

ANALYSIS OF POWER OUTAGE ON SMALL AND MEDIUM ENTERPRISES PERFORMANCE; (A CASE STUDY OF INTERNET SERVICE CAPE IN SOKOTO METROPOLIS) SOKOTO STATE

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ABSTRACT

The objective of this research is to analyze the impact of power supply outage on the performance (productivity and profitability) of small and medium enterprises. This research is a cross sectional survey. Sample of 32 SMEs were selected using a non-probability sampling procedure in form of purposive sampling techniques. Criterion for the selection of the SMEs includes their location within the sokoto metropolis as well as use of electricity in the business operation. Structured questionnaire was used to collect the data for the study. MRM in a form of OLS was employed. StataCorp 14.0 (2015) was used to analyze the data. The result of the finding reveals that 90.91% of the enterprises studied indicated that power supply outage was the major constrained to their productivity and profitability with average of 180 hour of power outage per month lasting 6-8 hours per day causing the enterprises an average of N300, 000:00 monthly, and power supply outage negatively affect the performance of the studies SMEs. This study suggested that there was need for the sokoto state authority to establish an independent power plant in order to bridge the gap from the National grid for improved efficiency of SMEs with the metropolis and the SMEs should used renewable energy as alternative to generating set.

Keywords: Power Supply Outage, Generation, Transmission and Distribution

1.0 INTRODUCTION

Accessibility to reliable, quality and efficient supply of electricity is regarded as a key conduit for economic growth and development across the world. Abotsi, (2015). Nevertheless, most African countries experience perennial electricity deficiencies with numerous power outages. World Bank report of 2019 on access to electricity in sub-Saharan Africa argues that Africa presents the lowest rates of electrification among the developing world with only 43% of people having connected to the national grid, and approximately 25% of electrification in the rural set-ups (World Bank, 2019).

Nigeria with a population size of over 200 million has one of the lowest net electricity generation per capita rates in the world despite the abundance of electricity generation sources in the country. Adeoye and Bamisaye, (2016). Electricity distribution network and voltage profile are very poor thus resulting in more that 50 percent of the populace living without electricity supply. Electricity production and distribution system are weak and susceptible to major setbacks. The inadequate facilities to boost electricity supply in the face of increasing population, and an increasing business environment all combine to create electricity supply problems. While demand

for electricity is increasing, supply tends to be depreciating. This supply inadequacy has a consequential impact on all sectors of the economy and therefore encourages people to source for alternative electricity supply sources via the generators. Amadi and Amadi, (2014).

Power supply outage has over the years constituted a major source of concern to many developing countries including Nigeria, Akuru and Okoro (2014); The consequence of it has not only affected the household customers and the service sector alone, it was also found to have negative impacts on the performance of manufacturing companies Aliyu, Ramli, and Saleh (2013); Gado and Nmadu (2012). Power supply outage is perhaps the greatest infrastructure problem confronting the SMEs sector and the typical Nigerian firms experience power failure or voltage fluctuations about fifteen times per week, each lasting for about two to six hours, without the benefit of prior warning. This imposes a huge cost on the SMEs arising from idle workers, spoiled materials, lost output, damage equipment and restart costs. Small and medium manufacturing enterprises are the worst affected by these challenges pose by the electricity power outage problems Aliyu et al (2013).

Given the prevalence of power outages, firms in the country have adopted different strategies to cope with this electricity power outage supply. Some of these response adjustments include choice of business, choice of location, output reduction, factor Substitution and self-generation. While all these strategies are observable among the SMEs firms, the most commonly adopted strategy by firms is investments in alternative generation (i.e., complementary capital). Many electricity users –both households and firms now find it necessary to make their own generation in part or in whole to make up for the inadequate provision resulting from the inefficiencies of the public power system. As a matter of fact, many end users of electricity (from small to large enterprises) now operate small to medium-sized plants with capacities ranging between 1 MW and 700 MW for own generation, Karekezi and Kimani (2002). Therefore, this study focus on analyzing the effect power supplies outage on small and medium enterprises (SMEs) performance in Sokoto metropolis. And why focusing in this is because most of studies conducted have not focuses on internet services cafe in the state. The objectives of the study are to evaluate the effect of power supply outage of SMEs in the selected study areas and to determine the willingness to pay by SMEs to secure uninterrupted power supply from national grid.

The hypothesis of the study is stated as follows,

H₀₁, the electricity power supply outage does not significantly affect the SME's performance in the study areas.

2.0 CONCEPTUAL ANALYSIS

2.1 An Overview of Nigeria Power Sector

2.1.1 The Generating Company

In Nigeria, the electricity generating stations are interconnected in radial form with a single National Control Centre (NCC) in Oshogbo. This has led to low reliability index of the Nigeria National Grid (Yusuf; Boy; and Muazu, 2007). The Nigerian Government has awarded contract for generation, transmission and distribution of 6000mw with completion date on December, 2010. Since 2005, Nigeria has undertaken a long-term structural reform of power sector to improve the provision of power to its citizens. The Roadmap for power sector reform launched in 2010 has provided major impetus. The government has developed the power sector from a single state-owned utility to an unbundled system with private participation and ownership of assets across generation and distribution. Baseline report, (2015). There are seven main players in the daily operation of the power market:

- (i) Nigeria Bulk Electricity Trade (NIBET)
- (ii) Transmission Company of Nigeria (TCN)
- (iii) Nigerian National Petroleum Corporation (NNPC) and its key operational subsidiaries, the Nigerian Gas Company (NGC) and the Nigerian Petroleum Development Company (NPDC).
- (iv) Niger Delta Power Holding Company (NDPHC), which own and operates the NIPP power plants and is responsible for completing construction of parts of the critical new transmission and distribution infrastructure.
- (v) Private sector natural gas producers: International oil companies (IOCs) and indigenous oil and gas companies.
- (vi) The divested generation companies
- (vii) The divested distribution companies

Between January and 15th August, 2015, Nigeria' power plants sent out an average 3,317mw of electricity daily from 25 grid-connected power plants (located largely in the south) with installed capacity of 12,522mw. The plants are run by generating companies including those formerly under the PHCN, National Integrated Power Project (NIPP), and Independent Power Producers (IPPs). Eighty-five percent of installed capacity is generated by gas thermal power plants and the remaining 15% is generated by hydroelectric power plants (Baseline report, 2015). According to the TCN, the National grid has successfully transmitted 5,224mw in Dec. 18, 2017 and a new generated peak of 5,375mw in 7th Feb, 2019. The Punch, (2019).

2.1.2 The Transmission Company

The Transmission Company of Nigeria (TCN) manages the electricity transmission network in the country. It is one of 18 companies that were unbundled from the defunct Power Holding Company of Nigeria (PHCN) in April, 2004 and is a product of a merger of the transmission and system operations parts of PHCN. It was incorporated in November, 2005 and issued a transmission

license on July, 2006. TCN is presently fully owned and operated by the government and as part of the reform programmed of the government, it is to be reorganized and restructured to improve reliability and expand it capacity. Baseline, (2015).

TCN's licensed activities includes: Electricity transmission system operation and electricity trading. It is responsible for evaluating electric power generated by the electricity generating companies (Gencos) and wheeling it to the distribution companies (Discos). It provides vital transmission infrastructure between the Gencos and the Discos feeder sub-stations. Nigeria's transmission network consists of high voltage substations with a total (theoretical) transmission wheeling capacity of 7,500mw and over 20,000km of transmission lines. Currently, transmission wheeling capacity (5,300mw) is higher than the average operational generation capacity of 3,879mw but it is far below the total installed generation capacity of 12.522mw. TCN consists of three operation department. Baseline, (2015).

- (1) Transmission Service Provider (TSP) that is responsible for the development and maintenance of transmission infrastructure.
- (2) System Operation (SO) that manages the flow of electricity throughout the power system from generation to distribution companies.
- (3) Market operator (MO) that administers power market rules.

2.1.3 The Distributing Company

As a part of the privatization programmed, the Power Holding Company of Nigeria's (PHCN) distribution network was broken up into 11 regional grids, which were then sold to local and foreign investors, with a minority state retained by the FGN. The resulting distribution companies vary greatly in terms of network size, number of customers and geographic area.

Based on the agreements with the Bureau of Public Enterprises (BPE), each distribution company is allocated an amount of grid energy. In reality, supply varies with some distribution companies receiving more and others less – often driven by the ability of the individual distribution company to accept the offered company. Baseline, (2015).

When the distribution companies took over the assets, they made commitments regarding the grid expansion, number of new connections and Capex to be spent on meters. By fulfilling their commitments, the companies will help bridge the distribution performance gap between Nigeria and its peers. However, the distribution sector faces significant financial pressures. In March, 2015, the regulator ruled that collection losses could not be passed on to consumers via retail tariffs. With collection losses set at zero, distribution companies would have needed to achieve dramatically lower loss level to meet their loss commitments. Faced with this situation, several distribution companies declared force majeure, triggering a regulatory crisis and a temporary loss of investors' confidence. The combined impact of these developments on the sector's liquidity was very negative and constituted one of the first major (power sector) in response to this challenge. The presidency convened a series of meetings with the key stakeholders (NERC, the distribution companies, NBET and the CBN) to fashion a timely response. The result was (amongst other things), the reversal of the decision to set collection

losses at zero and the imposition of the September 2015 deadline for the submission of proposed new long-term tariff trajectories by the distribution companies. Baseline, (2015). The distribution company and their districts

Distribution company	District
Kaduna Districts Company	Kaduna including the districts of Makera, Doka, Birnin Kebbi, Gusau, Sokoto and Zaria
Yola Districts Company Plc	Yola, Maiduguri, Taraba and Damaturu Districts
Enugu District Company Plc	Aba, Abakaliki, Abukpa, Awka, Ogui, Onitsha, Owerri, Nnewi and Umuahia
Abuja Districts Company Plc	Abuja, Minna, Suleja, Molete, Ijebu-ode, Osogbo, Ilorin, Sango-ota and Oyo
Jos Districts Company Plc	Jos, Makurdi, Bauchi and Gombe Districts.
Eco Districts Company Plc	Festack, Ijora, Lagos Island, Ajah and Badagry
Ikeja District Company Plc	Lagos, Shomolu, Alimosho, Ojodu, Ikorodu, OShodi, and Abule-Egba
Port-Harcourt Districts Company Plc	Calabar, Diobu/Ogoju, Borikiyi, Uyo and Yenegoa
Benin Districts Company Plc	Ado-Ekiti, Afenonesan, Akure, Asaba, Akpakpava, Ugbowo and Warri
Kano Districts Company Plc	Nasarawa, Dala, Katsina, Dutse, Kumbotso, Funtua and Dakata districts.

Source: Electricity in Nig. (2019).

2.2 Theoretical framework of the study

This study is based on investment decision theory. An investment decision is critical to business activities as it relates to or affects the overall business objectives. The profitability level of a firm depends on how good or bad its investment decision is. While a good investment decision increases the profitability and enhances the financial viability of firms, poor choice of investment reduces the financial capability and sometimes causes firms to be liquidated.

Investing in backup generation is not costless and therefore has to be taken judiciously. A firm experiencing power outages would have to consider the marginal benefit of investing in backup and the marginal cost of purchasing and running the plant. For instance, a firm experiencing frequent power outages would have to decide whether (1) to invest in backup generation and be able to continue operations in the event of outages but at the required costs, or (2) not to invest in backup generation and shut down operations during power outages. A firm can choose the first option if it considers it to be a rational decision to own a generator in order to be able to continue operations during outages. On the contrary, another firm may consider the second alternative to be its rational and optimal decision. The latter might consider the costs of owning and operating a generator (i.e., the user cost) to be too high compared to the gain from continuing operations in the events of outages. Investment in new capital stock with respect to changes in its

determinants may be limited if the fixed adjustment costs are too great to justify the potential gains. Nickell, (1978). Therefore, a rational firm would equate at the margin the expected cost of generating a kWh of its own electricity to the expected benefit from that kWh. Bental and Ravid, (1982). That gain consists of the continued operation that the self-generated electricity makes possible, and the damage to equipment stock that would have been caused by a power outage.

2.3 literatures Review

Studies have been conducted by many scholars in the field of Development economics on the issues related to power supply outage on small and medium enterprises performance. Among them are Frederick and Josephine (2016), who studied effect of power supply outage on the performance of small and medium enterprises in Tema and Northern part of Ghana, using Chi-square (X^2) and ordinary least square method with sample size of 710 firms. Their research findings reveal that power outages have a negative effect on the performances (profitability) of SME, especially in the Northern part of Ghana. Also studies conducted by Onwumere and M.A. (2016) using simple descriptive statistics, correlation and multiple regression analysis on power switches for SMEs reveals that foods services productivity and profitability are more affected by power switches.

According to Endrew, et al (2014) in their studies on how electricity insecurity affects businesses in low income countries using secondary data from four selected countries using regression analysis. Their finding reveals that electricity insecurity has a negative impact on the total and labour productivity in the firms' business activities. A study conducted by Doe and Asamoah (2014) on electric power fluctuation on profitability and competitiveness using cross sectional survey and mixed method approach with sample size of 70 SMEs reveals that without reliable power supply, SMEs are unable to produce an increased quantity and quality product leading to poor sales which at long run affect their profitability. According to Busani (2012), in his study on Do power cuts affect productivity in manufacturing firm in Nigeria using OLS and Tobit models, his findings revealed that the power cuts have negative and significant effect on the productivity particularly to the small firms. Study conducted by Lassana (2018), on the cost of power outages of manufacturing SMEs productivity in Senegal using panel data and stochastic frontier model, revealed that power outages have negative significant effect on the productivity of SMEs, and small firms appear to be affected more than the large firms. The finding further reveals that firms with generators were successful in countering the adverse effect of power outages on productivity.

Also a study conducted by Stephene and Milton (2020), on the cost of power outages on enterprises performance in Kenya, investigated the effect of power outages on firm performance using World Bank Enterprises survey data for (2018), employing instrumental variables regression as well as between power outages and firm profitability. Also, their finding shows a positive relationship between efficiency levels, energy utilization and firm profit. They recommend government to increase investment on electricity generation and address inefficiency within the power sector to ensure reliability supply and enhance enterprises performance. Also

Lassana (2015), conducted a study on effect of power outages on productivity of SMEs in general using generalized linear model on his analysis, his results revealed that power outages have negative active significant effect on productivity and alternative source of power helps firms to be more productive. Aremu and Adeyemi (2011), in their studies on SMEs survival strategy for employment generation in Nigeria, their findings revealed that SMEs in Nigeria cannot run profitable business on power generating sets in a highly competitive and open economy like Nigeria because of the high cost of fuel and maintenance. A study conducted by Abdisa (2018) on power outage and its economic cost on firm performance in Ethiopia using survey data; the findings revealed that power outages affect the firm productivity negatively while large firms are most affected.

3.0 METHODOLOGY

3.1 Model specification

Situating this study into positivist philosophy which allows for objectivity in explaining relationship among social processes and between variables, the study estimates the functional form for the study as below:

$$Y = f(PS, Reg, Z) \text{ ----- (1)}$$

Where outcome variable is a function of the main explanatory variables and other covariates, Ordinary Least Square method (OLS) is used to show the relationship between the dependent variables (firm performance) and the explanatory variables (power supply) and other covariates. Equation (1) above, evaluate the influence of power supply on firm performance. Where Y, is captured as the dependent variable such as performance of the firm (measured in terms of profitability of the firms), and PS is captured as power supply, Reg is represented as the region of the firm and Z captures the other covariates variables such as FO is the female ownership, MRK is the market size, LS is the legal status of the firm and EDU is the education level of workers in the firm.

3.2 The empirical model

From equation (1) the empirical model can be specify as:

$$FP_i = \beta_0 + \beta_{1i} PS + \beta_{2i} FO + \beta_{3i} LS + \beta_{4i} MRK + \beta_{5i} AGE + \beta_{6i} Reg + \beta_{7i} EDU + \mu \text{ ----- (2)}$$

Where the variables are as explained before as *FP* is the firm performance, *PS* is the power supply, *FO* is the female ownership, *MRK* is the market size and *LS* is the legal status of the firm. *REG* is the region of the firm, *EDU* is the education level of workers in the firm, is the error term.

Adopting Frederick and Josephine (2016), we specified our model as,

$$Y = f(PS, Reg, Z) \text{ ----- (1)}$$

Writing equation (1) as

$$FP = f(EC, IM) \text{ ----- (3)}$$

Where,

FP = firm performance (SMEs) proxy (productivity and profitability).

EC = Electricity supply



IM = other input

$$EC = f(DPO + FPO + CET) \text{ ----- (3.1)}$$

$$IM = f(OC + CASP + OHC) \text{ ----- (3.2)}$$

Equation (3.10.1) and (3.10.2) becomes

$$Y = f(DPO + FPO + CET + OC + CASP + OHC) \text{ ----- (4)}$$

β_0 , β_1 , and β_2 are parameters.

When adopting similar model, the empirical model can be specify as

$$FP_i = \beta_0 + \beta_{1i} DPO + \beta_{2i} FPO + \beta_{3i} CET + \beta_{4i} OC + \beta_{5i} CASP + \beta_{6i} OHC + \mu \text{ ----- (5)}$$

Where,

DPO = Duration of power outage

FPO = Frequency of the power supply outage

CET = Cost of electricity charge (tariff)

OC = Operational cost (fuel and maintenance cost)

CAST = Cost of alternative source of power

OHC = Overhead cost (labour cost and wages)

μ = Error term

3.3 Source of data, Sample size and Method of data analysis

The study used a non-probability sampling procedure in the form of purposive sampling technique. A primary data was obtained with aid of Structure questionnaire. A sample size of 32 internet service cafe enterprises from 40 population sample, random sampling procedure was used in distributing the questionnaires to SMEs in the metropolis so that each enterprise would have equal chance. This research study used econometric approaches using primary source of data for more reliable results. The model was estimated based on the ordinary least squares OLS whereby the parameters or the coefficient of the multiple regressions was obtained and their statistical reliability tested based on the t-ratio, Adjusted R2 and F statistic.

4.1 Analysis and Interpretation of Results

Table 4.1 effect of Power Outage on performance

	productivity			productivity	
Variables	Coefficients	P-Values	Variables	Coefficients	P-Values
Constant	3.426	0.039	Constant	11.577	0.118
NHPO	- .0011	0.128	NHPO	-.0017	0.601
CFG	- .0537	0.493	CFG	.3511	0.327
LC	.0199	0.744	LC	.3679	0.192
PHCN	9,02 _e	0.683	PHCN	- .0000	0.533
CASP	- .0194	0.039	CASP	.1444	0.782
R ² =	0.60		R ² =	0.71	
F= Cal	1.65		F= Cal	0.68	
F= Tab	0.408		F= Tab	0.639	



Obs=	32		Obs=	32	
Average VIF	1.53		Average VIF	1.53	
Average Tolerance	0.798		Average Tolerance	0.798	

Source; Computation using StataCorp 14.0 (2015).

The estimated results on productivity and profitability are presented in the Table 4.1 above. From the regression results, it was found that the intercept was 3.426 and 11.577 meaning that when NHPDO, CFG, PHCN and CASP are zero, productivity and profitability will increase to about 342.6% and N1, 157.7 respectively.

A glance from the Table 4.1 shown that, both NHPO, CFG and CASP have negatives coefficient values (-0.0011, - .0537 and - .0194 respectively) which indicates a negatives effects on the productivity, with CASP been statistical significant at 5%. These indicate that an increase in these variables will result to a decrease in productivity by 0.11%, 5.37% and 1.94% respectively. This means that power outage affects the productivity of the enterprises. This also explained why electricity is an important to the production process, this result agreed with Abdisa (2018), on power outage and its economic cost on firm performance in Ethiopia using survey data; that power outages affect the firm productivity negatively.

On the other hand, the profitability results show that CFG, LC and CASP have a positive relationship, while NHPO and PHCN have a negative relationship. This is shows from their coefficient values (CFG .3511, LC .3679 and CASP .1444 respectively) and are not statistical significant at 5% level. Their positive values indicate an increase in CFG, LC and CASP by N1, 00 will increases the profitability by N35, 11, N36, 79 and N14.44 respectively. Prior to expectation, this results shows a positive relationship between power outages and enterprises profitability, this finding agreed with Stephene and Milton (2020), in their study on cost of power outages on enterprises performance in Kenya, investigated the effect of power outages on firm performance using World Bank Enterprises survey data for (2018), employing instrumental variables regression as well as between power outages and firm profitability. That there was a positive relationship between efficiency levels, energy utilization and firm profit. In addition, the negative of NHPO and PHCN (-.0017 and -.0000) respectively, this indicates a negative effects of power outage on the profits. These findings agreed with Frederick and Josephine (2016) that power supply outage has a negative effect on enterprises profitability. Also from the Table above, the coefficient of determination of both productivity and profitability was $F^2 = 0.60$ and $R^2 = 0.711$ with a (p-values of 0.000) respectively. This shows that 60% and 71% variation in productivity and profitability

4.2 Analysis of the Willingness to pay by SMEs to secure uninterrupted power supply from nation grid.



The aim of this objective was to establish the level of willingness to pay for improved power supply to the SMEs in the study areas. the outcomes was to generate the views and perceptions of power supply consumer towards the principle of paying for improved service, and provide quantitative insight on the level of additional charges they are willing to pay. The tables below present the responds of the study SMEs in the study areas, towards paying additional charges (tariff) for the improved power supply. Accordingly, majority of the respondent (91.96%) indicates that their enterprises would be able and willing to pay more for improved power supply. However, about (8.04%) of the respondent indicates that they would not be willing to pay for various reasons, this include of those that can effort to pay, but don't believed that additional charges would lead to an improvement of the power supply.

Table 4.2 Willingness to pay for constant power supply

ALTERNATIVES	FREQUENCY	PERCENTAGE
YES	286	91.96
NO	25	8.04
TOTAL	311	100

SOURCE: FIELD SURVEY 2022. See appendix (F)

This also means that, they do not believe that the nation's utility is efficient and reliable. Therefore, it was concluded as the analysis of the results has shown, that majority of the enterprises are willing to pay an increase of (50%) of tariff charge for improved and constant power supplied in the study areas. This study agreed with Bothwell and Micheal, (2018) in their studies of Willingness to pay for improved electricity supply reliability in Zambia; A survey of Urban enterprises in Lusaka and Kitare, who's discoed that about (67%) of the enterprises agreed to pay an additional tariff charge of more than (50%), while (33%) of the respondent were not willing to pay an additional tariff charges.

4.2 Discussion of the Findings

From our research study the inferential statistic/result findings agreed with some of our expectation of the research work, that power supply outage affect the productivity and profitability of SMEs in Sokoto metropolis.

Firstly, in our findings, it was discovered that the cost of fueling generators (CFG) have a negative effect on productivity of the enterprises. This finding agreed with Aremo and Adeyemi (2011) who's in their study found that SMEs in Nigeria cannot run profitable business on power generating set in a highly competitive and open economy like Nigeria because of the high cost of fuel and maintenance. Secondly, it was also found that numbers of hours of power outage from PHCN have a negative effect on productivity of the enterprises. this finding also agreed with Frederick and Josephine (2016), who studied effect of power supply outage on the performance of small and medium enterprises in Tema and Northern part of Ghana, that power outages have a negative effect on the performances (profitability) of SME, especially in the Northern part of

Ghana. Our findings also agreed with Lassana (2018), in his study of cost of power outages of manufacturing SMEs productivity in Senegal using panel data and stochastic frontier model, that power outages have negative significant effect on the productivity of SMEs.

Finally, the study analyses the SMEs willingness to pay for improved and constant power supply, in our analyses, majority of the respondent (286) 91.96% agreed and are willing to an increase of 50% to the current tariff charged by PHCN. This study agreed with , Fredick et al (2020) that the correspondents are willing to pay an increase in tariff of 16% for reduced the average length of a power outage and Bothwell and Micheal (2018) that correspondents are willing to pay an increase in tariff charge of more than (50%) for improved and reliable power supply. The implication of this is that SMEs under study are ever ready to pay for an increased tariff charged as long as power supply would be reliable and constant. This shows that it's cheaper for the enterprises to operates on PHCN tariff charged than to operates on self-generation.

5.0 CONCLUSION

In conclusion, the study sought to analyze the effect of power supply outage on SMEs in a bid to provide possible policy solutions to curb power outage. Production functions, from a sample of 32 from both the SMEs were studies and the findings revealed that 90.911 percent of the enterprises indicated that power supply outage was the major constrains to their activities with an average of 180 hour of power outage in a month lasting 6 hours per day causing the enterprises an average of N300, 000.00 monthly. The findings concluded that power supply outage negatively affect the productivity and the profitability of the SMEs in the studies area.

5.1 Recommendations

As the aim of this research study was to provide recommendation through which a sound and a viable enterprises based will be established and enhance their productivity and profitability. This research recommended that

- 1) There is urgent need from government to improve the supply and distribution of public power so that SMEs productivity and profitability can be enhanced.
- 2) It also recommends that sokoto state authority should try and complete it independent power project plant so that it will increase the capacity of the megawatts supply by the National grid, so that the SMEs in the metropolis will enjoy uninterrupted power supply to enable them function effectively and efficiently.
- 3) Renewable energy. The SMEs should have employed the use of solar or wind energy to reduces the cost involved in fueling and maintenance of generating sets.

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