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Analysis of Students Satisfaction with ICT Services in Federal Polytechnic, Mubi-Adamawa State, Nigeria

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Abstract

The paper has analysed students' satisfaction with ICT services in Federal Polytechnic, Mubi. It specifically aimed at examining the extent to which students were satisfied with ICT services during registration process, teaching and or practical sessions. Data were elicited through questionnaire administration from a sample of 367 respondents determined using Krejcie and Morgan (1970). Out of the 367 questionnaire administered, 341 were dully completed and returned. The data collected were analysed using percentage, mean score and chi-square statistical tools. The analysis and the test of hypotheses generally revealed that students are satisfied with ICT services in Federal Polytechnic, Mubi. However, in its specific term, it was found that students indicated dissatisfaction with effectiveness of network service, connectivity speed, period spend in registration and adequacy of power supply. Based on the findings, the following measures were recommended; that management should continue in its effort to sustain and improve on the status of ICT services in the institution, that management should go into partnership with internet service providers with proven record of quality service and moderate fee of partnership.

Keywords: *Students satisfaction, ICT services, Federal Polytechnic Mubi.*

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Background to the Study

Information and communication technology (ICT) is the convergence of communication, information and media technology which are based on the common digital technology (Fidelis, Sanjayi, and Rechard, 2013).ICT has become an indispensable part of the contemporary world to which culture and society adjust to meet its challenges. According to Yusuf, Afolabi, and Loto (2013), ICT is a force that has changed many aspects of people's ways of life in many different fields of carrier activities. It is presently a veritable tool for quick access to ideas and experiences from a wide range of people, communities and cultures which also offers solid support for improved and enhanced service delivery (UNDP, 2007).Its impact in the past two to three decades especially in the education industry has been enormous, it has increasingly influence higher education from playing a supplementary role, to now a basic permeate core teaching and learning in Universities, Polytechnics, Colleges and other organizations with training requirements (Darko*et'al,* 2011).

In Nigeria, ICT policy was first implemented in April, 2001 after the federal executive council approved it by establishing the National Information Technology Development Agency (NITDA) as the implementation body (Osei, 2007). Since then, the country experiences rapid transformation in the ICT sector. The experience, cut across both private and public sector organizations. The pervasive influence of ICT has brought about a rapid technological, social, political and economic transformation in the country and this has paved way to network society being organized. The educational sector has not been left out by the penetration influence of ICT (Yusuf *et'al,* 2013). According to Dauda (2016), ICT contribute immensely to the quality of teaching/learning and research in educational institutions.

Various studies by Adel-Ben and Mounir (2008); Darko*et'al* (2011); Oluwunmi, Durodola and Ajayi (2015) revealed that ICT play a significant role in many pedagogical activities such as instruction delivery, material preparation, class room communication, research, conference, seminars and institutional administrative operations among others in institutions of higher learning in the country. Other study by Ijanwade (2014) noted that institutions adopted ICT in their operations to ensure comfortable learning environment for both staff and students and to optimise productivity in the teaching and learning process which in turn attract high patronage. These facts results to strong competition among tertiary institutions with student satisfaction taking the lead in the competition circle. This is because globally, it is known that competition has stressed the strategic importance of satisfaction as being a major element for winning consumer preference and maintaining competitive advantage. Therefore, students who are the major consumers of tertiary education need to be satisfied so as to attract, retain and in turn improve the reputation and standard of an institution (Dahiru, 2015).

From the forgoing, student's satisfaction survey has become imperative. On this background, quite a number of studies were conducted in different countries, focusing on various areas of the academic activities, ranging from class room facilities, non-physical facilities, e-learning, information resources, hostel services, ICT infrastructure and usage

among others. But to the knowledge of the researchers, there is little or no study carried out in area of student's satisfaction with ICT services in tertiary institutions. It is in this regard that this study sought to examine student's satisfaction with ICT services in Federal Polytechnic, Mubi-Adamawa State. The study specifically aimed at achieving the following objectives:

i. Examine the extent to which students are satisfied with ICT services during registration processes in Federal Polytechnic, Mubi
ii. Examine students satisfaction with ICT services during teaching and or practical sessions in Federal Polytechnic, Mubi

Hypotheses Statement

The study was guided by the following null hypotheses

H_{01}: Students are not significantly satisfied with ICT services during registration processes in Federal Polytechnic, Mubi

H_{01}: There is no significant relationship between student's satisfaction and ICT services during teaching and or practical's session in Federal Polytechnic, Mubi

Literature Review

Students, being the primary consumers of all the academic facilities in an educational institution need to be given regards in case of satisfaction evaluation of facilities. Satisfaction according to Galina (2011) is a fulfilment of needs of desire, the pleasure obtained by such fulfilment. In other words, it means the feeling of pleasure or disappointment attained from comparing a product's perceived performance in relation to his/her expectation. If the performance falls short of expectation, the customer is dissatisfied, if the performance matches the expectation, the customer is satisfied and if the performance exceeds expectation, the customer is highly or delighted. Oluwunmi*et'al* (2015) sees satisfaction as a user's responses on whether a product or service is providing a pleasurable level of consumption related fulfilment.

Thus, it is clear from the above that satisfaction plays a central role in ascertaining the accuracy or idleness of a system, especially the educational setup. Putting the two concepts together, "students and satisfaction", we have student's satisfaction which refers to as student's assessment of the services provided by an educational institution. It entails determining the degree of pleasure students derive from the facilities or services of an institution (Galina, 2016). The higher the level of satisfaction, the higher will be the level of student's skills development.

Information and Communication Technology (ICT) is technology that provides access to internet through telecommunication. It is similar to information technology (IT) but focuses primarily on communication technology. It includes the internet, wireless network, cell phones and other communication medium (Dahiru, 2015). ICT had a major impact in institutions of higher education in areas of organization and teaching/learning methods (Adel-ben and Mounir, 2008). The pervasive use of ICT throughout the value chain has supported the effective and qualitative delivery of educational services (David, Mourice and Waweru, 2013). They further noted that now as the result of ICT, educational services become less about teaching and more about learning.

Studies conducted on student's satisfaction with ICT related facilities such as e-learning, ICT facilities and adoption, impact assessment by Virginia and Linda (2006); Adel-ben and Mounir (2008); Darko*et' al* (2011); David, Maurice and Waweru (2013); Fidelis *et'al* (2014) opens that students satisfaction with the facilities examined improved students' performance. This implies that there is a positive relationship between effectiveness and efficiency of ICT services and students' performance in higher education. On the contrary, Kumah and Tanye (2009) examined tertiary institutions student's views on ICT usage in Ghana. The study revealed that though ICT facilities were in place, students could not fill the impact of its services.

Methodology

Design of the Study

The study adopted a descriptive survey design which incorporates both qualitative and quantitative research approach. The design was considered most appropriate for the study because the study sought to reveal the filling of people through opinion survey on a particular service delivery by an organization.

Population, Sample Size and Sampling Technique

Out of population of 8,206 students, sample of 367 students were determined by Krejcie and Morgan (1970) table for determining sample size at 5% error margin. The determined sample size was selected using multi-stage, stratified sampling techniques. The stages includes the classification of students by schools, the second stage is classification of students according to their departments in the schools, and finally classification of students according to their levels (ND or HND). Every department in each school was allocated figures based on the student's population at both ND and HND level where applicable. Table 1 summaries the sampled frame based on stratus used (schools) and levels.

Table 1: Distribution of Sample size Based on Schools and Level

Schools	ND	HND	Total
School of Agricultural Technology	23	2	25
School of Business and Management Technology	82	18	100
School of Communication Technology	41	6	47
School of Engineering Technology	60	17	77
School of Environmental Science and Technology	26	4	30
School of Science and Technology	73	15	88
Total	305	62	367

Source: Field Survey, 2017

Table 1 above shows that six (6) schools of the Polytechnic were used as stratums for the study out of which 367 students were drawn. The table further shows that 25 students were selected from school of agricultural technology, 100 from school of business and management technology, 47 were also selected in the school of communication technology, 77 from school of engineering technology, and 30 from school of environmental science and technology while 88 from school of science and technology.

Instrument of Data Collection

Data for the study was collected using a self-designed instrument (questionnaire). The questionnaire was customized with title: "rating student's satisfaction with ICT services in Federal Polytechnic, Mubi". The questionnaire had three (3) sections, section A; contains questions on the general information about the respondents. Section B, had six (6) item statements intended to gather information on student's satisfaction with ICT services during registration process (objective 1), while section C had eight (8) item statements intended to elicit information on students satisfaction with ICT services during teaching and practical session (objective 2). The item statements in section B and C were structured on a five (5) point likert rating scale with response option strongly agree = 5; agree = 4; undecided = 3; disagree=2; strongly disagree =1. In addition to the likert scale statements, the survey instrument provided the respondents an opportunity to make comments.

Questionnaire item statements in section C, were administered to departments whose students involved in using ICT in teaching or practical's.

Validity and Reliability of Instrument

The instrument was validated by experts in the computer science department of the polytechnic, and observations and suggestions of the experts were noted and effected. Reliability test of the instrument using 50 students with Cronbachalpha produced a co-efficient index of r=0.91, indicating that the instrument is reliable based on Cronbach internal consistency co-efficient of at-least 0.80 and above.

Administration and Returned Rate of Instrument

The questionnaires were administered by research assistance to the 367 students selected from six (6) schools in the Polytechnic. The breakdown of the administration and return rate is presented in table 2.

Table 2: Questionnaire Administration and Return Rate

Schools	N0 Administered			N0 Returned			Returned Rate
	ND	HND	Total	ND	HND	Total	
School of Agricultural Technology	23	2	25	22	2	24	96%
School of Business & Mgt Tech	82	18	100	74	15	89	89%
School of Communication	41	6	47	38	6	44	93.6%
Technology	60	17	77	57	16	73	94.8%
School of Engineering Technology	26	4	30	26	4	30	100%
School of Environmental Scie & Tech	73	15	88	67	14	81	92.1%
School of Science and Technology							
Total	305	62	367	284	57	341	92.9%

Source: Field survey, 2017

The administration of the questionnaires lasted for one week and out of the 367 (ND=305; HND= 62) administered, 341(ND=284; HND= 57) representing 92.9% were dully completed and returned.

Data Analysis Techniques

The data collected was analysed by descriptive and inferential statistical tools. Percentage and mean score were the descriptive tools employed for analysis while chi-square was the inferential tool employed to test the hypotheses statements using statistical package for social science (SPSS).The test of hypothesis was conducted at 5% (0.05) significant level. The criterion benchmark for mean score was 3.00 implying item statements with mean score equal or above 3.00 were satisfied or otherwise not satisfied.

Results and Interpretations

In table 3, demographic information of the respondents was analysed the results shows that 236(69.2%) of the respondents were male while 105(30.8%) were female. As regard to age, the result shows that 84(24.6%) of the respondents were less or exactly 18years of age, 169(49.6%) were between the age of 19-25years, 62(18.2%) fell between 26-30years while 19(5.6%) and 7(2%) were between 31-35years and above 35years respectively. The table further shows that 146(42.8%) of the respondents are in their 1st year, 138(40.5%) are in their 2nd year, 31(9.1%) are in their 3rd year while 26(7.6%) are in their 4th year.

Table 3: Distribution of Demographic Information of the Respondent

Demographic Characteristics	Frequency	Percentage (%)	Cumulative (%)
Gender			
Male	236	69.2%	69.2
Female	105	30.8%	100
Age			
≤ 18	84	24.6%	24.6
19 – 25Years	169	49.6%	74.2
26 – 30Years	62	18.2%	92.4
31 – 35Years	19	5.6%	98
> 35years	7	2%	100
Years in the Polytechnic			
1st Years	146	42.8%	42.8
2nd Year	138	40.5%	83.3
3rd Year	31	9.1%	92.4
4th Year	26	7.6%	100
Frequency of ICT Facility Usage			
Offend time	106	31.1%	31.1
Very rare	21	6.2%	37.3
During Registration/practical	214	62.7%	100
Never	-	-	-

Source: Field Survey, 2017

It was also found that 106(31.1%) of the respondents used ICT facilities/services on campus; every time, 21(6.2%) rarely use ICT facilities/services while 214(62.7%) use ICT facilities/services only during registration or practical periods. On the whole, table 3 revealed the relevance of the respondents to provide valid and reliable information on the subject matter of discuss in this study.

Satisfaction with ICT Services during Registration Process

This aspect of the study presented and analyse respondents views on their satisfaction with ICT services during registration process (objective 1). The data is presented in table 4

Table 4: Mean Analysis of Satisfaction with ICT Services during Registration

Item Statements	ND Mean	HND Mean	Average Mean	Remark
Easy access to Portal	3.16	3.24	3.20	Satisfied
Effectiveness of Network Services	2.88	2.67	2.78	Not satisfied
Adequacy of ICT facilities and equipment's	3.34	3.61	3.48	Satisfied
Connectivity Speed	2.24	2.96	2.60	Not satisfied
Availability of ICT Trained staff to assist	3.12	3.22	3.17	Satisfied
Period spend on registration process	2.96	2.87	2.92	Not satisfied
Mean of Means			3.03	Satisfied

Source: Field Survey, 2017

Table 4 shows that out of the six (6) item statements used to analyse students satisfaction with ICT services, three (3) had mean value of less than 3.00 criterion. This indicates that students were not satisfied with the item statements while other three (3) had mean value above the 3.00 criterion which indicates that students were satisfied with the item statements. The item statements which students indicate dissatisfaction are effectiveness of network service (2.78); connectivity speed (2.60) and period spend on registration process (2.92). This implies that as a result of ineffective network service, the server speed became slow and consequently students spend more time on registration, time they could have utilized efficiently in other activities. This finding specifically connectivity speed and ineffective network service is in-line with Fidelis, Sanjay, Recardo (2014) who examined ICT facilities and found that the use of internet facilities in Nigerian higher educational institutions is associated with poor network service resulting to low speed. Items which students indicate satisfaction with are easy access to portal (3.20) meaning that accessing the polytechnic portal does not require complex procedures (simple and easy). Students also indicates satisfaction with availability and willingness of ICT trained staff in assisting during registration when-ever they are called upon. Similarly students show satisfaction with adequacy of ICT facilities.

The mean of means value of 3.03 in table 4 indicates that students in Federal Polytechnic, Mubi are satisfied with ICT services during registration process. This finding adhered toDauda (2016) who noted that as a strategy for improving quality of administrative services in the present world of globalization in institution of higher learning; emphasis shouldbe given to Information Technology.

Satisfaction with ICT Services during Teaching and or Practical Session

To achieve objective 2 of the study, this part of the report examined student's responses on satisfaction with ICT services during teaching and or practical session. The data is presented in table 5

Table 5: Mean Analysis of Students Satisfaction with ICT Services during Teaching and Practical

Item Statements	ND Mean	HND Mean	Average Mean	Remark
Condition of ICT Centres/Labs/facilities	3.48	2.95	3.22	Satisfied
Availability of ICT facilities/equipment	3.13	3.35	3.24	Satisfied
Effectiveness of network services	2.84	2.91	2.88	Not Satisfied
Availability of ICT support staff	3.16	3.11	3.14	Satisfied
Competency of ICT support staff	3.24	3.19	3.22	Satisfied
Availability of Educational support software	3.09	2.97	3.03	Satisfied
Adequacy of teaching/practical hours a week	2.89	3.31	3.10	Satisfied
Adequacy of power supply	2.63	2.71	2.67	Not Satisfied
Mean of Means			3.06	Satisfied

Source: Field Survey, 2017

Table 5 which examined satisfaction with ICT services during teaching and or practical's shows that students were not satisfied with two (2) of the eight (8) statements raised. Specifically, the items not satisfied with are effectiveness of network services with mean 2.88. This result is consistent with the preceding finding in table 4 which examined satisfaction during registration process. Also students indicates dissatisfaction with adequacy of power supply during teaching and or ICT Practical's. Thus, it can be concluded from table 5 above that students in Federal Polytechnic, Mubi are satisfied with ICT services during teaching and or practical session. This conclusion is based on the mean of means value of 3.06 which is above the criterion mark. From the forgoing result, it can be deduced that the satisfaction among students was a result of commitment on the side of management and ICT skilled staff to provide the students the needed attention/environment and training in the area of Information Technology. This effort is in-line with Ijanwade (2014) who has stressed the need for higher education providers to place greater emphasis on meeting student's expectations and needs in area of ICT so as to penetrate the competitive environment and subsequently improve level of patronage.

Test of Hypotheses

Data for the test of hypotheses H_{01}: students are not significantly satisfied with ICT services during registration process in Federal Polytechnic, Mubi and H_{02}: There is no significant relationship between student's satisfaction and ICT services during teaching and or practical's session in Federal Polytechnic, Mubi were generated using information in tables 4 and 5 respectively. The summary of the chi-square estimate for the two hypotheses is presented in tables 6 and 7.

Table 6: Summary of Chi-square for Satisfaction with ICT Services during Registration Process

N0 of valid Cases (N)	Calculated Chi-square value	Degree of freedom	Chi-square Tabulated	Significant level	Asym. Sig (2-slide)	Remark
341	38.60	20	31.41	0.05	.572	Significant

Source: Computation Based field Survey, 2017

The result in table 6 of χ^2_{cal} = 38.60, χ^2_{table} = 31.41and P= ,572 shows significance between students satisfaction and ICT services. Hence, the null hypothesis H_{01} is rejected implying that students are significantly satisfied with ICT services during registration process in Federal Polytechnic, Mubi

Table 7: Summary of Chi-square for Satisfaction with ICT Services during Teaching and Practical Session

N0 of valid Cases (N)	Calculated Chi-square value	Degree of freedom	Chi-square Tabulated	Significant Level	Asym. Sig (2-slide)	Remark
341	48.31	28	41.34	0.05	.610	Significant

Source: Computation Based field Survey, 2017

In table 7, theχ^2_{cal}value was 48.31 while the χ^2_{table} was 41.34at 0.05 level of significance and P= .610.The result indicates that there is significant relationship between student's satisfaction and ICT services; therefore, the null hypothesis $H_{02}$is rejected implying that students are satisfied with ICT services during teaching and or practical session in Federal Polytechnic, Mubi

Summary of the Findings

Descriptive analysis and test of hypotheses revealed that:

1. Students in Federal Polytechnic, Mubi are satisfied with ICT services during registration process
2. Students indicates satisfaction with ICT services during teaching and or practical session in Federal Polytechnic, Mubi
3. Specifically, students indicates dissatisfaction with effectiveness of network services, connectivity speed, period spend on registration process and adequacy of power supply.

Discussions

According to this study, students are satisfied with ICT services during registration and teaching/practical periods in Federal Polytechnic, Mubi. This was proved by mean of means of 3.03 for ICT services during registration and 3.06 for ICT services during teaching/practical sessions. Further-more, the result of chi-square test of χ^2_{cal} = 38.60 and χ^2_{table} = 31.41 for H_{01} and χ^2_{cal}value of 48.31 and χ^2_{table} of 41.34 for H_{02} also confirmed the

satisfaction students. This implies that students had positive and satisfactory responses toward ICT services in the institutions. Though in its specific term, students indicates dissatisfaction with effectiveness of network service, connectivity speed, period spend on registration process and adequacy of power supply, the overall feeling suggest a general satisfaction with ICT services in the institution.

Conclusion

The findings of the study revealed an insight in to the level of satisfaction of students by ICT services in Federal Polytechnic, Mubi. On the basis of the results, it can be concluded that though students were not satisfied with some item statements such as effectiveness of network services, period spend on registration, server speed and power supply, on the whole, students are satisfied with most services of ICT during registration, teaching and practical periods.

Recommendations

Based on the findings, the following recommendations are put forward as measures to enhance the ICT services in the study area.

1. There should be a continued commitment on the side of the management and ICT trained staff to sustain and improve on the forgoing status of ICT services in the institution
2. The management should go into partnership with internet service providers (CISP) with proven records of quality service delivery and charges moderate fee for partnership. This will go a long way in improving the network service, connectivity speed and subsequently reduce time spend on registration process
3. Management should improve on its effort to ensure adequate power supply especially during practical sessions.

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