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SUSTAINABLE INNOVATIONS IN STEM DEVELOPMENT: CHALLENGES AND THE WAY FORWARD

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CHAPTER ONE

INFORMATION NETWORKING IMPERATIVE AND WOMEN LIBRARIANS' JOB EFFICIENCY IN FEDERAL UNIVERSITY LIBRARIES IN SOUTH-SOUTH NIGERIA

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ABSTRACT

Information networking is a critical practice for women librarians, as it demands an enormous output thereby creating a nexus between information networking and job efficiency of women librarians. This paper therefore examines information networking imperatives and job efficiency of women librarians in South-South Nigeria. Two specific objectives, two research questions and one hypothesis were formulated to guide the study. The survey research design was used for this study. The population of the study was 70 librarians from the area of the study while census-sampling technique was used to include the entire population of seventy librarians. The instrument used for data collection was a researchers' developed questionnaire titled "Information Networking and Job Efficiency Questionnaire" (INJEQ). The instrument was found to be reliable with an overall average reliability co-efficient of 0.87. Specifically, federal universities in South-South Nigeria were studied. Findings revealed that the extent of utilization of information networking by women librarians is low. Other findings revealed that there is remarkable influence of information networking on job efficiency among female librarians in federal universities in the area of study. Based on the findings, it was recommended that there should be training and re-training of women librarians in information networking in order to enhance their job efficiency.

Keywords: Information Networking, Utilisation, Women Librarians, Job Efficiency.

Introduction

To assess a country's development matrix in this technological age, information networking is one of the significant variables. Therefore when our leaders, policy makers, professionals and the generality of the Nigerian populace in all fields of human endeavour, maximize the use of this crucial variable, the country's pace towards economic development and overall societal growth would be heightened. From time out of history, librarianship was generally seen as a male dominated profession. However, in the United States and most western countries, librarianship is regarded as a female dominated profession, (Carle, 1995; Garnon-Leary and Parker, 2002). These authors further speculated that it was in the 1970's that the first crop of Nigerian women librarians strayed into the profession, which hitherto had been the domain of men. The 21st century has therefore made women develop keen interest in the profession that was initially dominated by men. This therefore makes everyone aware that even though many as traditional view librarianship in most parts of the world especially in Australia (Hickey, 2006), women are seen to occupy and uphold key positions that make it imperative for them to utilize information networking in the discharge of their duties.

Information may generally be viewed as that which facilitates and encourages national and personal development. However, many people especially in developing countries are still unaware of the need for information and fail to exploit it because of the various problems that abound in getting access to these available information resources. There is thus a need to make these resources available and effectively utilized by patrons through women librarians networking among themselves with a view to creating impact in the society.

Library and information services are however expanding in Nigeria. Consequently, women librarians as professionals, possessing networking and literacy skills are required to harness and develop these skills as the basis for enhancement of best practices that would keep pace with emerging technological challenges. This is to say that women librarians are needed in all libraries to plan, establish and administer the libraries. Therefore, information networking will prove an indispensable tool or aid to achieve the above purpose. Adequate utilization of library resources and services by library clientele will depend on the number of women librarians networking to provide services.

Statement of the Problems

The digital age has brought great change to libraries as the world of information and access by users rapidly move to an electronic environment. Women information professionals in other fields are fast accelerating information provision to more digital formats, thus making the volume of information via internet even more significant. The chaotic increase of information available on the internet also increases deficiencies of search engines. This ultimately lays bare the need for women librarians as custodians of information, to rise to the challenge of bringing coherence to the world of information through the right and timely provision of information via networking. Incidentally, many libraries have been seen to be unresponsive to change. However, if they must keep pace with emerging technological trends, there is need to drift towards the future by collaborating with entities whose response to the digital challenge will impact women librarians positively. In view of the above, the question now is, to what extent are women librarians who are known to be catalysts responding to information networking?

Purpose of the Study

The main purpose of the study was to examine information networking and job efficiency of women librarians in South-South Nigeria. Specifically, the study aimed at:

- (i) Determining the extent of utilization of information networking by women librarians in federal university libraries in South-South Nigeria.
- (ii) Ascertaining the influence of information networking on job efficiency among women librarians in federal university libraries in South-South Nigeria.

Research Questions

- (i) What is the extent of utilization of information networking by women librarians in federal university libraries in South-South Nigeria?
- (ii) What is the influence of information networking on job efficiency among women librarians in federal university libraries in South-South Nigeria?

Hypothesis

The null hypothesis formulated to guide this study was stated thus:

- (i) There is no significant influence of information networking on job efficiency among women librarians in federal university libraries in South-South Nigeria.

Information Networking Imperatives for Women Librarians

With information explosion in the available information resources and commensurate increase in user population, increased demand and the application of electronic media, libraries are compelled to adopt a paradigm shift to the utilization of information networks. Data storage capacities are enhanced through magnetic tapes floppy disks and CD-ROMs while information on various subjects could be accessed through telecommunication networks and access to international databases. Jebaraj and Devadoss (2004) noted that with the advent of networks, remote transmission of texts and graphics, video clips and animated clips are possible.

Information networks are a set of inter-related communication facilities, which are cooperating through more or less formal agreements in order to implement information handling operations to offer better services to their users (Singh 2003). Similarly, Jebaraj and Devadoss (2004) posited that information networking is broadly described as a group of libraries coming together with some agreement of understanding to help each other with a view to satisfying the information needs of their clientele. In the light of this paper, information networking for women librarians may be described as women in two or more libraries engaged in a common pattern of information exchange through communication for some broad objectives. Information networking objectives as enumerated by Jebaraj and Devadoss (2004) and Singh (2003) are; to promote and support adoption of standards in library operations, create databases for projects, specialists and institutions to provide online information services. It also improves the efficiency of housekeeping operations, coordinate with other regional, national and international network for exchange of information and documents and generate new services in order to improve the efficiency of existing ones.

Beal (2018) corroborated the above authors by highlighting the following network types and their uses:

- Local –Area Network (LANs): The computers are geographically close together (i.e. in the same building).
- Wide Area Networks (WANs): These computers are further apart and are connected by telephone lines or radio waves.
- Campus – Area Network (CANs): The computers are within a limited geographic area such as a campus or military base.
- Metropolitan-Area Network (MANs): A data network designed for a town or city.

- Home-Area Networks (HANs): A network contained within a user's home that connects a person's digital devices.

Despite the many advantages of information networking in libraries with regard to the provision and access of information resources by women librarians in the digital environment, a fundamental question is, can women librarians offer services that would meet the needs of persons, bodies and organizations within the present economic and technological realities? Even though the question sounds complicated, the obvious answer is predicated on negativity judging from the fact that information needs of library clientele are varied, multi-dimensional, multi-disciplinary, bloated, organised and used in different professional library environments. This therefore poses greater challenges for women in the present technological age. As a result of the above short coming, libraries in diverse operational environments cannot acquire all information resources required to render maximal services to users.

This makes it imperative for women librarians to rise to the challenge of adopting and utilizing new technology by providing internet information resources through information networking. Virtual provision of information through networking therefore becomes the only solution to keeping pace with the present information age, as this ensures transcending proximity. The world has metamorphosed rapidly to a global village, as such the library should be made to buckle up their effort as they definitely cannot operate in isolation.

Collaborations (with other libraries, indigenous and foreign women bodies, with a view to providing digital information) will advance the libraries future by making women librarians able to embrace and utilize modern high-tech tools in rendering information services real time. In providing any type of service through networking, women librarians must keep abreast with the category of information users and how they respond to the emerging technological realities.

Rationale for Networking Imperative for Women Librarians In Nigeria

- (a) Currency: As the need for information rises, digital resources must be updated. This can only be done through networking as it automatically updates and makes such materials current.
- (b) It saves time and convenience as materials on the web can be retrospectively converted irrespective of their nature as practiced in analogue libraries.

- (c) It reduces cost: Instead of purchasing large volumes of prints resources, networking encourages sharing of resources of women in other institutions.
- (d) Allows wider access to information resources over geographical areas.
- (e) Conservation of space: physical acquisition and occupying storage spaces makes room for virtual library.
- (f) Increased user patronage: networking of resources enhances access and utilization of information resources by users.
- (g) Improved image and status of women librarians as indispensable academic partners in academic institutions.

Challenges with Information Networking of Women Librarians in Nigeria

- (i) Poor planning for the smooth take off Information and Communication Technology by university library management.
- (ii) Under funding sources, lack of management of funds and inadequate funding for processing the registration of network.
- (iii) Lack of securing and maintaining skilled manpower
- (iv) Lack of maintaining internet access services and procuring alternative generating set and ICT equipment and facilities.
- (v) Redundant websites and poor infrastructure are the bane of networking in Nigeria.
- (vi) Unstable power supply

Beyond these, women are encumbered with societal weight and responsibilities by male chauvinism, while on the other hand, women librarians showing more apathy to innovative librarianship than their male counterparts do. Information networking is fraught with many other challenges. These challenges notwithstanding, the advantages of women librarians networking their services far outweigh these limitations.

Research Methodology

The survey research design was used for this study. The research area for this study was federal universities in South-South, Nigeria namely; University of Uyo, Akwa Ibom State, University of Calabar, Cross River State, University of Port Harcourt, Rivers State, Federal University of Petroleum Resources, Delta State, Federal University Otueke, Bayelsa State and University of Benin, Edo State. The population of this study comprised all women librarians in tertiary institutions in South-South, Nigeria thus; University of Uyo (21), University of Calabar (15), University of Port Harcourt (14), Federal University of Petroleum Resources (4), Federal University Otueke (6),

and University of Benin (10). A census sampling technique of 70 women librarians were used as the entire population was seen to be manageable and accessible.

The instrument used in this study was a researchers' developed questionnaire titled "Information Networking and Job Efficiency Questionnaire" (INJEQ). The questionnaire was made up of two sections. Section A was used to gather information on the institution of respondents while section B of the questionnaire was made up of two variables: Information Networking and job efficiency. The obtained data was coded statistically before the statistical analysis of the data.

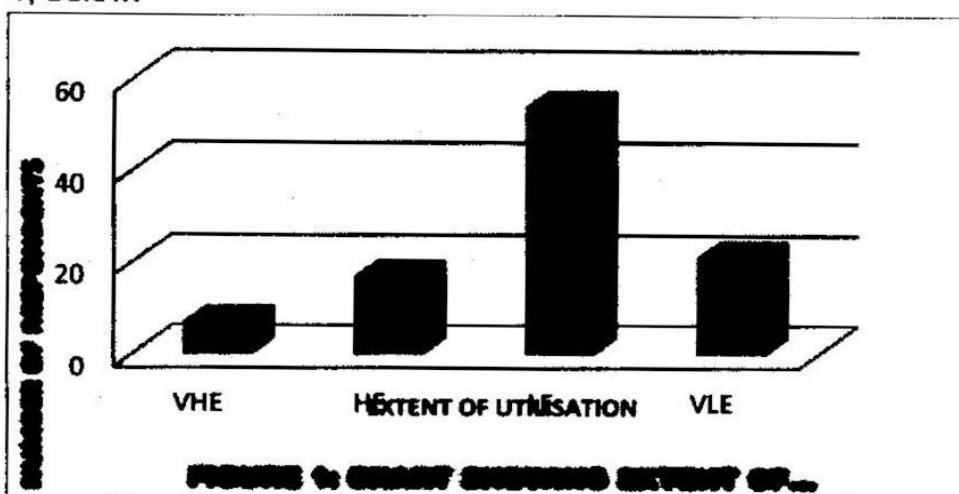
Cronbach Alpha technique was used to determine the level of reliability of the instrument. In the trial test, a total of 20 respondents who did not form part of the main study were randomly selected from one of the states outside the study area. The reliability coefficient obtained was 0.87 and this was high enough to justify the use of the instrument. The questionnaires were issued to women librarians in the area of study with the help of research assistants and retrieved same day. The researcher subjected the data generated for this study to appropriate statistical techniques such as descriptive analysis and regression analysis. The hypothesis was tested at 0.05 level of significance.

Data Analyses and Results

Research Question 1

What is the extent of utilization of information networking by women librarians in federal universities in South-South, Nigeria?

In order to answer the research question, descriptive analysis with respect to bar chart, was performed on the data collected as shown in Figure 1, below.



KEY: VHE = Very High Extent, HE = High Extent, LE = Low Extent,
VLE = Very Low Extent

SOURCE: Field Survey

Figure 1, above presents the result of the extent of utilization of information networking by women librarians in federal university libraries in South-South, Nigeria. From the result of the charts it was observed that most (54.29%) respondents affirmed that the extent of utilization of information networking by women librarians in federal university libraries in South-South, Nigeria is low while few respondents (7.14%) were of the opinion that the extent of utilization of information networking is very high. The result therefore means that the extent of utilization of information networking by women librarians in federal university libraries in South-South, Nigeria is grossly inadequate.

Research Question 2

What is the influence of information networking on job efficiency among women librarians in federal universities in South-South, Nigeria?

In order to answer the research question, descriptive analysis was performed on the data collected as shown in Table 2 below.

Table 1:

Descriptive analysis of the influence of information networking on job efficiency among utilization of information networking by women librarians in federal university libraries in South-South Nigeria.

Variable	N	Arithmetic mean	Expected mean	R	Remarks
Information networking	70	14.97	12.5	0.97*	*Strong to perfect relationship
Job Efficiency		12.91	12.5		

Source: Field Survey

Table 1 presents the result of the descriptive statistics of the influence of information networking on job efficiency among the women librarians in the area of the study. The two variables were observed to have strong to perfect relationship at 97%. The arithmetic mean for Information Networking (14.97) was observed to be slightly greater than the expected mean score of 12.5. In addition to that, the arithmetic mean as regards Job Efficiency (12.91) was observed to be slightly greater than the expected mean score of 12.5. The result therefore means that there is remarkable influence of information networking on job efficiency among women librarians in federal university libraries in South-South, Nigeria.

Hypothesis Testing

Hypothesis 1

There is no significant influence of information networking on job efficiency among the women librarians in federal universities in South-South, Nigeria. In order to test the hypothesis, regression analysis was performed on the data, as shown in Table 3, below.

Table 2:

Regression Analysis of the influence of information networking on job efficiency among women librarians in South-South, Nigeria

Model	R	R-Square	Adjusted R Square	Std. error of the Estimate	R Square Change
1	0.97*	0.93	0.93	0.47	0.93

*Significant at 0.05 level; df = 68; N= 70; critical R-value = 0.254

The above table shows that the calculated R-value 0.97 was greater than the critical R-value of 0.254 at 0.5 alpha level with 68 degree of freedom. Besides, the R-Square value of 0.93 predicts 93% of the influence of information networking on job efficiency among the women librarians in the study area. This rate of percentage is highly positive and therefore means that there is significant influence of information networking on job efficiency of women librarians in federal universities in South-South, Nigeria. In order to find out the extent of the variance of each case of independent variable (information networking) and that of the dependent variable (job efficiency) among women librarians in federal universities in South-South, Nigeria as indicated by each respondent (see Table 4).

Table 3:

Analysis of Variance of the influence of information networking on job efficiency among women librarians in federal universities in South-South, Nigeria

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	199.12	1	199.12	913.19	0.000b
Residual	14.83	68	0.22		
Total	213.94	69			

The above table presents the calculated F-value as (913.19) and the P-value as (000). Being that the P-value (000) is below the probability level of 0.05, which indicates that there is significant difference in the influence of information networking on job efficiency among women librarians in federal universities in South-South, Nigeria.

Discussion of the Findings

The result of the data analyses in table 1 and 2 was significant due to the fact that the calculated R-value 0.97 was greater than the critical R-value of 0.254 at 0.05 level with 68 degree of freedom. The result implies that there is significant influence of information networking on job efficiency, among women librarians in federal universities in South-South, Nigeria. The result therefore is in concordance with the findings of Hickey (2006) who highlighted that women are seen to occupy and hold key positions, which make it imperative for them to utilize information networking in the discharge of their duties.

The null hypotheses was rejected while the alternative was upheld that there is significant influence of information networking on job efficiency of women librarians in federal universities in South-South, Nigeria. It is also clear from the result that information networking among women librarians will create proximity and bring about greater efficiency. This is in line with Jebaraj and Devadoss (2004) who asserted while enumerating the objectives of information networking that it generates new services and improves the efficiency of existing ones.

Conclusion

The advent of networking as an inseparable part of the library and information provision system has had positive impact on the way in which women librarians perform their task for enhanced information resource sharing. Based on the findings of the research work, it was concluded that information networking was utilized to a low extent, by women librarians in federal universities in South-South, Nigeria. Besides that, there was seen to be significant influence of information networking on job efficiency among women librarians in federal university libraries in South-South, Nigeria. Invariably, the advent of networking as an inseparable part of the library information system has had positive impact on the way in which women librarians perform their task for enhanced information resource sharing and provision of information services for best practices.

Recommendations

Based on the findings of the research, the following recommendations are deemed necessary:

1. As the need for information rises, digital resources must be updated. This can be done through women librarians' networking in a view to automatically updating and making such materials current.
2. The university library management, the library committee as well as librarians must carry out regular review, update and systematic evaluation of information networking systems in a bid to determine the extent to which it is utilized for improved information services delivery and by implication, job efficiency of women librarians in federal university libraries in South-South, Nigeria.
3. Federal government should allocate more funds to universities and by implication, university libraries in order to provide state of the art information networks which will in turn make room for job efficiency of women librarians.
4. The university management should be proactive and willing to adapt to new and emerging technology such as the application of information networking in order to enhance effective library operations. The university management should ensure that women librarians are ICT compliant in the planning to the implementation stages of information networking. This is in a bid to making them competent participants in the 21st century thereby enhancing job efficiency of women librarians in university libraries.
5. Capacity building programmes sponsored by the various university authorities in terms of training and re-training of librarians on information networking should be made a regular feature in the form of seminars, workshops and on the job training to enhance the competency and job efficiency of women librarians.

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