

Relationship Between Technology Management And Job Performance Of Academic Staff Of Benson Idahosa University, Benin City, Edo State, Nigeria

Ojo-Maliki Victoria Abiodun

Department of Educational Foundations & Management
Faculty of Education
Ambrose Alli University,
Ekpoma - Edo State.

Abstract

The study examined technology management and employee performance in Benson Idahosa University in Edo State. Specifically, the study sought to investigate the relationship between technology use readiness, technology exposure and technology training and employee performance in Benson Idahosa University in Edo State. This study adopted the correlational research design. The target population of the study comprises of all the 188 lecturers in Benson Idahosa University in Edo State. A sample size of ninety four (94) lecturers representing 50% of the population was drawn from the population. Two instruments was used in the study. The first instrument was titled: Technology Use Readiness and Management Scale (TRMS). The second instrument was titled: Performance Evaluation Questionnaire (PEQ). The split-half reliability coefficients of 0.75 and 0.78 were obtained for TRMS and PEQ respectively. The Pearson Product Moment Correlation Coefficient (PPMCC) statistics was used to test hypotheses 1 to 3. The entire hypotheses were tested at 0.05 level of significance. The results showed that technology use readiness, technology exposure and technology training significantly is significantly correlated with the performance of academic staff of Benson Idahosa University, Benin City. It was recommended that university administrators should endeavour to encourage training and retraining of staff on the use of various modern technology gadgets for teaching, research and community related services.

Keywords: Technology Management, Job Performance, Academic Staff, Information Technology

INTRODUCTION

Technology and its management are considered to be vital in the everyday life of everyone including – learners and workers. While the former (technology) refers to the totality of computer, data processing facilities and electronic machines that are used to perform various distinct tasks, the later (management) connotes the approaches used to coordinate the software and hardware part of technology for various uses [1]. [2] noted that technology management covers: a) technology use readiness (willingness to apply technological gadgets for various office task such as compilation of students results, storage of students records, carry out researches and even deliver class instruction b) technology exposure (depth of knowledge and manipulative competencies needed to operate technology facilities); and c) technology training (exposure to various capacity development programmes on information and communication technology).

The inability to manipulate some office technology gadgets can be very demoralizing and frustrating for a university worker. Hence, technology management can be said to be very vital in appropriating the use of modern office gadgets. In the university system,

some basic information technological facilities such as computers, printers, photocopiers, scanners and internet services are often needed for effective management of various instructional and administrative duties in the department and faculty as the case may be [3]. In a university where Management Information System (MIS) and staff repository is absolutely technology driven for instance; the dissemination, storage and retrieval of data using a network of computers and internet services could constitute some emotional worries to a lecturer who is not grounded or abreast with the use of technological gadgets.

Aside these instructional duties, many lecturers have the duty of performing other administrative duties such as course advising or even representing the department in the senate or other relevant arms of the university. Unfortunately, in keeping abreast with these duties, coupled with the rising demand for university education, many academic staff finds it difficult to cope with work demands and family life [4]. In most public universities in Edo State, it has been observed that most academic staff complained of not being paid what is commensurate with their

job input. Considering the conditions of work, deep-seated changes in the university curriculum, content and modes of operation in their school, many academic staff feel more duty bound to constantly change their teaching notes, learn how to use new technological facilities and even stay up late at night to attend to some students' project files to meet up with deadlines. Furthermore, the quality of facilities in most universities in Edo State are in deplorable condition as lecture halls, laboratories, chairs, tables for effective teaching and research development are inadequate [3, 4]. In addition, it has been observed by the researcher that most universities (public and private in Edo State), lack the required number of academic staff. Hence, the few available ones are often assigned to take up several duties. For instance, many are assigned to teach several courses.

Coupled with the poor availability of teaching resources and over blotted class population; this situation constitute stress to lecturers as many of them are unable to use their limited time to cover a large number of lecture periods per week and even assess the assignments and examination scripts of the various students across the study levels. Consequently, many rely solely on the "one shot examinations" as against carrying out regular continuous assessment practice. All of these show that work demands on university lecturers may be affecting their productivity. Regrettably, these may have given rise for the low performance at work. Some manifestations of the low performance can be seen in the incessant strike actions among academic staff, workplace conflict among staff, delay in the submission of students' scripts and computation of students' results, low punctuality to lectures, decline in students' achievement and low quality of research output at the undergraduate level among others. These conditions exacerbate the work and life of the average university staff whose aim is to make a living and may have to arduously build up cognitive-psychological coping behaviours that stimulate desirable satisfaction and effectual functioning both at work and at home. Unfortunately, many lecturers are affected by lack of work flexibility, elevated work pressures and long working hours; a situation that decreases their job performance and productivity today.

In Nigeria, recent studies on technology management among workers have been conducted.[5] investigated the impact of ICT on the administrative services/management of students' records in selected Nigerian universities in the South-East region of Nigeria made up of Enugu, Ebonyi, Anambra, Imo and Abia States. A questionnaire was the research instrument employed, and questionnaire items were developed through a review of related literature. A total of 200 respondents participated, comprising students, lecturers and administrators were randomly

selected from ten universities in Nigeria. Data collected was analyzed using Analysis of Variance (ANOVA). The study found that ICT gadgets such as computers and internet services supported in administrative services/management of students' records in Nigerian universities.

The gap and challenges facing the use of ICT in university education in South – South States in Nigeria—namely: Bayelsa, Rivers, Akwa-Ibom, Cross-River, Edo and Delta States (BRACED) was examined [6]. The study is a descriptive survey that assessed five universities for the most urgent solution. The population of the study was 120 respondents and this is made up of university lecturers and the students. Findings revealed that there is a gap between the university teachers and students and ICT usage in classrooms and many university lecturers and students have to go to commercial cybercafés in town before they have access to a computer that is internet connected, teachers are faced with some challenges and barriers of availability of facilities which prevent them to employ ICT in the classroom, the solutions proffered include funding, provision of facilities and technical expertise in Nigeria universities.

The effectiveness of instructional technology in higher education institutions in relation to the role and usage of Information Communication Technology (ICT), its effectiveness in faculty teaching and its impact on student learning in universities in the Niger Delta of Nigeria was examined [7]. This study applied the Need Assessment Approach (NAA). A self-designed questionnaire, that employed benchmarks from similar studies conducted in the West, was used to collect data for this study. One hundred and twenty five (n = 125) respondents participated in the study. The results suggest that there are significant relationships between the impact of instructional technology, the usage of instructional technology and students' academic achievement. An absence of ICT instructional materials, ineffective policy implementation and a lack of other resources (infrastructures) to aid teaching and learning are responsible for short comings in the effective implementation of ICT in education. The study revealed that experience makes it easier to employ and exhibit greater proficiency when using ICT instructional material in the teaching and learning process.

The use of Information and Communication Technology (ICT) facilities in rural school libraries in Nigeria was examined [8]. The descriptive survey research method was used in the study. A total of 112 principals were drawn as sample by cluster random sampling technique. Descriptive statistics including frequencies, means and percentages were

used to analyse the data collected. Based on findings, it was concluded that Information and Communication Technology (ICT) facilities was poorly utilized in school libraries as most schools did not even have a functional library.

The awareness and use of scholarly electronic journals by members of academic staff of Dares Salaam University College of Education (DUCE) was evaluated [8]. Survey method of research design was applied in the study. All the academic staff of the institution was covered. A questionnaire was used as the main method for data collection and was supplemented by interview and observation methods. Frequency count, percentages, tables, and charts were used in the analysis. Findings revealed that the level of use of scholarly electronic journals was low and the application of search engines such as Google was high amongst members of academic staff.

The role of Information and Communication Technology (ICT) in higher educational administration in Uganda was assessed [8]. The study population comprised of four universities. The convenience sampling technique was used to obtain the sample size of 48 administrators from the population. The data was statistically analyzed and interpreted using weighted average and chi square test. The findings of this study revealed that administrators had high knowledge of data storage with ICT facilities such as computers, printers, modems, scanners, telephones, internet services, but many seldom managed in carrying out various activities. Hence, performance of most workers was affected.

From the foregoing, most of the scholars carried out their works on ICT usage, accessibility in various higher institutions. In Nigeria, some studies have also been carried out using public universities within the South East and the Edo-Delta region [5, 6, 7]. However, most of the scholars were simply interested in determining the role of ICT, accessibility and impact on administration of public institutions. Hence, technology management and its impact on workers' performance has been seemingly ignored in their investigation. Furthermore, all the aforementioned studies [5, 6, 7, 8, 9] made use of public (government owned) institutions; ignoring private universities. To the best of the researcher's knowledge, no recent study has been conducted to investigate technology management of academic staff in private universities in Edo State. Hence, a knowledge gap exists. To fill this gap, this study sought to investigate technology management and employee performance in Benson Idahosa University, Benin City. It would contribute to literature on technology management and promote policy formulation in the area of technology usage by administrators to enhance the job performance of academic staff in private universities. In addition,

prospective researchers would benefit from this study as the outcome of the study may encourage further investigations in this area of knowledge.

Research Questions

This study was guided by the following research questions:

- a) What is the relationship between technology use readiness and employee performance in Benson Idahosa University, Benin City?
- b) What relationship exists between technology exposure and employee performance in Benson Idahosa University, Benin City?
- c) In what way is technology training related to employee performance in universities in Benson Idahosa University, Benin City?

Hypotheses

The following hypotheses was tested in this study:

- a) There is no significant relationship between technology use readiness and employee performance in Benson Idahosa University, Benin City.
- b) There is no significant relationship between technology exposure and employee performance in Benson Idahosa University, Benin City.
- c) There is no significant relationship between technology training and employee performance in Benson Idahosa University, Benin City.

METHODS

The researcher adopted the correlational research design for the study. The target population of this study comprised of all the 188 lecturers in Benson Idahosa University in Edo State. This record is based on the Provisional Statistics of lecturers from the Personnel Division of the institution as at 2019. A sample size of ninety four (94) lecturers representing 50% of the population was drawn from the population. However, to assess employees' performance, all the Heads of Department was drawn as proxy participants of the study. The proportionate random sampling technique was used to draw a sample of 50 percent of lecturers from each of the target institutions in the state. The choice of 50 percent as sample size is supported by [11] who proposed that a sample of at least half the population will suffice a representative sample for the population.

Two instruments was used in the study. The first instrument is titled Technology Use Readiness and Management Scale (TRMS) designed by [12] while the second is the Performance Evaluation Questionnaire (PEQ) developed by the researcher. The first instrument was adopted from the Technology Use Readiness and Management Scale (TRMS) designed by Masud and Sampa (2007) will be adapted by the researcher to measure technology

management of lecturers. The original instrument was designed for network service workers. The instrument contains three (3) component parts namely: technology use readiness, technology exposure and technology training. The overall reliability alpha (α) of the scale was 0.82 while the reliability alphas (α) of the component parts are as follows: technology use readiness ($\alpha = 0.79$, items 1 -7), technology exposure ($\alpha = 0.74$, items 8 to 11), and technology training ($\alpha = 0.83$, items 12 and 16). All the items in the original instrument was rated on a seven point likert scale, namely 1=very disagree, 2=disagree, 3= slightly disagree, 4=moderate, 5= slightly agree, 6= agree, 7= very agree. In the course of adaptation, the seven response rating was changed to a four point scale of Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1. Hence, this gave an average mean score of 2.50 per item as against 4.00 mean score seven point response rating in the original version. The rest of the items were taken with minimal modifications such as the change of “clients” and “customers” on the original instrument to “students” and “co-staff” to fit into the university context as against the network service organization.

The second instrument was titled: Performance Evaluation Questionnaire (PEQ). The instrument was developed by the researcher for Heads of Department to appraise the performance of lecturers in their department. The instrument (PEQ) was developed by the researcher. Performance of academic staff was measured along three stages of the education process as follows: a) on input e.g. length/tenure of service, qualification of staff, workload, nature of students and material resources; b) on processes e.g. approaches to teaching, student involvement and feedback; and c) on output e.g. qualifications of teaching, quality of publication, contribution to the university, society or country at large among others. For this study, these measurement approaches was modified into three performance measures for academic staff as follows: a) teaching/instructional

services (such as class instruction, knowledge sharing with colleague, teaching length, teaching load among others); b) research & development (such as attendance at conferences, research collaboration, paper publications at local, national and international levels) and c) contribution services to their immediate department, faculty, other departments, professional bodies/associations they hold membership with, and the nation among others. The instrument covered 15 items as follows - teaching/instructional services (items 1-5), research & development (items 6-10) and contribution services (items 11-15). All the items was measured on a four point scale of Strongly Agree - 4, Agree - 3, Disagree - 2 and Strongly Disagree - 1

The face and content validity of the instruments was ensured by the researcher. The split-half reliability procedures was adopted in determining the reliability of the instruments. The instrument was trial tested on a group of twenty lecturers (20 public and 20 private) in universities outside the state. The instruments were administered on the respondent and afterwards, their responses in the questionnaire was coded on even and odd numbers. The Pearson Product Moment correlation coefficient statistics was used to correlate the result of the two separated responses in order to determine the reliability coefficient. A reliability coefficient of 0.75 and 0.78 were obtained for TRMS and PEQ respectively. The Pearson Product Moment correlation coefficient statistics (PPMCC) was used to test the entire hypotheses at 0.05 level of significance.

RESULTS

The results of the research question and hypotheses are presented below:

Hypothesis 1: There is no significant relationship between technology use readiness and employee performance in Benson Idahosa University, Benin City.

Table 1: Relationship between Technology Use Readiness and Employee Performances in Benson Idahosa University, Benin City

Variables	N	\bar{X}	S.D	Pearson r-coefficient	p-value	Remarks
Technology use readiness	94	2.30	1.098	0.149**	0.036	Null hypothesis rejected (p<0.05)
Employee performance		2.27	.508			

***. Correlation is significant at the 0.05 level (2-tailed).*

Table 1 showed that the mean (\bar{X}) and standard score (S.D) of the respondents (N=94) were 2.30 and 1.098 for technology use readiness and 2.27 and 0.508 for employee performance respectively while the Pearson correlation coefficient of -0.149 was statistically significant (p<0.05). Therefore, the null hypothesis

was rejected. This indicates that there was a significant direct relationship between technology use readiness and employee performance in Benson Idahosa University, Benin City. This invariably implies that technology use readiness positively affected employee performance in Benson Idahosa University, Benin City.

Hypothesis 2: There is no significant relationship between technology exposure and employee performances in Benson Idahosa University, Benin City.

Table 2: Relationship between Technology Exposure and Employee Performances in Benson Idahosa University, Benin City

Variables	N	\bar{X}	S.D	Pearson r-coefficient	p-value	Remarks
Technology exposure	94	2.52	.894	.540**	0.002	Null hypothesis Rejected (p<0.05)
Employee performance		2.27	.508			

***. Correlation is significant at the 0.05 level (2-tailed).*

Table 2 showed that the mean (\bar{X}) and standard score (S.D) of the respondents (N=94) were 2.52 and .894 for technology exposure and 2.27 and 0.508 for employee performance respectively while the Pearson correlation coefficient of .540 was statistically significant (p<0.05). Therefore, the null hypothesis was rejected. This indicates that there was a significant direct relationship between technology exposure and employee performances in Benson

Idahosa University, Benin City. This invariably implied that technology exposure influenced employee performance in Benson Idahosa University, Benin City.

Hypothesis 3: There is no significant relationship between technology training and employee performances in Benson Idahosa University, Benin City.

Table 3: Relationship between Technology Training and Employee Performances in Benson Idahosa University, Benin City

Variables	N	\bar{X}	S.D	Pearson r-coefficient	p-value	Remarks
Technology training	94	1.75	.933	.572**	0.002	Null hypothesis Rejected (p<0.05)
Employee performance		2.27	.508			

***. Correlation is significant at the 0.05 level (2-tailed).*

Table 3 showed that the mean (\bar{X}) and standard score (S.D) of the respondents (N=94) were 1.75 and .933 for technology training and 2.27 and 0.508 for employee performance respectively while the Pearson correlation coefficient of .572 was statistically significant (p<0.05). Therefore, the null hypothesis was rejected. This indicates that there was a significant direct relationship between technology training and employee performances in Benson Idahosa University, Benin City. This invariably implied that technology training and the academic staff performance in Benson Idahosa University, Benin City move in tandem.

DISCUSSION

The result showed that there is a significant and direct relationship between all the components of technology management (technology use readiness, technology exposure and technology training) and performance of academic staff of Benson Idahosa University, Benin City. The result showed that as more and more effort is put into increasing technology use readiness, technology exposure and technology training, the performance of academic

staff of Benson Idahosa University, Benin City equally rises.

This result supports the findings of [10] that administrators had high knowledge of data storage with ICT facilities such as computers, printers, modems, scanners, telephones, internet services, but many seldom managed in carrying out various activities. Hence, their performance was impacted. The result also agrees with [7] who found that Information Communication Technology (ICT) performed a prominent role in faculty teaching and impacted on students' learning in universities in the Niger Delta of Nigeria. In addition [5] found that ICT had significant impact on the administrative services/management of records by academic and administrative staff in selected Nigerian universities in the South-East region of Nigeria. Based on the findings of this study, it was concluded that technology use readiness, technology exposure and technology training are correlates of academic staff performance in Benson Idahosa University, Benin City. This implies that technology management and productivity of workers move in tandem.

RECOMMENDATIONS

Based on the findings, the following recommendations were made:

- 1) University administrators should endeavour to encourage training and retraining of staff on the use of various modern technology gadgets for teaching, research and community related services.

The technical division of the university should be adequately funded to ensure they provide proper technical support for academic staff to effectively manage technology facilities for increased performance

REFERENCES

- [1] Muhammad, I., Nadeem, M &Huzafah, S. Impact of technological advancement on employee performance in Banking Sector. *International Journal of Human Resource Studies*. 4(1), 57 – 68.(2017).
- [2] Azih, N. Capacity building in modern office technology: An imperative for effective secretarial productivity, *Asian Journal of Business Management*, 5, 193-196. (2013).
- [3] Ajegbelen, A.J. The use of ICT to enhance university education in Nigeria. *International Journal of Education, Learning and Development*, 4(5), 1-11(2016).
- [4] Achimugu, P., Oluwabemi, O., &Oluwaranti, A. An Evaluation of the Impact of ICT Diffusion in Nigeria's Higher Educational Institutions. *Journal of information technology impact*, 10(1), 25-34.(2010).
- [5] Egoeze, F. Maskeliūnas, R. &Damaševičius, R. Impact of ICT on Universities Administrative Services and Management of Students' Records: ICT in University Administration. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)* 9(2), 1-16. (2018). DOI: <https://www.researchgate.net/publication/323511603>
- [6] Adavbiele, A. J. The use of ICT to enhance university education in Nigeria. *International Journal of Education, Learning and Development*, 4(5), 1-11.(2016).
- [7] Ololube, N.P. Eke, P. Uzorka, M.C. Ekpenyong, N.C &Nte, N.D. Instructional technology in higher education: A case of selected universities in the Niger Delta. *Asia-Pacific Forum on Science Learning and Teaching*, 10(2), 1-17. (2009).
- [8] Adila B. I., Nor'izah B. A. &Habee, B. B. A. The use of ICT in rural school libraries. *Journal of Asian Scientific Research*, 3(6), 587-599 (2013).
- [9] Msagati, N. Awareness and use of scholarly electronic journals by members of academic staff: A case study of dares Salaam University College of Education (DUCE). *Library Philosophy and Practice (e-journal)*. Paper 1124. (2014). <http://digitalcommons.unl.edu/libphilprac/1124>
- [10] Juma, K. S., Raihan, M. A. &Che, K. C. Role of ICT in higher educational administration in Uganda. *World Journal of Educational Research*, 3 (1), 1-10. (2016).
- [11] Sekaran, U. *Research methods for business: a skill building approach*. New York: John Wiley & Sons. 35. (2003).
- [12] Masud, M. H. &Sampa, L. J. Technology use readiness and management: Validation and Development of technology management scale. *Journal of Technology Resource Management*. 8(11), 115-128.(2007).