2010).

In another gender study, Steinerova & Susol (2007) explored the information seeking behavior of library users (predominantly students and teachers) in 16 academic libraries in Slovakia. They dealt in more detail with gender differences and were also of the opinion that the obtained data confirmed the traditional gender stereotypes (Steinerova & Susol, 2007). Also, Lorigo, Pan, Hembrooke, Joachims, Granka & Gay (2006) observed that men had greater average fixation durations on selected Web documents than females and that women submitted significantly longer queries to the Google search engine than men. It was observed that men despite the possibility of using simple search engines, and accessed scientific databases more than women. Moreover, PEW Internet Project (2005) reported significant differences in online activity patterns of men and women. The study found that compared to women, men are more likely to use the Internet to check the weather, read news, check for sports information, retrieve political information, get financial information, conduct online survey or research, download softwares, listen to music, rate an online product through an online reputation system, use a web camera, download music files, and enroll in online courses (PEW Internet Project, 2005).

Again, women compared to men were found to be more likely to use the Internet to send and receive e-mail messages, retrieve maps and directions, search for health and medical information, and read religious information (PEW Internet Project, 2005). Similarly, Hotchkiss (2008) stated that more women than men send and receive e-mail to write to friends and family about a variety of topics from sharing news and worries to planning events and much more. He also noted that though men and women appreciate e-mail for its efficiency and convenience, women are more likely to feel satisfied. Nevertheless, men look for information on a wider variety of topics than women (Hotchkiss, 2008).

## Materials and Methods

Descriptive survey method was used in this study. This study was carried out in Delta and Edo States of Nigeria. Delta and Edo States were selected through a balloting process from a ballot container involving Akwai-Ibom, Bayelsa, Cross-River, Delta, Edo, and Rivers State, with each State having equal chance of selection. Lecturers in private universities in the States were the target for the study. The questionnaire was used in the study and it was developed by the researcher after consulting various relevant literature and resource persons. Data were collected with the questionnaire. The questionnaire was administered on respondents by the researcher and 75 copies were duly completed and returned. Biodata of respondents were analyzed using frequency count and percentage while hypotheses were tested using SPSS Version 16 for Windows.

## Data Analysis

**Table 1. Respondents' Sex Distribution**

Sex Distribution	Frequency	Percent
Male	42	56
Female	33	44
Total	75	100

Table above shows that 56% of the respondents are male.

**Table 2. Respondents Universities**

Universities	Respondents	Percent
Benson Idahosa University Benin City (BIU)	15	20
Igbinedion University Okada (IU)	11	15
Novena University Ogume (NU)	10	13.3
Samuel Adegboyega University Ogwa (SAU)	13	17.3
Wellspring University Benin-City (WU)	12	16
Western Delta University Oghara (WDU)	14	19
Total	75	100

The table above (table 2) indicates that 20% of the respondents are from BIU, 19% from WDU, 17.3% from SAU, 16% from WU, and 15% from IU.

### Testing the hypotheses

This study's hypotheses were tested using independent t-test method using the Statistical Package of the Social Sciences (SPSS) version 16 for windows. The test result is shown below:

Hypothesis 1: There is no significant difference between male and female lecturers' level of awareness of search engines.

Table 3

*Independent t-test Showing Male and Female Sociology Lecturers' Level of Awareness of search engines*

Variables	No. of subjects	Mean	SD	df	t	Sig. (2-tailed)	Decision
Males	42	3.73	.59	73	3.69	0.001	Significant
Females	33	3.32	.41				

In the table, t (df.73) is 3.69 and it is significant at 0.001. This indicates a significant difference between male and female lecturers' extent of awareness of search engines. Therefore hypothesis one is rejected.

Hypothesis 2: There is no significant difference between male and female lecturers' use of Google search engine.

Table 4

*Independent t-test Showing Male and Female Lecturers' Use of Google Search Engine.*

Variables	No. of subjects	Mean	SD	df	t	Sig. (2-tailed)	Decision
Males	42	3.97	.32	73	4.80	.000	Significant
Females	33	3.57	.36				

In table 4, t (df.73) is 4.80 and it is significant at .000. This indicates a significant difference between male and female lecturers' use of Google search engine. Therefore, hypothesis two is rejected.

Hypothesis 3: There is no significant difference between male and female lecturers' use of Yahoo search engine.

Table 5

Independent t-test Showing Male and Female Lecturers' Use of Yahoo Search.

Variables	No. of subjects	Mean	SD	df	t	Sig (2-tailed)	Decision
Males	42	3.70	.53	73	1.16	2.0	Not Significant
Females	33	3.57	.39				

In table 5, t (df:73) is 1.16 and it is not significant at 0.05. This indicates no significant difference between male and female lecturers' use of yahoo search engine. Hypothesis three is therefore accepted.

### Summary of Major Findings

After a careful analysis of data collected the following findings were made:

- Independent t-test of hypothesis of male and female lecturers' level of awareness of search engines showed a significant difference (t (df.73) is 3.69 and it is significant at 0.001).
- Independent t-test of hypothesis of male and female lecturers' extent of utilization of Yahoo search engine indicates a significant difference between male and female lecturers' use of Google search engine retrieval ( t (df.73) is 4.80 and it is significant at .000).
- Independent t-test of hypothesis of male and female lecturers' extent of utilization of Yahoo search engine indicates no significant difference between male and female lecturers' use of yahoo search engine (t (df:73) is 1.16 and it is not significant at 0.05).

### Conclusion

Concerning gender differences in awareness and utilization of search engines, significant gender difference was found in the awareness of sociology resources on the Internet in favour of male sociology lecturers. Furthermore, a significant gender difference exists in the utilization of Google search engine in favour of male lecturers, while no significant gender difference was found in the utilization of Yahoo search engine.

### Recommendations

Given that there is a significant gender difference between male and female lecturers' awareness and utilization of search engines, the university library should put up an ICT policy document that promotes gender equity in the delivery of library and information services to clientele. The university authority should give assent to the policy. The policy should give consideration to female lecturers in terms of internet accessibility, duration of internet access, training and retraining, access to subscription databases among other things. The policy should also provide for regular training and retraining of library staff in order to ensure effective service delivery.

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