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Towards Improved Quality of Teaching and Research through Efficient Delivery and Utilization of Internet Services in a Typical Nigerian University

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Abstract:
The provision of Internet service is a basic need in any institution of higher learning. Efficient delivery of internet services in any university will help to effectively carry out teaching, research, and administration. This research work systematically searches a broad base of literature to identify factors needed to successfully implement qualitative Internet services in a University campus. Appraisal of the quality of Internet service currently managed by the ICT Resource Centre of the Federal University of Technology, Akure, Nigeria, was carried out through administration of users' perspectives questionnaire. The users' perspective questionnaires were administered to 120 members of staff of the University who constantly use the Internet services provided by the institution. 93 questionnaires were returned by the respondents. The findings showed that qualitative delivery and utilization of Internet services is sacrosanct to effective teaching and research. Thus, the delivery of internet services which is still below expectation according to the user's perspective questionnaire administered needs to be greatly improved upon. Availability of wireless network, quality signal strength, and prompt response to user's request were specifically identified as areas of internet provisioning service that needs improvement. It was also discovered that robust Internet service provisioning will help foster teaching, learning, research and efficient service delivery through adequacy and accessibility of materials and online resources.

Keywords: *Internet, quality, service, research, ICT, utilization, Network*

1. Introduction

Information and Communication technologies (ICT) can be an extremely powerful enabler in efforts to bring positive and sustainable improvement to the quality of teaching, learning and research in institutions of higher learning. ICT play a vital role in increasing access to education as well as providing better quality education. ICT helps to transform teaching by providing improved educational content and more effective teaching methods. Through online teaching resources and other interactive educational materials, educational development will be greatly improved. Management and administration of University activities can also be improved through ICT by enhancing educational content development and supporting administrative processes in universities and other educational establishments. ICT therefore, help administrative procedures more effectively.

In recent years, the Internet has emerged as a major driving force of this dynamic development. Utilization of Internet services is thus a sine qua non for qualitative service delivery in Universities. Uninterrupted Internet service provisioning helps to foster continuous improvement in teaching, research and community interactions. The Internet provides access to abundant online learning materials, covering a wide range of courses that are up-to-date and produced by cutting edge technologies. Thus, the availability of Internet connectivity in a typical Nigerian University will help facilitate the qualitative delivery of the following services in the university.

i. Internet Surfing
ii. E-Learning
iii. E-Mail Services
iv. Virtual Classrooms
v. Distance Learning
vi. Digital Collaboration
vii. E-Payment
viii. Video Conferencing
ix. E-Registration
x. Electronic Testing (CBT) etc.

2. Literature Review

Computer Networking according to Curt (2004) is an interconnection of Computers and computing equipment using either wires or radio waves over small or large geographic areas. Computer Networks that use radio waves are termed wireless and can involve broadcast radio, microwaves or satellite transmissions. The Internet is a global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols.

The Internet has proven to be the most valuable vehicle for accelerated Information flow. According to Ogbomo (2004) it is a network of Computers that communicate with one another. In the past 20 years, numerous studies on the utilization of the Internet in Universities of developed countries have been conducted. For example, a study conducted in the U.S.A, mostly unpublished doctoral dissertations focusing on measuring Internet use and perceptions of the Internet (Fusayil, 2000; Hussain, 2001; Jones and Johnson, 2005), Utilization of the Internet in teaching, research and communication was studied by (Alzamil, 2002) and the impact of the Internet on scholarly activities was equally studied by (Chu, 2002).

Moreso, in Australia, Internet use by the faculty of Curt in University was investigated by Macciusi et al (2000) and a nationwide survey of Internet use was conducted by Applebee et al (2000). Internet growth and utilization is however still relatively low in educational sector of developing countries like Nigeria. Internet proliferation by Academics in African countries is general low because of inadequate infrastructure for Internet connectivity.

3. Research Methodology

A questionnaire was designed aiming to assess the quality of internet service rendered based on the users' perspectives. The user's perspectives on the quality of Internet service provided was assessed based on the following issues:

(1) Availability of Wireless Network
(2) Quality of Signal Strength
(3) Prompt Response to Request
(4) Total time to resolve problem
(5) Professionalism of IT Staff
(6) Giving updates to Problem status
(7) Overall Services of Internet Service Providers

The users' perspective questionnaires were administered to 120 members of staff of the University who constantly use the Internet services. 93 questionnaires were returned by the respondents. The demographic characteristics of the respondents reveal that out of the 93 respondents, 63 (67.7 %) are males and 30 (32.3%) are females. Moreso, out of the 93 respondents, 46 (49.5%) are Non-Academic Staff and 47 (50.5%) are Academic Staff. Respondents from 10 departments / units participated in the study in which, in all, 15 participants are from Microbiology department, 11 participants are from Student Affairs unit, 2 from physics department, 2 from Statistics Department, 1 from Computer Science Department, 6 from Chemistry Department, 5 from Project Management Department, 16 from Biology Department, 23 from the University Library and 12 from Biochemistry Department.

	Very Low Level	Low Level	Moderate Level	High Level	Very High Level
Availability of Wireless Network	20 (21.5%)	40 (43.0%)	22 (14%)	1 (1.1%)	2 (2.2%)
Quality of Signal Strength	21 (22.6%)	45 (48.4%)	16 (17.2%)	3 (3.2%)	2 (2.2%)
Prompt Response to Users' Request	10 (10.8 %)	31 (33.3%)	36 (38.7%)	4 (4.3%)	3 (3.2%)
Total time to resolve problem	10 (10.8%)	28 (30.1%)	39 (41.9%)	1 (1.1%)	4 (4.3%)
Professionalism of IT Staff	3 (3.2%)	8 (8.6%)	55 (59.1%)	6 (6.5%)	9 (9.7%)
Giving updates to Problem status	9 (9.7%)	27 (29.0%)	38 (40.9%)	3 (3.2%)	3 (3.2%)
Overall Services of Internet Service Provider	10 (10.8%)	26 (28.0%)	35 (37.6%)	6 (6.5%)	6 (6.5%)

Table 1: Staff Response in respect of quality of Internet Service Provided

5. Discussion of Results

Percentage descriptive analysis of the discrete statistics of responses in table 1 above shows that 64.5% of the respondents perceived that Availability of wireless Network is low while 14% believed it is moderate while 7.5% however believed that the availability of wireless Network is high. 8.6% did not respond. However, 71% of the respondents perceived that the Quality of Signal Strength is low while 17.2% believed it is moderate while 5.4% however believed that the Quality of Signal Strength is high. 6.6% did not respond. 44.1% of the respondents perceived that Prompt Response to Users' Request is quite low while 38.7% believed it is moderate while 3.3% however believed that the Prompt Response to Users' Request is high. 9.7% did not respond. 40.9% of the respondents

perceived that Total time to resolve problem is quite low while 41.9% believed it is moderate. 5.4% however believed that the Total time to resolve problem is high. 11.8% did not respond. 11.8% of the respondents perceived that Professionalism of IT Staff is quite low while 59.1% believed it is moderate. 16.2% however believed that the Professionalism of IT Staff is high. 12.9% did not respond. 38.7% of the respondents perceived that giving updates to Problem status is quite low while 40.9% believed it is moderate. 6.4% however believed that the Giving updates to Problem status is high. 14% did not respond. 38.8% of the respondents perceived that Overall Services of Internet Service Provider is quite low while 37.6% believed it is moderate. 13% however believed that the Overall Services of Internet Service Provider is high. 10.8% did not respond

6. Conclusion and Recommendation

This research work focused on investigating the quality of internet service delivery based on the users' perspectives. The result of this study indicated that the quality of Internet service delivery is generally below expectation. This, therefore poses a serious limitation to service delivery in the university. It is therefore recommended that ICT infrastructures be made adequately available and proper maintenance plan be put in place. Training and Enlightenment programmes should be organized for IT staff to acquire advanced ICT skills so as to enhance the quality of internet service delivery in Nigerian Universities.

7. References

i. Alzamil, M.A. (2002), "Perceptions of Internet use as academic library services' delivery medium for web-based courses", PhD dissertation, The Florida State University, Tallahassee, FL.
ii. Applebee, A., Clayton, P., Pascoe, C. and Bruce, H. (2000), "Australian academic use of the Internet: implications for university administrators", Internet Research, Vol. 10 No. 2, pp. 141-9.
iii. Chu, Y. (2002), "Factors related to adoption of internet resources in instruction by faculty at the Pennsylvania State University", PhD dissertation, Pennsylvania State University, University Park, PA.
iv. Curt M.W (2004) Data Communications and computer networks- A business user's approach. Third Edition Course Technology, United States of America. PP 3-14.
v. Fusayil, A. (2000), "The adoption of the internet by faculty members at Ohio University", PhD dissertation, Ohio University, Athens, OH.
vi. Husain, S.P. (2001), "Adoption of the internet as a teaching and learning tool: patterns of use, motivators and barriers among outstanding faculty in community colleges", PhD dissertation, University of Texas at Austin, Austin, TX.
vii. Jones, S. and Johnson-Yale, C. (2005), "Professors online: the internet's impact on college faculty", First Monday, Vol. 10 No. 9.
viii. Macciusi, L. and Trinidad, S. (2000), "Implementing IT at an Australian university: implications for university leaders", Proceedings of the 9th Annual Teaching and Learning Forum, February 2-4, Perth.
ix. Ogbomo, M.O (2004) Web Page design Technology for information Management and Science. Modern Libraries and information centres in developing countries.