PERCEPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR ACHIEVING SUSTAINABLE DEVELOPMENT GOALS AMONG LIBRARY STAFF IN FEDERAL POLYTECHNIC, MUBI IN ADAMAWA STATE

By

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Abstract

The study examined the use of information and communication technologies (ICT) for achieving sustainable development goals among library staff in Nigeria. In order to achieve this, two specific purposes were developed to guide the study; two research questions were answered while two null hypotheses were formulated and tested at 0.05 level of significance. The study adopted survey design and was carried out in Federal Polytechnic, Mubi Adamawa State, Nigeria. The population for this study was 67 respondents which comprise 26 senior and 41 junior library staff of Federal Polytechnic, Mubi Adamawa State. Since the population is manageable, the 67 respondents were used as sample for the study. A 10 items structured questionnaire was used as the instrument for the data collection. Mean and standard deviation were used for answering the research questions while t-test statistics was used in testing hypotheses at 0.05 level of significance. The findings of the study shows that hardware, convert non-digital material to digital format and erratic power supply are among ICT challenges among library staff. The study recommended that Government and stakeholders should provide policy that will enhance the accessibility of ICT services to the libraries.

Key Words: Information and Communication Technology (ICT), Sustainable Development Goal (SDG), Education, Library

Introduction

Information refers to the life blood of any organization, business or society. Appropriate information is essential for effective operation and decision making at all levels in life. According to Zins (2007), the word "information" is used to refer to a number of different phenomena. These phenomena have been classified into three groupings: (1) Anything perceived as potentially signifying something (e.g. printed books); (2) The process of informing; and (3) That which is learned from some evidence or communication. This can simply mean that information is a form of communication.

Communication is described as the act of giving, receiving or exchanging information, ideas and opinions. Mehrabian in Velentzas and Broni (2014) defined communication as any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states. Basically, communication is sharing of information either

in writing, orally or technologically. Information can be shared through the use of different technological devices such as laptops, computers, and digital phones. The idea that information is a resource led to developments in computing and Information and Communications Technologies (ICTs).

Information and Communications Technology (ICT) resources includes information systems, services (e.g. web services), computers, telecommunication network. Perron, et.al. (2010) defined Information and Communication Technologies (ICTs) as technologies used to convey, manipulate and store data by electronic means. The World Health Organization also sees ICTs as contributing to health improvement in developing countries in three ways: (1) as a way for doctors in developing countries to be trained in advances in practice; (2) as a delivery mechanism to poor and remote areas; and (3) to increase transparency and efficiency of governance, which is critical for the delivery of publicly provided health services (Chandrasekhar & Ghosh, 2001). It can be seen clearly that ICT can improve health services in many other ways, such as through skill development, new service creation, and education.

The Sustainable Development Goals (SDGs), call for several bold breakthroughs by the year 2030, including the end of extreme poverty (SDG 1) and hunger (SDG 2), universal health coverage (SDG 3), Quality education (SDG4) among others. The goals require a change and transformation of societies in a broader and faster than the previous years. The widespread hope within the international development community that ICTs could be a powerful tool of development and poverty reduction, and of achieving the Millennium Development Goals, led to a proliferation of donor-funded ICT-for-development pilot projects in several sectors in a wide range of countries in the past decade. Spence and Smith (2010) expressed that the spread and appropriation of ICTs have been a key dimension of globalization, pushing societies to build communications systems and manage them well, and to develop infrastructure and the capacity to use it.

Previous studies have focused on the use of ICT in economic, social, and political transformation and many others. Adesola (2012) in a study on alleviating poverty through ICT as a means of sustainable socio-economic growth in Nigeria. The author stated that ICT has been successful in enhancing economic growth, and gave some areas where ICT can be used to alleviating poverty as a means of sustainable socioeconomic growth in Nigeria. Ogbole and Ngara (2017) assessed the impact of ICT, particularly, the telecommunications revolution on poverty reduction

in Nigeria. Omogbadegun, Uwadia, and Ayo (2010) expressed that ICTs support for traditional governance is thus an effort aimed at building the capacity of indigenous political institutions, to participate in modern governance. These studies did not pay much attention to the use of information and communication technology (ICT) for achieving sustainable development goals in Nigeria particularly among library staff. ICT monitoring systems are beginning to show what the recent global failures have done to levels of poverty. End to poverty which is no. 1 goal of the SDG can be met by the use of ICT among library staff. This can be supported by the assertion of Yunus (2008) that the future of poverty will be decided by the technological devices and services that are designed a priority for poor people.

Despite the establishment of library in all academic institutions and provision of information and communication technology which can be used to achieve the sustainable development goals agenda which is one of the fundamental of UN's sustainable development goals (No. 4: Quality Education). Therefore, this study becomes necessary to find out the use of information and communication technologies (ICTs) for achieving sustainable development goals in Nigeria.

Purpose of the Study

The general purpose of this study was to investigate the use of Information and Communication Technology (ICT) for achieving sustainable development goals among library staff in Nigeria: specifically seeks to find out:

1.   Information and Communication Technology (ICT) challenges among library staff.
2.   Use of ICT in achieving Sustainable Development Goals (SDGs)

Research Questions

The following research questions were raised to guide this study:

1.   What are the Information and Communication Technology (ICT) challenges among library staff?
2.   What is the perception of librarians on the use of ICT to achieve Sustainable Development Goals (SDGs)?

Hypotheses

The following null hypotheses were formulated to guide the study and were tested at 0.05 level of significance:

Ho$_1$:   There is no significant difference in the mean of senior and junior library staff Information and Communication Technology (ICT) challenges among library staff.

Ho$_2$:   There is no significant difference in the mean rating of perception of senior and junior library staff on how ICT can be utilized to achieve Sustained Development Goals (SDG)

Methodology

The area of the study is Adamawa State of Nigeria. Adamawa is one of the States located in North Eastern part of Nigeria. There are 7 tertiary institutions in the state which include 3 Universities, 2 Polytechnics and 2 Colleges of Education. The Federal Polytechnic Mubi Adamawa State was chosen as area of the study. The choice of Federal Polytechnic, Mubi was because it is one of the oldest established institutions which requires sustainable development, The descriptive survey research method was used for the study. Nworgu (2006) described descriptive survey research method as that which aim at collecting data on, and describing in a systematic manner, the characteristics, features or facts about a given population. The population of the study is 67 library staff on the Federal Polytechnic Mubi Adamawa State. This comprises 26 senior and 41 junior library staff. Since the population is manageable, the 67 respondents was used as sample for the study. The instrument was designed to elicit information from the respondents. The instrument which is a 10-items structured questionnaire was used for the data collection and rated on 5-point Likert scale.

The data collected was organized and analyzed according to the research questions and hypotheses. Mean and standard deviation were used for answering the research questions while t-test statistics was used in testing hypotheses at 0.05 level of probability. All the hypotheses were tested at 0.05 level of significance using t-test. In taking decision, any item with mean value greater than 3.50 will be regarded as agreed while mean value less than 3.50 will be regarded as disagreed.

Results

Research Question One

What are the Information and Communication Technology (ICT) challenges among library staff?

Table 1: Mean and standard deviation of responses of senior and junior library staff on challenges of Information and Communication Technology (ICT)

S/No	Items	X	SD	Remarks
1.	Financial strength of the institution in acquires soft and hardware	3.55	0.35	Agree
2.	Convert non-digital material to digital format	3.51	0.26	Agree
3.	Poor maintenance attitude	3.59	0.55	Agree
4.	Conversion of print library card into machine readable catalog	3.62	0.41	Agree
5.	Erratic power supply	3.77	0.43	Agree

Table 1 showed that data on Information and Communication Technology (ICT) challenges among library staff have mean rating of 3.55, 3.51, 3.59, 3.62 and 3.77 with cluster means rating of 3.61. Based on mean cut-off point of 3.50, it indicates that the respondents agreed with all the items as challenges of Information and Communication Technology (ICT). There is also a close range of standard deviation scores which indicate a close agreement in the respondents' opinions.

Research Question Two

How ICT can be used to achieve Sustainable Development Goals (SDGs)?

Table 2: Table 1: Mean and standard deviation of responses of senior and junior library staff on how ICT can be used to achieve Sustainable Development Goals (SDGs)

S/No	Items	X	SD	Remarks
1.	Enhance the accessibility of ICT services to the libraries	3.54	0.13	Disagree
2.	Provision of desktop service cable of lack of network	3.74	0.46	Disagree
3.	Information in coding web script and java languages	3.62	0.33	Disagree
4.	Develop infrastructure and the capacity to use ICT	3.52	0.53	Disagree
5.	Evaluate and compare electronic resources output	3.60	0.40	Disagree

Table 2 showed that data on how ICT can be used to achieve Sustainable Development Goals (SDGs) have mean rating of 3.54, 3.74, 3.62, 3.52 and 3.60 with cluster means rating of 3.60. Based on mean cut-off point of 3.50, it indicates that the respondents agreed with all the items as how ICT can be used to achieve Sustainable Development Goals (SDGs). There is also a close range of standard deviation scores which indicate a close agreement in the respondents' opinions.

Hypothesis One

Ho$_1$: There is no significant difference in the mean responses of senior and junior staff on challenges of Information and Communication Technology (ICT)

Table 3: t-test analysis of senior and junior staff on challenges of Information and Communication Technology (ICT)

<div align="right">Senior Staff- 26
Junior Staff- 41</div>

S/No	Items	X	SD	t-test	Remarks
1	Financial strength of the institution in acquiring soft and hardware	3.59	0.55	0.93	NS
2.	Convert non-digital material to digital format	3.52	0.56	0.19	NS
3.	Poor maintenance attitude	3.59	0.55	0.68	NS
4.	Conversion of print library card into machine readable catalog	3.60	0.81	0.27	NS
5.	Erratic power supply	3.70	0.83	0.10	NS

The data presented in Table 3 revealed that all the 5 items had their calculated t-cal values ranged from 0.10 to 0.92 which were less than t-table value of 1.96 at 0.05 level of significance and at 8 degree of freedom (df). This indicated that there was no significant difference in the mean ratings of the responses of the two groups of respondents on the challenges of information and communication technologies (ICT). Therefore, the null hypothesis of no significant difference in the mean ratings of the responses of senior and junior on the 5 items was accepted.

Hypothesis Two

Ho_2:   There is no significant difference in the mean responses of senior and junior library staff on how ICT can be utilized to achieve Sustained Development Goals (SDGs)

Table 4: t-test analysis of senior and junior library staff on how ICT can be utilized to achieve Sustained Development Goals (SDGs)

Senior Staff- 26
Junior Staff- 41

S/No	Items	X	SD	t-test	Remarks
1.	Enhance the accessibility of ICT services to the libraries	3.58	0.53	0.09	NS
2.	Provision of desktop service cable of lack of network	3.54	0.46	0.11	NS
3.	Information in coding web script and java languages	3.62	0.53	0.37	NS
4.	Develop infrastructure and the capacity to use ICT	3.52	0.53	0.28	NS
5.	Evaluate and compare electronic resources output	3.64	0.50	1.07	NS

The data presented in Table 4 revealed that all the 5 items had their calculated t-cal values ranged from 0.07 to 1.07 which were less than t-table value of 1.96 at 0.05 level of significance and at 8 degree of freedom (df). This indicated that there was no significant difference in the mean ratings of the responses of the two groups of respondents on the utilization information and communication technologies. Therefore, the null hypothesis of no significant difference in the mean ratings of the responses of senior and junior on the 5 items was accepted.

Findings of the Study

The following findings were made from the analysis of data gathered for the study:

1. Poor financial strength of the institution in acquiring soft and hardware

2. Need to convert non-digital material to digital format

3. Poor maintenance attitude

4. Conversion of print library card into machine readable catalog

5. Erratic power supply

6. Enhance the accessibility of ICT services to the libraries

7. Provision of desktop service cable of lack of network

8. Information in coding web script and java languages

9. Develop infrastructure and the capacity to use ICT

10. Evaluate and compare electronic resources output

Conclusion

Use of Information and Communication Technologies (ICTs) in all fields of work in this 21st century is unavoidable. ICT knowledge and skills in tertiary intuitions are important for today's learners and library staff as it promotes problem solving approaches and thinking skills. Use ICTs in higher institutions libraries could aid learning and sustainability through offering information and knowledge. The benefits of ICTs are reflected in the Sustainable Development Goals in areas such as education, governance, poverty alleviation, health, the environment and community development can be applied to libraries staff. ICT can be used to connect teachers/lectures and students to audio-video learning resources and information relevant to their curriculum.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Seminars and workshops should be organized for library staff as ways of ameliorating the challenges militating against Information and Communication Technology (ICT) challenges.

2. Adequate information resources in all formats (print and non-print) should be provided in library for effective and sustainable development.

3. Government and stakeholders should provide policy that will enhance the accessibility of ICT services to the libraries.

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