

**EFFECT OF MANAGERIAL VARIABLES AS CORRELATES TO THE PROVISION
OF INFORMATION RESOURCES AND SERVICES IN TERTIARY INSTITUTION
IN NORTH WEST NIGERIA**

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ABSTRACT:

The study aimed to investigate the relationship between managerial variables and the provision of information resources and services in tertiary institutions in North West Nigeria. It consisted of two parts: the first part examined the correlations among the managerial variables, while the second part tested their acceptability in the context of information resource provision. A correlational survey research design was employed, targeting a population of 300 professional librarians across six tertiary institutions. A sample of 50 librarians was selected using purposive sampling, and data were collected through two validated questionnaires: the Managerial Variables Questionnaire (MVQ) and the Provision of Library Information Resources Questionnaire (PLIRQ). Data analysis involved ANOVA and linear regression to assess the relationships between managerial practices—namely planning, organization, and evaluation—and the provision of information resources and services. The findings indicated that there is a significant relationship between the managerial practices and the effectiveness of information resource provision in these institutions. Recommendations include the need for enhanced training programs for librarians and improved funding mechanisms to support library services.

INTRODUCTION

Academic libraries such as University, Polytechnic and College of Educations are repositories of information resources consciously acquired, preserved and made available for the use of members of the parent institution. The essence of academic libraries is to support and enrich tertiary institutions by catering for the diverse information needs to the students and staff of institutions. The fundamental objective of tertiary institutions is the training of professionally skilled workers who are supposed to constitute middle-level manpower to drive the national economy. Abdul-Salam (2013). Hence, the services offered by academic libraries are tailored towards the needs of clientele who comprise students, lecturers, technologists and administrative staff of the institutions. Omekwu and Eruvwe (2014) stated that the services rendered in academic libraries keep widening to include acquisition of books and other media, reference services serials control, cataloguing and classification and then making them available to information seekers. Academic libraries ensure this by selecting and acquiring information materials in accordance with their collection development policies.

However, the present study is focused on the managerial variables of planning, organization and evaluation. This choice was guided by the realization that the three management functions are the core elements of management given the fact that each of the other functions like staffing, coordinating and control is intricately linked to planning, organization or evaluation which are also more applicable to information resources.

Statement of Problems

Despite the importance of library resources to the provision of effective library services in tertiary institutions, it is observed that their quality and quantity leave much to be desired. The collections of books and journals are small, as compared to the teeming number of users: many of the volumes are obsolete and dilapidated due to long pressure of use. The situation is exacerbated by inadequacies associated with library buildings and equipment, and shortage of staff. This negates the institution mandate on teaching, learning and research, among others.

The precarious library resource situation is often attributed to funding inadequacies given that a library's funds can determine the scope and grade of its facilities, books and journals, and staff: yet common sense clearly shows that merely throwing money at a problem does not always solve the problem. There could be other problems. Therefore, low funding cannot constitute a sufficient reason for this precarious situation. Indeed insight from various studies

copied with preliminary observations by the researcher, the researcher's library work experience and pre-research discussions with fellow librarians, suggest that there could be certain managerial variables that are affecting the provision of library information resources in the polytechnics. However, the observations above lack empirical evidence. This fact prompted the researcher to embark upon an investigation into the study.

Objectives of the Study

1. To ascertain the extent of library information resources provision in Tertiary Institutions in North West Nigeria.
2. To identify the managerial practices in terms of planning, organization and evaluation in Tertiary Institutions in North West Nigeria.

Research Questions

1. What is the extent of library information resources provision in Tertiary Institutions in North West Nigeria?
2. What are the managerial practices in terms of planning, organization and evaluation in Tertiary Institutions in North West Nigeria?

Statement of Hypothesis

H₀. There is no significant effect on the Managerial Variables As Correlates To The Provision Of Information Resources And Services In Tertiary Institution In North West Nigeria

H₁. There is significant effect on the Managerial Variables As Correlates To The Provision Of Information Resources And Services In Tertiary Institution In North West Nigeria

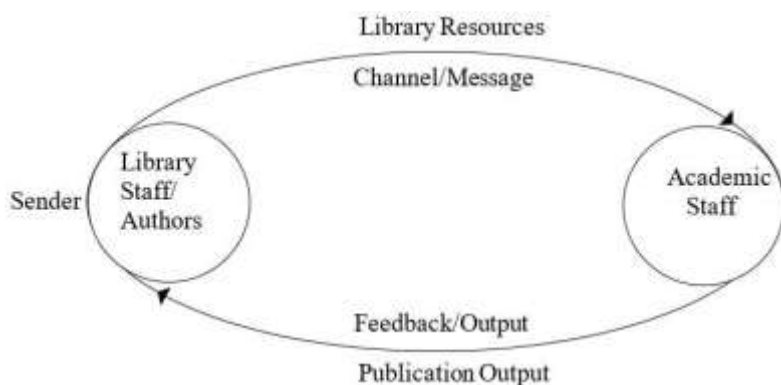
LITERATURE REVIEW

The study will review some related literatures under the following headings: Library Information Resources, Planning as Managerial Variables, Organization as Managerial Variables and Evaluation as Managerial Variables

Library Information Resources:

Information resources represent a category of library resources which are indispensable to effective library service delivery. They make up part of the framework upon which library services are regulated and used Gwang (2014). Information resources are the different

formats of recorded knowledge, including books and journals in hard and soft copies, which libraries select, acquire, organize and then make available to their users. Academic libraries hold rich collections of books, journals and other varieties of information resources in both print and electronic forms, as well as maps, manuscripts, pictures, incunabula and real objects. Provision of information resources makes possible in-house reading as well as lending for use away from the confines of the library building. In addition, the academic library selects and subscribes to key databases, a task beyond the competence and economic scope of individual users. Library information resources are essential tools in teaching and learning process of any academic community. Members of the academia need library information resources for teaching, learning research, update of knowledge and personal development.

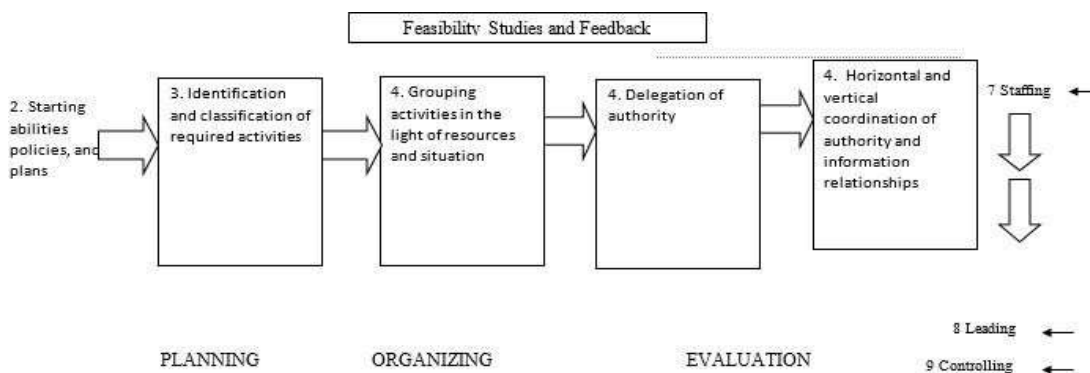


Planning as Managerial Variables:

Planning is functions of management. It is the methodology by which certain objective is identified and strategies are devised for its subsequent realization. It is a preparatory step. It is a systematic activity which determines what, why, how, when, who and where is going to perform a specific job. Planning is the foundation on which all other managerial functions rest. It serves as a guide and framework for organizing, staffing, directing and controlling. Hence planning is the basic or primary or fundamental function of management.

Planning as a futuristic phenomenon bridges the gap from where we are and where we want to be. It is one of the basic functions of management. It deals with drawing out a future course of action and deciding in advance the most suitable course of actions for attainment of pre-determined goals. Generally, planning is the most important management tool for performance and for organizations to perform well. (Olusanya, Awotungase, and Ohadebere 2012) discussing how resources must be well utilized on one hand and customers well served

on the other. In addition, to accomplish such ends, Organization’s human and materials resources must be well employed in the right ways at the right time to create high quality products at negligible cost. The fear of failure by individuals, groups and organizations to attain expected levels of performance resulting in undesirable consequences like loss of reputation, prestige and income all of which can jeopardize the desired stability, growth and prosperity generated the need to plan (Bhat and Kumar 2011). Planning in the organizational



context is a process that involves a step-by-step determination of an organization’s action and the resources required to achieve them.

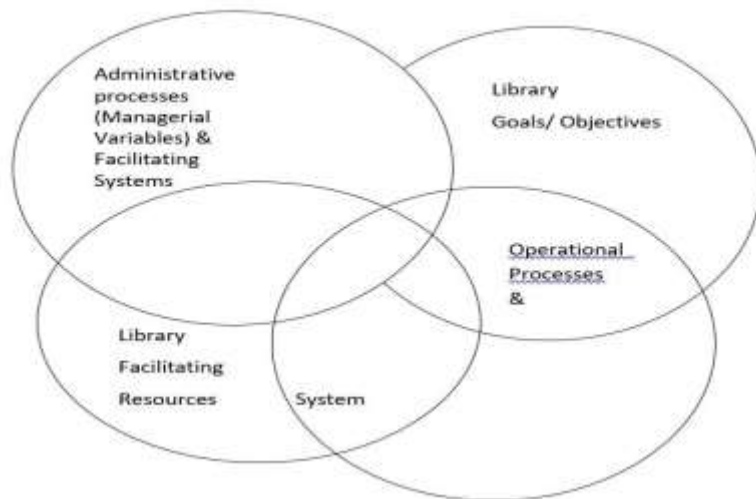
Organization as Managerial Variables

Organization literally, is a process of doing work or making arrangement for work, is also a structure in which the work takes place, organization as a step or method of making logical arrangement of work of an enterprise as part of management and administration. variables are defined as “characteristics of the decision setting (versus characteristics of the decision maker or the decision) that should influence the decision making process and outcomes” These variables include, for example, codes of ethics, ethical climate, organizational size, top management, organizational structure and organization culture (Ugwu, 2011).

Organization is the managerial function of designing and maintaining systems of roles. Organization involves determination of the tasks to be carried out, establishing a framework of authority and responsibility between and among people who will perform the task and the arranging of the activities in a manner that they systematically support the attainment of organizational goals. Organization is a process that involves separating the activities into

small individual parts and then re- assembling them into units or departments together with delegation of authority to enable each supervisor of unit or department effectively supervise the subordinate staffs to carry out the activities assigned to them Usoro (2012).

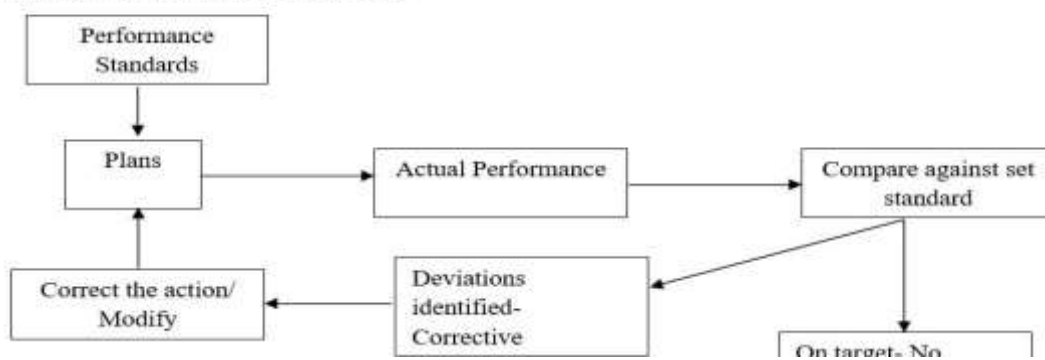
Figure 03: Process- System Model of the Organization



Evaluation as Managerial Variables:

Evaluation is another element of management, means appraisal or assessment of functions or outputs, based on the library goals. Evaluation is aimed at assessing the effectiveness and efficiency of a library in reaching it goals and objectives. Hussain (2013) identified three major types of evaluation. Outcome (impact); process (performance), and input (administrative). Evaluation helps to determine the quality of outputs, extend of attainment of set goals and any factors hampering performance. Evaluation, the third function of management under consideration, is the managerial variable that involves measuring performance and assessing it to determine whether the performance reflects the standard specified by the objectives, and to determine what action to take in respect of identified deviations or exceptions from the original plans. Evaluation is also regarded as the appraisal or assessment of functions or outputs based on the set goals and objectives and consists of three major types: outcome (impact); process (performance), and input (administrative) (Mutunga and Owino, 2017).

Figure 4: (the Control Sequence Model Adopted Imm Cole, Gerald A (2005). *Management and Practical 61* Ed. London Book Power



METHODOLOGY

The study intends to find the managerial variables as correlates to provision of information resources in Tertiary institutions in North West Nigeria. The study adopts Correlational survey research design for the study. A sample of 50 librarians will be selected from 6 tertiary institutions in North West Nigeria. Two instruments namely: Managerial Variables Questionnaire (MVQ) and Provision of Library Information Resources Questionnaire (PLIRQ) were used for the study. The instruments will be validated by three experts, two in the Department of Library and Information Science and one in the Department of Science Education (Measurement and Evaluation) all from Faculty of education. The reliability coefficients of MVQ and PLIRQ were 0.85 and 0.83 respectively using Chronbach Alpha method. To collect the pertinent data for the study, the instruments were administered to the respondents in the sampled polytechnic and collected at spot to ensure high return rate. The research questions 1, 5 and 6 answered using mean and standard deviation, while research questions 2- 4 will answered using Pearson Product Moment Coefficient (PPMC). The formulated hypotheses were tested at 0.05 level of significance using regression analysis. The population for the study is the professional librarians from Tertiary Institutions in North West Nigeria. The sample for the study is 300 librarians in tertiary institutions in North West, Nigeria. Purposive sampling will be used to select 50 librarians each from 6 tertiary institutions in North West, Nigeria namely; Kaduna Polytechnic, Kaduna, Federal College of Education Bichi, Kano State, Umaru Musa Yar'adua University, Katsina State, Usman Danfodiyo University, Sokoto state, College of Education Argungu, Kebbi State, and Jigawa State polytechnic, Jigawa State. Questionnaire will be adopted as instrument for the study which will be validated by 3 experts in Kaduna State University. A Pilot Study will be conducted in Kaduna State University using the model of the 5 compositional well-rings to find out the validity and reliability of the instruments. Data collection is by means of questionnaire to be designed by the researchers. Data collected will be analyzed using Anova, linear regression and simple frequencies and percentages.

RESULTS AND DISCUSSION

To enhance the extent of library information resources provision in tertiary institutions in North West, Nigeria libraries and Strategies for enhancing efficient information resources provision in academic libraries includes periodical check to ensure proper management of information resources, compliance with international standards, need for professional training staff.

Research Question One: The extent of library information resources provision in Tertiary Institutions in North West Nigeria.

Table 1: Mean Ratings of Respondents on the Extent of Library Resources Provision in Libraries in Tertiary Institutions in North West Nigeria

	University Library's (N= 163)		Polytechnic Library's (N=81)		College of Edu Library's (N=41)		Overall (N= 285)		De	
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD		
Printed Resources										
1	Periodicals/Serials	3.71	.68	3.92	.26	3.93	.26	3.85	.54	VHE
2	Journals	3.16	.74	2.75	.88	3.60	.63	3.17	.54	HE
3	Newspapers	3.09	.96	3.64	.62	3.60	.63	3.44	.61	HE
4	Magazines	3.46	.80	3.05	.86	3.40	.74	3.30	.63	HE
Grey Literatures										
5	Project and Thesis	3.03	.86	3.41	.80	3.40	.74	3.28	.63	HE
6	Conference Proceedings	2.76	.86	2.98	.96	3.33	.72	3.02	.52	HE
7	Seminar Papers	2.84	.91	2.62	.91	3.26	.70	2.91	.57	HE
8	Workshop Papers	2.46	.65	2.62	.91	3.06	.70	2.71	.34	HE
Government Documents										
9	Parliamentary Publication	2.41	.97	2.69	.89	3.40	.83	2.83	.69	HE
10	Bills	2.26	.77	2.64	.84	3.20	.94	2.70	.87	HE
11	Judicial Publication	2.12	.73	2.69	.89	3.33	.90	2.71	.56	HE
12	Laws	2.26	.88	2.60	.80	3.13	.92	2.66	.58	HE
13	Edits	2.25	.84	2.66	.86	3.06	.96	2.66	.66	HE
14	Acts	2.18	.80	2.57	.76	3.13	.83	2.63	.38	HE
15	Executive Publication	2.20	.77	2.55	.74	2.80	.94	2.52	.59	HE
16	Gazetters	2.33	.70	2.53	.71	3.00	.76	2.62	.31	HE
Non-Printed Resources										
17	Audio Visual Resources	3.32	.93	3.80	.52	3.20	.86	3.44	.54	HE
18	Films	2.91	.78	2.62	.89	3.00	.85	2.84	.54	HE
19	Micro-fiche	2.88	.88	2.53	.79	2.93	1.03	2.78	.34	HE
20	Micro-films	2.98	.84	2.50	.74	3.06	.80	2.85	.51	HE
Electronic Resources										
21	Electronic Documents	2.78	.75	3.64	.65	3.46	.74	3.29	.59	HE
22	E-Books	2.58	.75	3.42	.78	3.46	.64	3.15	.75	HE
23	Electronic Journals	2.61	.79	3.26	.86	3.26	.96	3.04	.87	HE
24	Online Databases	2.62	.79	3.07	.85	3.06	.80	2.92	.34	HE
25	Adobe Acrobat Documents (.pdf)	2.58	.82	3.29	.89	3.33	.72	3.07	.83	HE
26	Webpages (.htm, .html, .asp)	2.46	.71	3.25	.84	3.00	.85	2.90	.78	HE
Cluster Mean		2.84	.52	3.01	.43	3.39	.63	3.11	.44	HE

NOTE: VHE- VeryHigh Extent; HE- High Extent; LE- LowExtent, VLE- VeryLow Extent, \bar{x} -s mean; SD-Standard Deviation, D-

Decision

Results in Table 1 shows the responses on the extent of library resources provision in libraries in Tertiary Institutions in North West Nigeria. From the Table, the result revealed that the cluster mean value of the overall mean of the respondents in University, polytechnic and College of education for items1-26was 3.11. This mean value was within the real limit

of 2.50-3.49; indicating that the extent of library information resource provision in libraries in Tertiary Institutions in North West Nigeria is high. The table also revealed that the standard deviation of the 26 items ranged from 0.34–0.87; indicating that the respondents were homogenous in their responses.

Hypothesis One

There is no significance difference in the mean ratings of respondents on the extent of library information resource provision in Polytechnics in North Central Zone of Nigeria base on school ownership.

Tables 2: One-way ANOVA of significance difference on the mean rating of respondents on the extent of library information resource provision in Polytechnics in North Central Zone of Nigeria base on school ownership

	Sum of Squares	Df	Mean Square	F	Sig.	DEC
Between Groups	.166	2	.083	.561	.443	
Within Groups	41.694	281	.148			NS
Total	42.026	283				

NS = Not Significant

The result of one-way analysis of variance in Table 2 shows that F-ratio of .561 with exact probability value of 0.443 was obtained. The probability value of 0.443 was compared with 0.05 set as level of significance for testing the hypothesis and it was found not to be significant since 0.443 is greater than 0.05. Thus, the null hypothesis of no significant was accepted. The researcher therefore, concludes that there is no significance difference in the mean ratings of respondents on the extent of library information resource provision in Polytechnics in North Central Zone of Nigeria base on school ownership.

Research Question Two: The managerial practices in terms of planning, organization and evaluation in Tertiary Institutions in North West Nigeria

Table 2: Mean Ratings on Managerial Practices in Terms of Planning, Organization and Evaluation in Tertiary Institutions in North West Nigeria

Managerial Variables		University (N= 163)		Polytechnic (N=81)		College of Edu. (N=41)		Overall (N=285)		D
		\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	
Planning Practices										
1	The library has a direction in which it wants to execute activities	3.45	.50	3.48	.50	3.93	.26	3.48	.53	A
2	Library has a projection of its means of achieving what it aspires to be in future	3.19	.51	3.52	.50	3.73	.46	3.40	.66	A
3	The library has a plan to examine its strength	3.25	.48	3.14	.72	3.80	.41	3.39	.71	A
4	Preparation of a collection development policy	3.16	.47	3.48	.69	3.53	.52	3.46	.59	A
5	Developing a building programme which is like a road map that guide the architect as to its requirement	3.17	.50	3.41	.60	3.80	.41	3.52	.65	A
6	Preparing a budget for personnel cost	3.19	.56	3.70	.46	3.67	.49	3.47	.18	A
7	Library has a budget for required equipment	3.34	.52	3.48	.50	3.60	.83	3.45	.66	A
8	Developing a plan for generating internal revenue	3.15	.53	3.52	.50	3.67	.62	3.48	.63	A
9	Developing a plan for attracting donor funds	3.15	.37	3.63	.56	3.67	.62	3.39	.70	A
10	A policy is available on staff recruitment	3.03	.54	3.48	.69	3.67	.49	3.51	.75	A
11	A policy is available on staff development	3.21	.57	3.64	.49	3.67	.49	3.33	.56	A
12	Articulating conditions of service for it's staff	3.06	.50	3.46	.60	3.47	.52	3.46	.64	A
Organization Practices										
13	The information materials are processed by means of cataloguing, classification, indexing and abstracting	3.81	.39	3.82	.39	3.07	.80	3.43	.60	A
14	The information materials are grouped according to their formats	3.33	.63	3.63	.68	3.33	.49	3.34	.62	A
15	The library practices a subject arrangement	3.15	.73	3.59	.50	3.27	.59	3.29	.41	A
16	Library budget is done under different sub-heads	3.35	.55	3.45	.50	3.07	.70	3.25	.53	A
17	Assignment of tasks is done according to the skills the staffs	3.23	.54	3.38	.49	3.13	.52	3.49	.62	A
18	Schedules of duty are designed for the staff	3.50	.63	3.77	.43	3.20	.41	3.50	.75	A
19	The structure of authority in the library is clearly defined	3.43	.58	3.68	.47	3.40	.51	3.47	.65	A
20	Library has a clear structure of authority for the staffs	3.53	.50	3.57	.50	3.27	.59	3.44	.72	A
Evaluation Practices										
21	Evaluates of the information materials									
22	Appraisal of library processes like those of organization of Knowledge, lending and security	3.23	.42	3.23	.54	3.47	.52	3.31	.68	A
23	Appraisal to ascertain the quality of library information resources in the context of library's goals	3.18	.39	3.23	.54	3.53	.52	3.22	.59	A
24	Appraisal to ascertain the quantity of library information resources in the context of library's goals	3.13	.34	3.13	.47	3.40	.51	3.27	.65	A
25	Appraisal to determine the adequacy of the library's information resources for the library's activities	3.01	.56	3.13	.47	3.67	.49	3.19	.55	A
26	Appraisal to determine the effectiveness of library processes	3.06	.60	3.11	.53	3.40	.51	3.26	.69	A
27	An evaluation of the library's environment so as to ensure safety of library resources	3.15	.42	3.04	.60	3.60	.51	3.40	.41	A
Cluster Mean		3.24	.46	3.49	.52	3.57	.45	3.49	.46	A

NOTE: SA- Strongly Agreed; A- Agreed; D- Disagreed, SD –Strongly Disagreed, \bar{x} - mean; SD-Standard Deviation, D-Decision

Results in Table 2 shows the managerial practices in terms of planning, organization and evaluation in libraries in Tertiary Institutions in North West Nigeria. The result revealed that all the 27 items recorded above criterion mean value of 2.50. the result therefore implies that all the items were accepted by the respondents as managerial practices in terms of planning,

organization and evaluation. The standard deviation of the 27 items ranged from 0.18–0.75; indicating that the respondents were homogenous in their responses.

Hypothesis Two

There is no significance difference in the mean ratings of respondents on the managerial practices of Librarians in Polytechnics in North Central Zone of Nigeria base on school ownership

Tables 4: One-way ANOVA of significance difference in the mean ratings of respondents on the managerial practices of Librarians in Polytechnics in North Central Zone of Nigeria base on school ownership

	Sum of Squares	Df	Mean Square	F	Sig.	DEC
Between Groups	.392	2	.196	1.265	.160	
Within Groups	43.546	281	.155			NS
Total	44.332	283				

NS = Not Significant

The result of one-way analysis of variance in Table 4 shows that F-ratio of 1.265 with associated exact probability value of 0.160 was obtained. This probability value of 0.160 was compared with 0.05 set as level of significance for testing the hypothesis and it was found to be not to be significant since 0.160 is greater than 0.05. Thus, the null hypothesis of no significant was accepted. The researcher therefore, concludes that there is no significance difference in the mean ratings of respondents on the managerial practices of Librarians in Polytechnics in North Central Zone of Nigeria base on school ownership.

Summary of Findings

Based on the analysis of data in the study, the following findings emerged;

1. The extent of library information resources provision in the libraries in Tertiary Institutions in North West Nigeria is high. Further analysis revealed no significance difference in the mean ratings of respondents on the extent of library information resource provision in Tertiary Institutions in North West Nigeria base on school ownership.
2. The findings also show that managerial practices such as planning, organization and evaluation add greatly to the provision of information resources in Tertiary Institutions in North West Nigeria. Further analysis revealed is no significance difference in the mean ratings of respondents on the managerial practices of Librarians in Tertiary Institutions in North West Nigeria base on school ownership.

CONCLUSION

This study showed interesting results on Managerial Variables as correlates to provision of Library Information Resources in in Tertiary Institutions in North West Nigeria. It was found that provision of Information Resources in three types of tertiary institutions libraries studied was adequate. This may be attributable to the fact that both planning, organization and evaluation practices were found to have a great significant relationship on Library Information Resources Provision.

Based on the analysis, tested at 0.05 level of significance it was observed that managerial variables of planning, organization and evaluation have a significant relationship between them and library Information Resources Provision in each of the university, Polytechnics and College of Education Libraries. This finding emphasizes the importance of efficient and effective management of Library Information Resources in Tertiary Institutions in North West Nigeria. What these findings therefore suggest is that Polytechnic Librarians should strategically manage their libraries for better results in the areas of resources allocation, development and provision. They should be devoted to the provision of printed resources, literatures, government documents, non-printed resources and electronic resources so as to enhance both the capacity and capability of the Libraries in Tertiary Institutions in North West Nigeria.

RECOMMENDATION

Within the context of the findings and implications of this study, the following recommendations are made.

1. Stakeholders of Libraries in Tertiary institutions should provide adequate information resources of all type needed in the library to enhance the services provided.
2. Stakeholders in Library should increase budgetary allocation for provision of information resources in Tertiary Institutions in North West Nigeria.
3. Stakeholders in Library and Information Science should organize various management training programmes for Librarians and other library Staff performing management functions. Such training should be designed to equip them with improved planning, organization and evaluation strategies for creatively boosting their libraries alternative revenue sources.
4. Schools of Library and Information Science in Nigeria should restructure their curricula in such as a way as to strengthen their management contents. This will help to ensure that the graduates are sufficiently equipped with relevant theoretical and practical skills of library management, and fit to perform effective management functions in libraries.
5. Stakeholders in the libraries should improve in internally revenue generation, toward sourcing for external fund even in the face of funding challenges affecting the libraries in Tertiary Institutions in North West Nigeria.
6. Management should improve on the provision of internet connectivity, proper security for information resources, and proper implementation of information resources policy.

REFERENCES

- Abdulsalam, T. L. (2013) Information availability, Accessibility and used of Information among Polytechnic, Journal of Education, ABU, Zaria, 3 (1)
- Bhat, A. and Kumar, A. (2011). Management: Principles, processes, and practices: Oxford University Press.
- Gwang, J. (2014). Organization as a managerial variable: A study of financial resource provision in the university libraries in the North Central zone of Nigeria: Journal of Information Manager (14) 1-2.
- Hussain, M. (2013). Effective communication brings successful organizational change. The business and management Review, 3(2), 43.
- Mutunga, D., Owino, E. (2017). Effective of management practices on the financial performance of manufacturing firms in Kenya. Journal of Finance and Accounting,1(2) 1-13.
- Olusanya, S.O., Awotungase, S.A. & Ohadebere, E.C. (2012). Effective planning and organizational productivity. (A case study of Sterling Bank Nigeria Plc). IOSR Journal of Humanities and Social Science, 5, 31-39.
- Omekwu, C. O. Eruvwe, U. (2014). Application of Information and Communication Technology (ICT) in Delta State Polytechnic Nigeria. Journal of Applied Information Science Technology, 7 (1)
- Ugwu, C. (2011). Relationship between organizational factors and knowledge management application to user-centered services in the Federal Libraries in South-South Nigeria. Library Philosophy and Practice, 0.1.
- Usoro, I. M- P. (2012). Organization as a Management Variable: A Survey of Nigerian University Libraries in the South- South Zone. Library Philosophy and Practice (Online). Available at: <http://digital>.
- A. M. Balusamy Nachiappan, N. Rajkumar, and C. Viji, "Ensuring Worker Safety at Construction Sites Using Geofence," SSRG International Journal of Civil Engineering, vol. 11, no. 3, pp. 7, 2024.
- B. Nachiappan, H. Najmusher, G. Nagarajan, N. Rajkumar, and D. Loganathan, "Exploring the Application of Drone Technology in the Construction Sector," Salud, Ciencia y Tecnología-Serie de Conferencias, vol. 3, p. 713, 2024.
- B. Nachiappan, "Emerging and Innovative AI Technologies for Resource Management," in Improving Library Systems with AI: Applications, Approaches, and ..., 2024.
- B. Nachiappan, "E-Resources Content Recommendation System Using AI," in Improving Library Systems with AI: Applications, Approaches, and ..., 2024.
- B. Nachiappan, N. Rajkumar, C. Viji, and A. Mohanraj, "Artificial and Deceitful Faces Detection Using Machine Learning," Salud, Ciencia y Tecnología-Serie de Conferencias, 2024.
- C. Viji, H. Najmusher, N. Rajkumar, A. Mohanraj, and B. Nachiappan, "Intelligent Library Management Using Radio Frequency Identification," in AI-Assisted Library Reconstruction, pp. 126-143, 2024.

N. Rajkumar, B. Nachiappan, C. Kalpana, A. Mohanraj, B. P. Shankar, and C. Viji, "Machine Learning-Based System for Automated Presentation Generation from CSV Data," *Data and Metadata*, vol. 3, p. 359, 2024.

M. H. Ansari, B. Nachiappan, S. Nagarajan, and J. Narasimharao, "Intelligent Resource Management in Computing using Genetic Algorithms," in *2024 International Conference on Science Technology Engineering and ...*, 2024.

B. Nachiappan, "Real estate and rental management system enabled by blockchain," 2024.

B. Nachiappan, "A STUDY ON UNDERSTANDING RISK PERCEPTION OF ONLINE CUSTOMERS' SHOPPING," 2023.

B. Mahadevan, K. Vadivel, and B. Nachiappan, "ACQUISITION OF E-RESOURCES IN LIBRARIES," 2023.

G. Patni and B. Nachiappan, "Techniques of overcoming the fear: how to speak effectively," 2022

A. Islam and B. Nachiappan, "Digital Technology and Distraction of digital Classroom," 2022.