GUSAU JOURNAL OF BUSINESS ADMINISTRATION (GUJOBA)

Vol. 5 Issue 1, June, 2026; Pp 068 - 077

ISSN: 2811-1702. https://doi.org/10.57233/gujoba.v5i1.07

A Publication of the Department of Business Administration, Federal University Gusau, Nigeria

ELECTRICITY SUPPLY AND THE PERFORMNCE OF PACKAGED WATER BUSINESS IN KOGI CENTRAL

***OBA, Unoiza Oregwu, and NURUDEEN, Yakubu Zakariya**
Department of Business Administration, Faculty of Management Sciences, Prince Abubakar Audu University, Anyigba, Kogi State, Nigeria

*Correspondence: unoizaoba@gmail.com

ABSTRACT

This paper examined the implication of erratic electricity power supply on the performance of packaged water business in Kogi Central with a view to identifying the extent of damage which this phenomenon has caused. Three objectives were raised. The survey research design was adopted and ten (10) item structured questionnaires was used to obtain a sample size of one hundred and seventy nine (179) packaged water business owners from the population. Data obtained were analyzed using descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages, etc. was employed in most of the analysis in summarizing trends, changes and comparison across certain characteristics. The data collected was analyzed with relevant statistical tools such as the Chi-square statistics. The results of the study revealed that erratic electricity power supply negatively affects the profitability of packaged water business with Cal x^2=8.19 and Critical x^2=3.04. It was realized also that uninterrupted electricity power supply do positively influence the productivity of employees of packaged water businesses with C x^2=5.52 and Critical x^2=3.04. Government expenditure on electricity infrastructure significantly and positively sustains packaged water businesses with Cal x^2=7.94 and Critical x^2=3.01. The study concludes that there are difficulties being experienced by small and medium scale businesses as a result of cases of inadequate and unreliable supply of electricity. The study therefore, recommends that the government needs to seriously look into the issue of power supply reliability by facilitating public/ private participation in electricity power infrastructure.

Keywords: Electricity, Business, Supply, Packaged water, Performance.

1. INTRODUCTION

Electricity power supply is vital to business operations; hence its importance to the economic development of any nation cannot be overemphasized. Sustainable electricity supply goes a long way in boosting productivity and welfare of society. Power supply serves as an indispensable input in the activities of packaged water business. Apart from its importance, its role to the productivity of both human and capital formation is enormous (Christian & Imoh, 2021). Generally, virtually all business organizations require uninterrupted and effective electricity power supply. Stable electricity power supply plays an important role in the presentation of finished goods and thereby enhancing consumers' utility by assisting in making the goods to be readily available when needed (Ado & Josiah, 2015).

The foregoing denotes that erratic electricity power supply or lack of it is a hindrance to economic development and sustainability. This ugly development has the tendency to serve as a clog under the wheels of business activities. Erratic electricity power supply therefore, can be said to have the potential to affect business activities in various ways similarly to the overall progress of an economy (Lee & Anas, 1992). Clearly, packaged water industry pays a key role in the economic development and sustainability. In the light of efforts to alleviate poverty and improve standard of

living in Nigeria an efficient and effective business activity is critical to that end. It becomes imperative to create an enabling environment and facilities for successful operation. In assessing the pivotal role of electricity power, the need to ensure the provision of uninterrupted and sustainable electricity is vital. Packaged water business continues to be one of the fastest growing sectors of the economy of developing countries, Nigeria inclusive. This sector of the economy has equally served as an employment generating unit.

The availability and reliability of electricity supply are crucial factors influencing the performance of businesses, particularly in sectors reliant on continuous power, such as the packaged water industry. The operations of this sector have been bedeviled by inadequate and erratic electricity power supply thereby rendering most of them unproductive and redundant. Access to a reliable electricity power supply is considered to be very significant to the operations of most firms. Thus, 49.8% of business in Nigeria consider erratic electricity power supply as a major constraint (World Bank Enterprise Survey, 2013).

In Kogi Central Nigeria, the challenges of erratic electricity supply persist, affecting the operational efficiency and profitability of packaged water businesses. This study examines the impact of electricity supply on the performance of packaged water businesses in Kogi Central, focusing on production capacity, cost of operations, and market competitiveness.

The general objective of the study is to ascertain the implication of erratic electricity power supply on the performance of packaged water business in Kogi Central. The specific objectives of this study are to:

i. Determine the extent to which erratic electricity power supply affects the profitability of packaged water businesses in Kogi Central.

ii. Examine how uninterrupted electricity power supply influence the productivity of employees of packaged water business in Kogi Central.

iii. Assess whether government expenditure on electricity can sustain packaged water business in Kogi Central.

The following research questions is to guide the study:

i. To what extend does erratic electricity power supply affect the profitability of packaged water business in Kogi Central?

ii. Does uninterrupted electricity power supply influence the productivity of employees of packaged water business in Kogi Central?

iii. Can government expenditure on electricity sustain packaged water business in Kogi Central?

Statement of Hypotheses (Null):

Ho1: Erratic electricity power supply does not affect the profitability of packaged water business in Kogi Central.

Ho2: Interrupted electricity power supply does not have significant influence on the productivity of employees of packaged water business in Kogi Central.

H03: Government expenditure on electricity does not significantly sustain packaged water business in Kogi Central.

This study is undertaken to ascertain the implication of erratic electricity power supply on the performance of packaged water business in Kogi Central. It will also cover the activities of packaged water business activities of the study area. The respondents of the study is comprised of operators of packaged water businesses in the study areas. This study covers three years, 2023-2025.

2. LITERATURE REVIEW

Conceptual Clarifications

Packaged water business operations comes under the purview of micro, small and medium scale enterprises which has continued to be the forefront of policy debates in developing countries (Nuhu and Ezie, 2015). Generally, small and medium scale businesses have been acknowledged as the bedrock of the industrial development of Nigeria and other countries (Audretsch et al., 2002; Stoke and Wilson, 2006; Hulbert et al 2013). Packaged water is a reality that has gained global acceptance as an alternative to the erratic consumable water supply system (Dzodzomenyo, et al, 2018; Angel, et al, 2018). The increase in packaged water business activities is largely as a result of government's inability to provide adequate, portable and safe drinking water for the teeming population (Dzodzomenyo, et al., 2018). Packaged water is a low-cost treated water in sealed polyethylene bags (satchets) and customized for sale to the general public (Cohen and Ray, 2018). During dry seasons, about 80% of adults take at least three (3) sachet water daily. This is an indication of huge market potentials for the industry. Packaged water industries

create employment opportunities and reduce poverty amongst the practitioners of the business. All these have significant positive impact on the nation's economic development but not without some challenges (Daramola, et. al., 2019).

Electricity Power Infrastructure

Electricity power infrastructure facilitates the growth of existing businesses (Galkina, 81, Knock, 2011). The role of electricity is key in the operation of packaged water production. Electricity infrastructure is made up of three components, namely: proprietary functions, public resource, endowments and institutional arrangements that regulate businesses (Bliemel et al, 2019).

Integration into the global economy through economic liberation; and deregulation is seen as the sure way to overcome poverty and inequality (United Nations, Industrial Development, Organization UNIDO, 2001). Packaged water business which is sub-division of small and medium scale enterprises have been referred to as "the engine of growth" and "catalyst for socio-economic transformation of any country". The business sector is recognized as an integral part of the economic development and a crucial element in the lifting countries out of poverty (Wolfenson, 2001). Therefore, the role electricity supply has to play in economic growth and development cannot be overemphasized.

Development of Electricity Power Sector

The development of the electricity power sector has a pivotal role to play in Nigeria's economic development process. This has the capacity to serve either as a catalyst or a fetter on the wheels of economic progress. Careful observation of the pattern of electricity consumption vis-à-vis economic development across different economics shows an oscillation around the initial cluster characterized by low energy consumption, poor energy infrastructure and economic stagnation (Udechukwu, 2003). This throws the economy into very disappointing levels of electricity consumption per capita, thereby leaving industries to perform below expectations, and services to be sold at prices that automatically adjust as a result of power outages (Darling et al., 2018).

Theoretical Review

Theory of Unbalanced Growth

This theory as popularized by Hirschman (1958) emphasized that consistent investment should be made in selected sectors rather than simultaneously in all sectors of the economy. He averred that there is no underdeveloped country which possesses capital and other resources should invest simultaneously in all sectors therefore, investment should be made in a few selected sectors of industries for the rapid development of other sectors. Thus, the economy gradually moves through the path of unbalanced growth to that of balanced growth. It is the contention of Hirschman (1958) that deliberately unbalancing the economy according to pre-designed strategies is the best way to achieve economic growth in an underdeveloped country. Investment in strategically selected industries of the economy will lead to new economic investment opportunities and so pave the way to further economic development.

Hirschman (1958) further elucidated that growth and development of a nation or economy is synonymous with social overhead capital which includes investment in education, public-health, communications, transportation and conventional public utilities like electricity, water, irrigation and drainage schemes among others. He stated that a large investment in overhead capital will encourage private investment and later direct productive activities (DPA), i.e., industrialization. For instance, cheap and frequent supply of electricity power will encourage the establishment of small scale industries.

Hirschman submitted that investment in social overhead capital (SOC) is advocated not because of its' direct impact on final output, but it permits direct productive activities (DPA). This study thus adopts the big push theory which aims at examining the indivisibility of inputs (electricity power) which will lead to increasing returns of small industries.

Empirical Review

A study was conducted by Abdulrahim, Issa & Ismaila (2017) titled "effect of electricity service efficiency on the performance of manufacturing SMEs in Nigeria". 201 survey questionnaires were used by participants of the output association. MAN, SPSS, as well as basic regression analysis was used to analyze the data. The result shows that more than 50% of the difference in the financial and non-financial output of manufacturing SMEs in Nigeria appears to account for consistency. To remove bias linked to time, it was proposed that future studies should collect panel (data) longitudinal data.

In another study, Tahir and Inuwa (2019) used primary data analysis to investigate the factors affecting SMEs performance in Maiduguri, Borno State, Nigeria. In order to analyze the data obtained, descriptive and inferential statistics, correlation and multiple regression analysis were used. It was revealed that poverty and insufficient infrastructure facilitates are the most critical factors influencing the success of SMEs in Borno State. It had been proposed that valuable facilities and security should be implemented to enhance the efficiency of SMEs.

Akinlemi (2018) examined the effect of infrastructural facilities on SMEs growth in Nigeria. Primary data was employed, chi-square was utilized for hypothesis testing. Result obtained showed that many SMEs in Nigeria provide basic infrastructure themselves and the cost of providing this basic amenities is huge which cost many SMEs operators to run out of business. It was recommended that government should provide basic infrastructural facilities to grow SMEs which in turn increases the country's Gross Domestic Product (GDP). Ado and Josiah (2015) examined the impact of deficient electricity power supply on the operations of small scale business operating in North Eastern part of Nigeria.

A sample was selected from the population of small scale businesses through the use of stratified random sampling to ensure the effective representation of the population of small scale business in North East Nigeria. Results from data analysis indicate the scarcity of electricity supply outages and the high costs imposed by power supply outages on the operations of this class of business in the region. They recommended the need for policy attention towards revitalizing the electricity sector of Nigeria for enhanced supply of electricity to the national economy, and when this is achieved, the small business subject will be in a position to effectively lead in the drive towards industrializing the Nigerian economy.

Udah (2009) carried out an empirical study on the effect of electricity supply on industrial development in Nigeria and found that the dismal performance of the electricity sector has contributed largely in retarding the industrial development of Nigeria. Therefore, he concluded that fixing the electricity is central to the realization of industrial development of Nigeria.

Ahero and Ibrahim (2012) investigated the causal relationship between power sector and SMEs growth in Nigeria using time series data of energy consumption; including coal, petroleum, gas and electricity from the period 1970-2009. Employing the Augmented Dickey Fuller Unit root tests and Johansen co-integration tests, the study revealed that petroleum, coal and electricity consumption led to SMEs growth, but without feedback. These studies imply that electricity supply acts as an engine of SMEs growth for various countries, including Nigeria. Thus, it is very important that this sector be given more relevance as a step towards harnessing the inherent potentials as much as possible, to encourage economic growth and sustainability.

3. METHODOLOGY

This research is aimed at assessing the implication of erratic electricity power on the performance of packaged water businesses in Kogi Central. The survey research design was used for the study. This is because it is economical and permits the collection of data from a large sample. The approach was considered based on the expectation that it would allow for the free expression of ideas and perception by the respondents. The instrument used was self-structured questionnaire. The instrument was validated by two experts in the Department of Business Administration, Prince Abubakar Audu University, Anyigba, Kogi State. Their criticisms and suggestions were incorporated in the final questionnaire. 179 questionnaires were distributed out of which 158 copies (88%) was filled appropriately and returned. A reliability co-efficient of 0.80 was achieved using Cronbach-Alpha statistical tool. The data collected were analyzed using relevant statistical tools such as the Chi-square statistics. The null hypotheses were tested using chi-square statistical method as 0.05 level of significance.

The study areas, Kogi Central is comprised of five (5) local government areas; viz: Adavi LGA, Ajaokuta LGA, Ogori-Magongo LGA, Okehi LGA, and Okene, LGA respectively. Kogi Central is mainly occupied by civil servants, traders, farmers and businessmen.

The population of the study comprises of operators of packaged water industries in Kogi Central as tabulated below:

Table 1: Distribution of Packaged Water Operators Across Selected Local Government Areas

S/No.	Local Government Area	Number of Packaged Water Operators
1	Adavi	52
2	Ajaokuta	46
3	Ogori-Magongo	43
4	Okehi	72
5	Okene	112
Total		**325**

Source: Field Survey (2025).

The sample size was determined using Taro Yamane's formula for known population as follows:

$n = \frac{N}{1+N\,(e)^2}$

$n = \frac{325}{1+325\,(0.05)^2}$

$n = \frac{325}{1.8125}$

n = 179.

Hence, the sample size for this study is made up of one hundred and seventy nine (179) people chosen from the study population. The proportionate sampling technique was used in administering the questionnaires among the sample subjects within the study areas. The purpose of this method of sampling is to guarantee a fair and desirable representation. The questionnaires were proportionately administered as using the formula:

$$\frac{\textbf{No of Operators x Sample size}}{\textbf{Total Population}}$$

Adavi LGA: $\frac{52 \times 179}{325} = 28$

Ajaokuta LGA: $\frac{46 \times 179}{325} = 25$

Ogori-Magongo LGA: $\frac{43 \times 179}{325} = 24$

Okehi LGA: $\frac{72 \times 179}{325} = 40$

Okene LGA: $\frac{112 \times 179}{325} = 62$

Sample size = 28 + 25 + 24 + 40 + 62 = **179**

Both primary and secondary data were required for this study. Primary data was collected from operators of packed water industries. The questionnaire was the instrument of data collection, and 179 copies were distributed to cover the selected sample and distributed to various entrepreneurs involved in the operation of packaged water business. Secondary data was sourced from books, journals and the internet. The instrument for data collection which is the questionnaire was thoroughly scrutinized by the researcher in order to enhance the validity of the questionnaire. The writer analyze the instrument employed in the research work to ascertain the relevance of the content to the purpose of the study and the hypotheses raised. The content, structure and style of the constitution of the instrument were equally scrutinized.

To ensure the reliability of the research instrument a pilot study was carried out from the study area. Test re-test method of estimation of reliability was done. Data analysis was done using qualitative as well as quantitative technique. Descriptive statistics such as frequencies, percentages, etc. were employed in most of the analysis in summarizing trends, changes and comparison across certain characteristics. The data collected were analyzed using relevant statistical tools such as the chi-square statistics. Final presentation took the form of description, tabulation and illustration. The study also made use of table and charts for presentation. The basic formula for chi-square statistic is as follows:

$X^2 = \frac{\sum of-EF)^2}{Ef}$

Where x^2 = chi-square statistic

$\sum$ = Summation sign

of = Observed frequencies

Ef = Expected frequencies

The degree of freedom for chi-square is computed as df=(R-1)(C-1).

Where df = degree of freedom

C = column

R = row.

The chi-square (x^2) test represents the difference between the given frequencies and the expected frequencies obtained. If for example the calculated value of (x^2) is greater than the (x^2) value given in the table, there is association between the variable being measured. Thus, confirming the alternate hypothesis. But if the calculated value of chi-square (x^2) is less than x^2 given

in the table, there is no association between the variables in the hypothesis, thus accepting the null hypothesis means accepting the null hypothesis. The rejection of the null hypothesis means acceptance of the alternate hypothesis. In this research therefore, five percent (0.05) level of significant is employed.

4. RESULTS AND DISCUSSION

Data Presentation and Analysis

Out of the 179 questionnaires distributed to the respondents' 158 copies making 88% were filled and returned by respondents, and hence used for the analysis.

Table 2: Distribution of Respondents by Gender

Gender	No. of Respondents	Percentage (%)
Male	73	46
Female	85	54
Total	**158**	**100**

Source: Field Survey, 2024.

Table 2 above indicates the sex of the respondents that returned the questionnaire. 46% of them were male, while 54% were female.

Table 3: Distribution of Respondents by Age

Age	No. of Respondents	Percentage (%)
20-25	35	22.2
26-30	40	25.3
31-35	34	21.5
36-40	33	20.9
41 year and above	16	10.1
Total	**158**	**100**

Source: Field Survey, 2024.

Table 3 above shows the age distribution of respondents, 22.1%, 25.3% and 21.5% were aged between 20-25 years, 26-30 years, and 31-35 years respectively. 20.91% and 10.1% ranged between 36-40 years and 40 years and above respective.

Table 4: Distribution of Respondents by Educational Qualifications

Educational qualification	No. of Respondents	Percentage (%)
Primary School Certificate	10	6.3
WASSCE/NECO	15	9.5
OND	19	12
NCE	14	8.7
HND	29	18.4
B.Sc./BA/B.Ed.	35	22.3
M. Sc., M. Ed., M. A.	36	22.8
Total	**158**	**100**

Source: Field Survey, 2024.

Table 4 above shows the composition of respondents' educational background. 6.3% and 9.5% of them were holders of first school leaving certificate and West African Senior Certificate respectively. 12%, 8.7% and 18.4% of the respondents were holders of OND, NCE and HND certificates respectively. 22.3% and 22.8% were holders of first degree and master's degree respectively.

Table 5: Distribution of Respondents by married status.

Marital status	No. of Respondents	Percentage (%)
Married	95	60
Single	63	40
Total	**158**	**100**

Source: Field Survey, 2024.

Table 5 indicates the marital status of respondents. 60% of the respondents were married, while 40% were unmarried (single).

Table 6: Distribution of Respondents by working/business experience

Years of Work Experience	No. of Respondents	Percentage (%)
1-5 years	36	22.7
6-10 years	41	25.9
11-15	31	19.6
16-20	26	16.4
21 and above	24	15.2
Total	**158**	**100**

Source: Field Survey, 2024.

The table 6 above shows that 22.7% and 25.9% of the respondents have spent 1-5 years and 6-10 years in the line of their business and profession. 19.6% and 16.4% of them have spent 11-15 years and 16-20 year doing what they do for a living. Only 15.2% have spent beyond 20 years on the job.

Hypothesis 1:

Ho: Erratic electricity power supply do not affect the performance of packaged water business in Kogi Central.

Table 7: Chi-square analysis of the relationship between erratic, electricity power supply and performance of package water business in Kogi Central.

Responses	Positive	Negative	Total	Cal x^2	Critical x^2	df
Agreed	50(41.01)	31 (39.99)	81	8.19	3.04	1
Disagreed	30 (38.98)	47 (38.01)	77			
Total	**80**	**78**	**158**			

N=158, significant level = .05, df = 1.
Source: Authors computation.

The statistical analysis used in testing the hypothesis was the chi-square statistical analysis. The results of the analysis as presented in table 7 above indicates that x2 value of 8.19 is greater than critical value of 3.04 at .05 level of significance with 1 degree of freedom. Thus means that x2 value is statistically significant. Thus the null hypothesis should be rejected while the alternate hypothesis is retained. This implies that erratic electricity power supply negatively affect the performance of packaged water business in Kogi Central.

Hypothesis 2:
Ho: Uninterrupted electricity power supply do not have significant influence on the performance of packaged water business in Kogi Central.

Table 8: Chi-square analysis of the influence of uninterrupted electricity power supply on the performance of packaged water business in Kogi Central.

Responses	Positive	Negative	Total	Cal x^2	Critical x^2	df
Agreed	52(44.65)	33 (40.35)	85	5.52	3.04	1
Disagreed	31 (38.85)	42 (34.65)	73			
Total	**83**	**75**	**158**			

N=158, significant level = .05, df = 1.
Source: Authors computation.

The statistical analysis used in testing the hypothesis is the chi-square statistical analysis. The results of the analysis as presented in table 8 above indicates that the chi-square value of 5.52 calculated is greater than the critical value of 3.04 at .05 percent level of significant with 1 degree of freedom.

This means that x2 value is statistically significant. Thus, the null hypothesis is rejected while the alternate hypothesis is retained. Thus implies that uninterrupted electricity power supply has significant and positive influence on the performance of packaged water business in Kogi Central.

Hypothesis 3:
Ho: Government expenditures on electricity do not significantly sustain packaged water businesses in Kogi Central.

Table 9: Chi-square analysis of government expenditure and sustenance of packaged water business in Kogi Central.

Responses	Positive	Negative	Total	Cal x^2	Critical x^2	df
Agreed	54(45.19)	31 (39.81)	85	7.94	3.01	1
Disagreed	30 (38.81)	43 (38.19)	73			
Total	**84**	**74**	**158**			

N=158, significant level = .05, df = 1.
Source: Authors computation.

The statistical analysis used in testing the hypothesis is the chi-square statistical analysis. The results of the analysis as presented in table 9 above indicates that the x^2 value of 3.01 at .05 level of significance with 1 degree of freedom. This denotes that the x^2 value is statistically significant. Thus, the null hypothesis is rejected while the alternate hypothesis is accepted and retained. This implies the government expenditure on electricity significantly sustains packaged water businesses in Kogi Central.

Discussion of Findings

Finding 1 from the first hypothesis show that erratic electricity power supply has negative effect on the performance of packaged water business in Kogi Central. This was critically authenticated when the calculated x2 value of 8.19 was found to be lesser than the critical x2 value of 3.04 at .05 percent level of significance with 1 degree of freedom. This finding is in line with the view of Lee, et. al., 1966 who in their study suggested for self-generation of electricity by manufacturing firms in Nigeria.

The finding from the second hypothesis showed that uninterrupted electricity power supply has significant and positive influence on the performance of packaged water business in Kogi Central. This was empirically proved when the calculated x^2 value of 5.52 was greater than the critical value of 3.04 at .05 percent level of significance with 1 degree of freedom. This findings agrees with the view of Udah (2009), who undertook an empirical study on the effect of electricity supply on industrial development in Nigeria and found that the dismal performance of the electricity sector has

contributed immensely in retarding the industrial development of Nigeria.

The finding from the third hypothesis showed that government expenditure on electricity infrastructure significantly sustains packaged water business activities in Kogi Central. This was empirically confirmed when the calculated x2 value of 7.94 was greater than the critical value of 3.01 at .05 percent level of significance with 1 degree of freedom. This discovery is in line with the view of Ado and Josiah (2015) who examined the impact of deficient electricity power supply on the operations of small scale businesses operating in North East of Nigeria and indicate the severity of electricity supply outages and the costs imposed by power supply outages on the operation of businesses in the region.

In the aspect of demographic trend, 46% of the respondents were male while 54% were female. About 22.2%, 25.3% and 21.5% were aged between 20-25 years, 26-30 years and 31-35 years respectively. 20.9% and 10.1% ranged between 36-40 years and 41 years and above respectively. On the basis of educational qualification, 6.3% and 9.5% of the respondents were holders of first school leaving certificate (primary school certificate) and WASSCE/NECO certificates respectively. 12%, 8.7% and 18.4% of the respondents were holders of OND, NCE and HND certificate. 22.3% and 22.8% were holders of first degree and master's degree respectively. Accordingly, 60% of the respondents were married while 40% were still single. According to findings, 22.7% and 25.9% of the respondents have spent 1-5 years and 6-10 years in the line of their business. Similarly, 19.6% and 16.4% of the respondents have spent 11-15 years and 16-20 years doing what they do for a living. Only 15.2% have spent 20 years and above on the job in Kogi Central.

The research work centered on the implication of erratic electricity power supply on the performance of packaged water business in Kogi Central. Three hypothesis were formulated for the study. The hypothesis were tested using chi-square statistic tool to justify the truth or otherwise of the hypothesis. Survey design was adopted in the study. It considered one hundred and fifty eight (158) packaged water business operators and staff of electricity generating and supply company drawn from the population. A well-structured questionnaire was used in obtaining the data. In testing the hypothesis, all calculated x2 values were greater than the critical x2 value at the given level of significance and degree of freedom. These results are rejecting the null hypothesis while the alternative hypotheses were retained.

The results of the study revealed that erratic electricity power supply negatively affects the performance of packaged water businesses. The results further revealed that uninterrupted electricity power supply has significant and positive influence on the performance of packaged water business operations in Kogi Central. Lastly, it was discovered that government expenditure on electricity infrastructure significantly sustains packaged water businesses in Kogi Central.

5. CONCLUSION AND RECCOMMENDATION

The data analysis conducted shows that packaged water industry suffer from erratic supply of electricity in Kogi Central. It is also clear that most private business owners infest resources in facilities in order to complement the publicly provided but insufficient electricity supply in the study area, they had no choice but to invest significant amount of resources as back up of self-provided electricity. Additionally, all firms invest adequately to provide for their electricity needs. These findings confirm documentary evidence on the enormous difficulties being experienced by businesses in Kogi Central. Packaged water business and similar small scale business suffer high overhead cost due to the deficient electricity power supply from providers.

Based on the findings of this study and conclusion drawn, the following recommendations are made:

i. The government must checkmate the issue of erratic electricity power supply by facilitating both private and public investment in electricity infrastructure. This can be done by utilizing the Osara Dam to generate reliable power supply. The dam will equally serve as revenue generating centre to the government.
ii. The government should have policy in place which compels electricity power providers to ensure uninterrupted supply of electricity to consumers. This would ensure timely and qualitative service delivery.
iii. The government should ensure that she invest adequately in electricity infrastructure as this singular gesture would sustain small and medium scale business in Kogi Central.

REFERENCES

Abdulrahim, M., Issa, A. & Ismaila, Y. (2017). Impact of electricity service quality on the performance of manufacturing SMEs in Nigeria. *Journal of Business and Social Review in Engineering Economics*, 3(1), 1-10.

Adenikinju, A. (2005). An analysis of the cost of infrastructure failure in a developing economy the case of electricity sector in Nigeria. AERC Research paper 158, African Economic Research Consortium, Nairobi.

Ado, A. & Josiah, M. M. (2015). Impact of deficient electricity supply on the operations of small scale businesses in North East Nigeria. *Journal of Businesses, Environmental Science, Economics and Engineering*, *2*(1), 110-122.

Ado, B. & Jonah, H. (2015). Impact of deficient electricity power supply on the operations of small and scale businesses operating in North Eastern Nigeria. *Journal of Economics and Human Development,* 7(2), 222-235.

Ahero, H. M. & Ibrahim, S. S. (2012). The relationship between energy consumption and economic growth in Nigeria: A causality analysis. *International Journal of Marketing and Technology, 2* (3), 210-222.

Akinlemi, O. A. (2018). The effect of infrastructural facilities on SMES growth in Nigeria. *International Journal of Innovation Research and Development,* 7(6), 196-203.

Angel, P., Jenkins, A. & Stephens, A. (2018). Understanding entrepreneurial success: A phenmenographic approach. *Journal of International Small Business,* 36(6), 611-636.

Audretch, D. B. I., Verhuel, S.; Wennekers, B. & Thurik, A. R. (2002). Entrepreneurship springer, Berhin Analysis, *Journal of Management, 1*(1), 109-124.

Bako, Y. A., Oyegoke, A. A., Idowu, A. F. & Aderemi, T. A. (2021). Microfinance banks, small and medium scale enterprise and COVID-19 pandemic in Nigeria. *European Journal of Economics, Daw and Politics, 8*(2), 1-10.

Bliennel, M., Flores, R.; De Klerk, S. & Milles, M. P. (2019). Accelerators as start-up infrastructure for entrepreneurial clusters. Entrepreneurship and Regional Development, 31(1), 133-149.

Christian, E.B. & Imoh, K. I. (2021). The effect of electricity supply on the performance of small and medium-scale enterprises in Nigeria: A case study of Calabar South and Calabar Municipality of Cross River State. *International Journal of Engineering and Management Research, 11*(4), 68-78.

Cohen, A. & Ray, I. (2018). The global risks of increasing reliance on bottled water. Nature sustainability, *Journal*, 1(7), 327-329.

Daramola, G. O., Kumoluyi, T. A. , & Edogun, H. A. (2019). Evaluation of the production process of different brands of sachet water sold in the open market in Ado-Ekiti, South West Nigeria. *Journal of Advances in Microbiology,* 19(1), 1-6.

Darling, D.; Dimitrios, A. & Stephen, G. H. (2008). The causal relationship between electricity consumption and economic growth in the ASEAN Countries. Energy Policy, 34,3573-3582.

Dzodzomenyo, M. F. G., Dotse-Gborgbortsi, W., Wardrop, N., Coleman, N. & Wright, J. (2018). Sachet water quality and product registration: A cross-sectional study in Accra, Ghana. *Journal of Water and Health, 16*(4), 646-656.

Galkina, T. & Kock, S. (2011). The influence of entrepreneurial Infrastructure on entrepreneur networking: A comparative case study of Russian and Finish founding teams. *International Journal of Entrepreneurship and Small Businesses, 13*(3), 238-254.

Hillbert, B.; Gilmore, A. & Carson, D. (2013). Sources of opportunities used by growth minded owner managers of small and medium sized enterprises. *International Business Review;* 22, 293-303.

Hirschman, A. O. (1958). The strategy of economic development. New Haven, Com: Yale University Press. ISBN 0-300-00559-8.

Lee, K. S. & Anas, A. (1992). Impacts of infrastructure deficiencies on Nigerian manufacturing: Private alternative and policy option.

Nuhu, D. G. & Ezie, O. (2015). The impact of electricity on the growth of small and medium enterprises (SMES) in Nigeria. *Abuja Journal of Businesses and Management, 1*(1), 110-123.

Rosentein-Rodan, P. (1943). The problem of industrialization of Eastern and South-Eastern Europe. *Economic Journal, 53*, 202-211.

Stokes, D. & Wilson, B. (2006). Small businesses management and entrepreneurship. 5th Edition; Thomson, U.K.

Tahir, K. & Inuwa, B. (2019). Factors affecting SMEs performance in Maiduguri, Borno State, Nigeria. *Journal of Managerial Economics*, *5*(1), 46-53.

Udah, E. B. (2009). Industrial development, electricity crisis and economic performance in Nigeria. *European Journal of Economics, Finance and Administrative Sciences, Pg. 18.*

Udechukwu, F. N. (2003). "Survey of small and medium scale industries and their potential in Nigeria". A paper presented at the Central Bank of Nigeria (CBN), Seminar on small and medium scale industry equity investment.

UNIDO, 2001, World Energy and Growth Outlook. International Energy Agency, Paris, France, pg. 570.

Wolfenson, J. D. (2001). Comparing the performance of male and female-controlled businesses: Relating output, Entrepreneurship theory and practice.

World Bank Enterprise Survey (WBES), 2013.

.