Effects of Poor Power Supply On SMEs Performance in Nigeria (A Case Study of Some Selected SMEs in Yobe State)

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Abstract

This study is conducted to determine the Effect of poor power supply on SMEs performance in Yobe State. The study examined power availability and alternative energy cost as the independent variables and SMEs performance as the dependent variable with the aim of assessing and examining the effects of the exogenous variables on the endogenous variable. A cross sectional survey using structured questionnaire was conducted on 233 managers and owners of some selected SME in Yobe State, Nigeria. The collected data was analysed with SPSS version 24 to examine and assess the statistical significance of the relevant path via correlation and regression analysis. The findings disclosed a negatively non-significant relationship between the exogenous and endogenous variables. The findings of the study is anticipated of enlightening the operators of SMEs and government in comprehending the negative effect of poor power supply and its utilization and serves as feedback to SMEs operators ,the ministry of power and energy and the federal government at large. This study recommends that Private entrepreneurs, dedicated government agencies and local communities should start developing micro-hydropower stations and solar energy system; more so, the current distributional system is weak and thus, vulnerable to rain, wind and vandals. A more wind resistant burglar-proof distribution network should be installed and made operational. The study would be useful to SMEs operator cum management, organizational policy and strategy makers, the government and future researchers.

Keywords: *Power availability, Alternative energy cost and SMEs performance*

1.1 Introduction

Power supply is one of the most important needs of man. In ability to access electricity with its accompanied high tariffs poses greater challenges to SMEs growth and performance in lower income state like Yobe State and more precise in a recovering nation such as Nigeria. The cost implication of electricity power outage on SMEs in Nigeria is currently estimated to cost SMEs over US$686.4million of their total annual sales Abolarinwa, Asogwa and Ezenwakwelu (2020). This estimate is on the higher side which could be detrimental to the growth, development and survival of SMEs.

SMEs continuously record daily huge loss due to poor electricity supply which has partly been a blamed on state failure despite the privatisation of this sector. Recently, the minister of power posited that there have been four times occasional drop in the national grid owing to vandalism of towers among of which is the Ikot Ekpene 330 tower (Garba, 2022). Scientifically power is the rate of dissipation of energy hence the two terms are mostly used synonymously as energy is required at individual, business, and industrial levels. Power availability has remained the major pre-cursor for national development in every economy around the world and no country has achieved national growth and sustainability without stable and adequate power supply or distribution (Kwande, 2022). Nigeria is currently bedevilled by energy poverty (Kwande, 2022)**,** despite its enormous endowment of both renewable and non-renewable energy resources.

Apart from the non-renewable energy resources, the country has abundant renewable energy resources such as solar, hydropower, wind, biomass and geothermal energy resources, Energy Commission of Nigeria (ECN, 2022). The country endowment in renewable energy resources are estimated as follows: large hydropower 11,350 megawatts solar radiation 5-7.0 kilowatts/m2/day 485.1 megawatts hour/ day using oil of Nigeria's land mass, small hydropower 3500 ,megawatts wind 2-4 nils at 10m height, biomass (fuel wood), 11 million hectares of forest and wood land (ECN, 2022).

SMEs are recently encountering uncertainties in its unpredictable external business environment due to unfavourable conditions which have hampered the motivation to enhance its performance (Abbas, Raza, Nurunnabi, Minai, & Bano, 2019). SMEs are the drivers of economic growth and development in many nations but their contributions to Nigerian economy is relatively very low compared to other countries (Pulka, 2021). He Pulka (2021) furthers that SMEs in Singapore, Taiwan, United Kingdom and South Korea and South Africa contribute 49%, 38%, 55%, 50%, 55% and 57% to the GDP and that SMEs in Nigeria contribute 33.54% only. Concerning employment generation, SMEs in Singapore, Thailand, Taiwan, United Kingdom and South Korea and South Africa contribute 62%, 70%, 54.1%, 70% and 61% respectively whereas SMEs in Nigeria contribute only 25%. These indicate the intensity of poor performance of the SMEs in Nigeria which cannot be far from some external challenges among of which could be poor power supply.

Power Holding Company of Nigeria herein afterword refer to as (PHCN) is vested with the responsibility of generating and distributing power to zones or regions for onward distribution to the end users. In line with this, Yola Electricity Distribution Company herein afterword refers to (YEDC) is vested with the responsibilities of electricity supply and distribution majorly to the north

eastern part of Nigeria geopolitical zone. However, some of the causes of power outages causing challenges to power engineers include unreliable real time data, aging equipment, and management inability to take decisive and appropriate correctional action against the unfolding events on the system, improper automated coupled with uncoordinated controls to take proactive and decisive action against failure of events Okafor and Eze (2022).

Operationally, Anecdotal evidence opined that Nigeria is one of the highest generator importers globally; which issue has specifically elicited a major concerned among economist, environmentalist cum health-scientist and of course among academics. Poor power supply often reflects adverse effects on production time of SMEs and their total output hence operators of SMEs usually device alternative energy source on SMEs operations which is of great economic effects on their operation cost. Hence, this study is to examine the poor power supply in Yobe state and its effect on SMEs performance.

Empirically, Park, Zhou, and Choi (2018) recommended that future study should explore additional situational determinants within and external to SMEs and Khan and Salamzadeh (2020) asserted that considering some more environmental factors affecting SMEs is suggested for future researches. In the same vain, Fu et al. (2021), Pulka (2021) and Zou et al. (2021) recommended that future study on SMEs could gather data from multiple informants' organization which gap this study intends to close by investigating the effects of poor power supply on SMEs performance via collection of data on SMEs across Yobe State.

1.2 Research Objectives

The broad objective of the study is to examine the effects of poor power supply on the SMEs performance in Nigeria with emphasis on SMEs in yobe state. However, a research of this nature is often of specific objectives which are:

a. To determine the effects of power availability on SMEs performance of some selected SMEs performance in Yobe State.
b. To evaluate the cost implication of alternative power source to SMEs performance of some selected SMEs performance in Yobe State
c. To access possible solution to poor electricity distribution in Nigeria.

1.3 Hypotheses of the Study

The study hypothesised the following hypotheses formulated in a null form;

H_{01} Power availability has no significant effect on SMEs performance in Yobe State

H_{02} Alternative energy cost has no significant effect on SMEs performance in Yobe State.

1.4 Significance of the Study

This research work has been prepared in a way to convey some educative and informative messages to the present and future SMEs operators and manufacturing company's staff, management and government at large in Nigeria and across the globe. The study is of great importance to a country crippled with persistent power fluctuations, a nation deemed both externally and internally as being unable to provide a sustained power supply, which has led into growth stagnation. The study avails administrators in Nigeria with the roadmap towards unravelling some of the remote causes of enormous loss of revenue as a result of poor power design and maintenance of the various electrical installations across the country. The framework which is logically deduced based on transcendental realism is capable of serving as a model in furthering organizational and government policy, decision making, strategic management, strategic planning and SMEs performance evaluation. Besides, the generalizability of the findings could be extended to other geopolitical zones in Nigeria. The study has

also expanded the application of DCT theory to the understudied variables in this study.

1.5 Scope of the Study

The whole SMEs in Nigeria and Yobe State cannot be studied simultaneously hence some selected SMEs will be studied within the three (3) zones in Yobe state and these zones are zone A, B and C. This implies that the study is meant in geographical scope to cover the three (3) zones in Yobe State. The study population is the selected SMEs in these three zones in Yobe State from which the sample of the study will be drawn with organization as the unit of analysis. The study cover registered SMEs in Yobe State as the study population. The study involves a cross section of industries such as wholesale, retail trade, manufacturing, accommodation, restaurant services, agriculture, storage, information and communication technology. Justification for these selected SMEs is owing to the fact that they are the most affected by poor power supply in the state.

2 Literature Review

2.1 Underpinning Theory of the Study

Dynamic Capability Theory was postulated by David Teece, Gary Pisano and Amy Shuen in the year 1997 *as they asserted on firm's ability to build, integrate and reconfigure its internal and external competences to address rapidly changing environments.* Within the context of organizational theory, dynamic capability theory furthers that organization must be able to adapt to its external environment based on its internal resource base. The study is underpinned by the Dynamic Capability Theory (DCT). DCT focus on the capabilities of a firm to gain competitive advantage and achievement better performance in spite of external factors influences through its internal resource (Bowman and Ambrosini, 2003; Eisenhardt and Martin, 2000; Peteraf, 1993; Teece et al., 1997). The DCT opined that if SMEs will actualize better performance, the onus lies on the operators of SMEs to continue to reconfigure and align their internal resources, processes and strategies with the happening and changes in the external environment which SMEs operates (Covin and Slevin, 1989; Miller, 1983; Teece and Pisano, 1994). The DCT postulates that SMEs resources are not static hence the SME internal resources need to aligned and be redesigned in line with the dynamism originating from the external environment.

2.2 SMEs Performance

Understanding the determining factors of SMEs performance is seen as a crucial area of focus in an Enterprises (Fu et al., 2021). Therefore, a good organizational performance measurement must be capable of considering the owners goal as designed in an attempt to promote the business in certain perspectives such as output and profitability (Sardi, Sorano, Garengo, & Ferraris, 2020; Pang & Lu, 2018). SMEs performance is evaluated as the SMEs success as regard to achieving its objectives and goals. Performance of SMEs is defined as an association's capacity to make activity and worthy results (Adam, Hussin, & Imail, 2020; Shodiya & Ojenike, 2021). Scholars are of different views of performance measurement of SMEs. Ghazali (2021) elucidated that to evaluate performance, SMEs owners have to establish certain standards which must gauge and measure their strategies, practices and values which must be benchmark on high performance. Fu et al. (2021) opined that performance is evaluated in order to know how well SMEs is performing. Fu et al. (2021) see the success of SMEs as when actual performance is equal to or exceed the business owner' expectations.

2.3 Power Availability

Nigeria is generally blessed with different power resources among of which are crude oil, coal, natural gas, solar energy, hydropower and fissionable materials for nuclear energy. Despite these, sustainable energy provision has become a mirage in the country. Major reason

why power outages is posing challenges to the power engineers include inadequate reliable real time data, aging equipment, management inability to take decisive measure and appropriate action to rectify the unfolding challenges on the system, Improper automated and uncoordinated controls towards immediate action tailored against failure of events (Okafor and Eze 2022). As speculated by the Power Holding Company of Nigeria (PHCN), currently Nigeria is blessed with over 23 power generating plants which are connected to the national grid with a capacity to generate about 13,000MW of electricity having wheeling capacity transmission of 5000MW but the actual generated power as at March 2022 is 4000MW (Ediri Ejoh & Obas Esiedesa. 2022). On this note, demand for electricity supply has outpaced generation. The discrepancy noticed in between actual generation, electricity demand and supply is as a result of low level of water as Nigeria power generation is mostly hydro and inadequate maintenance (Oluwole, 2020). The major issues militating against efficient and safe electricity distribution in Nigeria are inadequate infrastructures, inadequate pricing structure and mechanism to support the economics of power generation, poor corporate governance on transmission and user distribution (Garba, 2022).

2.4 Alternative Energy Cost

Empirical studies on power outage costs and personal power-generation within the developing nations still remain scarce, as a result of insufficient micro-economic panel data which could be adopted in inferring firms' and households' response to poor power supply. Adekininju (2021) conducted a study on economic cost of power outages in Nigeria. Using the revealed preference approach on business survey data (Caves, Herriges, & Windle 1992; Beenstock, Goldin, & Haitovsky 1997), Adekininju valued the marginal cost related to poor power outages to be within the range of of $0.94 to $3.13 per kWh of lost electricity. Sequel to this backdrop, Adekininju (2021) concluded in his study that poor power outages impose significant costs on business as SMEs operators were discovered to be one of the most heavily affected by this infrastructure malfunction. In the same vein, Renikka and Svensson (2022) study also asserted that unstable power supply makes firms to substitute complementary capital (for own power generation) as a result of deficient public services.

2.5 Conceptual Framework of the Study

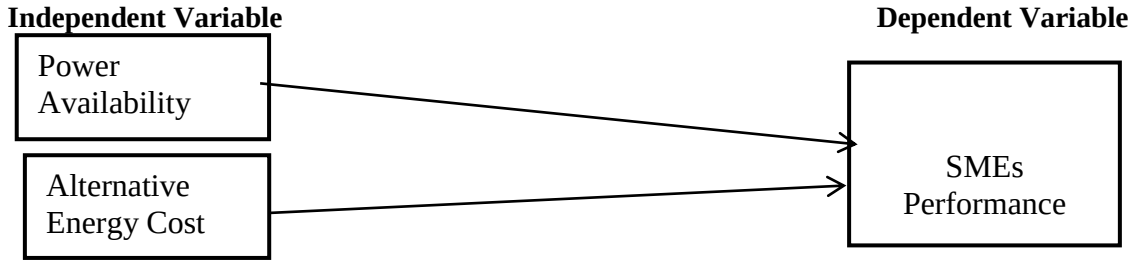

Figure 2.1: Framework of the Study
Source: Author's Conceptualization, 2023.

The study framework is formulated as shown in figure 2.1. The under study independent variables are Power availability cum Alternative energy cost and the dependent variable is SMEs Performance. The underpinning theory of this study is Dynamic Capability Theory (DCT) which explains the manipulative effect which is expected of an

organization towards the realizations of its aims and objectives which could be realized through the internal strength of the firm. SMEs in Yobe State is still expected to achieve their goals despite the acute shortage of power supply. The theory explains the relation between power availability and alternative energy cost in this study and how SMEs could adopt its internal strength against been overwhelmed by the external factor such as poor power supply.

3. Methodology of the Study

The roadmap to the actualization of the research objectives is elucidated upon herein.

3.1 Research Design

The study adopts descriptive survey design to examine the effect of poor power supply on the performance of SMEs in Yobe State. The study uses cross-sectional research design as structured questionnaire will be used to collect data from respondents in a one-off.

3.2 Population of the Study

This study population consist of 300 SMEs that are registered and operating within Yobe State (Yobe State Bureau on Public Procurement, 2020). Owners and managers are selected as a result of their familiarity and knowledge in the running of the enterprise. The choice of these of group of SMEs was due to their registration with the appropriate and relevant authorities. As such, they are well organized with registered office addresses and full-time employees.

3.3 Sampling Technique

The study adopts cluster sampling method in an attempt to locate the sample within the population. Cluster sampling is preferable when the targeted population and desired sample size is to be selected is heterogeneous within the clusters and homogeneous between the clusters (Kothari & Garg, 2014). The study adopted cluster sampling technique to choose SMEs from the 3 senatorial zones in Yobe State namely; Zone A, Zone B and Zone C and a simple random sample is adopted to select the population from the clusters. Simple random sampling is adequate culling a smaller sample from a larger population in order to make generalizations about larger group.

The sample size came up by using Taro Yamane formula as stated below:

$N = N/1 + N (e)^2$

Where N is the population size

E is the margin of error (Assume 5%)

1 = constant

E= 0.05

Table 3.1: Distribution of Questionnaires among the 3 Zones in Yobe State

ZONE	POPULATION	SAMPLE SIZE
Zone A	156	$\frac{156}{1+156(0.05)2} = 112$
Zone B	92	$\frac{92}{1+92(0.05)2} = 75$
Zone C	52	$\frac{52}{1+52(0.05)2} = 46$
TOTAL	**300**	**233**

Source: Author's own Construct, 2023.

3.4 Sources and Method of Data Collection

The study adopts primary sources of data which is capable of obtaining information that is first-hand from the respondents about the understudied variables as primary data provides base for conclusion that is logical. The study utilises closed ended structured questionnaire on five point likert scale for data

collection which saves researchers from biases and difficulty of data reduction during data interpretation and analysis. The questionnaire is in two sections, section A is on the demographic characteristics of the respondents and section B is on the independent and dependent variables. The questionnaire was administered personally by the researcher with the aim of avoiding low and non-bias responses.

3.5 Method of Data Analysis

The study adopts descriptive and inferential statistic in analysing the collected data. Frequency distribution and simple percentage is used for the demographic characteristics and Pearson's correlation cum regression analysis is used for the inferential statistic with the aid of SPSS version 24.

4. Data Presentation and Analysis

This section of the study presents the collected quantitative data analysis from the respondents. The analysis commences with the demographic data as shown in table 4.1.

Table 4.1 Sample characteristics (n = 233)

Characteristics	Frequency	Percentage	Cumulative Percentage
Gender			
Male	181	77.7	77.7
Female	52	22.3	100
Total	**233**	**100**	**100**
Age			
10-30	86	36.9	36.9
31-60	134	57.5	94.4
60 & above	13	5.6	100
Total	**233**	**100**	**100**
Educational background			
No formal education	13	5.6	5.6
Primary	40	17.2	22.8
Secondary	107	45.9	68.7
Tertiary	73	31.3	100
Total	**233**	**100**	**100**
Current position			
Owner manager	91	39.1	39.1
Executive manager	63	27.0	66.1
Manager	70	30	96.1
Others	9	3.9	100
Total	**233**	**100**	**100**

Source: Field Survey, (2023).

Table 4.1 presents the analysis of the demographic data of the respondents in the study. The table reveals that there are more males than females among the studied respondents showing 77.7 per cent of the respondents as male and the remaining 22.3 per cent as females. The table also revealed that 36.9 per cent of the total respondents age are within 11 to 30 and 57.5 per cent are within the age of 31 -60, and the remaining 5.6% are above 60 years. It is therefore, obvious that most respondents in this study are in between the ages of 31 to 60. This result validates the assertion that the productive age bracket is within the age of 31 –60 years

which is the age in which most people venture into business in Nigeria.

In the same vein, most of the respondents of the study are secondary schools certificate holders which constitute 45.9 per cent of the whole respondents in the study, while a meagre 5.6 per cent have no formal education. More so, 39.1per cent of the whole respondents are owners of their businesses, 27 per cent are executive officers, while 30 per cent are managers but not the owners of the business. On a final note, 3.9per cent of the respondents constitute other top ranking officials. It is therefore believe that most respondents in the study are owners of their businesses.

Table 4.1, also revealed that 43.8 per cent of the whole respondents have years of experience between 1-20 years, 34.3 per cent have 21-40 years while 21.9 per cent are of years of experience between 41-60 years. The same table shows the line of businesses with a significant proportion of respondent who agreed to be service firms with 63.8 per cent, while 32.4 per cent are manufacturing firms. On the other hand, 3.8 per cent of the whole respondents are in different sector of the economy. However, from the perspective of the business form, most of the respondents are partnership in the business with 45.9% as partnership, 31.3 per cent as sole proprietorship and 16.7 per cent are private limited company while 6.0 per cent belong to others.

4.2 Descriptive Statistics

This section presents the descriptive statistics of the variables of the study, using mean and standard deviation. The result is presented in Table 4.2.

Table 4.2 Descriptive Statistics of the Variables

Variables	sample	mean	Std. Deviation
SMEs Performance	233	4.59	0.98
Poor Availability	233	4.42	0.01
Alternative Energy Cost	2.33	4.36	0.14

Source: Field Survey, (2023).

Table 4.2 presents the descriptive statistics of the variables of this study which were measured on a five-point Likert scale. The descriptive analysis of the constructs shows statistical values of the constructs with mean value of 4.59 for SMEs Performance as the dependent variable which is relatively high. The independent variables among of which are Power availability shows a statistical mean value of 4.42 which is also relatively high and Alternative energy cost shows a statistical mean value of 4.36. Furthermore, among of the entire constructs, SMEs performance as the dependent variable seems to have the highest descriptive statistical mean value 4.56 as depict in table 4.2.

Table 4.3 Correlation between Power Availability and Alternative Energy Cost on SMEs Performance

Independent Variables	SMEs Performance
Power Availability	-0.41**
Alternative Energy Cost	-0.31**

**Correlation is significant at ** p< 0.05; *p <0.01(2 tailed)

4.2.1 Relationship between Power Availability and SMEs Performance

Table 4.3 present the findings of the correlation between the independent variable of Power availability and dependent variable SMEs Performance. Correlation value r = -0.41** with 0.05 level of significant. This is an indication that the strength of the relationship between power availability and SMEs performance is very weak. Conclusively, there is a negatively weak relationship between power availability and SMEs performance. Thus, hypothesis $H_{O1}$is accepted.

4.2.2 Relationship between Alternative Energy Cost and SMEs Performance

Table 4.3 present the findings of the correlation between the independent variable of Alternative Energy Cost and the dependent variable SMEs Performance. Correlation value r = -0.31** with 0.05 level of significant. Therefore, it is an indication that the strength of the relationship between Alternative Energy Cost and SMEs performance is very weak. Conclusively, there is a negatively weak relationship between power availability and SMEs performance. Thus, hypothesis $H_{O2}$is accepted.

Table 4.4 Regression Result of the Path Coefficient Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimates
1	.927[a]	.984	.945	.06074

a. Predator (constant), Power Availability and Alternative Energy Cost

b. Dependent Variable: SMEs Performance.

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistic	
	B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1(Constant)	0.185	.258		.419	.000		
PA	-.120	.106	-.459	-15.660	.000	.325	3.077
AEC	-.030	.036	-.562	-19.872	.000	.515	1.941

a. Dependent Variable: SMEs Performance

** Significance at P< 0.05

PA=Power Availability; AEC=Alternative Energy Cost

From Table 4.4, shows the Adjusted R Square value of 0.966. The value implies that the variation in SMEs performance activities is predisposed by power availability and Alternative Energy Cost of 96.6% therefore; the remaining 3.4% is influenced by other

factors which are not explained in this model. Results of linear regression has a significance value of 0.000 which is smaller than 0.05. Thus, power availability has no significant effect on SMEs performance. It means Power availability does not improve SMEs performance. Therefore, the first hypothesis is supported. In the same line, alternative energy cost has a negative coefficient direction and a significance of 0.000. Thus, alternative energy cost reduces SMEs performance. The second hypothesis is also supported.

4.3 Discussion

Hypothesis H_{O1} states that power availability has no significant effect on SMEs performance. The results of hypothesis H_{O1} present that power availability has a negative effect on SMEs performance. Going by this finding, manager and owners of SMEs have very strong negative perception toward power supply and that their organization impinges upon the operations of their business other than national power supply which was discovered to have a negative significant effect on SMEs performance in Yobe State. Poor power supply is a major concern among SMEs operators in Yobe State and by generalization in Nigeria. Thus, poor power supply could impose negative effects on SMEs performance if the government fails to ameliorate it effects with a last long solutions. This finding is obviously true as many SMES in the country are folding up their operations despite government interventions toward their operations and continuity. The finding of this study buttressed Kwande (2022) assertions on poor power supply in Nigeria and that of Valery (2008) conducted in Kenya as one of the factors causing stagnation in development and advancement within the industrial sector.

In the same vein, Hypothesis H_{O2} states that alternative energy cost has no significant effect on SMEs performance. The results of hypothesis H_{O2} present that alternative energy cost has a negative effect on SMEs performance. This means that alternative energy cost does not play an important role in the performance of an organization. Therefore, the findings support the result of Mongula, Massie, and Worang (2021) on their study on analysis of factors affecting the performance of SMEs. The study is also in consistent with the assertion of Stern, Burke and Bruns (2017) and that of Westphal, Martin, Zhou and Satterthwaite (2017). This is obvious as it refute the basic principle of cost minimization and profit maximization. Constant power supply needs a careful and timely strategic intervention for the SMEs operators to take a lead in the market position else, there will be a serious lag behind in their operation in Yobe State and Nigeria at large.

5. Summary, Conclusion and Recommendation

5.1 Summary

The study examine the effect of poor power supply on SMEs performance in Yobe State, Nigeria and discovered that the Nigerian power sector has failed to provide stability and availability power supplies in the country for over forty decades. There has been insignificant change in ownership of the power company for so many times through privatization and commercialization of the energy sector. This lack of energy supply in the country has made small and medium scale enterprises and other corporations to resort to using alternative source of energy in their respective businesses and those that cannot afford have to either quit the business or change line of business. The Nigerian power sector is being bedevilled with unnecessary corruption and poor financial management on the part of the managers.

However, most SMEs relies majorly on the energy supplies to power their production which in return they are not getting sufficiently and this epileptic and erratic nature of power supply is affecting SMEs production time, profitability and performances.

5.2 Conclusion

The empirical findings of this research is anticipated of being capable of enlightening and exposing the operators of SMEs and government at large to the negative effect of poor power supply and it utilizations; precisely by the SMEs operators; and eventually serve as feedback to SMEs operators, ministry of power and still and the federal government at large. The study ought also to bring about keeping abreast with the technological innovations on different source of electricity generation.

This study is beneficial to the government with relevant and reliable information on industrial output and businesses inefficiency as a result of erratic power supply. This could help to restructure the government's annual budget towards key issues that hinder the rapid development of the energy sector. Besides, this study provides hints on a viable energy policy for the country which could aid manpower planning. The research work is equally important to manufacturers, precisely operators of SMEs who shall be availed with methods of determining and comparing cost of using national grid with that of own power generation. To the general public and future researchers, this study shall become another body of literature capable of providing adequate information on the relationship between power availability, productivity, SMEs performance as well as revenue generation.

5.3 Recommendation

Sequels to the findings of this study, the following recommendations are made which if taken into consideration could yield a positive result towards curtailing the poor state of power outage in Nigeria.

1. The power generation company should try as much as possible to increase Megawatts capacity to be sufficient to the household and SMEs
2. The government and the energy companies should imbibe or inculcate in them the practice of accountability, transparency and probity so as to get of corruption in the system
3. Incessant or continuous use of alternative source of energy results in air pollution which in turn affects the health of people; measures should be taken to provide safer ways of using such alternative source of energy.
4. The government should explore other possible means of power generation not just depend on hydro-electric power; there are other alternatives such solar energy which is currently in used in most developed countries.
5. Private entrepreneurs, dedicated government agencies and local communities should start developing micro-hydropower stations and solar systems
6. The present distributional system is obviously weak and thus vulnerable to wind, rain and vandals. Hence there is need for more wind resistant burglary-proof distribution network which should be installed and made operational.

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