

Access To and Pattern of ICT Use among Undergraduate Students of Nnamdi Azikiwe University, Awka-Nigeria

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Abstract

This work examined the degree of access and pattern of ICT use among undergraduate students of Nnamdi Azikiwe University, Awka (UNIZIK). The main objective of the study was to determine the extent to which undergraduate students of Nnamdi Azikiwe University, Awka have access, as well as the different ways they put the ICT facilities to use. Generally, the study attempts to identify factors that inhibit access to and use of ICT by UNIZIK students and finally, tried to ascertain if ICT use by UNIZIK undergraduate students have any influence on their academic activities. The study adopted the survey method, and randomly selected 185 respondents. Findings from the study suggest that UNIZIK has ICT facilities and students' access and knowledge of ICT are on the increase.

Keywords - ICT facilities, ICT use, Information, Communication Technology, Undergraduates

I. INTRODUCTION

Information and Communication Technology (ICT) as a major agent of globalization is one of the most recent “wonders” of the twenty-first century as well as a gift to humanity at large. The growth of global communication has brought the idea of the interdependent world into an everyday reality. ICT has given rise to unlimited access to information in almost all spheres of human endeavor; such as education, business and commerce, politics and governance, music, entertainment, food, security, sports, weather, environment etc.

Consequently, access to and pattern of ICT use is determined by several factors such as geographical location, economic disparity, gender, political reasons and social norms. The use of ICT can be found in all sectors of the economy. Many institutions today, have installed several forms of information systems in a bid to keep abreast with innovations in the global village.

Though, the term information and Communication Technology generally connotes the internet, computers, and E-mail, it actually denotes all forms of technologies used in collecting, storing, editing and passing on information in various forms.

Information and Communication Technology is used by a range of people for a variety of purposes and as such, they have different perceptions of its nature, and achieve different outcomes to their searches.

There is therefore the necessity to understand access to and the pattern of ICT use among undergraduate students of Nnamdi Azikiwe University. This is the thrust of this study.

II. ICT AVAILABILITY AND ACCESSIBILITY

Considering the numerous advantages of ICT, and its vital role in teaching, research, and learning across the globe, ICT availability becomes an indispensable part of educational infrastructure. It is equally true that the growth and development of electronic publication is reshaping the nature of collection and mode of delivering and accessing information in libraries. Consequently, [1] posit that traditional print resources nowadays face challenges from their electronic counterparts in faster and timely delivery of information as well as in improved access.

This study therefore examines the level of ICT availability in Nnamdi Azikiwe University, Awka, student's access to and use of ICT, as well as their pattern of ICT use.

Information and Communication Technology (ICT) has become a revolution that cannot be compared with existing media technologies before it. Reference [2] remarked that the television revolution took 13 years to reach 50 million viewers and the internet achieved this mark in only 4 years. The field of education has certainly been affected by the penetrating influence of Information and Communication Technology worldwide. In developed countries particularly, ICT has made an impact on the quality of teaching, learning and research in the traditional and distance educational institutions using it.

There is no doubt that the rate of deployment of new technologies in developing countries is low, especially those of sub-Saharan Africa. This is particularly noticeable in the area of telecommunication and computing infrastructures

such as telephones, development of appropriate electronic networks etc. Interestingly, the growth in telecommunication infrastructure overtime has led to ICT connectivity.

Available literature shows that several studies have been conducted on use of internet resources by students, research scholars and academic staff of academic institutions in Nigeria and worldwide. This study is therefore aimed at ascertaining the current nature of access and pattern of use of ICT by undergraduate students of Nnamdi Azikiwe University, Awka, Nigeria.

The internet gives us access to a vast wealth of knowledge and access to tools that facilitate research. The internet offers the opportunity to conduct remote classes, allow access to remote libraries and create an environment for innovative and cooperative learning experience[3]. Reference [4], in a study of internet access and use by students of the University of Botswana, reported that computers with internet facilities were still inadequate which denied many students opportunity of access.

Reference [5] in a random survey of 364 students in an Australia University on internet use revealed that students use the internet for communication with their professors through Emails by seeking clarifications or reporting information and getting feedback. Secondly, they use the internet to get material (web links, notes, practice, quizzes, hints for test etc) from professional websites. In a related survey, [6] in the U.S found that 715 of online students say they rely mostly on internet sources for the last big project they did for school and 345 of online young people aged 12-17 downloaded study aides from the internet.

Reference [7], studied the internet access and use by students of Federal University of technology, Akure and found that only 3.4% of the respondents were not using the internet. Cybercafés were the most frequent source of internet access and most respondents acquired internet skills through teaching by peers.

Reference [8], studied internet use among college students at Rensselaer Polytechnic, New York. The study analyzed the time spent by students on the internet or average internet time per day for each activity, it found that students overall average on line time on the internet is 100 minutes per day, i.e. 9.8 hours per week.

Reference [9] examined internet use among African American college students in Michigan. The respondents were surveyed by using questionnaire to determine the frequency of internet use. Results of the study indicated that most African American college students (76%) had used the internet for more than three years. Use of internet by African American college students occur at school or in the work place totaling 595 of the respondents. 67% of respondents indicate that they spend an average of two hours per

day online. A small percentage of the students spend 5-6 hours per day, i.e. 25-30 hours per week.

On their part, [10] conducted a study on internet utilization pattern of undergraduate students in College of Agriculture and Technology, Pant Agar. The findings show that 61.5% male respondents and 51.6% female respondents use the internet for undertaking their academic assignments.

Reference [11] investigated the pattern of internet use by students of the University of Lagos and found low use of internet among students in the faculties of Law and Education though internet use have very high influence on their academic career.

Reference [12] studied internet use by students of Obafemi Awolowo University Ile Ife (OAU), and found that 89.9% of the students used the internet, access point being mainly through the Cybercafés and the major hindrances to efficient internet use included slowness of the server and payment for access time.

Reference [13] in the study of internet usage and satisfaction of students at the Federal University of Technology, Minna, reported that only 30.8% of the respondents indicated that they were satisfied with the provision of the general internet services while 62.2% responded negatively.

Reference [14] studied the use of internet at the University of Maiduguri, Nigeria. The findings showed that internet use was very important for 60.8% of the respondents with 74.6% using the internet for research. 71.5% mentioned Google as their preferred search engine and concluded that necessary facilities should be put in place for the faculty and students to make optimal use of information resources available on the internet.

Reference [15] also investigated internet use among students focusing on whether or not there are differences by race or ethnicity. They reported that internet use is affected by presence or absence of a computer in the home of origin.

III. THE NATURE OF ICT USE IN NIGERIA

Reference [16] observed that Nigeria had a late start in the use of computers, but the growth in their use has been quite remarkable. Computer installations are widely distributed in universities, government departments and agencies, Banks, commercial establishments and industries. The private sector is also not left out in the Information Technological revolution.

Nigeria University Campuses too, are now full of Information and Communication Technology facilities enabling lecturers and students to do their researches and other academic works using various IT devices. They also note with happiness that both the federal government of Nigeria and other international funding agencies are interested in the general development of ICT in higher education in

Nigeria. Reference [17] believes that; Telecom availability has improved and Nigeria is one of the world's fastest growing mobile markets, but the cold hard facts are that communication quality is low and ICT penetration is still insufficient considering Nigeria's size and population. It is important to note that important variations in the nature of access determine telecom impact, for instance, broadband density is particularly low as there is a great gulf between broadband and voice telephony penetration. Nigeria must move beyond voice telephony.

It is arguable therefore that lack of awareness and access excludes many from the digital environment. No doubt, cost is a barrier and a country where poverty still walks the street, ICT remains a stranger. Software opportunities in Nigeria are not being fully exploited to unleash the potentials of Nigerians. Local developers however face challenges of Ignorance and patronage. Existing software promotion policies have not made much impact.

IV. ICT BENEFITS

The benefits of ICT are enormous. Reference [18] stated the following benefits of ICT :

- Provision of real opportunities for individualized instruction.
- Creation of economic viability for tomorrow's workers.
- The pervasiveness of ICT has brought about rapid technological, social, political and economic transformation which has eventuated in a network society organized around ICT.
- The use of ICT empowers weak players in an economy by providing them with information, communication and knowledge they could not access before ICT enhances the competitiveness of small and medium sized enterprise (SMSE). They can establish their presence on the internet and use it to communicate with suppliers and customers, to search for business information and to advertise their products.

ICT increases the efficiency with which economic activities are undertaken, the use of digital technology in printing, radio and television broadcast, photography etc. It has helped to increase the number of businesses and job opportunities.

This paper is anchored on technological determinism theory which was propounded by Marshall McLuhan in 1962. The basic assumption of the theory is that media technology shapes how we as individuals in a society think, feel, act and how society operates as we move from one technological age to another. Technological Determinism theory therefore is relevant in the effort to explain access and pattern of ICT use because the internet is the most recent technology upon which educational research material availability is largely dependent.

V. RESEARCH METHODOLOGY

Sample survey design has been considered relevant to this study because of the evaluative nature of investigation. Sample survey is an investigation in which only parts or sample of a population is studied and the selection is made such that the sample is representative of the whole population. The population of this study therefore comprises the undergraduate students of Nnamdi Azikiwe University Awka. The sample size for this study was 200 respondents whom were randomly selected through the lucky deep process from four of the fourteen faculties in the university namely; Social Sciences, Arts, Management Sciences and Law. 50 respondents were randomly drawn from one randomly selected department in each of the four faculties earlier selected. Questionnaire were distributed to respondents in each of the selected department in the faculties according to academic levels as follows; 100 level = 10 questionnaires; 200 level = 10 questionnaires; 300 level 10 questionnaires and 400 level = 20 questionnaires. More questionnaires were allocated to 400 level respondents because of their experience having spent more years in the university. Consequently, the sampling technique employed was the random sampling technique. This was done to give every faculty equal chance of being selected. The data was analyzed with the aid of tables, simple percentages and the Chi-square analysis.

V. DATA ANALYSIS

This section deals with the organization analysis of data collected in response to the administered questionnaire. Data was analyzed on the basis of research questions. For clarity, simple percentages and tables were used to present the result.

Table 1: Response Rate

The response rate of respondents is shown in Table 1 below.

S/ N	Faculty	No Distributed	No Returned
1	Law	50	42
2	Social sciences	50	46
3	Arts	50	48
4	Management sciences	50	49
	Total	200	185

Interpretation

Table 1 shows the pattern of questionnaire distribution to undergraduate students of four faculties in UNIZIK. A total of 200 questionnaires were distributed, while 185 were returned duly completed.

Table 2: Sex of Respondents

Sex	No of respondents	Percentage
Male	67	36.2%
Female	118	63.7%
Total	185	100%

Interpretation

The result of the percentage distribution of respondents sex (see Table 2) revealed that there are 36.2% males and 63.8% females respectively.

Table 3: Age of Respondents

Age Interval	Frequency	Percentage
16-20	17	9.2%
21-25	129	69.7%
26-30	39	21.1%
30 & above	-	-
Total	185	100%

Interpretation

The result obtained in Table 3 showed that students between 21-25 age brackets responded more than any other age group with 69.7% as against the 9.2% for 16-20 years and 21% for 26-30 years, while 30 and above had no respondents. The observation here is that, the bulk of the respondents fall within the cream of the young adult.

Table 4: Respondents Department

S/ N	Departments	No of students
1	Law	42
2	Mass communication	20
3	Sociology and Anthropology	26
4	English language	22
5	Theatre Arts	26
6	Banking and Finance	25
7	Business Administration	24
	Total	185

Interpretation

Table 4 showed that there are 42 respondents from law faculty, 20 respondents from mass communication department, 26 respondents from sociology and Anthropology department, 22 respondents from English department, 26 respondents from Theatre Art department, 25 respondents from Banking and Finance department and finally, 24 respondents from Business Administration department respectively.

Table 5: Knowledge of Computer

S/ N	Item	Yes	No	Total
5	Are you computer literate?	165 89.2%	20 10.8%	185 100%
6	Do you own a	110	75	185

computer	59.5%	40.5%	100%
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Interpretation

The result of Table 5 showed that 165 (89.2%) respondents are computer literate against 20 (10.8%) respondents while 110 (59.5%) respondents have a computer of their own against 75 (40.5%) respondents who do not have computer.

Table 6: Access to Computer

S/ N	Item	Cyber	Comp uter Centre	Other Places	Total
7	If No, how else do you access a computer?	120 64.9%	35 18.9%	30 16.2%	185 100%

Interpretation

The result of Table 6 showed that 120 (64.9%) respondents who do not own a computer but have access to computer in Cyber Café, 35 (18.9%) respondents (18.9%) access computer in a computer business centre and 30 (16.2%) respondents access computer in other places.

Table 7: Frequency of Access to Computer

S/ N	Item	Alwa ys	Sometim es	Not at all	Tot al
8	How often do you have access to computer in UNIZIK?	130 70.3%	50 27.0%	05 2.7%	185 100%

Interpretation

Table 7 revealed that 130 (70.3%) respondents always have access to internet in UNIZIK, 50 (27.0%) respondents have access to internet facility sometimes and 5 (2.7%) respondents do not have access to internet facility in UNIZIK at all.

Table 8: Purpose of Frequent use of the Internet

S/ N	Item	Resea rch	Email	Chatt ing	Tot al
9	What do you use the internet mostly for?	120 64.9%	10 5.4%	55 29.7%	185 100%

Interpretation

The result of Table 8 showed that 120 (64.9%) respondents mostly make use of the internet for research, 10 (5.4%) respondents use the internet for E-mailing and 55 (29.7%) respondents use the internet for chatting.

Table 9: Internet Use

S/ N	Item	Yes	No	Total
10	Have you ever used the internet for E-mail?	170 91.9%	15 8.1%	185 100%
11	Have you ever used the internet for gathering of academic materials for your course(s)?	165 89.2%	20 10.8%	185 100%
12	Have you ever used the internet for gathering of research materials?	165 89.2%	20 10.8%	185 100%
13	Do you ever use the internet for taking courses online?	20 10.8%	165 89.2%	185 100%
14	Have you used the internet for updating yourself on news across the globe?	170 91.9%	15 8.1%	185 100%

Interpretation

Table 9 found that 170 (91.9%) respondents used the internet for e-mail, 15 (8.1%) respondents have not used the internet for e-mail. 165 (89.2%) respondents said they have used the internet for gathering of academic materials for their course(s), while 20 (10.8%) said that they have not used the internet for gathering of academic materials for their course(s). 165 (89.2%) respondents said that they have used the internet for gathering of research materials while 20 (10.8%) respondents said they have not used the internet for gathering of research materials. 20 (10.8%) respondents said they have used the internet for taking online course as against 165 (89.2%) respondents who said that they have not. 170 (91.9%) respondents said that they have used the internet for updating themselves on news across the globe while 15 (8.1%) respondents said they have not used the internet for that purpose

Table 10: Hindrances

S/ N	Item	Yes	No	Not at all	Total
15	Have you ever encountered hindrances in using the internet	160 86.5%	25 13.5%	-	185 100%

Interpretation

Table 10 showed that a greater number of the respondents 86.5% have encountered hindrances in using the internet while 13.5% said No to the question.

Table 11: What are the hindrances?

S/ N	Responses	Frequency	Percentage
1	Server problem	90	48.6%
2	None availability	20	10.8%

3	of the most of the educative websites Subscription problem	25	13.5%
4	None availability of electricity	50	27.1%
	Total	185	100%

Interpretation

The result of Table 11 found that 48.6% of the respondents have their hindrances as low connectivity of the server, 10.8% of the respondents said it is none availability of most of the educative websites, 13.5% of the respondents said that it is subscription problem while 27.1% said that the hindrance is non availability of electricity.

Table 12: Duration of internet usage

S / N	Item	1 day	2 days	3 days and above	Total
17	How many days do you browse the internet	5 2.7%	40 21.6%	140 75.7%	185 100%

Interpretation

The result of Table 12 showed that 5 (2.7%) respondents browse a day in a week, 40 (21.6%) respondents browse 2 days in a week while 140 (75.7%) respondents browse the internet 3 days and above in a week.

Table 13: Time

S/ N	Item	30 mins	1-4 hrs	5hrs & above	Total
18	How many hours do you normally spend when browsing	45 24.3%	135 73%	5 2.7%	185 100%

Interpretation

The of Table 13 found that 45 respondents normally spend 30 minutes when browsing, 135 respondents normally spend 1-4 hours when browsing while 5 respondents spend 5 hours and above browsing.

Table 14: Use of internet for Entertainment

S/ N	Item	No	Yes	Not at all	Total
19	I use the internet to download music, games and entertainment	150 81.1%	35 18.9%	-	185 100%

Interpretation

Table 14 revealed that 150 respondents do not use the internet to download music, games and entertainment while 35 respondents said that they do.

Table 15: Cost of Internet Usage

S/N	Item	No	Yes	Not at all	Total
20	Is the internet very expensive that you cannot afford to pay for time on the internet	20	165	-	185
		10.8%	89.2%	-	100%

Interpretation

The result obtained in Table 15 revealed that 20 respondents claim that the internet is very expensive while 165 respondents claim they can afford to pay for it.

Table 16: Chi-Square Test on the Use of Internet

H_0 : There is no significant difference on the use of internet among the students

H_1 : There is significant difference on the use of internet among the students

Expected counts are printed below observed counts
Chi-Square contributions are printed below expected counts

	Yes	No	Total
1	170	15	185
	130.00	55.00	
	12.308	29.091	
2	165	20	185
	130.00	55.00	
	9.423	22.273	
3	165	20	185
	130.00	55.00	
	9.423	22.273	
4	20	165	185
	130.00	55.00	
	93.077	220.000	
Total	520	220	740

Chi-Sq = 417.867, DF = 3, P-Value = 0.000

Interpretation

The result of the Chi-square analysis revealed that there exist significant difference on the use of the internet by the students since a Chi-square value of 417.86 and a p-value of 0.00 was obtained, which falls into the rejection region of the hypothesis assuming 95% confidence level. Hence, we can

conclude that there exist evidence of internet use among the students of UNIZIK.

Discussion Of Findings

The result of this research proves that the research undertaken was really necessary. It gives an insight into students' internet access and their pattern of use. The findings from the data obtained from 185 respondents suggest that they have had experience with ICT. It was discovered that a total of 140 (75.7%) of Nnamdi Azikiwe University students browse for up to 3 days every week and that 135 (73%) spend 4 hours browsing which indicates that, Nnamdi Azikiwe University students spend quality time browsing the internet. This is in line with [8] view on internet use among college students that students spent quality time browsing the internet that is, 100 minutes per day.

Respondents were unanimous in their response that ICT has developed progressively in UNIZIK. Most of the students accented to the fact that they have increased their knowledge on ICT by enhancing their knowledge of the internet, use of email, Microsoft word processor, excel spreadsheet and power point presentation application packages which are the core components of ICT. In terms of the usage by the respondents, it was found that 170 (91.9%) of our 185 respondents send e-mails via internet. Only 35 (18.9%) of our respondents made use of the internet to download music, games, ring tones and video clips. This finding directly opposes the result of the study carried out by [19] among high school students in Greece. In that report, they found that majority of the 240 pupils used the internet; about 180% of them engaged in downloading games, music, logos, ring tones, video clips and playing online games. Conversely, our own study found that only a few of the respondents use the internet for the reasons aforementioned. This finding also agrees with [14], on internet use at the University of Maiduguri that respondents used the internet for research work and Email which have helped to increase their knowledge of ICT.

Respondents (students) are of the opinion that ICT has helped them in their day to day activities and they have increased knowledge of ICT.

In addition, it was found that Nnamdi Azikiwe University has ICT facilities and that all the 110 (59.5%) respondents have access to the internet; although a greater percentage of the respondents 75 (40.5%) may not have access to the internet facilities at home and in school. However, from the result of this study, it is clear that all the respondents have access to the internet facilities at the cyber café. This result agrees with [7] on internet access by students of Federal University of Technology, Akure that

Cybercafes were the most frequent source of internet access for the respondents.

It was found that Nnamdi Azikiwe University students use the ICT. It is clear that they spend quality time on the internet, because each time they browse the internet, they spend 1-4 hours and they do this at least two days in a week.

As part of the research, it was necessary to find out what students use the internet for, since they spend quality time each time they go for browsing. The study found that they use the internet for information purposes such as updates on news within and outside the country. They also use the internet for gathering of academic material for research work, school or class assignments, sending and receiving of e-mails, chatting, downloading of music, video clips etc.

A positive effect of ICT on the activities of the students was observed. The findings reveal the importance and benefits of the internet to the respondents' academic performance because the greater percentage of respondents (75.7%) believe that the internet has really enhanced their academic performance in their various fields of study. Also, majority of the respondents believe that the internet has not only improved their academic performance, but that it has also been a very good instrument that has made their various programmes in UNIZIK much easier. This agrees with [3], who noted that the internet gives us access to a vast wealth of knowledge and access to tools that facilitate research.

The findings of this study reveals that in as much as the internet has been able to satisfy and meet the needs of the people, it still has some hindrances which make its usage to an extent problematic. Amidst all the difficulties indicated by the respondents, low connectivity of the server stands out as the most prevailing hindrance because a greater percentage of the respondent (48.6%) attested to that citing none availability of educative websites, subscription difficulties and unstable electricity supply.

VI. CONCLUSION

This study evaluated access to and pattern of ICT use among undergraduate students of Nnamdi Azikiwe University, Awka, Nigeria. The result of the findings revealed that students of Nnamdi Azikiwe University indeed make use of the internet. They also use the internet for a variety of reasons ranging from sending and receiving emails, chatting and video conferencing to searching for information on the internet. It is also worthy to note from the result obtained that although the internet is an invaluable source of information, Nnamdi Azikiwe University students do not think it is a substitute for information provided by their lecturers. The study also found that, the efforts of the University at equipping the undergraduates with ICT capabilities are yielding results.

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