



## AN ASSESSMENT OF THE PRIVATIZATION OF THE POWER SECTOR IN NIGERIA: A STUDY OF BENIN ELECTRICITY DISTRIBUTION COMPANY (BEDC)

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### ABSTRACT

The papers assess the privatization of the power sector in Nigeria with a view to find out if it is achieving the purpose for its adoption and the challenges facing it. The multifarious challenges facing the power sector such as low capacity generation of power, transmission, distribution near total darkness and the issuance of estimated billing system.

This paper viewed the unbundling of NEPA into eighteen (18) Successor Company. Eleven Distribution Companies (DISCOs) and six generation company (GENCOs) and its effect on the citizens and the economy. The methodology adopted in this study was survey research design. The elite theory and the Total Quality Management theory were the theoretical framework. This paper shows that the earlier assumptions that privatization led to regular power supply is not true. The paper also revealed that the use of estimated billing system, the reluctant behavior of Discos to supply pre-paid meters to their customers, the use of casual staff by Discos, the use or obsolete infrastructure and the inefficient supervision of the value chain by the Transmission Company of Nigeria are some of the challenges faced by the power sector. The paper recommends proper supervision/sanctions were necessary/sanctions were necessary for violations, refusal to provide pre-paid meters, the transfer of pre-paid meter to new apartment by their customers and the use of renewable energy to increase power supply.

**Key Word:** Privatization, power sector, value-chain, power sector road map and renewable energy.

### INTRODUCTION

The Nigerian government decision to privatize its public enterprises has been subject of intense discourse in recent years and has remain highly controversial and politically risky. Privatization in Nigeria has not been a

popular reform. It has received so much criticism from labour, academia, non-governmental organization (NGOs) and individuals. Privatization has been welcomed with numerous strikes against proposed sell-offs, by trade unions fearing loss of jobs. Multifarious arguments for and against has been adduced to justify or reject the issue on privatization (Nightingale & Plandy, cited in 1997, Abioluwajumi, 2006). Since independence in 1960, Nigeria like most developing countries have developed a particular large parastatal sector. The parastatal is made up of such as economic activities, banking and insurance, oil prospecting, exploration, refining mills, hotels and tourism etc. A survey undertaken by the Technical Committee on Privatization and Commercialization (TCPC) shows that there are estimated 110 public enterprises in Nigerian which account for between 30 and 40 percent of fixed capital investment. The value of Federal Government Investment in the Enterprises was as at then estimated at about ₦17.8billion (Anyebe, 2002, Petersede, 2014). The return on investment had never exceeded 2% per annum, which is less than 25% of the annual subvention from government to the various public enterprises.

Abba, (2008) avers that some public enterprises whose establishment are linked on regulatory philosophy have also not live up to standard due to endemic corruption in these enterprises. Officials collect bribes and truncate their primary reasons for their establishment. But in the words of former President, Chief Olugsegun Obasanjo (1999) cited in Abba (2008) posit that in his assessment of the deadline in Nigeria government owned industries asserted that these industries suffer from fundamental problems of defective capital structure, excessive bureaucratic control and interception, inappropriate technology, gross incompetence and mismanagement, blatant corruption and crippling complacency with monopoly engender

Since government could no longer support monumental waste and inefficiency of the public enterprise sector, the program of privatization and commercialization was developed to address the socio-economic and political challenges in Nigeria, being part of structural adjustment programme (SAP). The legal framework for the Nigerian programme is the privatization and commercialization Decree No. 25 of 1988 and the implementation agency is the Technical committee on privatization and commercialization (Abioluwajum, 2006). Adamelekun & Layeye, 1981:1 cited in Ojobo 2005, Peterside, 2014, posit that Nigeria government embarked on the



privatization of public enterprises as an outcome of the liberals to emphasize the virtues of private initiative and the superiority of its management principles.

The Nigerian energy sector is currently undergoing one of the most ambitious, comprehensive and bold reforms in the history of Africa. The ultimate aim is to end the country's chronic power shortage and long standing monopoly of the sector by state owned power entity. Electricity supply occupies a pre-eminent position in the development of environment. In Nigeria electricity supply is at best epileptic. But steady supply of electricity is vital in binding the industrialization gap. Between 1999 and 2015, over \$20 billion (~~A~~7.2 trillion) was expended to improve electricity generation and distribution. Despite the huge sum of money spent on the power sector, electricity is still epileptic. This call for humus since electricity drives the economy.

The demand for electricity gradually increased and later outstripped supply as industrialization come in. the estimated total installed capacity of the combined hydro and thermal stations is 7,941.1MW as at December 2008. Meanwhile, the power generation capacity available is 4,427MW of which 3,273 MW is from PHCN while 1,155MW is from IPPs. Currently, it is estimated that the demand for electricity is approximately 10,000MW and it is expected to grow in the future. These are three hydro and seven thermal generations. In a recent World Bank report, two main reasons were adduced. The first, poor infrastructure and poor energy generation were advanced as holding back economic growth in many African countries with Nigeria topping the list. Mr. Kofi Anan at the Africa's development conference posit that "Africa's energy deficit, continues to stifle economic growth, job creation, agricultural transformation and improvement in health and education". There is a staggering difference in per-capital electricity consumption in Nigerian when compared with per capital electricity consumption in similar economics. If we include the number of megawatts generated from independent private power generation (IPPG) generated at huge expense. Furthering the gross inadequacy of energy generated becomes glaring when compared with South Africa's with almost 500 KWH per capita (Guobadia, 2017 cited in Audu et al 2017).

Despite the privatization of power sector in Nigeria and the enactment of the 2010 power sector, Reform Road Map poor performance, unstable electricity supply and frequent black outs is the order of the day in the power sector. In recent time, even with continued government subsidies, provision of soft loan facilities for the power sector by the Central Bank of Nigeria situation has not changed. A visit to one Benin Electricity Distribution Company (BEDC's) office in Benin City revealed that BEDC powering their office using generating set like any other small scale entrepreneur. The country faced by dwindling income due mainly to the collapse of global oil prices, the administration have challenge of convincing frustrated electricity consumers that they must accept substantial increase in energy tariff if Nigeria is to achieve constant, stable and affordable nationwide electricity supply. The privatized electricity companies, the Gencos and Discos are encountering myriad of structural problems that continue to hamper growth in the power sector. it is the desire of the author to find solution to some of the myriad of challenges.

Despite the various challenges faced in the generation and distribution electricity due to ageing of power plant, poor maintenance and death of funds are some of these factors that are responsible for the sub-optimal operation in the power sector. According to the Presidential Task Force on Power Project (PTFP), the sector needs on an annual basis, ~~₦~~520 billion (USD3.5 billion) to increase generating capacity from than 4000MW to 13,000MW. Transmission network is overloaded with a wheeling capacity less than 4000MW. There are also significant line voltage and power losses, as high as 25% compared with 3% in the US and 0.5% in Japan (Akinwale, 2014). Another major challenge that led is this study is the issue worsen demand shortage, refusal of Discos and Nigeria experiences on the digit transmission losses, which is quite large by international standard. Furthermore the issue of Energy mix is another challenge facing the power sector in Nigeria the electricity sector has been powered by hydro and thermal plants. The Nigeria is blessed with abundant of solar and wind energy which is yet to be tapped in generating power.

Closely related to the above is the issue of lack of enough prepaid meter and the unwillingness of the Discos to provide prepared meters (Akinwale, et al, 2012). The insecurity of the Federal Government on revamping the power sector is another challenge. A situation where FGN financing power sector



in the 2020 budget despite its privatization is laughable. The federal government allocated the sum of ~~₦~~9.05 billion for purchase of new generating sets, fuelling and servicing. A breakdown is under provided:

Ministry of Health purchase and maintenance of generators at a cost of ~~₦~~1.5 billion. Federal government mission abroad ~~₦~~75.4 million, maintenance/fuelling. Nigerian Army-fuelling/maintenance of generators ~~₦~~518.3 million. Economic, Finance Commission, maintenance/purchase of fuel of generators ~~₦~~313.4 million, Office of the Head of Service of the federation allocated ~~₦~~283.7 million for the purchase of fuel/maintenance of generators. Federal Ministry of Education and 199 Federal Secondary and Tertiary Institution ~~₦~~1.27 billion etc. (Punch Newspaper, 2019). The aforementioned sum of money budget by the Federal Government is a tactical acceptance that the privatization of the power sector has failed.

Many scholars have written a lot on the power sector reform in Nigeria and proffer solutions. It is an indisputable fact that Nigeria has one of the most problematic electricity sectors in the world. By comparison, South Africa with a population of 50 million has an installed electricity generation capacity of over 520,000 MW on a per capital consumption basis. Nigerians is ranked a distant 178<sup>th</sup> with 106.21 KWH per head well behind Gabon (900.) Ghana (283.65) Cameroon 176.01 and Kenya (124.65) (Anyanruoh, 2013). The partial views of authors on the foregoing subject matters are omissions that constitute intellectual gap which this work intends to fill. Emanating from the afore-mentioned, the research question has become imperative:

- i. Do you agree that the privatization will led to regular power supply?
- ii. Is it true that the transmission company of Nigeria is not providing efficient supervision?
- iii. Do you agree that the provision of prepaid meters to Discos customers will improve power supply?
- iv. Do you agree that renewable energy source will improve power generation and will eliminate into regular power supply?
- v. Do you agree that provision of proper remuneration and good conditions of service will motivate Discos staff for efficient productivity?

From the fore-going the following objectives were encapsulated. The general objectives in the assessment of the privatization of the power sector in

Nigeria with a view of proffering solutions. The specific objectives are as follows:-

- i. To ascertain if the privatization exercise will led to regular power supply;
- ii. To see if the provision of prepaid meters will improve power supply;
- iii. To ascertain the effort of supervision by the transmission company of Nigeria will improve power supply;
- iv. To see the effect of estimated billing system and renewable emerging improve power generation; and
- v. Proffer solutions to power supply in Nigeria with a new to improve its supply to the citizenry.

In order to find a solution to the above research questions, the following hypotheses were formulated:-

- i. The utilization of estimated billing system note significant to poor power supply;
- ii. The provision of pre-paid electricity meters is not significant to regular power supply;
- iii. There is no relationship between power remuneration and of Discos workers and regular power supply.

## LITERATURE REVIEW

In this study the following concepts are defined in the sense they are employed: privatization, power sector and public enterprise. Privatization as a concept can be defined in various ways. It connotes returning public-owned asset to the private sector, usually where control of activities is passed from public sector to the private sector in means of issues of shares (Ohashi & Roth, 1980, in Anyebe, 2001; Peterside & Amimi, 2014).

The United Nation Development Programme (UNDP) Guidelines on privatization (1971) define privatization as the monetization of the public sector activities that is the subject of the micro-economic decision-making to the market forces, since this is feature of profit-oriented private sector activities. Section 14, Decree No.25 of 1988 defined privatization as the transfer of government owned shareholding in designated enterprises to private shareholders, comprising individuals and co-operate bodies.

Ojobo (2005) Opine that privatization is the selling of a part or the entire equity of a publicly owned organization to private individuals or organization



such that the control of the public institution is transferred from government or any of its agency to private hand. Privatization has taken various forms ranging from divestment to delegation, displacement and decentralization. From the foregoing, privatization connotes the transfer of government owned shareholding in designated enterprises to private shareholding individuals or corporate bodies.

Public Enterprise – Obadan, (2000), Obadan & Ayodele (1998) view public enterprise as an organization whose primary functions are the production and sales of goods and or services and in which government controlled agencies have no ownership stake that is sufficient to ensure their control over the enterprises regardless of how actively that control is exercised. In another development Hemming & Mansor (1988) stipulate that state owned enterprise (SOEs) enable government to pursue goals of social equity that the market ordinarily ignore. The power sector Reform is traceable to September, 1990, when partial commercialization of the defunct NEPA was undertaken. The first step was the appointment of a managing director. Followed by dividing the institution into four autonomous divisions, Generation and transmission, Distribution and sales, Engineering, and Finance and Administration.

In 2001 there was the initiation of the National Electric power policy this policy set tone for the reform agenda and indeed the birth of modern day power sector reform in Nigeria. In 2005 the enactment of the Electric Power Sector Act (EPSRA) was enunciated. Also the Nigerian Electricity Regulation Commission (NERC) was established. To strengthen and provide momentum for the power sector reform enshrined in the Act, a Road 2010, Map, revised in 2013. The road map outline the country's plan to accelerate the reform specified in the EPSRA. This was followed by the unbundling of NEPA. This action led to the emergence of 18 successor companies namely 11 distribution companies (Discos) and six electricity generation companies (Gencos) and other independent power producers (IPP) were structured to sell the electricity produced to the distribution companies the various Discos. The generation and distribution segment of the power sector were completely privatized, the ownership of the transmission process is retained by the Federal Government but contracted

only to be managed on its behalf by Manitoba Hydro International (MHI) (Ogunleje, 2016).

Peterside & Amim (2014: 111) avers that the impact of the privatization of power sector in Nigeria using the political economy approach is based on capitalist values, ideology, orientation and assumption. The assumption of free market that the market operates in a competitive environment. In real life it is not true as power sector privatization in Nigeria has only succeeded in entrusting the collective wealth of the people into the hands of few political elites, retrenchment of workers, high electricity bill without commensurate service among other negative impact. The need for level playground for investors cannot be over emphasized. Furthermore, the regulating body need to check the excesses of the new distribution companies by regulating tariffs and quality services.

Makwe et al., (2012) Opine that there is high level of inefficiency in the Nigerian power sector. The power generation capacity available is far below the estimated growing demand for electricity. They critically assessed the proposed reform of the electricity market in Nigeria. Some of the challenges highlighted by them, they are: severe electricity crisis due to the apparently state of power infrastructures, double digit transmission losses and long tariff. The study identified that an upward review of prices and reduction in transmission losses were essential but the success of the reform depends on the government commitment and huge investment. Audu et al., (2017) opine that the protagonists of neo-Liberalism do contend that privatization is the antidote to ailing state-owned enterprises. However, the privatization of Nigeria's power sector is not without its challenges. The study assess the challenge facing the power sector reform programme in Nigeria. The study avers that the elite conspiracy as sabotage in power sector. It also reveals that the privatization of the power sector in Nigeria is taunted with the challenges of lopsided bidding process which has produced private power firms that are linked to the nation's ruling elite but which lack the capital and cognate experience to effectively run the power sector; exorbitant electricity tariffs in the face of epileptic power supply; and a regulatory agency that is hesitant to apply appropriate sanctions to defaulters in the electricity industry.





At independence in 1960, Nigeria was universally acknowledged as having a prosperity, social progress and sustainable development (Oshionebo, 2004). Nonetheless, cognizance was not taken of the fact that no country has every attained development without generating the necessary electricity power needed to drive its small, medium and large scale industries and economy. Power supply in Nigeria has assumed a dimension that both children and adult alike perceived it as an additional poverty to that basic needs-food, shelter and clothing.

In an emphatic observation of Makogu (2013):

“everyone will agree that one problem that has plagued this nation power problem. Finding a lasting solution always been high on the agenda of every Nigerian leader... As at 1975, Nigeria’s electricity infrastructure was very rudimentary. With generation capacity of mere 500mw while the transmission network basically consisted of a single stretch of 330kv lines. Most cities either had limited supply from diesel power stations or electricity.

Nigeria’s electricity power sector requires substantial reform if the country’s economic development and poverty alleviation programme is to be realized. This understanding is behind the reform programme recently initiated by the Nigeria government with the goal of privatizing the National Electric Power Authority (NEPA) monopoly (Ikeme & Ebonon, 2005; Audu et al., 2017).

Ogunleye, (2016) avers that the key goal of the reform can be broadly categorized into: (i) defining a new national power policy that positioned the private sector as driver of the sector on funding, innovation and leadership; (ii) designing an enabling regulatory, policy, and commercial framework for engagements of all stakeholders in the sector; (iii) commercialization of the sector. The roadmap for power reform outline specific tasks to include: establishment of a bulk purchase; trader; strengthening the NERC; provision of federal government credit enhancement; operationalizing the Nigerian Electricity Liability Management Company (NELMCO); strengthening the training institute, NAPTIN; strengthening the technical, and managerial capacity of the TCN, and sales of Nigeria generating companies and distribution companies to the private sector.

Ayodeji (2012) cited in Isah & Peterside (2014), averred that most of the core investor companies in Nigeria's power sector are owned by the few political elites and their cronies. It is observed in Nigeria that such elites include politician, top bureaucrats, traditional and religious leaders, and top government contractors. This finding is in tandem with Audu et. al, (2017).

El-Rufia (2013) vividly captioned this situation when he said:

“My Enron experience was an education of sorts.... Well informed and trusted friends put pressure on me to look the other way because they were advisers or consultants to Enron, or were potential beneficiaries in the transaction... (which) was inimical to national interest, negatively impacts the long-term viability of NEPA and threatened the reforms of the electricity industry were neither important nor relevant to their position. I saw starkly how government officials were willing to pervert the interest of the country to impress foreigners or obtained preferences for those they thought were their kinsmen. It was an early sobering experience and an appreciation of the reigning dictum of every one for himself and no one for the country”

In the same vein, Alhaji Aliko Dangote opine that “How do you have economic growth without power? No electricity power no growth because without power industries cannot function at an optimal level (Businessday, 29<sup>th</sup> July, 2019). Furthermore Egypt increased its electricity generation by 16 gigawatts which is equivalent to 10,000MW in 18 months Nigeria has been struggling for the past 18 years without adding 1000MW (J.K. Randle, 2019). In the 2020 fiscal year President Buhari presented ₦10.33trillion job creation budget to NASS and was approved. From the fore-going, FGN allocated the sum of ₦9.05billion for the purchase and maintenance of generators for Ministry of Health ₦1.5billion, Nigeria Missions abroad 75.4million; the Nigerian Army, fuelling and purchase of generating sets, Nigerian Police Force ₦222.9M, the Nigerian Correction Services – ₦214; Nigerian Immigration Services ₦109.1M, Federal Ministry of Education and 179 Federal Secondary and Tertiary Institutions ₦127M. The afore-mentioned provision in the 2020 budget reveals that the FGN has accepted the total failure of the privatization of the power sector (Punch Newspaper 8<sup>th</sup> October, 2019).



The present period is an era of serious electricity crisis; a crucial or decisive movement; an undesirable turning point; a time of difficult and distress; a state of confusion when things no longer happen in the normal or usual manner. In all, the situation of electricity supply inadequately shows the emergence of a crisis situation in which electricity supply could not catch up with the demand, requirements, creating an imbalance (Iwayemi, 1991; Adegoke, 1991; Ayodele, 1992 & 1998). In most developing countries, the power sector has been troubled by high technical losses, a lack of cost recovery pricing, poor maintenance, low equipment reliability; high tariff levels, productivity, corruption, a crippling non-payments problem and monetary debt. These factors have resulted in the commercial unsustainability of many developing countries' power sectors, which are unable to attract the needed private investment (Kuale & Tsado, 2006).

## METHODOLOGY

The study used survey descriptive research design and a multi-methodological approach to ascertain the generation of extensive and reliable information. Data and information were collected from two main sources, namely primary and secondary sources. Method of data collection includes: field survey method, in-depth (oral) interview, documents content analysis and stakeholders interactive sessions. The population of this study consists of staff of BEDC in the four states and other customers/stakeholders. A total (160) of one hundred and sixty questionnaires were well filled and returned.

## THEORETICAL FRAMEWORK

The elite theory and the Total Quality Management were both adopted as the theoretical framework of this paper.

**Elite Theory:** The elite theory is a socio-political theory whose origins lie mostly clearly in the writing of Gaetano Mosca, (1849 – 1923); Vilfredo Pareto, (1848 – 1923); Robert Michels, (1876 – 1936). The elites are the people that rule in every society. This connotes that no matter the effort geared towards democratizing a polity or political system. It is the privileged few or elites that rule. The elite theory assumes that the elites' interests are antagonistic to the masses' interest; the elites have exclusively reserved for

themselves certain privileges and the dogged struggle to enjoy some benefits like the elites results in masses-elite. The emergence and persistence of the elite class is a natural consequence of social stratification in which the elite occupy the apex of the echelon where they enjoy virtually all the privileges. While, the underprivileged masses occupy the base (Azelama, 2012; Osumah & Okosun, 2015). According to Pareto (1848 – 1923) elites are the people who are most proficient at using force and persuasion to rule the people as well as ongoing significant merit such as inherited wealth and family connection. Mosca describe the elites as “political classes” usually have “a certain material, intellectual, or even moral superiority” over those they rule. These selected few thus disorganize and outmaneuver the majorities. Michaels avers that elites are “oligarchies” who after gaining control of money, information flows, promotions, and other key areas in running organizations, powers also become concentrated in their hands. The investor companies in Nigeria’s power sector are owned by the few political elites and their cronies, top bureaucratic traditional and religious leaders are the elites.

## TOTAL QUALITY MANAGEMENT (TQM)

The total quality management as enumerated by Walter Schewhart (1920) and popularize by Edward Denning cited in Douglas (1994). The T.Q.M. possesses the ternate that the customer is the ultimate determinant of quality. A product may meet all specification; however, if it does not provide the customers with the performance / satisfaction, the quality is typologised as low.

TQM also believed that quality should be built into the product easily in the production process (upstream) rather than being added at the end or downstream. Multifarious products and services go through the stages of design, production, inspection re-working (for products), and then response to customers complaints are vital. This saves money but makes customers much happier. T.Q.M. generally opposes mass inspections of products because such inspection provides a safety net that shifts quality responsibilities away from the initial designers and producers. Accordingly, T.Q.M believes that preventing variability is the key to producing high quality. Slippages in quality arises form much variation in the product or services. T.Q.M most vital tools are process control charts. Such charts are used to track quality by charting a product’s deviation from the optimum; these deviations are then categorized and analyzed. Quality results from



people working within a system. It should be noted that it is the system working through the people that produces results. According to T.Q.M. quality is not a statistic attribute but it requires continuous improvement of input and process. It vital to note that as customer's expectations rise, so must the product quality. The ternate leads to the principle of continuous improvement. This continuous improvement must be directed to inputs and processes that the manager can directly control. Managers should focus instead, accordingly to T.Q.M. on improving organizational processes and inputs in order to improve quality because increased quality will lend to customers loyalty, and long-range profits will in exorable follow. T.Q.M. believes that quality improvement requires strong workers participation. It also requires total organizational commitment. Quality is achieved only when managers create an organizational culture that focuses on consistently producing quality product and then on improving them every period. In order to domicile this theory, BEDC's and its customers are expected to fashion a synergy by organizing regular town hall meetings where customer are notified before power seizures emanate from their Discos.

## TEST OF RESEARCH HYPOTHESES

### Hypothesis One

$H_0$ : The privatization of the power sector does not translate into regular power supply by BEDC.

$H_1$ : The privatization of power sector leads to regular power supply.

In order to test hypothesis Chi-square and Yale's statistical test was used. From the above the  $X^2$  calculated = 18.70. While critical  $X^2 @ = 6.64 = .01$ . Since calculated  $X^2$  critical @  $\alpha = .01$ . Data are statistically significant @ 1% sampling error. An association exist between the variables. This can note that we reject  $H_0$  and accept  $H_1$  which posit that the privatization of the power sector leads to regular power supply to consumers. The result requires that we calculate the Yale's  $Q$ .

$$Q = \frac{ad-bc}{ad+bc} = \frac{(15 \times 30) - (90 \times 25)}{(15 \times 30) + (90 \times 25)} = \frac{450 - 2250}{450 + 2250} = \frac{-1750}{2650} = -0.66$$

From the fore-going, the  $Q = -0.66$  indicates a very negative relationship between privatization of power sector and regular power supply. Despite the belief that privatization of power sector will improve power

supply the reverse is the case, poor infrastructure and the desire to make profit through estimated billing system etc is one of the challenge of the power sector.

### Hypothesis Two

$H_0$ : The utilization of estimated billing system by BEDC is not significant to poor power supply.

$H_1$ : The utilization of estimated billing system by BEDC is significant to poor power supply.

Calculation  $\chi^2 = 32$  while critical  $\chi^2$  (table) = 6.64 @  $\alpha = .01$ .

### Research Result

Calculated  $\chi^2 >$  critical  $\chi^2$  6.64 @  $\alpha = .01$ . Data are statistically significant @ 1% sampling error. An association exists between the variables. We reject the null hypothesis who opines that the utilization of estimated billing system by BEDC is significant to poor power supply. The Discos prefer estimated billing system because customer can be defrauded with high term whether there is power supply or not. The estimated billing system is regarded by customer as fraud and the National Assembly also regard it as stealing/fraud. Since the organization make more money for not providing its customers electricity.

$$\text{Yale's } Q = \frac{ad-bc}{ad+bc} = \frac{(90 \times 30) - (10 \times 30)}{(90 \times 30) + (10 \times 30)} = \frac{(2700-300)}{(2700+300)} = \frac{2400}{3000} = 0.8$$

The  $Q = 0.8$  which indicates that there is a strong positive relationship between the utilization of an estimated billing system on the various Discos and poor power supply of electricity to consumers.

### Hypothesis Three

$H_0$ : The provision of pre-paid electricity meters by the Discos to all its customers does not guarantee regular power supply to customers.

$H_1$ : The provision of pre-paid electricity meters by the Discos to all its customers guarantees regular power supply to all its customers.

The calculated  $\chi^2$  is 15.875. While the critical  $\chi^2 = 6.64$  @  $\alpha = .01$ . Since calculated  $\chi^2 >$  critical  $\chi^2$  @  $\alpha = .01$ . Data in this study are statistically



significant @ 1% sampling error. An association exists between the variables. We reject the  $H_0$  which is the null hypothesis and accept ( $H_1$ ) the alternate hypothesis which opine that the provision of pre-paid electricity meters by the various Discos to all their customers guarantee regular power supply to all its customers.

To calculate the Yale's  $Q$

$$Q = \frac{ad-bc}{ad+bc} = \frac{(94 \times 22) - (18 \times 26)}{(94 \times 22) + (18 \times 26)} = \frac{2068-468}{2068+468} = \frac{1600}{2536} = 0.631$$

There is a strong positive association between the provision of electricity pre-paid meters by various Discos and the regular supply electricity to customers.

#### Hypothesis Four

$H_0$ : There is no relationship between poor remuneration of Discos worker and regular power supply to customers.

$H_1$ : There is relationship between poor remuneration of Discos workers and regular power supply to customers.

From the above,  $\chi^2$  calculated is 17.316. While the critical/table  $\chi^2 = 6.64$  @  $\alpha = .01$ .

#### Research Result

Calculated  $\chi^2 > \text{critical} > @ \chi^2 @ \alpha = .01$ . Data in this study are statistically significant @ 1% sampling error. An association exists between the variables. We reject the  $H_0$  i.e the null hypothesis and accept the alternate hypothesis which posit that there is a relationship between poor remuneration of Discos workers/staff and regular power supply to its customers. The fore-going result requires that we calculate the Yale's  $Q$

$$Q = \frac{ad-bc}{ad+bc} = \frac{(93 \times 23) - (19 \times 23)}{(93 \times 23) + (19 \times 25)} = \frac{(2139) - (475)}{(2139) + (475)} = \frac{1664}{2614} = 0.64$$

There is a strong positive relationship between poor remuneration of Discos s staff and regular power supply to its customers.

#### DISCUSSION OF FINDINGS

The study revealed that there is a very negative relationship between privatization of power sector and regular power supply. It is the desire of all Nigerians that the privatization of the power sector will lead to availability of electricity that will drive the economy. According to Adamelekun &

Layeye (1981) cited in Ojobo, 2005, Peterside, 2014 opine that Nigerian government embarked on the privatization of the power sector as an outcome of the liberals to emphasize the virtue of the private initiative and the superiority of its management principles. Furthermore, is to end the country's chronic power shortage and its epileptic power supply. Thus, it is hope that with the privatization of the power sector that is in comatose situation there will be electricity 24/7. In another development, the poor state of the power sector is blamed on the current power generation capacity having around 4000 mw. According to Chijoke, (2017), postulate that the federal government diversification programme will be mirage if there is failure in achieving massive improvement in power generation i.e. the value-chain. Despite the approval of the sum of \$5,792 million i.e. about ₦1.140 trillion for the construction of the Mambilla power project that "there is nothing to excite in about the award. Consumers want action. The little power available the various Discos have disappointed Nigerians.

The study also showed that there is a strong positive relationship between the utilization of estimated billing system significant to poor power supply to consumers. The in-depth interview revealed that BEDC (Discos) prefer estimated billing system because it affords them the opportunity of charging outrageous tariff. According to Ijediogor (2018) opine that "some people call it cheating, while others see it as smart typologies it as a case of extortion of consumer without meters". Ironically the Discos are unconcerned and unrepentant; instead they are passing the buck concerning non-mastery to consumers. According to him, a compound with four flats of three-bedroom flats, where three of the flats have pre-paid meter and each of them was billed ₦2,500 while, the remaining one without pre-paid meter was slammed ₦10,000 estimated bill for one month.

One of the chief executive of one of the Discos opined that they have developed an approved methodology for billing consumer who do not have meters. It is what they get from the customer transformer monthly that is being shared among the consumers. If transformers have meters why are they providing pre-paid meters? This is a fallacy. The present transformer doesn't have meters but fuses (Ijediogor, 2018). In the same vein, the public hearing of the bill sponsored by the majority leader in House of Representative, Femi Gbajabiamila, representing Surulere federal constituency presented a bill to criminalize estimated billing by the various Discos. The study further





revealed that there is a strong relationship between provision of electricity pre-paid meters by the various Discos and regular supply of electricity to consumers. If all Discos customers have pre-paid meters BEDC (Discos) will have no other choice than to provide electricity to its customer. Since, estimated billing system will no longer be available were they collect free money without service being provided. Ijediogor (2018) posit that all efforts to make Discos provide pre-paid meters proves abortive. The Discos were reluctant to provide enough meter or at least minimize the incidence of overbilling. Dayo (2018) opine that BEDC have refused to provide pre-paid meter and their service are epileptic. Despite the fact the Federal Government directed all Discos s to provide prepaid meters only. Eko Electric Distribution Company house complied partially while the rest are still carrying out enumeration without end. Furthermore, the Ondo State Traditional Council of Rulers, kicked against the renewal of the operating license of all the Benin Electricity Distribution Company (BEDC) by the federal government due to poor performance. They described the activities and services of BEDC in the state as “antithetical to the purpose for which it was established” even as they called on the FG/N to consider a better option for good and efficient service (Dayo, J., 2018).

Agbazo (2018) stipulated that a diversified energy mix is really the best energy security policy that any country can have, Nigeria inclusive. Today, until solar and wind sources of energy become competitive with respect to pricing, we have got a comparative advantage with gas. There is also the need to launch hybrid renewables. It should be noted that the first issue is that the demand for energy continue to remain being strong and the gap between consumed electricity and power generated is still very wide. The key question is how do we bridge the gap by solving from one end of the electricity value chain? Focus could be on technology that guarantees fast delivery of power. This is fast power; either captive at the point of use, or declined by leveraging existing infrastructure to be able to take power to the lead countries where you have the population and the industry clusters. There are a lot of eligible consumers, who are able and willing to pay for electricity.

## CONCLUSION

The study is an assessment of the privatization of the electricity sector in Nigeria: A study of Benin Electricity Distribution Company. It carried out an overview of privatization of government companies, by assessing the privatization of the power sector in Nigeria and its achievement or failure. The survey research method was used. Four hypotheses were tested using the Yale's statistical method. The study revealed that there is a strong negative relationship between privatization and regular power supply. It also reveals that there is a very strong positive relationship between estimated billing system and poor power supply to BEDC's customers. Furthermore the study reveals that there is strong positive association between the provision of electricity meters and regular supply of electricity to its customers. Finally, the study revealed that there is a strong relationship between poor remuneration of Discos staff and regular power supply of power to customers.

## RECOMMENDATION

However the findings of this study gave impetus for the following recommendations:

- i) The Federal Government of Nigeria (FGN) should endeavour that the various Discos stop estimating billing system;
- ii) Provision of pre-paid meters to all Discos customers within the next one year period;
- iii) FGN to criminalize the action of Discos making their customers to pay / repair transformer/or any electrical infrastructures;
- iv) Discos still using casual staff are to be penalized and made to stop casualization of workers;
- v) Poor labour practice whereby half salaries are paid for no fault of the worker's should be discontinued;
- vi) All Discos must accept loads from the transmission company failure should attract sanction;
- vii) Provision of new/modern infrastructure in their electricity distribution chain; and
- viii) Serious supervision by the TNC on all GENCOS and DISCOS.
- ix) Supervision of all Discos by TNC and those found guilty be sanctioned.

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