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SAMUEL ADEGBOYEGA UNIVERSITY,
OGWA, EDO STATE, NIGERIA

toyin dina

Samuel Adegboyega University, Ogwa, Edo State Nigeria, toyindinang@yahoo.com

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**THE EFFECTS OF ELECTRICITY POWER OUTAGE ON THE PROVISION OF
ELECTRONIC NEWSPAPER SERVICES SAMUEL ADEGBOYEGA UNIVERSITY,
OGWA, EDO STATE, NIGERIA**

BY

TOYIN DINA
Ag. University Librarian
Samuel Adegboyega University, Ogwa
Edo State, Nigeria

ABSTRACT

Electrical power supply is a panacea for provision of e-library services such as the e-newspaper services in university libraries. The power failure affects the efficacy and effectiveness of e-newspaper services in today's university libraries. The study examined effects of electricity outage on e-newspaper services in university libraries in Nigeria with Samuel Adegboyega University, Ogwa, Edo State as a case study. The study employed the use of questionnaire as the instrument for data collection. 40 staff members of Samuel Adegboyega University staff were sampled. The findings indicate that the country is yet to provide desired level of electricity supply to meet the needs of libraries in the provision of electronic newspaper services in university libraries. It was also revealed that no meaningful e-newspaper services can be recorded without constant supply of electricity. It was therefore recommended that adequate electrical power supply should be provided for provision of effective and efficient newspaper services in university libraries.

Key words: electricity; outages; electronic newspapers; university libraries

INTRODUCTION

Electronic library provides access to information resources in electronic format which complements print collection. Electronic newspaper is an on-line version of print newspapers. To that extent, electricity is a critical infrastructure which would enhance the provision of e-newspaper services. According to Ighodaro (2010), electric power supply affects the efficacy and competitiveness of every critical economic and social activity which includes university library services.

Electricity has been described as the life wire of a robust electronic library services in any part of the world. Therefore, constant electric power supply with high speed internet access would likely facilitate the effective provision of electronic newspaper resources in THE 21st century university libraries. In Nigeria, however, power outages affect the provision of e-newspaper services (Akinwale 2010).

The Power Holding Company of Nigeria Plc. (PHCN) is vested with the responsibility of electricity supply in Nigeria. However, the failure of PHCN to provide adequate and reliable electricity to consumers including University libraries still generates a confidence-crisis in the country. Ifedi (2005) observed that public confidence in PHCN's ability to supply uninterrupted and stable electric power is so low that consumers coined a term for the organization's former acronym, NEPA (Never Expect Power Always) for National Electric Power Authority.

Problem confronting PHCN has been linked to low investment in power generation over the years. All the plants are very old. Thirty six percent of them are over twenty five years old, 48 percent are over twenty years old, and no new plant has been installed in the last fifteen years prior to the advent of civilian administration in 1999 (Agbo 2007; Idris 2013). With this it is pertinent to note that the power supply situation in the country has not improved in the last ten years despite huge investments government claimed to have invested on it. This has necessitated the move to restructure and privatize PHCN declared Agbo (2007).

Besides ICT infrastructure which facilitates the running of e-newspaper services are oftentimes damaged by power surges that usually accompany epileptic power supply (Kadiri and Adetoro, 2012). Most University libraries in Nigeria have now resulted to using power generating sets to provide basic services. It is ironical that, in spite of the enormous power generation potential that Nigeria has, about 60 percent of the country still has no access to electric power supply (UNDP 2001; Ajanaku 2007 and Adegbamigbe 2007).

Regular ELECTRIC power supply is the primary infrastructure for provision of electronic newspaper services (Uwaifo, 2013). Nigeria is richly endowed with various energy sources, crude oil, natural gas, coal, hydropower, solar energy, fissionable materials for nuclear energy. Yet the country consistently suffers from energy shortage, a major impediment to industrial, technological and electronic library growth.

E-Newspaper

E-newspapers are newspapers which are published electronically as against the traditional ones which are in the hard copy or in print. They take the form of normal print publications published on the Internet. It is also an additional or complementary content to print publications published on-line; or original publications published exclusively on the World Wide Web. Many news organizations require subscription to e-newspapers, just like regular print newspapers are purchased (Panda and Dillip, 2011).

As a product and form of media, e-newspapers first emerged in the mid-1990s with the popularization of the internet. As more households gained access to the internet, people began to use the Web as a news source. With a demand for news media on-line, many organizations used this opportunity for additional subscriptions, an expanded readership, and more advertising revenue. E-Newspapers, like most websites, utilize all of the tools of the

internet. E-newspapers follow the style arrangement of most print newspapers opined (Bucher, Buffel and Wollscheid, 2005).

As the news media evolves into the 20th century, many news organizations have developed Web-only publications. These e-newspapers feature content only found on the internet, and have taken shape in many different venues of the medium. Joke papers have emerged to spoof real newspapers; specialty papers have emerged for a younger Internet audience to highlight entertainment news, sports, celebrities, and hundreds of small niches (Heikenfeld, 2011).

The advent of e-newspapers has allowed for the practice of “news snacking.” This new development of the internet age has provided viewers the opportunity to click from one story to another, one source to another, to gain a quick idea of big headlines and interesting stories. E-newspapers have also allowed for frequent commenting on site, and have given writers and reporters the opportunity to share their opinions in the form of adjacent web logs and personal sites (Eriksson and Akesson 2007).

Brief Information on Samuel Adegboyega University (SAU)

Samuel Adegboyega University Ogwa, founded by The Apostolic Church, LAWNA Territory, Nigeria. The University was named after Pastor Samuel Adegboyega who was the first LAWNA Territorial Chairman and one of the founding fathers of The Apostolic Church (TAC), Nigeria. The institution received license from the National Universities Commission on Monday March 7, 2011 as the 45th Private and 117th overall in the Nigerian university system. SAU is currently ranked 68th in the current Nigeria University Webometric ranking. (Samuel Adegboyega University, proposal writing for grants & grant management workshop, 2014)

STATEMENT OF PROBLEM

In Nigeria, poor electricity supply is perhaps the greatest infrastructural problem confronting university libraries. The typical University libraries and other sectors of the economy experiences power failure or voltage fluctuations about seven times per week, each lasting for about two hours, without the benefit of prior warning (Adenikinju, 2005). This imposes a huge cost on the university libraries giving rise to idleness of e-library personnel, low output, damaged equipment and restart costs. The overall impact increase uncertainty in provision of electronic newspaper services and frustrations among library users. For the libraries, this has seriously undermined growth of electronic newspaper usage by library users. This paper therefore seeks to examine the effects of electricity outage on the provision of electronic newspaper in Samuel Adegboyega University, Ogwa, Edo State, Nigeria.

RESEARCH QUESTIONS

- ✓ Does electricity supply have any effect on electronic newspaper delivery in Nigeria university libraries?
- ✓ To what extent does power outage affect the provision of e-newspapers services in Nigeria university libraries?
- ✓ In what ways does electricity affect the cost of e-newspaper services?

RESEARCH HYPOTHESES

This study is guided by the following hypotheses:

- There is no significant relationship between electricity and e-newspapers services.
- There is no link between power outages and effective delivery e-newspaper services.

PURPOSE OF STUDY

The major purpose of this study is to examine the effects of electricity outage on e-newspaper services in Nigeria university libraries.

SIGNIFICANCE OF STUDY

The study will provide insight into solving the perennial problem posed by frequent power outages in provision of e-newspapers services in Samuel Adegboyega University LIBRARY.

SCOPE AND LIMITATION OF STUDY

The study is restricted to Samuel Adegboyega University library in Edo State, Nigeria. The limitations of this study include, selection bias (in that, there are more than one University libraries that provide e-newspaper services across the nation). However, notwithstanding the limitations, the study made judicious use of the available resources in order to achieve the objectives of this work within its scope.

LITERATURE REVIEW

The development of Nigeria's electrical power sector is a prerequisite for e-newspaper services in university libraries. Regular electricity supply will attract foreign investment and entice more multinational corporations to come and invest in Nigeria educational sector. Unfortunately, a combination of sabotage, vandalization, corruption and aging equipment has contributed to an irregular and sparse electricity supply in the country. Indeed, severe power shortages have had serious consequences for the provision of e-newspaper services in university libraries in Nigeria.

CONCEPT OF ELECTRICITY

Electricity is the flow of electrical power or charge. It is a secondary energy source which means that we get it from the conversion of other sources of energy, like coal, natural gas, oil, nuclear power and other natural sources, which are called primary sources. The energy sources of electricity can be renewable or non-renewable, but electricity itself is neither renewable nor non-renewable. (McGraw-Hill Encyclopedia of Science & Technology, 2002)

Electricity is a basic part of nature and it is one of our most widely used forms of energy. Many cities and towns were built alongside waterfalls (a primary source of mechanical energy) that turned water wheels to perform work. Before electricity generation began over 100 years ago, houses were lit with kerosene lamps, food was cooled in iceboxes, and rooms were warmed by wood-burning or coal-burning stoves. Beginning with Benjamin

Franklin's experiment with a kite one stormy night in Philadelphia, the principles of electricity gradually became understood. (McGraw-Hill Encyclopedia of Science & Technology, 2002)

Thomas Edison helped change everyone's life, he perfected his invention, the electric light bulb. Prior to 1879, direct current (DC) electricity had been used in arc lights for outdoor lighting. In the late-1800s, Nikola Tesla pioneered the generation, transmission, and use of alternating current (AC) electricity, which can be transmitted over much greater distances than direct current. Tesla's inventions used electricity to bring indoor lighting to our homes and to power industrial machines. Despite its great importance in our daily lives, most of us rarely stop to think what university libraries in provision of e-newspapers services would be like without electricity. Yet like air and water, we tend to take electricity for granted. Every day, we use electricity to do many jobs for us, from lighting and cooling our libraries, to powering our computers, library automation cum usage of internet facilities (Agboola, 2011).

An e-newspaper exists on the World Wide Web or Internet either separately or as an online version of a printed periodical. Online newspapers created more opportunities for newspaper publishing, this include competing with broadcast journalism in presenting breaking news. The credibility and strong brand recognition of well-established newspapers, and the close relationships they have with advertisers, are also seen by many in the newspaper industry as strengthening their chances of survival (Tribune Online, 2002). The movement away from the printing process also helps decrease costs. E-Newspapers are much like hard-copy newspapers and have the same legal boundaries, such as laws regarding libel, privacy and copyright according to (Ola and Ojo, 2006)

E-Newspaper Advantages over Print

Advantages are Lower production and distribution costs, environmentally friendly alternative to newsprint and can be an interesting option that brings a lot of advantages for newspapers. Print editions have become less popular in recent years, thanks to news channels running 24 hours day and free online news that can easily be found on many websites (Bower, 2012).

With less and less readers, it's no surprise that newspapers are losing money on print advertising. How much money did newspapers actually lose? From 2006 to the first quarter of 2009, newspaper ad sales (in America) have dropped by 28.28%, which equals to \$2.6 billion (Wauters 2006).

MATERIALS AND METHOD

The descriptive survey method of research was used in the study. The data was collected through extensive use of a questionnaire. The questionnaire was structured in such a way that it entails the four-likert-scale of:

- SA= Strongly Agree
- A= Agree
- SD= Strongly Disagree

- D= Disagree

The researcher employed the use of statistical tools such as: tables, frequency distributions, chi-square and other inferential statistics necessary in the course of data analysis.

DATA ANALYSIS AND RESULTS

Forty (40) questionnaires were distributed to gather data from the identified response.

Sections A: Presentation of Respondents Biographic Data

Table 1: Distribution and Collection of Questionnaire

QUESTIONNAIRE	NO	PERCENTAGE
Sent out	40	100
Collected	40	100

Table 1 above indicates the questionnaire administered on the target audience. The table shows that 40 copies of the questionnaires were sent out representing 100%, the entire copies were returned, that is (100%). This was achievable with personal follow up on the respondents.

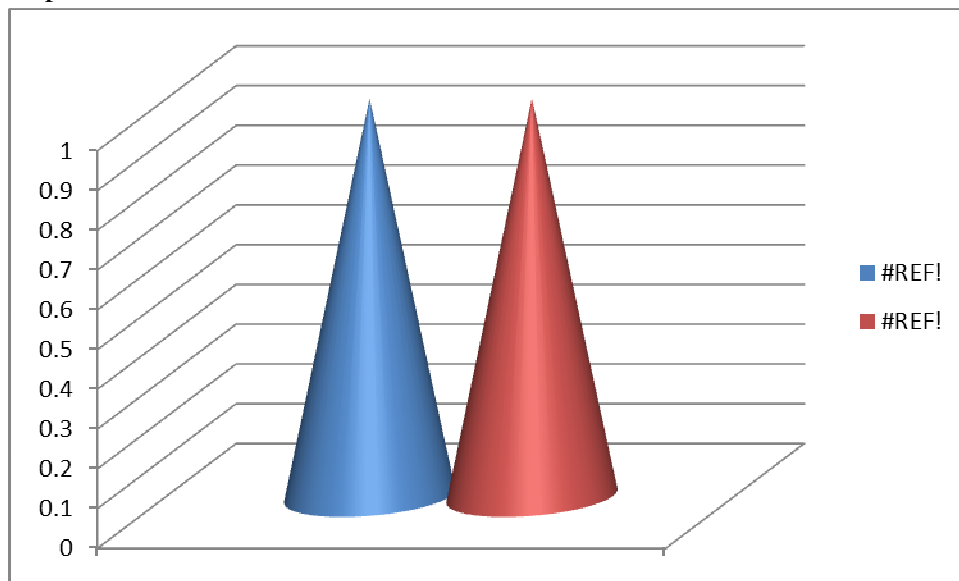


Fig. 1: Distribution and Collection of Questionnaire

Table 2: GENDER of Respondent

GENDER	FREQUENCY	PERCENTAGE %
Male	14	35
Female	26	65
Total	40	100

From the table 2 above, 14 (35%) represents the number of male respondents while 26 (65%) were female. This implies that the female respondents participated more than the male in the treatment of the questionnaire.

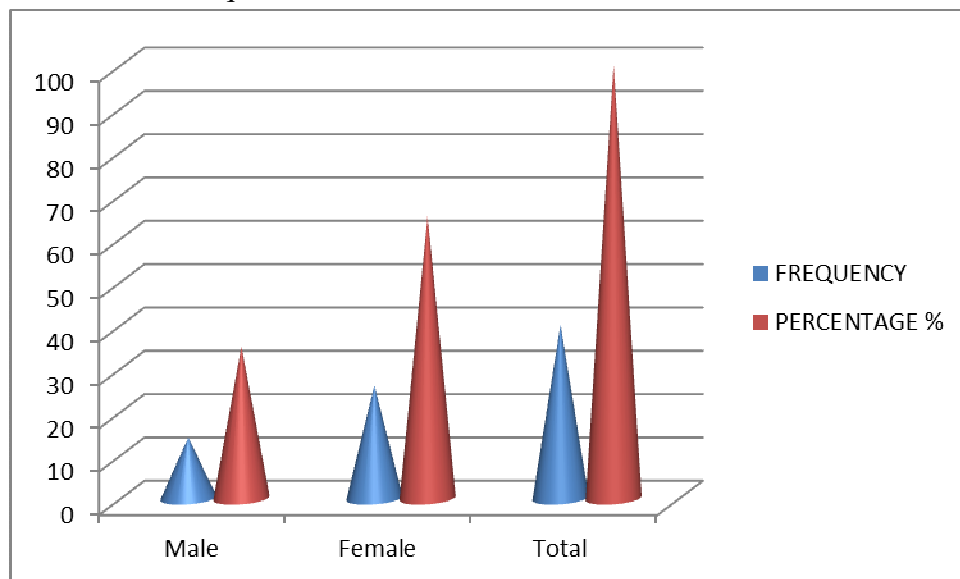


Fig. 2: Gender of Respondent

Table 3: Age of Respondents

Age	FREQUENCY	PERCENTAGE
Below 25	1	2.5
26-30	10	25
31-35	19	47.5
Above 36	10	25
Total	40	100

The table 3 above shows that majority of the respondents were between the ages 31 and 35 with 47.5%. The age bracket of other respondents were 2.5% for below 25 years, 25% for 26-30 years, & 25% for respondents between the age bracket of 31 and 35 years. This implies that majority of the respondents were matured.

Similarly, this is important since majority of the respondents who are between 31 and 35 years of age combined with their educational qualification would no doubt be knowledgeable in relation to the issue under investigation.

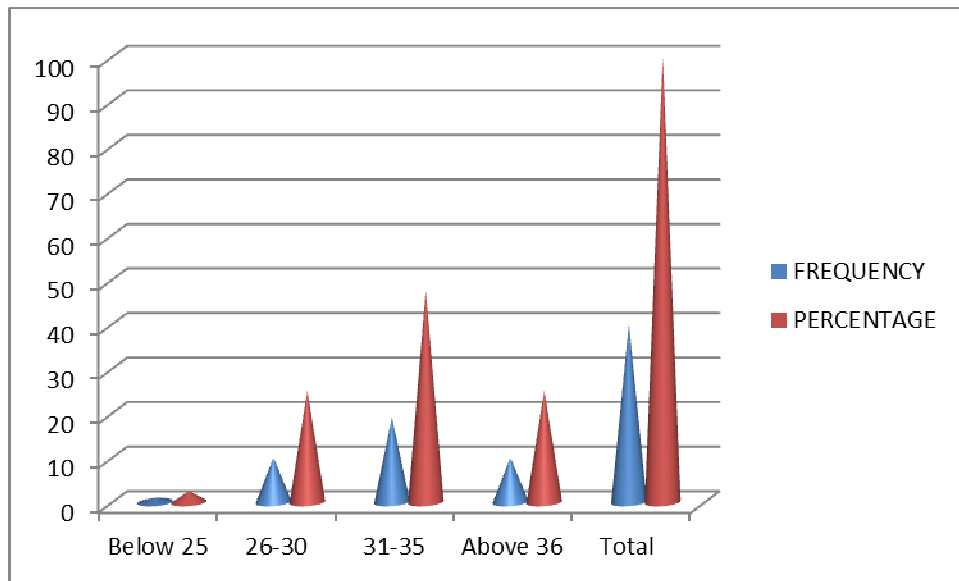


Fig. 3: Age of Respondents

Table 4: Respondents' Educational Status

Qualification	FREQUENCY	PERCENTAGE
OND/NCE	3	7.5
B.Sc./HND	24	60
MBA/M.Sc.	7	17.5
Ph. D	6	15
Total	40	100

Fig. 4: Respondents' Educational Status

The indication on the table 4 above shows that 3% respondents have OND/NCE, 60% have B.Sc./HND, 17.5% respondents have MBA/M.Sc. and 15 of the respondents have **above PhD**. However, it implies that the questionnaire was attempted mostly by respondents with B.Sc./HND qualification, indicating that the respondents possess good evaluation knowledge as at least first degree holders.

Table 5: Respondents' Working Experience

Years of Service	FREQUENCY	PERCENTAGE
5yrs Below	12	30
Between 5-10yrs	21	52.5
Above 10yrs	7	17.5
Total	40	100

From the table 5 above, 12 (30%) represents the working experience of the respondents below 5yrs, 21 (52.5%) represents the working experience of the respondents between 5 and

10yrs and 7 (17.5%) were above 10years. This is advantageous because, they were able to give authentic information about effects of electricity outages on e-newspapers services.

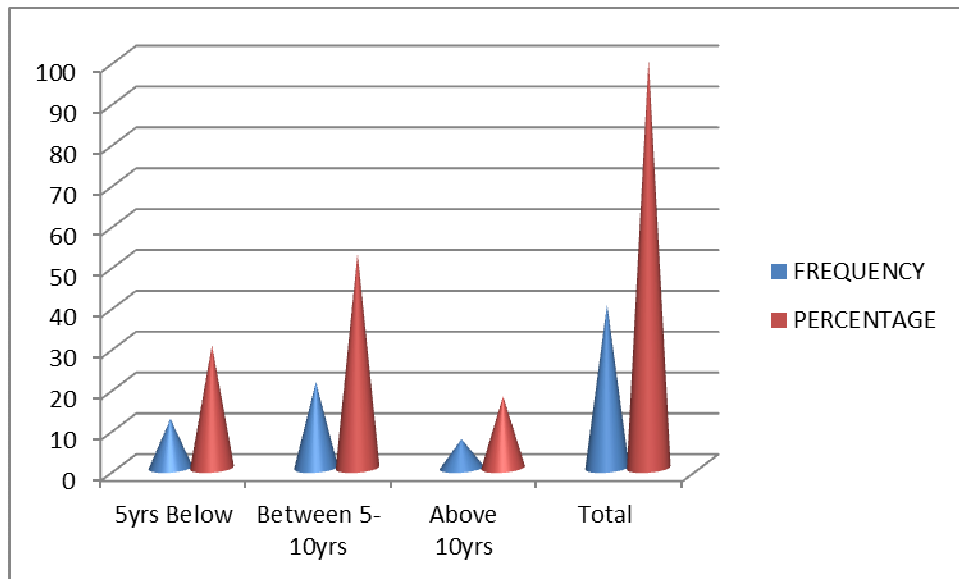


Fig. 5: Respondents' Working Experience

ANALYSIS OF DATA

The following were the response to Section B of the questionnaire.

Table 7:

S/N	ITEMS	S A	%	A	%	UN	%	D	%	SD	%
1	The university libraries have been operating without any form of problem or challenges	2	5	-	-	-	-	12	30	26	65
2	It is preferable to use generators for provision of e-newspaper services in university libraries in place of energy supplied by PHCN	13	32.5	11	27.5	2	5	7	17.5	7	17.5
3	There can be better and improved e-newspaper services if there is constant supply of electricity.	18	45	14	35	-	-	5	12.5	3	7.5
4	We operate 12 hours non-interrupted power supply daily	-	-	2	5	-	-	15	37.5	23	57.5
5	High cost of petroleum and diesel prices are part of the	12	30	20	50	-	-	5	12.5	3	7.5

	reasons why there are increasing cost of provision of electronic library services										
6	Once there is constant supply of electricity, be effective and efficient e-newspaper services	11	27.5	21	52.5	-	-	6	15	2	5
7	Provision of e-newspaper services have reduced in terms of quality and quantity, partly as a result of higher cost of electricity supply	10	25	12	30	4	10	8	20	6	15
8	Poor electricity supply is the greatest infrastructural problem confronting the e-newspapers services in university libraries	22	55	14	35	2	5	-	-	2	5
9	Power outages does not have any cost implication on us because of the alternative power supply	2	5	-	-	-	-	26	65	12	30
10	The university libraries do not usually suffer loss of manpower output or damage to equipment, anytime there is power failure	4	10	7	17.5	5	12.5	14	35	10	25
11	The university libraries can effectively provide e-newspaper services with the present alternative sources of power supply	-	-	6	15	2	5	15	37.5	17	42.5

TEST OF HYPOTHESES

The two stated hypotheses in chapter one will be tested using chi-square statistical which is stated as:

$$X^2 = \sum \frac{(o - e)^2}{e}$$

Where X^2 = Chi square

O = Observed frequency: i.e. responses to the statements or variables in the questionnaire administered on the respondents.

e = Expected frequency: i.e. expected frequency or variable. This is also derived from the responses from the field survey using the questionnaire administered.

Σ = sigma i.e. "Total sum of"

Decision Rule (DR)

The decision rule for the test of hypotheses using chi-square is to reject THE (your) Null hypotheses (Ho) if $X^2_{cal} > X^2_{tab}$ and thus accept the Alternative hypotheses (Hi).

To get the chi-square table value, we need our degree of freedom (d.f) and its formula is: $d.f = (c-1)(r-1)$, where c = number of columns R = Number of rows.

Hypothesis 1: Relationship between Electricity and E-Newspaper Services Delivery in University Libraries

O	E	o-e	(o-e) ²	(o-e) ² /e
2	14.6	-12.6	158.76	10.9
-	8.2	-8.2	67.24	8.2
-	0.4	-0.4	0.16	0.4
12	8.2	3.8	14.44	1.8
26	8.6	17.4	302.76	35.2
25	14.6	10.4	108.16	7.4
8	8.2	-0.2	0.04	0.005
-	0.4	-0.4	0.16	0.4
5	8.2	-3.2	10.24	1.3
2	8.6	-6.6	43.56	5.1
15	14.6	0.4	0.16	0.01
8	8.2	-0.2	0.04	0.004
-	0.4	-0.4	0.16	0.4
12	8.2	3.8	14.44	1.8
5	8.6	-3.6	12.96	1.5
13	14.6	-1.6	2.56	0.2
11	8.2	2.8	7.84	0.9
2	0.4	1.6	2.56	6.4
7	8.2	-1.2	1.44	0.2
7	8.6	-1.6	2.56	0.3
18	14.6	3.4	11.56	0.8
14	8.2	5.8	33.64	4.1
-	0.4	-0.4	0.16	0.4
5	8.2	-3.2	10.24	1.3
3	8.6	-5.6	31.36	3.6
				£=92.6

Calculated value (X^2C) = 92.6

Table value is given by degree of freedom

= (R-1) (C-1)

= (5-1) (5-1)

(4) (4)

d.f = 16

Level of significance = 0.05

Table calculated value > table value = 92.6 > since at 0.05 significance value is greater than table value, 26.29, we therefore reject Ho and Accept Hi and conclude that there is a significant relationship between electricity and e-newspaper services in university libraries.

Hypotheses 2: Link between Power Outages and Cost of E-Newspaper Services in University Libraries

o	E	o-e	(o-e)²	(o-e)²/e
-	8.2	-8.2	67.24	8.2
2	13	-11	121	9.3
-	1.2	-1.2	1.44	1.2
15	8.4	6.6	43.56	5.2
23	7.2	15.8	249.64	34.7
18	8.2	9.8	96.04	11.7
10	13	-3	9	0.7
2	1.2	0.8	0.64	0.5
8	8.4	-0.4	0.16	0.02
2	7.2	-5.2	27.04	3.8
12	8.2	3.8	14.44	1.8
20	13	7	49	3.8
-	1.2	-1.2	1.44	1.2
5	8.4	-3.4	11.56	1.4
3	7.2	-4.2	17.64	2.5
11	8.2	2.8	7.84	0.9
21	13	7	49	3.8
-	1.2	-1.2	1.44	1.2
6	8.4	-2.4	5.76	0.7
2	7.2	-5.2	27.04	3.8
10	8.2	1.8	3.24	0.4
12	13	-1	1	0.1
4	1.2	2.8	7.84	6.5
8	8.4	-0.4	0.16	0.02
6	7.2	-1.2	1.44	0.2
				103.64

X² cal = 103.64

Table value is given by degree of freedom

= (R-1) (C-1)

= (5-1) (5-1)

(4) (4)

d.f = 16

At 0.05 level of significance and d.f 16 the X² tab = 26.29.

In view of the result that should X² cal > X² tab i.e. 103.64 > 26.29, we therefore reject the null hypothesis (Ho) which states that there is no link between power outages and cost of e-

newspaper services in university libraries and accept the alternative (Hi). The implication of this is that there is a significant link between power outages and the e-newspaper services in university libraries.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

This study examined the effect of electricity outage on e-newspaper resources in SAMUEL ADEGBOYEGA university libraries. To achieve this, the researcher did not only review works done by scholars on the topic but also went into the field by means of survey to seek opinions, views and responses of stakeholders on the truth about the issue under discussion. To this end, questionnaires were prepared and administered on 40 personnel of Samuel Adegboyega University. The data collected were critically analyzed.

The findings indicate that the desired level of electricity generation for effective and efficient e-newspaper services in Samuel Adegboyega University is still lacking. It was revealed that no meaningful e-newspaper services can be recorded without constant supply of electricity. This according to the result of the findings is why the Samuel Adegboyega University have not performed very well in provision of e-newspaper services as a result of constant interruption of power supply affecting the said services. The study provides beneficial insight to that constant supply of electricity is a sine-que for E- newspaper services. It is anticipated the proactive steps towards finally solving the protracted and seemingly intractable electricity outage.

CONCLUSION

In this study, the researcher x-rayed the effects of electricity outage on the e-newspaper services in Samuel Adegboyega University Library. The conclusion here is that electricity outage is responsible for poor performance in provision e-newspaper services.

RECOMMENDATIONS

The researcher asserts that the challenges plaguing the nation's power sector needs to be solved and thereby repositioning the university libraries with adequate electric power for provision effective e-newspaper services to her clientele. The following should be considered:

1. Adequate funding for supply of electricity
2. Use of alternative power supply, such as inverter, biogas and solar.
3. Increase in funding maintenance of alternative power supply

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