

EFFECT OF ERRATIC POWER SUPPLY ON THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES (SMES) IN SOKOTO METROPOLIS

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ABSTRACT

The objective of this research is to analyze the effect of erratic Power supply on the performance of small and medium enterprises. This research is a cross sectional survey. Samples of 55 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. Multiple regression model (MRM) in form of ordinary least Square was employed. SPSS statistical package version 16 was used to analyze the data. The result of the finding reveals that 90.91% of the enterprises studied indicated that erratic power supply was the major constrained on their performance (productivity) with average of 180 hours of power outage per month lasting 6 hours per day causing the enterprises an average of N24, 000.00 monthly. Also, the study suggested that there is urgent need for the government to overhaul the power sector in Nigeria so as to place the country on the pedestal of economic and industrial development.

INTRODUCTION

For both developing and developed countries, small and medium enterprises play important role in the process of industrialization and economic growth. Apart from increasing per capita income and output; small and medium enterprises (SMEs) create employment opportunities, enhances regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development (Ogulinba et al, 2004). SMEs have provided practical solutions to such challenges as poverty and declining household income, to meet family basic needs such as food, school fees and access to health services, among others (Gono, 2006). In Nigeria, the SMEs contribute above 70 percent of total industrial employment accounting for only 10 -15 percent of total manufacturing output (Salami, 2003). In United States of America (USA), SMEs account for over 50 percent of GDP, while in the world generally, the share of SMEs in the global production is over 30 percent and employment generation capacity of about 58 percent of global working population (Chamberlain, 2003).

Electric power is of fundamental importance to the economic, social and industrial development of any nation. It is so vital to all aspects of human life, production and service delivery that it contributes in no small measure to the standard of living of the populace. Frequent and often protracted power cuts make home and office life very uncomfortable, because it retards industrial activities and cause tremendous and sometimes damages varieties of personal effects, business and industrial electric and electronic equipment (Gambo, 2010). Presently,



Sokoto metropolis requires a minimum of 100 megawatts to sustain its electricity demand for industrial, commercial and household sectors, but less than 50 megawatts is supplied, leaving a balance of more than 50mw as a demand supply gap to meet the required minimum (PHCN Transmitting station, Sokoto 2014). This scenario causes SMEs to seek alternative sources of power, which increased the cost of inputs, as the organization will not only have to acquire alternative sources, generators, but also buy fuel and maintain them.

Given the above context, this research aims at examining the effect of erratic power supply on the performance [productivity] of small and medium enterprises (SMEs) in Sokoto metropolis. This study is an attempt to fill this gap. Specifically, it seeks to find answer to the following question. How does erratic power supply affect the productivity of SMEs in Sokoto metropolis? The specific objective is to determine the effect of erratic power supply on the productivity of the SMEs Sokoto metropolis. This study will examine the effects of erratic power supply on the performance [productivity] of SMEs in Sokoto metropolis. As there is no research of this nature in Sokoto metropolis, the study will increase our understanding of the problem of power outage in the metropolis. The findings of the study will add to the existing literature on the topic. It may also pave the way for other research in this area. The finding of the study may guide the policy makers and other stakeholders on how power supply situation may be improved. This research study will be limited to the small and medium enterprises in Sokoto metropolis.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Power Supply Electricity

According to Adeyemo, (2009), electricity is that part of infrastructure which is the basic physical facility upon which all other activities in the system significantly depend on. Power supply is the most important commodity for national development, with electricity energy, people are empowered to work from the domestic level to the cottage industries, through the small and medium industries employment are generated. It factors input in the production process of small and medium enterprises in particular, and to the manufacturing sector in general. Electricity supplies have a significant impact on economic activities (Velesquez and Pichler, 2010). This is because it is used for varied purposes ranging from production, storage, powering of office equipment and product display. Consequently, the use of electricity serves as input for production. This makes electricity an essential commodity for all industry types – manufacturing, service and distribution. According to the Encarta dictionary, erratic means inconsistent, not predictable and regular, especially in being likely to depart from expected standards at any time. Thus in the context of this study erratic power supply, would be taken to mean irregular and inconsistent electric power supply.

Erratic Power Supply occurs as a result of one or more technical problems, which occur on the electrical network during the process of power generation, transmission and distribution. Productivity is the efficiency and effectiveness with which inputs (land, capital, labour, material,



time, energy etc) are combined and utilized in an environmentally and socially sustainable manner to produce quality goods and service for the satisfaction of human needs (Gbenga, 2014).

Small and Medium Enterprises SMES

A single common definition for SMEs might not be possible because of its variations in the definition from country to country, and from sector to sector (Gunasekaran et. al, 2000). There is no single universally acceptable definition of SMEs in Nigeria. Nigerian Ministries, research institutes, agencies, private sector institutions, etc, use different definitions. However, there are varieties of definitions for micro, small and medium enterprises. In Nigeria, the number of employees, capital invested and turnovers have been used to define micro, small and medium enterprises (SMEs). According to the Central Bank of Nigeria (CBN), defined, Micro enterprises as those with less than 10 personnel and less than ₦500, 000:00k capital base; Small enterprises are those that have less than 50 personnel and less than ₦1million capital base, while Medium enterprises are classified as those that employed between 50 to 99 staff, and a capital base of less than ₦150 million.

The Nigerian National Council on Industry (NNCI) on the other hand defined micro enterprises as one with labour size of not more than 10 workers and total capital of not more than N500,000:00k, a small scale enterprises is an enterprises with a labour size of 11-100 workers or a total capital of not more than N50 million, including working capital but excluding cost of land, while a medium scale enterprises is the one with a labour size of 101-300 workers or a total capital of over N50 million but not more than N200 million, including working capital but excluding cost of Land (Udechukwu, 2003). According to the Jamodu, (2001) classification, small scale business is one with a capital outlay between N1.5million and N50 million including working capital but excluding cost of land, and or number of employees between 11 – 100. Ukenna et al, (2010), in their study on the effect of investment on human capital in Awka, defined small business as one with less than six employees and capital base of not more than hundred thousand naira. According to National policy on micro, small and medium classified medium scale enterprises as a formal face of Nigerian enterprises. Concentrated in a few sectors, notably manufacturing, transportation, information and communication, technology, they are fairly well organized and well connected. They have fairly good access to government and the financial system. For this study, the definition of Nigerian National council on industry (NNCI) Udechukwu, 2003) will be adopted, this will enable the researcher to include as many firms as possible in this research work.

REVIEW OF LITERATURE

In Nigeria, small and medium enterprises form the largest percentage of businesses including manufacturing sector of many countries (MAN, 2014). SMEs are highly essential for economic development. This is due to their contributions to the economic and social improvement of the nation. Keskin, sentur, sungurt and kirris, (2010) identifies a number of SMEs contributions to various economics which includes generation of employment at an increasing rate, export



promotion and enhancement of entrepreneurship. Ayanda and Adeyemi, (2011) in a research conducted in Nigeria, add that SMEs also assist in reducing poverty, creating wealth and reduction of income disparity through its income distribution role. In Nigeria, the SMEs contributed close to 50% of Nigeria's gross domestic product GDP to the nation's economy and created up to 25% of the employment for year 2012 (Elebeke, 2012). SMEs also promote industrial employment through the utilization of local resources, production of intermediate goods and the transfer/transformation of rural technology. In fact, SMEs are generally regarded as the engine driving the growth and other economic, and provide the best opportunity for job creation and rural development. Small and medium enterprises act as sources of generating employment for numerous citizens, assist in process of industrialization, input substitution and export earnings of all countries. It also helps to stabilize income, lessen poverty and unemployment in many developing countries, requires least skill to be established, upturns productivity and aids in the utilization of human and capital resources that would have been left idle if they had to wait huge sum of money to start large scale business (Omonigho, 2017).

The importance of electricity to the economic development of any nation cannot be overemphasized. Access to reliable electricity supply increases the productivity and welfare of the society. To small and medium enterprises activities, especially industrial units, requires constant and effective flow electricity. Subair and Oke (2008) admitted that electricity supply which is mainly utilized for driving machines for the production of various items is a strong factor that will enhance the productivity of manufacturing sector and thereby contribute significantly to the development of the economy. Poor electricity supply has proved to be the major constraint to the SMEs sector in Africa and has contributed to the low productive, profitability and poor competitiveness of the manufacturing sectors in the continent. This is evidenced in some studies examining the impact of electricity on the performance of business enterprises on Africa. Unreliable electricity supply has a significantly negative impact on a firm's total productivity (Anold, Mattoo, and Narciso, 2008, Escribano, Guasch, and Pena, 2009). The most significant effect this erratic power supply has on SMEs operation is costs. Cost is a variable input in the measurement of profit. Profit is only realizable where cost of production is less than revenue. As a fixed cost therefore, SMEs access to sufficient and affordable supply of electricity is therefore a crucial determinant of profitability and growth. Indirect costs of which energy costs amount for the largest share are the major factor responsible for the lower productivity of SMEs in Africa and Nigeria inclusive (Eifert, Gelt, and Ramachandran, 2008).

Theoretical Review

Three theories have explained the effect of erratic power supply on firm's performance. They are production function approach, an alternative approach and an indirect approach. And this research adopted an indirect approach which was based on how much firms spend on acquiring and running generators due to power outages. Electricity is a significant component of virtually any production process. As such, limited supply has the potential to, directly and/or indirectly; affect the economic activities of firms. In documenting such a crucial economic role of energy, a



common approach in the literature is to measure the output loss associated with electricity outages. One of the analytical frameworks used is a production function in which electricity contributes directly to firms' output as a separate input, and indirectly as a determinant of the extent to which other direct inputs such as capital equipment is used (see for instance Adenikinju, 2005). An alternative approach, a subjective method is based on self-assessment by which surveys ask firm to qualify the loss they incur due to power outages. This approach relies on the assumption that firms well positioned to provide relatively accurate valuation of how much it cost them to replace more frequently or to repair damaged machinery or equipment, or to assess the lost output due to idled inputs. A simple approach to evaluate the costs of power outages consist of just aggregating the cost amounts provided in the survey.

However, many biases can plaque the outcome, since firms may have the tendency to overestimate the incurred costs, hence, overemphasizing the constraint that electricity poses to their business activity (see Uchendu, 1993). An indirect approach similar to the latter is based on how much firms spend on acquiring and running generators. As shown earlier, firms may turn to the generation of their own electricity, such approach offers better insights than the former based on a production functions, because it may be impossible to differentiate between electricity – constrained firms that are functioning properly and the firms that are not facing power outages. Compared with the self-assessment approach, the values one gets from this proxy method tend to be more accurate, or at least less prone to biases that are associated with firms' own assessment. However, this proxy method is not immune from problems in the sense that the amount spent on power generation may not provide clear indication on the true cost of power outages. In fact, some firms facing financial constraints (which could result from power outages), may not be able to satisfy their whole need of energy. Further, just relying on how much they spend on generator could exclude firms not using generators and thus have a tendency to systematically under estimate the cost associated with electricity outages (see among others Beenstock *et al.*, 1997; Benstein and Heganazy, 1988).

Empirical Review

The poor state of infrastructure supply in developing countries has a negative impact on their economic performance for example, in a survey conducted in several countries has found that infrastructure costs and problems of unreliability rank high among issues in the business environment. According to Musuliu, (2012), among the earliest studies to examine the impact of power supply and its cost on Nigeria manufacturing sector using sample surveyed data were Ukpong (1973), Lee and Anas (1989), and Uchendu (1993). Their results predicted that small firms suffer more from unreliable electricity supply than large firms. Study conducted by Lassana and Abdoulaye (2013) on the sample of 528 businesses in Senegal revealed that power outages duration appeared to have a positive and significant effect on firms productivity as measured by cost and technical efficiency scores, but also a negative effect on scale efficiency. This indicates that power outages, normally a hindrance to production, turned out to trigger best management practices from businesses, which mitigate the adverse effects of power outages.



One of the major challenges of SMEs in Nigeria is the high cost of electricity generated from private electricity power generators (Aremu and Adeyemi, 2011) as a result of the inadequate and erratic power supply from the government source. Ordinary, the power generating sets which are supposed to be secondary source of electricity supply to industries and to serve as backups in the event of disruption from government sources (Okereke, 2010), but because of government inefficiency the backups are serving as the primary source. Adebayo and Alake (2012), study on the effect of irregular power on the cost of production by manufacturing industries. The study revealed that the cost of operating of self-power generating sets is 50 times cost of operating on power supply from national grid by PHCN. Ukpong (1973), Lee and Anas (1989), and Uchendu (1993) on their studies on impact of power failure and its costs on Nigerian manufacturing sector using sample survey revealed that small firms suffer more from unreliable electricity supply than large firms. Also, Adenikinju (2003) in his study on cost of electricity failure in Nigeria using 162 firms in three industrial axes in the country revealed that small firms bear higher cost of electricity failure than big firms. Gambo (2010) in his study of impact of electricity failure on output of manufacturing industries in Kano using 200 samples revealed that the manufacturing industries experiences output damage, poor quality of product, unfriendly working environment, non-direct foreign investment as well as closure of indigenous manufacturing industries in the state

METHODOLOGY

Source of Data and Sample size

This study would make use of both primary and secondary data. The primary data was obtained with the aid of administered questionnaires, while the secondary data were obtained from existing research works in the field of academia and organizations. And a sample of 55 small and medium enterprises within the metropolitan city of Sokoto with a total of 11 categories of SMEs by activities such as Metal Fabrication, Barbing Saloon, Hair dressing, Beverage, Confectioning, Electrical/ Electronic repairs, Furniture's, Photocopy, Pure water, Rice millers, Laundry, Tailoring and Secretarial, was sampled to determined the effect of erratic power supply on the performance of SMEs proxy by productivity. The study used a non-probability sampling procedure in form of purposive sampling technique. The research instrument used in this study was structured questionnaire. To elicit responses on the effect of five independent variables

Model Specification

Moroney (1967) in an effort to establish the importance of energy in clay industries employed a regression analysis using ordinary least squares. He used a Cobb-Douglass production function, which was most generally used, because, it accurately characterizes many production process (Petersen and Lewis, 2002).

The Cobb- Douglass function was of the form

$$Y = AK^{\alpha} + L^{\beta} + E^{\gamma} + M^{\delta}$$



Moroney introduced energy into the Cobb-Douglas production function because of its importance in the production process. (see the work of Stern, 2010).

Adopting the Cobb-Douglas production function, Moroney, consider his model to be

$$Y = \beta_0 + \beta_1 K + \beta_2 L + \beta_3 E + \beta_4 M + \mu \quad (1)$$

Where Y = value of output of SSI firm in the cluster

K = value of capital (current value of plant and machinery)

L = Labour cost

E = Energy cost

M = Raw material and other miscellaneous cost (excluding energy)

μ = Random error term.

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4 >$ parameters that when adopting a similar model for this research, we have the following:

$$Y = \beta_0 + \beta_1 ETC + \beta_2 NHDPO + \beta_3 CFG + \beta_4 LC + \beta_5 CASP + \mu \dots (II)$$

where:

Y = Enterprises performance referring to productivity

ETC = Electricity tariff charge by PHCN

NHDPO = Number of hour per day of power outage

CFG = Cost of fueling of generators

LC = Labour cost

CASP = Cost of alternative source of power.

μ = Random error term

Now equation (II) is modified and specified as

$$Y_{i-j} = \beta_0 + \beta_1 ETC_{1i} + \beta_2 NHDPO_{2i} + \beta_3 CFG_{3i} + \beta_4 LC_{4i} + \beta_5 CASP_{5i} + \mu \dots (iii)$$

Where Y_{i-j} = SMEs performance referring to productivity

ETC = Electricity tariff charge by PHCN within the period

CFG = cost of fueling of generators within the period.

NHDPO = Number of hour per day of power outage

LC = Labour cost within the period

CASP = cost of alternative source of power by SMEs within the period.

μ = Random error term

$\beta_0, \beta_1 > 0, \beta_2, \beta_3, \beta_4, \beta_5 < 0$.

The model (iii) explains the relationship between the dependent and independent variables

Methods of Data Analysis and Technique of Estimation

This research study used both descriptive and econometric approaches using primary source of data for more reliable results. The descriptive statistical technique was used to summarize and describe the nature of the variables captured for this study. Under the inferential statistics, multiple regression model (MRM) in form of ordinary least square was employed. The model was estimated based on the ordinary least squares OLS whereby the parameters or the coefficients of the multiple regressions was obtained and their statistical reliability was tested



based on the t-ratios. Adjusted R² and F statistics. Tolerance and Variance Inflation Factors (VIF) values were used to detect the presence of multicollinearity among the variables. Statistical package for social science (SPSS) 16 versions was used to run the regression. This was due to its availability and simplicity as it is capable of displaying regression results together with other tests.

DATA PRESENTATION AND ANALYSIS

Descriptive Analysis

Table 4.1: Enterprises by Age

Year	Frequency	Percentage %
1 ≥ 5	30	54.55
6 ≥ 10	12	21.82
11 ≥ 15	5	9.09
16 ≥ 20	5	9.09
21 and above	3	5.45
Total	55	100

Source: Field survey (2015)

The Table 4.1 shows the age of SMEs. The results reveal that 30 (about 55% of the small and medium enterprises) studies have between one or equal to 5 years. This is followed by 12 (about 22%) small and medium enterprises with 6 to 10 years. About 6% of the enterprises have between 21 and above years. This finding reveals that most of the enterprises studied were newly established in the metropolis.

Table 4.2: The Cost of Alternative Source of Power by Enterprises

Alternative	Frequency	Percentage %
Expensive	53	96.36
Cheaper	0	0
Equivalent to PHCN	2	3.64
Total	55	100

Source: field survey (2015)

From the Table 4.2 it was discovered that 53 (96.36%) of the enterprises sampled agree that the cost of alternative source of power i.e. energy generation by the enterprises was very expensive. While 2 (3.64%) of the enterprises agree that the cost of using generator was the same with PHCN charge. This implied that running business with standby generator was very expensive to most enterprises, because it increases the cost of production.



Table: 4.3 Profit Level of SMEs that used Standby Generator

Alternative	Frequency	Percentage %
Yes	26	47.27
No	29	52.73
Total	55	100

Source: Field survey (2015)

From the Table 4.3, 29 (52.73%) of the enterprises reveals that it was not profitable to run the stand-by generator in doing their business. While 26 (47.27%) reveals that there was profit in using generator in their business, this was because the use of generator allows the SMEs to met the demand of their customers and continued with their businesses. This implies that making profit using standby generator depends on the demands of the service/product of the enterprises in the metropolis.

Table 4.4: Electricity Supply by PHCN

Alternative	Frequency	Percentage %
Regular	0	0
Irregular	55	100
Not available at all	0	0
Total	55	100

Source: Field survey (2015)

Table 4.4 shows that 100% of the enterprises indicated that, the supply of electricity from the Power Holding Company of Nigeria was irregular. This implies that irregular power supply affect the performance of the enterprises in the Sokoto metropolis.

Table 4.5: Electricity Tariff Charge by PHCN

Alternative	Frequency	Percentage %
High	35	63.64
Low	19	34.54
Moderate	1	1.82
Total	55	100

Source: Field survey (2015)

On the tariff charged by Power Holding Company of Nigeria, Table 4.5 shows that 35 (63.64%) of the enterprises studies indicated that tariff charge by PHCN was high. And 19 (34.54%) are of the opinion that the tariff charge was moderate while 1(1.82%) agreed that the tariff charge was low. This implies that with high tariff charge by PHCN, the quality of service / products of the enterprises are affected.

Table 4.6: Electricity Supply Outage per Day

Alternative	Frequency	Percentage %
6 hour	50	90.91
4 hour	3	5.45
3hour	2	3.64
Total	55	100

Source: Field survey (2015)

On the electricity supply outage the table 4.6 shows that 50 (90.91%) of the total sampled studies revealed that, they experience at least 6 hour electricity supply outage every day. 3 (5.45%), 2 (3.64%) enterprises sampled indicated that they experience 3 to 4 hour electricity supply outage every day respectively. This implies that hourly power outage experience by the enterprises decline their performance.

Regression Result (Productivity)

Table 4.7 Shows the Result of Ordinary Least-Square (Productivity) as Dependable Variable

Variable	Coeff.	t-Cal	Sig-t
Constant	348.053	.704	.490
NHPDO	.113	5.184	.000
CFG (₦)	.002	5.451	.000
LC(₦)	4.805	.974	.342
PHCN(Bill)	-.007	-5.452	.000
CASP(₦)	.000	1.838	.082

Source: Researcher computation using SPSS 16 version (April, 2015).

R- square (R^2) = 0.707
 F- Calculated = 9.177
 F-tabulated = 2.74
 Sig P = 0.000
 Observation = 24

Table 4.7b Shows Collinearity Result

Variable	Tolerance	Variance Inflation factor (VIF)
NHPDO	.776	1.288
CFG (₦)	.211	4.740
LC(₦)	.479	2.089
PHCN(Bill)	.133	7.511
CASP(₦)	.517	1.933

Source: Researcher computation using SPSS 16 version (April, 2015).



Substituting the above regression result to our model as expressed in the methodology.

$$Y_{i-j} = \beta_0 + \beta_1 ETC_{1i} + \beta_2 NHPDO_{2i} + \beta_3 CFG_{3i} + \beta_4 LC_{4i} + \beta_5 CASP_{5i} + \mu \dots (iii)$$
$$\text{Prod.} = 348.053 - 0.007 ETC + 0.113 NHPDO + 0.002 CFG + 4.805 LC + 0.000 CASP$$

ANALYSIS OF THE RESULTS

A table 4.7 show that the the coefficient of determination (R^2) = 0.707. This implies that 70.7% of explanatory variable explain the variations on the dependent variable. The table also shows the coefficient of other independent variables. Firstly, in our findings it was discovered the coefficient NHPDO was 0.113, and was statistically significant at 5 percent level. Secondly the (CGF) coefficient was .002, and was statistically significant at 5 percent significant level. Thirdly, the (LC) coefficient was 4.805 and was not statistically significant even at 10 percent significant level. Fourthly, it was equally found that the coefficient of PHCN bill charge was - 0.007 and it's statistically significant at 5% level. Finally, it was equally found that the coefficient of (CASP) was .000 and was statistically significant at 5% level. We apply F-statistics to test the overall significant of a multiple regression model. The F-calculated of 9.177 had a corresponding significant P-value of 0.000. Conventionally, the decision was to accept the F-statistics as a good model, if the critical F value is less than the calculated F value. From the analysis the calculated F value (F-cal = 9.177) was greater than the F-critical (F-tab = 2.74), that is $F\text{-Cal} = 9.177 > F\text{-tab}(0.05, 5, 19) = 2.74$. Therefore, it can be concluded that the erratic power supply have significant effect on productivity of small and medium enterprises in Sokoto metropolis. Therefore, this allows the researcher to accept the alternative hypothesis. "There is no significant relationship between erratic power supply and productivity of SMEs in Sokoto metropolis".

DISCUSSION

From our research study, the descriptive and inferential statistical result findings agreed with some of our expectation of the research work, that erratic power supply affect the performance of small and medium enterprises in Sokoto metropolis. Firstly, from our descriptive results, it was discovered that erratic power supply exists among the SMEs in Sokoto metropolis. Out of 11 categories of small and medium enterprises survey are of the view that erratic power supply was the major infrastructural problems constrained their performance. This result agreed with Gambo (2010) who discovered using 200 samples survey in Kano that manufacturing industries experience output damage, poor quality of product, unfriendly working environment, non-direct foreign investment as well as closure of indigenous manufacture.

Also for the Manufacturers Association of Nigeria (MAN) in its Economic Review 2003 – 2006 attributed poor performance of some sub-sectors as results of among others, "deficient and depleting state of infrastructure". High cost of production was attributed mainly to the epileptic and deteriorating power supply. Secondly, it was found that the number of hour per day of power outage (NHPDO) has a positive effect on productivity of the enterprises, this finding agreed with Lassana and Abdoalaye (2013) who discovered using 528 business samples in



Senegal that power outage duration appeared to have positive and significant effect on firms productivity as measured by cost and technical efficiency. Thirdly, in our findings, it was discovered that the cost of fueling generators (CGF) have a negative effect on productivity of the enterprises.

This finding agreed with Adebayo and Alake (2012) who's discovered that the cost of operating of self power generating sets was 50 times cost of operating on power supply from national grid by PHCN. Fourthly, it was also found in this research that tariff charge from PHCN have negative effect on productivity of the enterprises. This result agreed with Imoro and Owusu (2012) who discovered in 320 selected MSI from three industrial clusters in Kumasi metropolis that unrealistic tariff rate charge by Public Utility Company affect the quality of electricity they required. Finally, it was equally found from this research study that the cost of alternative source of power (CASP) have positive effect on productivity of the enterprises. This result confirmed with Musuliu (2012) who discovered that the demand for backup generators was as a result of power outages firm's size and manager's experiences. Other factors also include firm's reputation and the use of internet for firm's operation. Also for Aderemi *et al* (2009) discovered from 210 selected food and beverage companies in Nigeria, that electrical energy consumption for these companies was mainly from generating set, this was due to either low voltage or epileptic power supply from national grid.

CONCLUSION

Small and medium enterprises play a crucial role in Sokoto metropolis and Nigeria in general, both in terms of wealth and employment generation and poverty alleviation etc. Yet, their activities and even survival are hindered by many constrains especially erratic power supply. This study was concerned with how erratic powers supply affects the performance of SMEs in Sokoto metropolis such as productivity as proxy. Fifty five (55) sample of small and medium enterprises were studies and the findings reveals that 90.91 percent of the enterprises indicated that erratic power supply was major constraint to their activities with an average of 180 hours of power outage in a month lasting 6 hours per day causing the enterprises an average of N24,000.00 monthly.

RECOMMENDATIONS

As one of the major aim of this study was to provide recommendation through which a sound and a viable enterprises base will be established and enhance their productivity. In light of this, the study considers the following as a way forward.

- Firstly, based on our findings it was revealed that SMEs could not operate successfully on generators set or other source of alternative power, this is due to high cost of fueling and maintenance. It is in the view of the above that there is urgent need from the government to improve the supply of public power so that SME's productivity can be enhanced.

- Secondly, government should as a matter of urgency provides solutions to the various problems which leads' to erratic power supply to SMEs so as to enhance their productivity.
- Thirdly, based on the above findings, the researcher suggested that government of Sokoto state should embark on independent power project plan to increase the capacity of the megawatts supply by the National grid, so that SMEs in the metropolis will enjoy uninterrupted power supply to enable those functions effectively and efficiently.

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