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Web Affinity: A Study of Undergraduate Students in Nigerian Universities

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Introduction

The World-Wide-Web (www) may be the most important application of the Internet. Before the Web, the Internet grew rapidly within the education and research communities, allowing exchange of information using applications like email, ftp, telnet, and gopher. The Web's ease of use, platform independence, integration of text and graphics and totally open structure made it an attractive option to everyone. At first, its use was confined to research and higher education, since few other constituencies had access to the Internet. Gradually, awareness grew, and it became obvious that the potential of the medium went far beyond academia. Home and commercial users became interested, and the growth of the Web continued, with the material available growing in variety and volume. The Web now hides its treasures in a sea of trivia and trash, as well as becoming an indispensable source of accessible, topical, authoritative information to support learning in universities, colleges and schools. Recently, there has been concern in higher education about how much the Web is used for "valid" purposes (learning and research) and how much for other purposes. This is important, because browsing the Web consumes scarce and expensive resources.

The Web is used by a range of people for a variety of purpose, and, as such, they have different perceptions of its nature, and achieve different outcomes to their searches. By categorizing the reasons for users' interactions with the Web, and by identifying common patterns, we can gain a more realistic understanding of those interactions.

Statement of the Problem

Supporting research and learning activities becomes a major mission for academic libraries. In recent years, academic libraries face pressures like diminished budgets, increased patron demands, and rising costs for book purchases and periodical subscriptions (Ke and Chang, 1999). The thriving growth of electronic publications is reshaping the nature of collections and the mode of delivering and accessing information in libraries. The traditional print resources nowadays face challenges from their electronic counterparts in faster and timely delivery of information as well as in improved access (Bandyopadhyay and Chu, 1999).

Among various resources for learning, staff and students throughout much of the world can retrieve seemingly endless volumes of information from all over the globe in a short span of time. It appears that the rate of production of electronic materials have exceeded that of print-based publications (Dalgeish & Hall, 2000). Currently information is usually presented in electronic format and under these circumstances the Web is a major platform supporting this format, thus, it is necessary to understand why university students are so attracted to the Web to satisfy their information quest.

The following research questions were asked to guide the study:

- What is the level of ICT skill of students of Nigerian universities?
- What is the level of Web experience of students of Nigerian universities?
- What is the Level of Web Usage by students of Nigerian universities?
- Does gender affect the use of the Web by students of Nigerian universities?
- What are the purposes for using the Web by students of Nigerian universities?

Objectives of the Study

The specific objectives are to; ascertain the level of ICT skill of students of Nigerian universities; Find out the level of Web experience of students of Nigerian universities; ascertain the level of Web usage by students of students of Nigerian universities; ascertain if gender affect the use of the Web by students of Nigerian universities and to identify the purposes for using the Web by students of Nigerian universities.

Scope of the Study

The study focuses on the use of the Web by students of Nigerian universities. From the universities, found in Nigeria, three universities was used for this study namely, University of Benin, Benin City, Edo State, Delta State University, Abraka, Delta State and Igbinedion University, Okada, Edo State

Limitations of the Study

The study is restricted to three universities in Nigeria as a case study. Therefore, the extent to which the findings of this study meet the need of all others may be limited.

Literature Review

Student Web use has been addressed extensively in recent scholarship and research. One area of inquiry involves the role of the Web in conducting research for class projects. For instance, Lindsay and McLaren (2000) studied how college students conduct research on the Web, and made evaluations on the quality and type of research being conducted. In a similar fashion, Burton and Chadwick (2000) examined the Internet research habits of students and found that although some did depend solely on Internet resources in writing research papers, a majority of the students in the study used a combination of library and online resources. This did not, however, mean that students were necessarily choosing the best or most pertinent sources relating to their topics. Instead, as emphasized by Burton and Chadwick, students depended upon "access, access, access," giving the most positive ratings to sources that were "easy to understand? easy to find" and "available" (Burton & Chadwick, 2000). Pascoe, Applebee, and Clayton, (1996) also found that ease, convenience, and accessibility were major factors influencing academic Internet use.
The use of the Web for research also underscores the increasing affinity for digital information. Goodson (2001) reported that almost all students use the Web to communicate with friends and family via e-mail. In some institutions where Internet access is relatively reliable and seamless, non-academic purposes represents one of the key Internet usage categories (Mitra & Hazen, 1999). The socio-technological environment of colleges that began emerging in the late 1990s has led to increasing dependence on the Internet, which has only grown as many students enjoy free access 24 hours a day on internet centers (Kandell, 1998). Dependence, coupled with easy access to technology, points toward college students spending a substantial quantity of time on the Internet (Hall & Parsons, 2001).

Motivational perspective has also been widely used to understand individual behaviour. It can be defined as the degree to which an individual believes that using a particular system would enhance his or

her job. Davis, Bagozzi, and Warshaw (1992) found that intrinsic motivation (enjoyment) and extrinsic motivation (usefulness) were key drivers of behavioral intention to use computers. Intrinsic motivation emphasizes on the pleasure and inherent satisfaction derived from a specific activity (Vallerand, 1997), while extrinsic motivation highlights the performing of a behavior to achieve a specific goal, such as rewards. In other words, intrinsic motivation is based on the performing of an activity purely for the enjoyment of the activity itself and extrinsic motivation refers to the performance of an activity with the belief that it is instrumental in achieving valued outcomes that are separate from the activity. Recent research has shown that the intrinsic motivation factor (enjoyment) not only had a positive effect on the extrinsic motivation factor (usefulness), it also had a positive effect on the intention to use information technology (Atkinson & Kydd, 1997; Van katesh, 1999); additionally, the extrinsic motivation factor (usefulness) was also found to have a positive effect on the intention to use computers (Igbaria, 1993). Furthermore, the perceived usefulness, constructed by TAM and extrinsic motivation, reflects beliefs about outcomes. From the aspect of motivation, perceived enjoyment has a positive effect to perceived usefulness; and from TAM, perceived ease of use can influence users' perceptions of usefulness.

In order to usize the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them. "For students using a variety of on-line databases, it is as though they were parking lot attendants, where every vehicle is not only a different make and model but has a different configuration" (Blandy & Libutti,1995). As Dutton (1990) suggests, the skills required to maximize the potential of electronic resources are much greater than those required for searching printed sources. These skills include a knowledge of the structure of the database and the instructions which must be input into the computer by the searcher, as well as an understanding of the ways in which the instructions are linked with one another. To this end, Brophy (1993) states users do not often appreciate the skills required to search these sources, stating they are deceptively easy to use. The ability to find and retrieve information effectively is a transferable skill useful for future life as well as enabling the positive and successful use of the electronic resources whilst at university. As Brophy argues, libraries must "reach a position where the acquisition of information skills is acknowledged as one of the key learning objectives for every student entering a university, so that no student leaves without being fully equipped to cope with the information intensive world - the information society - as an end-user" (Brophy, 1993: 55)

There are several ways in which Web experience can be defined and conceptualized. In general, Web experience can be considered to be an act where users engage in applications that are often centered on Web. In addition, Web experience also can be defined in two different ways as perceived use and variety of use. ''While perceived usage refers to the amount of time spent interacting with the Web and the frequency of use, variety of use refers to the importance of use and the collection of Web package/progam use.'' (Igabaria, Guimares, & Davis, 1995). Essentially, the Web would often be a tool for wider and more diverse use. Users are increasingly using the Web for information retrieval, communicating etc. via electronic mail or online conferencing. In this study, the Web experience refers to the experience of Web usage, such as the experience of Web/online packages, and the Internet.

The gender dynamics relating attitudes about the Internet and actual usization of the medium have not been adequately studied to date (Busselle, R., J. Reagan, B. Pinkleton, and K. Jackson, 1999.). Nevertheless, research regarding computer use more generally has highlighted the significance of interest and stereotyping about computers, as well as self-perception of ability (self efficacy) in explaining gendered patterns of behaviour vis-à-vis this technology (Campbell, 1990; Levin and Gordon, 1989; Reinen and Plomp, 1997; Shashaani, 1993). Investigations with elementary and high school students as well as adults reveal a significant gulf between male and female interest in computers (Campbell, 1990; Levin and Gordon, 1989; Reinen and Plomp, 1997; Shashaani, 1993). For example, drawing on representative national samples of elementary, lower, and upper secondary school students from 20 countries in 1989 and 10 countries in 1992, Reinen and Plomp, (1997) find that females enjoy using the computer less than do male students. In addition, research has found that men and boys have significantly more positive attitudes toward computers and more stereotyped attitudes regarding who is capable of using them (Levin and Gordon, 1989; Whitley, 1997), while female students' attitudes and

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attributions toward computers discourage them from using the technology (Campbell, 1990). The inference drawn is that gendered attitudes are central to discrepancies in use. Beyond attitudes, the literature points to another important factor that influences technology use: self-efficacy. Coined and initially elaborated by Bandura (1977), self-efficacy beliefs revolve around ''one's capability to organize and execute the courses of action required to manage prospective situations" and includes both anxiety and enactive and vicarious experience regarding task-specific competencies. Computer-related self efficacy has been an important extension of this concept. In a wide variety of research settings, men have been found to exhibit higher self-efficacy scores (Corston and Colman, 1996; Durndell, A., Z. Haag, D. Asenova, and H. Laithwaite. 2000; Miura, 1987; Torkzadeh and Van Dyke, 2002; Whitley, 1997). Women, on the other hand, generally display less confidence and more discomfort (Brosnan, 1998; Dickhauser and Stiensmeier-Pelster, 2002; Schumacher and Morahan-Martin, 2000; Shashaani, 1993).

Recent literature on technology presents a complicated picture of the relationship between gender and Web use. While most scholars agree that the gender gap in Internet use has narrowed significantly in the college age group (Goodson, McCormick, & Evans, 2001; Odell, Korgen, Schumacher, & Delucchi, 2000) as well as the general population (Brenner, 1997; Jackson, Ervin, Gardner, & Schmitt, 2001; Newburger, 1999; Ono & Zovodny, 2003), some gender differences have been found in attitudes toward technology, intensity of Internet use, online applications preferred, and experience in cyberspace. Investigations of college student Web use have proven especially insightful, as research on this group allows for an examination of gender differences within an institution in which men and women generally have equal access to the Internet (Odell et al., 2000). The scholarship on gender and Web use is contradictory at times, demonstrating the dynamic nature of the interaction, as well as the need for continued investigation. In a study of college students' attitudes toward technology, Smith and Necessary (1996) found that males had significantly more positive attitudes toward computers than females did. Jackson et al. (2001) also found that females in general reported less favourable 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 studied (Jennings & Onwuegbuzie, 2001; Shaw & Gant, 2002). Zhang, (2002) observed that female college students possess more positive attitudes than their male peers. 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. It is noteworthy that the studies are separated by nearly half a decade. Within that time, with greater adoption of technology by women, the differences observed in the earlier studies could disappear in the latter studies. Bimber (2000) argued that the gender gap in the Internet is larger where more intensive Web use is concerned. Women are substantially less likely to be frequent users, equally likely to be infrequent users, and more likely to be intermediate users. In short, females are less intensive Internet users than males. Bimber attributes this finding to a combination of gendered technology embodying male values, content that favours men, sex differences in cognition and/or communication, and socioeconomic differences. Ono and Zovodny (2003) also found women to be less frequent and less intense users of the Internet. Concern about gender inequality has now shifted from access to intensity.
The most pronounced gender difference in Web use is found in the online applications used by males and female. 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 et al., 2001; Morahan-Martin & Schumacher, 1997; Odell et al., 2000; Scealy, Phillips, & Stevenson, 2002). 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).

Methodology

Research Design

The descriptive survey method was adopted for this study. The data collected are information about the views of students in the selected universities.

Population and Sample for the Study

The estimated population for this study is all the undergraduate students of the selected Universities. From this population a sample of 100 undergraduate students each was drawn using simple random sampling method. And these amount to a sample size of 300. The sample frame is as shown in the table below.

Table 1: Showing Sample for the Study

Universities	Sample
University of Benin	100
Delta State University	100
Igbinedion University	100
Total	300

Research Instrument

The questionnaire titled Web Affinity Questionnaire (WAQ) was used as the research instrument for this study. And it is aimed at answering questions on: determining the level of ICT skill by students of Nigeria universities, the level of Web experience of students of Nigeria universities students, the level of Web usage by students of students of Nigeria universities and students purposes for using the Web.

Method of Data Collection

The questionnaire was sent out to the three universities. The researcher employed the service of research assistants to administer the questionnaire one-on-one to the students and their response collected immediately. This method was preferred so as to achieve a high response rate.

Method of Data Analysis

Data collected from the questionnaires were analyzed, using descriptive statistics such as simple percentage and frequency counts. The results of the computation were presented in tables.

A total of 300 questionnaires distributed to respondents were successfully retrieved. The analyses of the distribution were as presented below.

Figure 1: Showing Gender Distributions of the Respondents
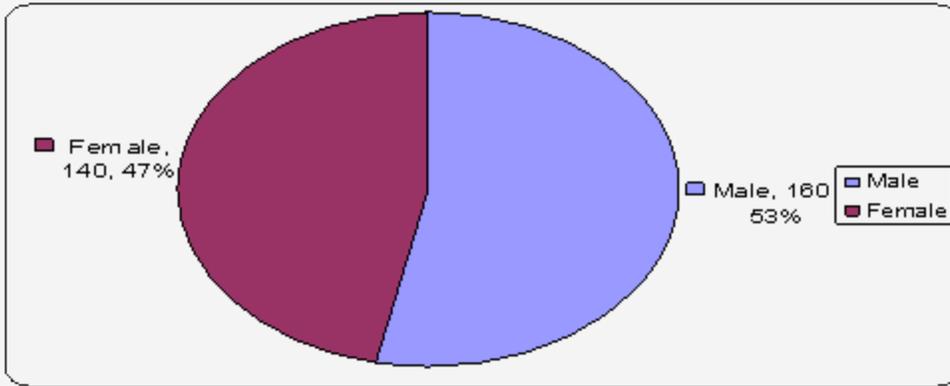
From figure 1 above a majority of 160 (53%) respondents sampled were males.

Figure 2: Showing Age Distribution of the Respondents

Figure 2 above shows that most of the respondents were between the age range of 21 – 25 years.
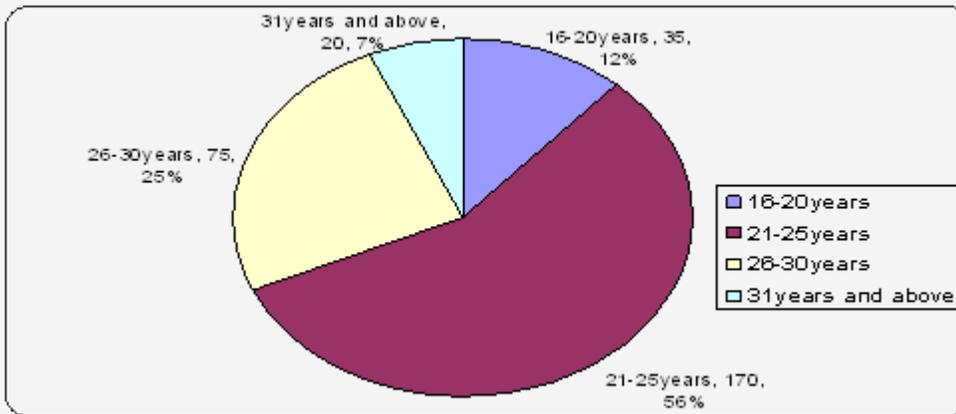
Findings

Research Question 1: What is the level of ICT skill of students of Nigerian universities?

The result of the analysis is presented in table 2.

Table 2: Showing Level of ICT skills of Students of Nigerian universities

S/N	ICT Skillfulness	Options	Frequency	Percentage
1.	I am skilled in the use of computer.	Agreed	280	93.33%
		Disagreed	20	6.67%
2.	I am skilled in the knowledge of database structures	Agreed	110	36.67%
		Disagreed	190	63.33%
3.	I am skilled in working in an interactive platforms e.g. video conferencing, BBS, LISTSERV, Chat room etc.	Agreed	115	38.33%
		Disagreed	185	61.67%
4	I am skilled in formulating search queries	Agreed	140	46.67%
		Disagreed	160	53.33%
5	I am skilled in online navigation techniques	Agreed	247	82.33%
		Disagreed	53	17.67%
6	I am skilled in the use of electronic library tools e.g. CDROM, OPAC, Subject Gateways etc.	Agreed	63	21.00%
		Disagreed	237	79.00%
7	I am skilled in online acquisition procedures/techniques	Agreed	50	16.67%
		Disagreed	250	83.33%
8	I am skilled in working in a network environment	Agreed	60	20.00%
		Disagreed	240	80.00%
9	I am skilled in using internet telephony	Agreed	79	26.33%
		Disagreed	221	73.67%
10	I am skilled with computer system/application software e.g. MS Windows XP, Linux, MS Office, etc.	Agreed	208	69.33%
		Disagreed	92	30.67%
11	I am conversant with electronic formats e.g. PDF, JPEG, MPEG etc.	Agreed	175	58.33%
		Disagreed	125	41.67%

From table 2, it was observed that there is a relatively low level of skillfulness in the use of ICT among students of Nigeria University . Dutton (1990) suggests, the skills required to maximize the potential of electronic resources are much greater than those required for searching printed sources. These skills include a knowledge of the structure of the database and the instructions which must be input into the computer by the searcher, as well as an understanding of the ways in which the instructions are linked with one another. To this end, Brophy (1993) posited that students do not often appreciate the skills required to search electronic sources, stating that they are deceptively easy to use. Brophy argues that, it has reached a situation were the acquisition of information skills is acknowledged as one of the key learning objectives for every student entering a university, so that no student leaves without being fully equipped to cope with the information intensive world as an end-user (Brophy, 1993: 55).

Research Question 2: What is the level of Web experience of students of Nigerian universities?

The result of the analysis is presented in table 3.

Table 3: Showing Level of Web Experience of Students of Nigerian universities

S/N	Web experience	Options	Frequency	Percentage
1.	Experience with the Internet.	Agreed	279	93.00%
		Disagreed	21	7.00%
2.	Experience with search engines e.g. Google, Altavista, yahoo etc.	Agreed	165	55.00%
		Disagreed	135	45.00%
3.	Experience with Web programming language e.g. html, Java, Visual Basic, Visual C # etc.	Agreed	70	23.33%
		Disagreed	230	76.67%
4	Experience with topic maps	Agreed	65	21.67%
		Disagreed	235	78.33%
5	Experience with site maps	Agreed	67	22.33%
		Disagreed	233	77.67%
6	Experience with Website inbuilt search engines	Agreed	40	13.33%
		Disagreed	260	86.67%
7	Experience with online databases	Agreed	170	56.67%
		Disagreed	130	43.33%
8	Experience with ready made questions (FAQs)	Agreed	71	23.67%
		Disagreed	229	76.33%
9	Experience with navigating Web links	Agreed	210	70.00%
		Disagreed	90	30.00%
10	Experience with mailing list	Agreed	170	56.67%
		Disagreed	130	43.33%
11	Experience with site help	Agreed	30	10.00%
		Disagreed	270	90.00%
12	Experience with Weblog	Agreed	50	16.67%
		Disagreed	250	83.33%

From table 3, it was observed that there is a fairly low level of Web experience amongst students of Nigerian universities. This corroborates Dutton (1990) and Brophy (1993) that students do not often appreciate the skills required to search electronic sources, stating that they are deceptively easy to use.

Research Question 3: What is the level of Web use by students of Nigerian universities?

The result of the analysis is presented in table 4.

Table 4: Showing Level of Web Usage by students of Nigerian universities.

S/N	Items	Options	Frequency	Percentage
1.	Do you use the Web?	Yes	300	100.00%
		No	- -	- -
2.	How often do you use the Web?	Very Often	56	15.43%
		Often	231	77.00%
		Rarely	13	4.33%
		Never	- -	- -
3.	For how long have you been using the Web?	Below 1year	55	18.33%
		1 - 2 years	85	28.33%
		3 – 4 years	98	32.67%
		Above 4 years	62	20.67%
4.	How long do you spend on a Website per visit?	Below 30 Mins	20	6.67%
		30 Mins – 1 Hr	190	63.33%
		1 1/2-2 hrs	60	20.00%
		Above 2 Hours	30	10.00%

Table 5. How often do you use the following type of Websites?

#	Type	Frequency	Count	Percentage
1	Entertainment	Very Often	10	3.33%
		Often	20	6.67%
		Rarely	231	77.00%
		Never	39	13.00%
2.	Educational/Academic	Very Often	50	16.66%
		Often	230	76.67%
		Rarely	20	6.67%
		Never	- -	- -
3.	Sport	Very Often	70	23.33%
		Often	195	65.00%
		Rarely	30	10.00%
		Never	5	1.67%
4.	Religious	Very Often	0	--
		Often	0	--
		Rarely	12	4.00%
		Never	288	96.00%
5.	News	Very Often	80	26.66%
		Often	215	71.67%
		Rarely	5	1.67%
		Never	- -	- -
6.	Commercial	Very Often	0	--
		Often	40	13.33%
		Rarely	180	60.00%
		Never	80	26.67%
7	Pornographic	Very Often	10	3.33%
		Often	50	16.67%
		Rarely	90	30.00%
		Never	150	50.00%
8.	Military	Very Often	0	--
		Often	0	--
		Rarely	5	1.67%
		Never	295	98.33%
10.	Databases	Very Often	55	18.33%
		Often	170	56.67%
		Rarely	75	25.00%
		Never	- -	- -

The result of the research analysis in table 4 above revealed that students spend a substantial amount of time on the Internet. According to Hall and Parsons (2001), dependence, coupled with easy access to technology, points toward college students spending a substantial quantity of time on the

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Internet. Also from the result we could deduce that the frequency of usage of the Web is fairly high. Websites like educational/academics, news, and sports Websites are most frequently patronized unlike the religious, commercial, entertainment, pornographic and database Website are less likely patronized by students of Nigerian universities.

According to Hall (2000), the fact that the Web has the ability to provide up-to-the-minute information and, secondly, this information can be obtained from around the world, made it a reliable source for news information. Thus, the news Websites are highly patronized by students. From the result, there is a high level of students patronage of educational/academic Websites, this is in agreement with the findings of Pascoe, Applebee, and Clayton, (1996) that ease, convenience, and accessibility were major factors influencing academic Internet use.

Research Question 4: Does gender affect the use of the Web by students of Nigerian universities?

The result of the analysis is presented in table 5.

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Table 5: Gender and usage of the Web as a search tool by students of Nigerian universities

Gender						
Male	Female					
S/N	Items	Options	Frequency	Percentage	Frequency	Percentage
1.	Do you use the Web?	Yes	160	100.00%	140	100.00%
No			- -	- -	- -	- -
2.	How often do you use the Web?	Very Often	36	12.00%	20	6.67%
		Often	115	38.33%	116	38.67%
		Rarely	9	3.33%	4	1.33%
		Never	- -	- -	- -	- -
3.	For how long have you been using the Web?	Below 1year	20	6.67%	35	11.67%
		1 - 2 years	50	16.67%	35	11.67%
		3 – 4 years	50	16.67%	48	16.00%
		Above 4 years	40	13.33%	22	7.33%

From table 5 the result of the analysis revealed a high frequency of usage by undergraduate male and female students of Nigerian universities. According to Goodson, McCormick, & Evans, (2001); Odell, Korgen, Schumacher, & Delucchi, (2000) the gender gap in Internet use has narrowed significantly in the college age group hence, the high frequency of usage observed here is of similar reason to that discussed earlier on Davis, Bagozzi, and Warshaw (1992) that intrinsic motivation (enjoyment) and extrinsic motivation (usefulness) were key drivers of behavioral intention to use ICTs. And Vallerand (1997), that intrinsic motivation emphasizes on the pleasure and inherent satisfaction derived from a specific activity. Researches by Atkinson & Kydd, 1997; Vankatesh, (1999) have shown that the intrinsic motivation factor (enjoyment) not only had a positive effect on the extrinsic motivation factor (usefulness), it also had a positive effect on the intention to use information technology. Additionally, the extrinsic motivation factor (usefulness) was also found to have a positive effect on the intention to use computers (Igbaria, 1993).

Research Question 5: What are the purposes for using the Web by students of Nigerian universities?

The result of the analysis is presented in figure 3.

Figure 3: Showing Purpose of Web Use
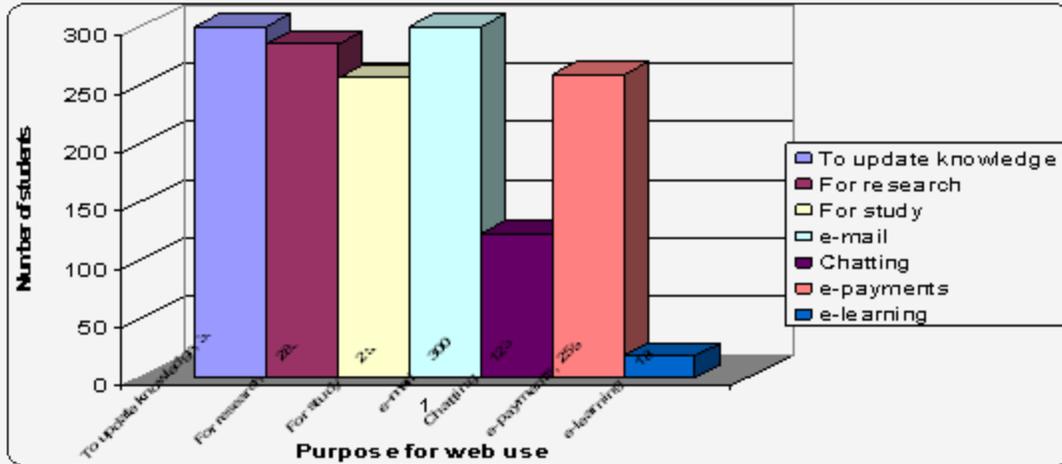
From the chart in figure 3 above, it was observed that e-mail, knowledge update, research, e-payment and study rank among the major purpose for Web use by students of Nigerian universities. This corroborates Burton and Chadwick (2000) who examined the Internet research habits of students and found that they depend mainly on Internet resources in writing research papers. Also,

Goodson (2001) reported that almost all students use the Web to communicate with friends and family via e-mail.

Summary of the Study

The study revealed that; there is a low level of skillfulness in the use of ICT among students of Nigerian universities; there is a low level of Web experience amongst students of Nigerian universities; the level of Web usage students of Nigerian universities is high. Students spends substantial amount of time on the Web; there is a high frequency in the use of the Web students of Nigerian universities; There is a high frequency of usage of the Web as a search tool by both male and female students of Nigerian universities. In otherwords gender gap in Web usage is quite negligible and that e-mail, knowledge update, research, e-payment and study/course work ranked high among the major purpose for Web use by students of Nigerian universities

Conclusion

From the foregoing, it is obvious that undergraduate students of Nigerian universities need to do more in order to improve on their ICT skills so as to equip them in usizing the enormous benefits available in the Web. The high level of usage of the Web even as evident among both male and female gender is an indication to the fact that even without the expertise knowledge of manipulating the Web, students are still getting satisfaction from the little they could get out of the Web although handicapped by their low level of ICT experience.

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