Evaluating Resistances to New Technological Experience by Librarians in Academic Environment

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Abstract ***Oluwole O. Durodolu, PhD[1], Olatokunbo C. Okiki PhD[2]***

Purpose:*The rationale behind this research is to investigate resistance to new technology by Librarians in three academic libraries, namely University of Lagos (UNILAG), Lagos State University (LASU) and Babcock University.*

Design/Methodology/Approach: *This study is guided by positivist research paradigm where quantitative research method was used for data collection and interpretation. Three objectives and hypothesis were put together to elicit useful responses from the respondents. The target population was academic librarians in selected University Libraries in Nigeria. The sampling technique used for this study is purposive sampling known as criterion sampling in which the researchers specifically select the research environment suitable for the objectives of the study. Three academic libraries namely: University of Lagos Library (Federal government owned), Lagos State University (State government owned) and Babcock University Library (Private owned). Fifty copies of the questionnaire designed for the study were administered to respondents in the 3 selected Institutions. However, only 48 copies were duly filled and returned by the respondents giving 96.0% response rate.*

Findings: *The study revealed gender inequality of librarians which tilts towards female librarians. Also, The study revealed that the introduction of new technology has not necessarily lead to resistance among the librarians. However, the contradiction in the study shows that the respondents claimed that introduction of new technology has not necessarily lead to resistance and yet agreed to some reasons that lead to resistance to the use of technology.*

Practical Implication: *Solutions were offered to enable appropriate instruction and training on the use of technology and its application to real life situations to overcome resistance. Suggestions were also made for urgent review of the LIS curriculum to accommodate new technology and integrated library software to facilitate and enhance the ability of librarians with skills needed for performance on the field of profession. The research contributed to the general discussion on resistance to technology, technological change and job performance in three university libraries, however, the researchers have identified that there is a need for further research that should focus on other university libraries because Nigeria has wide variety of such university libraries.*

Originality/Value: *The study recommended urgent review of LIS curriculum to accommodate the use of new technology, ICT infrastructure in the libraries should be enhanced to respond to contemporary requirement and Librarians should be exposed to training, workshops and conferences both local and foreign.*

Keyword: *Technological resistance, Academic library Nigeria, ICT4D.*

Paper type: *Quantitative research*

Introduction and Background to the Study

Advancement in technology or alteration in the habitual manner of carrying out responsibility by introduction of new technology can positively or negatively affect the performance of libraries as a conservative institution. This is because information management is driven by modern technology which requires time and effort to master, therefore it should be noted that relationships exist between technological changes, management of manpower and performance of any establishment. Many studies have corroborated this fact and revealed the transformational effect of technology to library operations and the extent of resistant by librarians. For instance, Meier, Ben & Schuppan (2013),Yılmaz, D and Kılıçoğlu, G (2013) focus on technological functionality influencing issues that shape daily use of ICT in work environment.

The authors argue that acceptance to technology

which must not be overlooked. In the same vein, Ahmad, Amin & Ismail (2012:182) affirm that the constant and rapidly expanding scope of technology in the information age has not only resulted in higher level of effectiveness and efficiency in most organizations, but also a major contributory factor to higher level of techno stress in the workplace. The authors observed that resistance to the use of technology can manifest when professionals suffer anxiety which may be evident in symptoms like irritability, headaches, nightmares, insomnia, technological rejection, and technological resistance which are factors implicated in the decline productivity. The effect of the advancement in technology has been the driving force of modern library operation, even though technology in the library facilitates increase in effectiveness of information management and the speed of information access, this new responsibility has also caused an enormous amount of strain on the librarians in the bid to adapt to the new techniques (Ahmad, Amin& Ismail, 2012). Therefore, adopting new technology for organizational efficiency without corresponding commitment from the workforce is pointless and can only lead to waste of human and material resources.

In spite of all the benefits of using new technology, a large number of researchers attest to the fact that people have developed a resistance towards using it in accessing information. Kim and Kankanhalli (2009) identify resistance to information systems as a major reason for the failure to adopt new technology. In the opinion of Siegel (2008), resistance and little incentive to use new technology pose a major difficulty that persists among many professionals, especially librarian all over the world. The technology acceptance model was invented to expand additional behavioural constructs to increase the understanding of new technology. Siegel (2008:9) holds that resistance to technology illustrates a reluctance to embrace an initiative, perception, idea or action, or oppose untoward circumstances. It is important for libraries to understand the reason for resistance by individual librarians in order to comprehend resistant behaviour and find a way out. A possible solution is to offer appropriate instruction and training on the use of technology is central to ICT driven organizational change and its application to real life situations to overcome resistance.

Berna-Martinez and Macia-Perez (2012) noted that diverse cultural, technological, business and hierarchical levels can aid the adoption or rejection of new technology, but conclude that training can assist people in overcoming resistance to it. According to Rivard and Lapointe (2012), technology resistance has been viewed as an essential issue in IT implementation which, if not well managed, can lead to organizational problems. The two researchers suggested ways of positive response to resistance: inaction, acknowledgment, rectification, and dissuasion. In the opinion of Selvaganapathi and Raja (2012), fear of new technology is referred to as "technophobia", which is a feeling of anxiety about new technology. Those who are overwhelmed by a feeling of distress or cognitive anxiety find it difficult to embrace the use of modern technology, which is common in the 21st century because of the popularity of technology applied to every aspect of human life. Selvaganapathi and Raja (2012) suggest that this feeling of insufficiency is reflected in nervousness and the constant feeling of dissatisfaction and apprehension. Al-Ameri (2013) stressed the underlying reasons for resistance to technological change from the perspective of the management and concludes that fear of information overload, loss of control, ever-increasing work load and from employee point of view, as need to learn and re-learn lack of appropriate reward policies for efficiency.

The effective use of technology requires proper integration to make it more productive and foster educational development, which also entails proper use of information resources and the technology that promotes their use (Eristi, Kurt & Dindar, 2012). According to Dennis, Wixom and Roth (2012), the systems development life cycle (SDLC) is the procedure of deciding how an information system (IS) can sustain information needs. Designing a system, Curry; McGregor and Tracy (2007) assert, is a procedure any organization should go through to optimize the use of modern technology. This concept recommends phases to be followed in optimizing the use of technology: feasibility study, system analysis, system design, system implementation, integration and testing, maintenance and system auditing (Kay, 2002).

Hence, this paper evaluates resistance to technological change of librarians the selected academic libraries.

Research Question

1. What are the likely reasons for librarian's resistance to technological changes in academic libraries in Nigeria?
2. What are the necessary strategies to reduce resistance to the technological changes in academic libraries in Nigeria?
3. Are there resistance to the introduction of new technology by librarians in academic libraries in Nigeria?

Research Hypotheses

The following hypotheses were tested at 0.05 level of significance.

H_{01}. There is no significant joint relationship among demographic variables, degree of technology change and institution among librarian in academic libraries.

H_{02}: There is no significant relationshipbetween technology resistances among three academic libraries.

Significance/Contribution of the Study

This research is significant because of its contribution to the body of knowledge in four key areas. Appropriate literature in the area of technology resistance, technological change and its effect on job performance was reviewed with the ambition of bringing out something novel, identify gap in research, and examine and appraise the existing research in order to expose strengths and weaknesses of the subject matter. Several recommendations were made capable of deepening Library and Information Studies (LIS) practice in relation to the use and application of new technology among academic librarians. The study has also contributed to knowledge by making suggestions that will lead to policy changes concerning technology use, because changing existing policy involves extensive and tedious procedure, therefore this study will ensure that changes devoid of government bureaucracy. The study contributes to knowledge by expanding existing theory, and using the theory to shedding light on the subject matter of technological changes and its effects on job performance using the change resistance theory. This research is also significant because of the apparent paucity of literature measuring librarians resistance to the use of technology and how it affects their job performance, for instance, the informetric analysis reveals that 940 articles have been written concerning the subject matter in the areas of Medicine, Agriculture, Biochemistry, Pharmacology and Microbiology leading, most of the researchers are from University of Ibadan, therefore, it is important for other researchers in other field and institution to embark on this similar research to test the validity of result in the context of UNILAG, LASU and Babcock.

Methodology

The research adopted positivist research paradigm using quantitative research methodologies mainly through multi case study research design. Data were gathered through questionnaires and content analysis of existing literature. The target population was academic librarians in selected University Libraries in Nigeria.The sampling technique used for this study is purposive sampling known as criterion sampling in which the researchers specifically select the research environment suitable for the objectives of the study. Three academic libraries namely: University of Lagos Library (Federal government owned), Lagos State University (State government owned) and Babcock University Library (Private owned), were purposively selected for the survey because of the following reasons: proximity, technology and highly educated workforce. Federal, State and Private Universities were specifically selected to evaluate the extent of their resistance to technological changes.

Data Analysis and Discussion of Findings

This study examined a comparative study of evaluating resistance to technology change for enhanced Job Performance in Academic Libraries in UNILAG (University of Lagos), LASU (Lagos State University) and BABCOOK University. Fifty copies of the questionnaire designed for the study were administered to respondents in the 3 selected Institutions. However, only 48 copies were duly filled and returned by the respondents giving 96.0% response rate.

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Presentation of Findings

Socio-Demographic Characteristic of Respondents

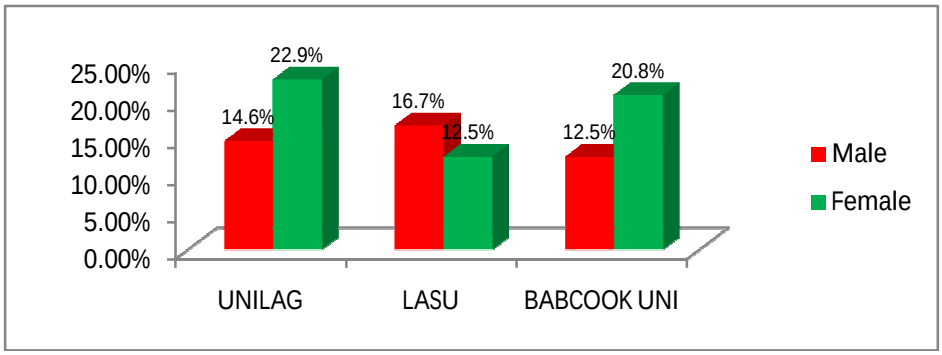

Figure 1: Bar Chart Showing Gender Distribution of Respondents in Selected Academic Libraries.

Fig. 1 shows the distribution of respondents based on gender and it reveals that majority of the total number of respondents from UNILAG and BABCOCK were female with response rates of 11 (22.9%) and 10 (20.8%) respectively while for LASU the results reveals that there are more male 8 (16.7%) than female among the respondents from the institution. Overall, the study reveals that there are more female than male among the respondents considered for the study. Consequently, it may be deduced that there are more female library staff than male in academic libraries in Nigeria.

Table 1 shows that majority of respondents in the three selected libraries have work experience ranging from 11 to 20 years with response rates of 17, 35.4%, 14, 29.2% and 16, 33.4% for UNILAG, LASU and BABCOCK respectively. This is suffice to say that library staff in academic libraries in the selected are experienced and in their active years of service

Table 1: Distribution of Respondents Based on Years of Experience

Years of Experience	UNILAG	LASU	BABCOOK	Total
6 to 10yrs	1(2.1%)	0(0.0%)	0(0.0%)	1(2.1%)
11 to 15yrs	6 (12.5%)	7(14.6%)	8(16.7%)	21(43.8%)
16 to 20yrs	11(22.9%)	7(14.6%)	8(16.7%)	26(54.2%)
Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)

Findings from Fig. 5 shows that most of the respondents working in the selected libraries have postgraduate degrees with response rates of 35.4% from UNILAG, 29.1% from LASU and 33.4% from BABCOCK respectively. The postgraduate degree possessed by the respondents ranges from Postgraduate Diploma, Master's, and PhD degrees. It may be inferred from the results that library staff in the academic libraries surveyed are highly qualified.

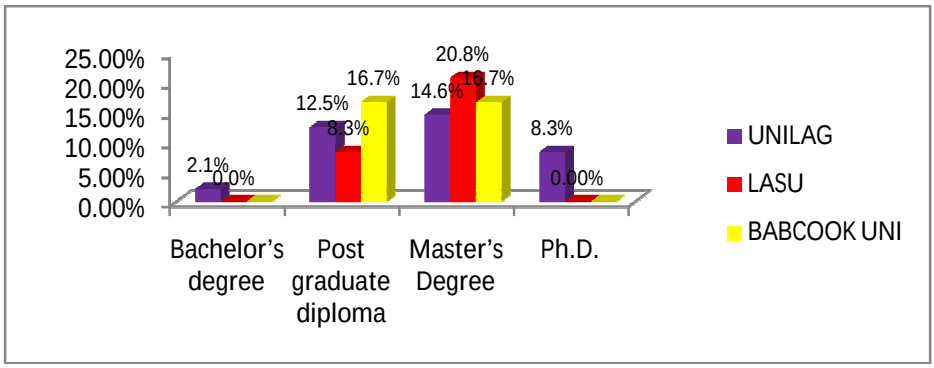

Figure 3: Bar Chart Showing Distribution of Respondents by Level of formal Education

Research Questions

Research question 1: What are the likely reasons for librarian's resistance to technological changes in academic libraries in Nigeria?

Table 1: Reasons for librarian's resistance to the technological changes in academic libraries

Variables	Responses	Institution			Total
		UNILAG	LASU	BABCOOK	
Lack of reward for successful implementation of technological change	Agree	13(27.1%)	10(20.9%)	12(25.0%)	35(72.9%)
	Disagree	5(10.4%)	4(8.3%)	4(8.3%)	13(27.1%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Technological change does affect my job performance	Agree	8(16.7%)	11(22.9%)	13(27.1%)	32(66.7%)
	Disagree	10(20.8%)	3(6.3%)	3(6.3%)	16(33.3%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Technological change affect my loyalty to the library	Agree	11(22.9%)	8(16.7%)	10(20.8%)	29(60.4%)
	Disagree	7(8.4%)	6(12.5%)	6(12.5%)	19(39.6%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
There are usually clearly defined implementation steps to you for the technological change process in the Library	Agree	11(22.9%)	11(22.9%)	13(27.1%)	35(72.9%)
	Disagree	7(8.4%)	7(8.4%)	3(6.3%)	13(27.1%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Conflict between you and expectations for jobs and the goals of your library within the new technological change	Agree	8(16.7%)	7(14.6%)	7(14.5%)	22(45.8%)
	Disagree	10(20.8%)	7(14.6%)	9(18.8%)	26(54.2%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
The management of the library look for and solve the issues concerning you during the technological change	Agree	11(22.9%)	8(16.6%)	9(18.8%)	28(58.3%)
	Disagree	7(14.5%)	6(12.5%)	7(14.6%)	20(41.7%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
fear of the uncertain outcomes of the new technological change	Agree	12(25.0%)	9(18.8%)	8(16.6%)	29(60.4%)
	Disagree	6(12.5%)	5(10.4%)	8(16.7%)	19(39.6%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Lack of the necessary information, skills and adequate training to accommodate the new technological change	Agree	13(27.1%)	11(22.9%)	11(22.9%)	35(72.9%)
	Disagree	5(10.4%)	3(6.3%)	5(10.4%)	13(27.1%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Library comfortability with the current technology and the routine procedures	Agree	15(31.3%)	11(22.9%)	13(27.1%)	39(81.3%)
	Disagree	3(6.2%)	3(6.3%)	3(6.2%)	9(18.7%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Desire to keep the existing positions in the library	Agree	10(20.9%)	12(25.0%)	11(23.0%)	33(68.9%)
	Disagree	8(16.6%)	2(4.2%)	5(10.3%)	15(31.1%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Adequate training is given with supporting materials to create confidence with system and the processes	Agree	12(25.0%)	10(20.9%)	14(29.2%)	36(75.1%)
	Disagree	6(12.5%)	4(8.3%)	2(4.1%)	12(24.9%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Ideas are openly communicated and encouraged within the implementation of technological change	Agree	15(31.2%)	13(27.1%)	16(33.3%)	44(91.8%)
	Disagree	3(6.2%)	1(2.1%)	0(0.0%)	4(8.2%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Long periods of planning before the technological change is delivered	Agree	13(27.0%)	11(22.9%)	14(29.1%)	38(79.0%)
	Disagree	5(10.4%)	3(6.2%)	2(4.2%)	10(21.0%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Understanding why technological change is happening and why it's necessary	Agree	14(29.1%)	9(18.8%)	9(18.7%)	32(66.6%)
	Disagree	4(8.4%)	5(10.4%)	7(14.6%)	16(33.4%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Change agent lack the required skills to adopt the new technological change in my library	Agree	11(22.9%)	12(25.0%)	15(31.2%)	38(79.1%)
	Disagree	7(14.6%)	2(4.2%)	1(2.1%)	10(20.9%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)

Table 1 presents information on the possible reasons that may be responsible for resistance by respondents to technological change in academic libraries surveyed. The results revealed that majority of the respondents from UNILAG affirmed lack of reward for successful implementation of technological change (13, 27.1%), effect of technological change on their loyalty to the library (11, 22.9%), fear of the uncertain outcomes of the new technological change (12, 25.0%), lack of the necessary information, skills and adequate training to accommodate the new technological change (13, 27.1%), desire to keep the existing positions in the library (10.20.9%), long periods of planning before the technological change is delivered (13, 27.0%), understanding why technological change is happening and why it's necessary (14, 29.1%) and lack the required skills by change agent to adopt the new technological change in my library (11, 22.9%) as possible reasons that may be responsible for their resistance to technological change . Also, respondents from LASU affirmed lack of reward for successful implementation of technological change (10, 20.9%), effect of technological change on their loyalty to the library (11, 22.9%), fear of the uncertain outcomes of the new technological change (9, 18.8%), lack of the necessary information, skills and adequate training to accommodate the new technological change (11, 22.9%), desire to keep the existing positions in the library (12, 25.0%), long periods of planning before the technological change is delivered (11, 22.9%), understanding why technological change is happening and why it's necessary (9, 18.8%) and lack the required skills by change agent to adopt the new technological change in my library (12, 25.0%) as possible reasons that may be responsible for their resistance to technological change. The respondents from BABCOCK affirmed same reasons as respondents from UNILAG and LASU as likely factors that may trigger their resistance to technological change. The implication to be drawn from the foregoing is that lack of reward for successful implementation of technological change, effect of technological change on their loyalty to the library, fear of the uncertain outcomes of the new technological change, lack of the necessary information, skills and adequate training to accommodate the new technological change, desire to keep the existing positions in the library, long periods of planning before the technological change is delivered, understanding why technological change is happening and why it's necessary and lack the required skills by change agent to adopt the new technological change in my library as possible reasons that may be responsible for their resistance to technological change.

Research question 2: What are the necessary strategies to reduce resistance to the technological changes in academic libraries in Nigeria?

Table 2: Strategies to reduce resistance to the technological changes in the library

Variables	Responses	Institution			Total
		UNILAG	LASU	BABCOOK	
Timely communication of relevant information about change	Agree	7(14.6%)	11(22.9%)	12(25.0%)	30(62.5%)
	Disagree	11(23.0%)	3(6.3%)	4(8.4%)	18(37.5%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Provision of adequate training courses to increase the job performance and remedy the resistance of change	Agree	10(20.9%)	14(29.2%)	16(33.3%)	40(83.3%)
	Disagree	8(16.7%)	0(0.0%)	0(0.0%)	8(16.7%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Empowerment of staff by management towards the change process and listen to them to fulfil their needs	Agree	11(23.0%)	13(27.1)	16(33.3%)	40(83.3%)
	Disagree	7(14.6%)	1(2.1%)	0(0.0%)	8(16.7%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Management meeting with library staff who are encountering difficulties in the change process	Agree	11(23.0%)	10(20.8%)	7(14.6%)	28(58.4%)
	Disagree	7(14.6%)	4(8.4%)	9(18.8%)	20(41.6%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)
Effective rewarding policy to pay for performance	Agree	13(27.1%)	11(22.9%)	14(29.2%)	38(79.2%)
	Disagree	5(10.4%)	3(6.3%)	2(4.1 %)	10(20.8%)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)

The results in table 2 present information on the necessary strategies that can be adopted by academic libraries to reduce resistance to the technological changes by librarians. The results revealed that respondents from UNILAG

affirmed the need for provision of adequate training courses to increase the job performance and remedy the resistance of change (10, 20.9%), empowerment of staff by management towards the change process and listen to them to fulfil their needs (11, 23.0%),management meeting with library staff who are encountering difficulties in the change process (11, 23.0%) and effective rewarding policy to pay for performance (13, 27.1%) as major strategies to reduce their resistance to technological change. On the part of respondents from LASU, timely communication of relevant information about change (11, 22.9%), provision of adequate training courses to increase the job performance and remedy the resistance of change (14, 29.2%), empowerment of staff by management towards the change process and listen to them to fulfil their needs (13, 27.1%), management meeting with library staff who are encountering difficulties in the change process (10, 20.8%) and effective rewarding policy to pay for performance (11, 22.9%) as major strategies to reduce their resistance to technological change. Majority of respondents from BABCOCK attested to timely communication of relevant information about change (12, 25.0%), provision of adequate training courses to increase the job performance and remedy the resistance of change (16, 33.3%), empowerment of staff by management towards the change process and listen to them to fulfill their needs (16, 33.3%) and effective rewarding policy to pay for performance (14, 29.2%) as major strategies to reduce their resistance to technological change. Therefore, it can be deduced from the foregoing that provision of adequate training courses to increase the job performance and remedy the resistance of change, empowerment of staff by management towards the change process and listen to them to fulfil their needs andeffective rewarding policy to pay for performance as major strategies to reduce resistance to technological change in academic libraries in Nigeria.

Research question 3: Are there resistance to the introduction of new technology by librarians in academic libraries in Nigeria?

Table 3: Respondents opinion on resistance to the introduction of new technology in their libraries

Variables	Responses	Institution			Total
		UNILAG	LASU	BABCOOK	
When your library introduced a new technology, was there any resistance from the librarians or library officers to the technological change?	Yes	1(2.1%)	0(0.0%)	0(0.0%)	1(2.1%)
	No	12(25.0%)	10(20.8%)	10(20.8%)	32(66.7%)
	Don't know	5(10.4%)	4(8.3%)	6(12.5%)	15(31.2)
	Total	18(37.5%)	14(29.2%)	16(33.3%)	48(100.0%)

Table 3 presents information on whether there is any resistance to the introduction of new technology by respondents in academic libraries surveyed and it reveals that majority of the respondents from UNILAG, LASU and BABCOCK attested to the fact that there is no resistance to introduction of new technology in their libraries with response rates of 12 (25.0%), 10 (20.8%) and 10 (20.8%) respectively while only few of the respondents are unsure of any resistance to technology change with response rates as follows; UNILAG (5, 10.4%), LASU (4, 8.3%) and BABCOCK (6, 12.5%). The implication of these results is that librarians in academic libraries surveyed do not demonstrate any resistance to the introduction of new technology in their respective libraries.

Table 4: Summary of Significant Relationship among Demographic Variables and Degree of Technology Resistance among Librarians in Academic Libraries

.R	R Square	Adjusted R Square	Std. Error of the Estimate
0.437	0.191	0.073	.818

Summary Regression ANOVA

	Sum of Squares	df	Mean Square	F	P	Remark
Regression	6.491	6	1.082	1.617	0.167	Not Sig.
Residual	27.426	41	.669			
Total	33.917	47				

Table 4 presents information on determining if there is any significant relationship between demographic variables and degree of resistance to technology change among librarians in the academic libraries surveyed. The result shows that there is no significant joint relationship between demographic variables and resistance to technology among the librarians ($F_{(6, 41)} = 1.617$, $p > 0.05$). The table also shows a coefficient of multiple correlations (R) of 0.437 and a multiple R square of 0.191 and further shows that 7.3% (Adj. R^2=0.073) of the total variance in the dependent measure (degree of resistance to technology change) is accounted for by the independent variable.

Table 5: Relative contribution of the independent variable (demographic variable) to the dependent variable (degree of resistance to technology change)

Variable	Unstandardized coefficient (B)		Unstandardized coefficient	t	Sig.	remark
Model	**(B)**	**Std. Error**	**Beta**			
Constant(Institution)	3.655	2.477	-	1.476	.148	-
Gender	.057	.275	.033	.206	.838	Not Sig
Age	.431	.213	.344	2.019	.050	Sig
Experience	.326	.272	.209	1.197	.238	Not Sig
Years in spent in present library	.116	.156	.129	.741	.463	Not Sig
Qualification	.029	.203	.023	.144	.886	Not sig.
Resistance	.043	.030	.217	1.408	.167	Not sig

Table 5 reveals the relative contribution of the components of the independent variable to the dependent variable, expressed as beta weights shows that Age (β = 2.019, $p<0.05$) is the leading variable of component that contributed significantly to the degree of resistance to resistance to technology change among the librarians in the academic libraries surveyed.

Hypothesis$_{02}$: There is no significant difference in technology resistances among the three academic libraries.

Table 6: Difference in technology resistances among the three academic libraries surveyed in Nigeria

Institution	N	Mean	SD	Sum of Squares	df	Mean Square	F-cal	F-crit	P	Remark
UNILAG	18	55.72	5.539	63.907	2	31.953	1.781	3.230	0.180	Not Significant
LASU	14	57.78	2.326	807.406	45	17.942				
BABCOOK	16	58.31	3.789	871.313	47					
Total	48									

(F=1.781, df = 2/45, P > .05)

The result in table 6 reveals that there was no significant difference in technology resistances among the three selected academic libraries viz: UNILAG, LASU and BABCOCK ($F_{(2/45)} = 1.781$). That is F-Cal=1.781 was lesser than F-Critical= 3.230, ($p > 0.05$).

Discussion of Findings

The study evaluate the demographic variables (e.g Age, Academic qualifications and work experience) presented by the respondents to measure the dimensions and dynamics of the population. The demographic appraisal of the study reveals that there are more female librarians among the academic librarians in Nigerian Universities than male. This gender inequality is in favors of female librarians, this is contrary to what is obtainable in other profession like Engineering (Hagström&Kjellberg, 2007), Medical profession (Wildschut&Gouws, 2013), Military (Norman, 1996) and Politics (Sanghvi& Hodges, 2015). Numerous researches have also confirmed that library and information profession is not the only female dominated profession that reveals societal prejudice, for example, Durodolu&Ocholla, (2017:7) shows that teaching is a profession that is dominated by females. Furthermore, most of the academic librarians in the three Universities surveyed have attained at least a post graduate degree up to PhD in the relevant profession to their job description with UNILAG (University of Lagos) far ahead of others in the PhD segment, this could be as a result of the strict policy on PhD as a prerequisite for promotion in the University. The result of the hypothesis establishing the joint relationship between the demographic variables

and resistance to technology of librarians reveals no significant relationship.

The result of the survey shows that the introduction of the new technology has not necessarily lead to resistance among the librarian in the surveyed institutions, but regardless of this some of the respondents expressed resistance to new technology with the University of Lagos (UNILAG) having the highest rate. This opinion is in line with the observation of Hicks (2011: 118) affirming that despite the positive correlation of technology to every aspect of human endeavor, it has not been well accepted and adapted to educational community consequently leaving the sphere of education behind in the technology era. Generally, Huang, et al (2012) opined that resistance to change is important to any organizational because it is regarded as an impediment to organizational development and performance.

The study also identified reasons why librarians resist technological changes, as lack of reward for successful implementation of technological change, effect of technological change on their loyalty to the library, fear of the uncertain outcomes of the new technological change, lack of the necessary information, skills and adequate training to accommodate the new technological change and lack the required skills by change agent to adopt the new technological change. Al-Ameri (2013:214) also corroborated the outcome of this study by identifying fear of the unknown which could be as a result of apprehension about losing power and status, uneasiness about extra effort that is necessary to learn another method.The respondents suggested various strategies to reduce resistance to the technological changes in the library among which are provision of adequate training courses and adopting effective reward policy. This suggestion correspond with Al-Ameri (2013:214) that recommended that to make workers comfortable in accepting technological changes it is imperative to embark on training and other knowledgeable sources, otherwise older workers could be overwhelm with fear that younger, more energetic workforce may take their jobs and position, hence this could lead to resistance to change.

Conclusions and Recommendations

It can be concluded from the various findings of the study among the three academic libraries surveyed for this study that resistance to technological changes is a reality that can constitute major hindrances in adoption, use and acceptance of new technology with negative consequences to the job performance of librarians. The study shows highly educated librarians dominated by female professionals with many possessing a PhD. The joint relationship between the demographic variables and resistance to technology of librarians reveals no significant relationship. This study is not without its own limitations, the study concentrated on limited academic libraries and populations, hence the result cannot be used to generalise about the subject matters among academic librarians in Nigeria. Despite the assurance of confidentiality some respondents beg to be excused from participating in the survey.

There is need for urgent review of the LIS curriculum to accommodate new technology and integrated library software to facilitate and enhance the ability of student and familiarise them with skills needed for performance on the field of profession. The research contributed to the general discussion on resistance to technology, technological change and job performance in three university libraries, however, the researchers have identified that there is a need for further research that should focus on other university libraries because Nigeria has wide variety of such university libraries. This study was based on three variables namely: resistance to technology, technological change and job performance among academic librarians, it also recommended that further research should embark on allied variables relating to technological changes and its effects on librarians, identify librarians job satisfaction and their adaptability to new technology.

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