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The Operations of the Power Holding Company of Nigeria and Discriminatory Monopoly

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Abstract
Efficient and effective electricity generation, transmission and distribution are critical to national development in both developed and developing societies. This study examines the constraining role of the prevailing discriminatory monopolistic environment in the actualization of adequate and sustained power supply in Nigeria. The data utilized in this study were derived from both primary and secondary sources. While the primary data were obtained from focused group discussions, the secondary data were sourced from relevant text books, journals and available statistics on electricity generation and supply in Nigeria. The findings of the study reveals that the discriminatory monopolistic environment typified by near absence of competition and poor service culture have severely constrained the much-desired adequate electricity generation capacity and effective service delivery in Nigeria. Finally, the study recommends among others that the Power Holding Company of Nigeria should operate in a competitive industrial environment where there exists a service culture.
Key words: Operations, discriminatory monopoly, Power Holding Company, Nigeria.

1. Introduction

Electricity plays a very important role in the socio-economic and technological development of every nation. Globally, electricity operations involve three critical activities namely: generation, transmission and distribution. These activities are not only cyclically connected; they are at the heart of the operations of the electricity industry in the energy sector. While electricity generation constitute the basis of the electricity supply chain because it provides the major plank for capacity building in the electricity sub-energy sector, the available electricity capacity generated requires an adequate transmission and a functional distribution system with the required wheeling capacity to meet national needs in terms of coverage and efficiency. At the end of the electricity supply chain is the distribution network that includes the voltage profile and the billing system that inter-faces with the public and ensures adequate network coverage and provision of quality power supply in addition to efficient marketing and customer service delivery.

Central to the electricity generation, transmission and distribution activities in both developed and developing societies is the environment of competition and service culture that is almost absent in an industry that is monopolistic and dominated by a single operator. Notably, competitive environments encourage efficient and effective allocation of resources so as to achieve a favourably competitive output and gain a cutting edge advantage. Such environments lead to the development of a service culture and the resultant delivery of quality services. This is particularly because competition brings about the desire to outwit other players in performance and enjoy the cutting edge advantage in any industry or environment.

Conversely, a monopoly misallocates resources by contriving shortages-producing less than the competitive output in order to create monopoly profits. There are also the associated costs of deadweight loss and monopoly rent seeking. The deadweight loss represents lost consumer surplus that was not converted into monopoly profits. This lost consumer surplus is received by no one. Consumers have lost it because the monopoly has restricted output, but it has not been received by anyone in the economy. This lost consumer surplus is referred to as the deadweight loss of monopoly. It is a deadweight loss because nothing is received in exchange for the loss; it is equivalent to throwing a valuable resource away. On the other hand, the rent seeking cost is hard to identify, but it seems likely that a great deal of managerial and entrepreneurial talent is spent seeking to establish monopoly power. This cost of monopoly has become known as monopoly rent seeking and it is a cost of monopoly because these resources are no longer available to produce goods and services. Still another cost of monopoly is inefficiency. Leibenstein (2012), for example, argues that while competitive firms are forced to be efficient by the market, this does not hold true for monopolies. This is largely because since monopoly is not punished by the market for slack management and the monopolist will tend to have more managerial “looseness” than a

competitor. X-inefficiency is therefore considered as and used to describe the costs associated with this lean and trim management and this cost has been estimated to be as high as 2 percent of GPN.

In Nigeria, electricity generation, transmission and distribution activities have over the years been dominated by the government-owned electricity company. Essentially, from 1951 when by an Act of Parliament in 1951, the Electricity Corporation of Nigeria (ECN) was established through the setting up of the Niger Dams Authority (NDA) in 1962 and the subsequent merger of the two (2) in 1972 to form the National Electric Power Authority (NIEPA) as well as the unbundling and the power reform process that culminated in the renaming of NEPA as Power Holding Company of Nigeria (PHCN) in 2005, the electricity industry had been arguably monopolistic. In fact, despite the power sector reform of 2005 that was expectedly supposed to ensure private sector participation in electricity generation, transmission and distribution in Nigeria, the operations of the state-owned Power Holding Company of Nigeria (PHCN) have been bedevilled by sundry problems including inadequate generation capacity, inadequate and delayed maintenance of facilities, insufficient funding of power stations, obsolete equipment, tools, safety facilities and operational vehicles, inadequate and obsolete communication equipment, lack of exploration to tap all the existing sources of energy from the available resources; poor staff commitment and low morale and poor transmission and distribution network system.

At the heart of the operational problems and lack-lustre performance of the Power Holding Company of Nigeria, is the discriminatory monopolistic environment in which the state-owned company operates and the largely non-existent service culture that is already in-grained. This study discusses the operations of the Power Holding Company of Nigeria in the context of discriminatory monopoly.

2. Objectives of the Study

The objectives of the study are to:

1. Highlight the indices of inefficient and ineffective operations in the Power Holding Company of Nigeria.
2. Assess the link between a non-competitive discriminatory monopolistic environment and inefficiency and ineffectiveness in the operations of the Power Holding Company of Nigeria.
3. Examine the impact of poor service culture on the operations of the Power Holding Company of Nigeria.
4. Make useful recommendations that will bring about efficiency and effectiveness in the operations of the electricity industry through a competitive environment where there exists a service culture.

3. Research Questions

1. Is there is a significant relationship between a non-competitive discriminatory monopolistic environment and the inefficient and ineffective operations of the Power Holding Company of Nigeria?
2. Is there is a significant relationship between poor service culture and the inefficient and ineffective operations of the Power Holding Company of Nigeria?

4. Justification for the Study

Several studies have been carried out to investigate the operations and performance of public sector organizations including the Power Holding Company of Nigeria. For instance, Sambo et al in 2006 examined electricity generation and challenges in Nigeria with a focus on the funding and capacity gap which they contend are constraining factors to the capital-intensive operations of the Power Holding Company of Nigeria. In a similar vein, Sule (2009) investigated the major factors affecting electricity generation, transmission and distribution in Nigeria and the focus was on the non-diversification of energy sources and poor maintenance culture. There is however paucity of research efforts in the area of monopolistic non-competitive operational environment and largely non-existing service culture. This relatively unstudied area and an identifiable gap is evidently a justification for this study.

5. Scope of the Study

Although electricity generation, transmission and distribution operations issues are of concern to both developed and developing societies because they are critical to the development process and its sustainability, this study is confined to the Power Holding Company of Nigeria. The scope of the study is therefore the Power Holding Company in Nigeria.

6. Research Methods

This study adopted a qualitative and quantitative case study method. Case studies involve the investigation of a specific phenomenon, event, group or organization with an eye to gaining a deeper understanding of it. They are especially fruitful for stimulating insights into further studies as Selltiz (2006) succinctly asserted. Case studies seek to describe the relationship between variables and identify the factors at play. They can fruitfully rely on observation, intensive interviewing and content analysis of documents as ways of generating and capturing the data germane to the study. The qualitative aspect of the case study method, according to Robert Yin (2003), has three aspects viz: investigation of a contemporary phenomenon within its real life context, the existence of boundaries between the phenomenon and the real life context and the use of multiple sources of evidence. The qualitative case study method also lends itself to exploratory, descriptive and explanatory methods. Yin emphasized that exploratory research attempts to find out about a situation, while the descriptive and explanatory research types respectively seek to know "what happened" and how and "why it happened." This study which examined the operations of the Power Holding Company of Nigeria (PHCN) in the context of discriminatory monopoly in Nigeria attempted a description and an explanation of the impact of discriminatory monopoly on the operations of PHCN in Nigeria through in-depth analysis of valuable secondary data and focus group discussions.

7. Literature Review

Electrical power generation, transmission and distribution are the three stages of delivering electricity to consumers in residential, industrial, commercial, and administrative areas. The supply of adequate and stable electricity to consumers is critical to the socio-economic development in both developed and developing societies. Inadequate and unstable supply of electricity to consumers, on the other hand, constrains socio-economic development in such societies

7.1 Electricity Generation in Nigeria

The first electricity generating plant in Nigeria was installed in Lagos in 1896. The Plants were installed at isolated units owned and operated by either Native Authorities as in Ibadan and Kano, or by the public works departments as in Warri and Port-Harcourt. The isolated units were merged together when the Colonial Government in Nigeria passed the ordinance No. 15 of 1950 which set up the Electricity Corporation of Nigeria (Uwaifo, 1994). The Corporation and the Niger Dams Authority set up by an Act of Parliament in 1962 to exploit the water resources of the River Niger were unified into the National Electric Power Authority in 1973 through the Federal Military Government Decree No. 24 of June 27, 1972 (Uwaifo, 1994). The first electricity generating plant to be commissioned in Nigeria was Ijora 'B' Power station (Lagos) in 1956 by the head of the British Common Wealth and Queen Elizabeth. A grid power transmission system that evolved connecting large power stations in Kainji, Jebba, Shiroro, Afam, Delta (Ughelli), Sapele (Ogorode) and Egbin (Lagos) came into being in the first half of the 1960s. That grid system served every state capital in Nigeria. By 1992, the total installed generation plant capacity was about 5,900 Mw. The total electricity available was 3,000 Mw and the coincident maximum demand had reached 2,400Mw (Adeola, 2007).

In 2009, the electricity generating station installed capacity in Nigeria was 5000Mw, but only 2900Mw was generated as at November, 2009 (Babalola, 2009). Electricity can be generated at Hydro, Thermal, Wind, and Solar generating stations. Electricity is generated at thermal generating stations where fossil fuels such as crude oil, natural gas and coal are burnt to produce high pressure (typically 2400 to 3500/lb/in and high temperature (1000°F) steam, which is used to drive turbines at 3600 rev/mm which in turn drive electrical generators to produce electricity (Donald et al, 2010). The concentrated solar power generating stations use mirrors or lenses to concentrate sunlight into a relatively small area and then use the resulting heat to raise steam to drive steam turbines and generators to produce Alternative Current (AC) power. There are, in fact, two methods of generating electricity namely; conventional method and non-conventional method. The conventional method makes use of prime movers such as petrol engine, diesel engine, steam turbine, while the non-conventional method does not use prime movers. The availability of natural fuels such as coal, crude oil and natural gas of 180 trillion cubic feet (Amotsuka, 2008) in Nigeria led to the utilization of hydro plants and steam gas turbines for electricity generation at Afam, Delta, Egbin, Sapele, Kainji, Shiroro, Jebba and the Monbila electricity generating stations.

7.2 Capacity of Electricity Generation Stations in Nigeria

In the face of the relevance of the power sector in the overall development and sustenance of the economy in Nigeria, the daunting challenge of getting it right in the electricity sector is an age-long one. Successive regimes have continued to make the power sector an area of concern to tackle. This is not unconnected with the fact that a viable power sector will inevitably have a trickledown effect on every sector of the economy. Statistics currently show that power generation stands at 3 000-4000mw, but supply has remained generally very erratic and unsatisfactory following faults and deficiencies caused by drop in power generation. Some studies had attributed the poor and grossly inefficient and ineffective electricity generation in Nigeria which started at ljora in Lagos in 1896 to governmental control, neglect and inadequate investment that resulted in the dilapidated power system with high technical and non- technical losses, poor maintenance of power generation facilities and inadequate metering capacity and planning for capacity expansion of infrastructure (Egwu, 2013).

Other studies that examined the electricity generation reality in Nigeria linked the situation to the low utilization of other available electricity generation sources, particularly gas and coal (Morison, 2011; Afe, 2012). The major finding is essentially true considering the poor and epileptic power situation in Nigeria despite the fact the gas sector holds significant potential, with Nigeria having the 7th largest gas reserves in the world. In fact, following several years of low domestic gas utilization, the sector is now confronted with a huge potential for unprecedented growth from about 5bcf/d currently to over 2Obcf/d by 2011/15. At present, there is no single coal-fired-power plant operating in Nigeria despite the abundance of high quality of coal deposits, and yet its exploitation is at its lowest ebb. As a matter-of-fact, Nigeria uses three types of electricity generation stations namely hydro-generating stations, steam turbine generating stations and gas turbine generating stations and they are interconnected in radial form with a single National Control Centre (NCC) at Oshogbo. This has lead to the low reliability index of the National grid (Yusuf et al, 2007).

Electricity generation in Nigeria was monopolistic until 2005 when the EPSR Act repealed the National Electric Power Authority (NEPA) Act and the Power Holding Company of Nigeria (PHCN) was formed from NEPA to serve as a transitory holding company prior to the unbundling of the sector. The Act provided for the creation of successor companies (SCs) from PHCN and 18 SCs comprising eleven distribution companies, six generation companies and one transmission company has since been created. The Act supposedly came in to being in response to the dire shortage of electric power and the need for urgent reform of the sector. The EPSR Act provides for two stages of market development viz: pre-privatisation stage and post privatisation stage. The pre-transition stage involved restructuring, review of regulatory framework and creation of a sector regulator. The role of NERC as the sector regulator is to provide a formal independent regulatory framework for the electricity industry, ensure sustainable growth, development and stability of the sector, boost investor confidence, protect the interests of consumers, promote competition within the industry, set and enforce quality standards, enforce consumer service obligations, and provide all necessary regulatory functions for the electricity industry (Yusuf et al, 2013). NERC also licenses and regulates persons engaged in the electricity generation, transmission and distribution operations in Nigeria.

In spite of the human, financial and time resources invested in the power sector reform in Nigeria, electricity generation has remained problematic. For instance, while the Nigerian government awarded contracts for the generation, transmission and distribution of 6000Mw with the completion date of December 2010, the installed capacity of electricity generating stations in Nigeria was 5 000Mw, with only 2,900 Mw generated as at November, 2009 due to sundry inhibiting factors. Again, while it is true that the Federal Government of Nigeria initiated the construction of 3 coal power plants at Enugu, Gombe and Kogi, Nigeria's goal to revitalize the coal mining industry and expand power generation by attracting companies to develop these large coal resources and construct coal-fired generating plants that will connect the country's national grid is yet to be translated from mere action plan into concrete reality. After all, only about 40% of the country's population (of about 160 million) has access to electricity, with a total consumer figure of about 4.5 million (Derek, 2013). Arguably, it can be asserted that lack of vision, failure of strategic planning, perverse political incentive and weak commitment to development goals and corruption are factors in the infrastructural, operational and systemic deficit as well as the service malady that have characterized the appalling performance of the power sector in Nigeria.

Table 1 shown below gives the locations and the ratings of electricity generating stations in Nigeria.
Electricity Generating Capacity of Electricity Generating Stations in Nigeria

Station	Type	No. of Units	Installed Capacity	
			KV out	MW out
Kainji	Hydro	8	16.0	760
Afam I-III	Gas Turbine	12	10.5	260
Afam IV	Gas Turbine	6	11.5	450
Afam V	Gas Turbine	5	11.5	760
Egbin	Steam Turbine	6	16.0	1320
Egbin	Gas Turbine	9	11.5	270
Jebba	Hydro	6	16.0	570
Sapele	Steam Turbine	6	16.0	720
Sapele	Gas Turbine	4	10.5	300
Shiroro	Hydro	4	16.0	400
Delta II	Gas Turbine	6	11.5	120
Delta III	Gas Turbine	6	11.5	120
Delta IV	Gas Turbine	6	11.5	600

Source: (Nigeria Society of Engineers Technical Transactions, 2013, Vol. 42, No. 1, p. 27).

7.3 Electricity Transmission

Power transmission is the process in which large block of electricity is carried from the generating stations to distribution stations using 330KV EHV transmission lines; 132KV transmission lines and 33KV sub-transmission lines either at 50 KHz or 60 KHz transmission frequency. In Nigeria, the transmission system does not cover every part of the country. In fact, it currently has the capacity to transmit a maximum of about 3,200 MW and it is technically weak and very sensitive to major disturbances (Adegoke, 2013). Some of the major problems identified for the poor electricity transmission system in Nigeria include inadequate funding by the Federal government whose resource allocation cannot adequately meet all the requirements; the awfully low electricity wheeling capacity that is presently 5,000 MW which is below the required national needs; outdated sections of the national grid with inadequate redundancies as opposed to the required mesh arrangement; irregular expansion, updating, modernization and maintenance of the network; regular vandalization of lines, largely due to the low level of surveillance and security on electrical infrastructures and equipment; poor technologies with inadequate delivery and voltage systems; high prevalence of inadequate working tools and vehicles for operating and maintaining the network and poor technical staff with low capacity building and training programmes (Adegoke, 2013).

7.4 Electricity Distribution

After the transmission process, the distribution process follows immediately. At the distribution stations, the line voltage is stepped down from 11KV to 0.4 15KV using three phase secondary distribution transformer or 0.22KV using single phase primary distribution transformer. In most locations in Nigeria, the distribution network and the voltage profile are poor and grossly ineffective. The billing system is also inaccurate. As the department, which inter-faces with the public, the need to ensure adequate network coverage and provision of quality power supply in addition to efficient marketing and customer service delivery cannot be over-emphasized. Some of the major problems identified are weak and inadequate network coverage; overloaded transformers and bad feeder pillar; substandard distribution lines; poor billing system; unwholesome practices by staff and poor customer relations; inadequate logistic facilities such as tools and working vehicles; poor and obsolete communication equipment; low staff morale and lack of regular training and insufficient funds for maintenance activities (Olutayo, 2013).

The electricity distribution situation in Nigeria is so poor and epileptic such that Uwaifo (1994) stressed that in Nigeria, the power distribution efficiency plummeted to 74 percent, while since 1969 the USA power distribution efficiency has been 95 percent. In a similar vein, Uwaifo (1994) stated that since 1991, the average number of consumers for each distribution transformer increased to 220 in Nigeria. This glaring reality compared with the United States of America where the number of consumers per each distribution transformer is 10 is a source great concern, apart from the hydra-headed socio economic implications.

7.5 Discriminatory Monopoly

Price discrimination prevails in many of the markets where the sellers are monopolist or oliogopolists (Watson, 2010). It is the practice of selling identical products at different prices or similar products at price ratios that charge from the corresponding ratios of marginal costs. To engage in price discrimination, a firm needs to be able to set price, sort buyers (or induce buyers to sort themselves) and thwart resale. Analysis of price discrimination was first initiated in the mid l9th century by Julius Dupotit (1804-06) and other French Engineers concerned with bridges, roads and similar public works (Edison, 2013). In economic literature, price discrimination is a neutral term; no odium attached to it. Neither does the expression discriminatory monopolist convey any suggestion of approval. In general, price discrimination means that a firm charges two or more prices for the same thing at the same time. It can also mean that the differences in the prices of a firm's product are greater than the differences in their cost of production. The theory of price discrimination throws almost the whole emphasis on the demand side. Costs of course, must be aligned with demand, but otherwise costs play subordinate role. In contract, business practice usually put the stress on differences in cost, because it is often hard to estimate, for demand tends to be ignored or given scant attention. Price discrimination is an extension of monopoly pricing, in the broad rather than in the narrow meaning of monopoly. Any seller with a sloping demand curve is a monopolist in the broad and loose sense. A firm that is a price maker can look to the possibilities of price discrimination, this is true of a monopolist who prices independently, or an oligopolistic, or a monopolistic competitor.

The prerequisites of price discrimination are separate markets and differences of elasticity of demand between the markets. An old example is the monopoly that sells at a high price in the domestic market and at a low price in the foreign market. The two markets are kept separate by a tariff wall; domestic buyers cannot place orders abroad at the lower price in the foreign market because demand is more elastic. Owing to the competition from other similar products, such competition is lacking in the domestic market. How far can a monopolist go in charging different prices for the same product? What is the limit of the increase in net profit from price discrimination? The limit is defined in the concept of discrimination of the first degree. The expression was employed by A.C.Pigou, the English economist, who created the idea of degree of discrimination (Holman, 2007).

In discrimination of the first degree, the monopolist knows the maximum amount of money each consumer will pay for any quantity. The monopolist then set prices accordingly and takes from each consumer the entire amount of the consumers' surplus. Robinson (1999) calls the same thing perfect discrimination, which is perfect, however, only from the point of view of the monopolist. It is a hypothetical case in which a seller charges the maximum the buyer is willing to pay for each unit. In the MR, is the cost unit sold (- the lowest price charged on any unit). Equating MR and MC means in this case, providing where the MC Arrow crosses the demand curve (Edison, 2013). A monopolist who achieves fist-degree price discrimination would capture all the gains from trade. The simplest kind of discrimination of the first degree is one where knowing exactly how willingly they are, the monopolist charges each one a price so high that the consumer almost, but not quite, refuses to pay the prices. If all the consumers have' different tastes, the monopolist has a different price for each one. The lowest price is determined by costs. When consumers buy more than one unit of the monopolist's product, they are willing to buy more units at lower prices. The monopolist must then adjust the units of sale. Suppose that a consumer who could choose how many units he or she wanted to buy would buy 10 units if the price were N1 each.

In discrimination of the second degree, the monopolist captures parts of the consumer's surpluses, but not all of them. A firm practices second-degree or indirect price discrimination when its unit price schedule under which the unit price paid by a buyer depends on the quantity or quality a buyer with price not proportional to the marginal cost (Amacher and Ulbrich, 2011). In selecting a quality or quantity, a buyer simultaneously selects a price. Thus second-degree price discrimination is a quantity discount and two part tariffs (an entry/exit and usage charge). The schedules of rates typically charged by public utilities can be regarded as a form of second degree discrimination. Second degree discrimination is necessarily practiced in markets where there are many buyers, sometimes hundreds of thousands of them. One rate or price schedule must apply to all buyers. Because taste and incomes differ, the monopolist can seize only a small part of the consumers surpluses of those buyers whose desires for the service are stronger and whose income are higher. Second-degree discrimination is furthermore limited to services sold in blocks of small units-cubic feet of gas, kilowatt hours of electricity, minutes of telephoning-that can be easily metered, recorded, and billed.

Third-degree price discrimination means that the monopolist divides customers into two or more classes or groups, charging a different price to each class of customer (Sharp, 2011). Each class is a separate market, e.g., the box seats, the reserved grandstand seats, the unreserved grandstand seats and the bleachers. This occurs when seller discriminate two or more groups of buyers and offers them identical goods at different prices or similar goods at prices not proportional to marginal cost. The seller actively matches buyers with price offer rather than relying on buyer self-selection. The seller attempts to group together buyer with similar price estimates, offering low price to buyers with elasticity that is high in absolute value, and high price to buyers with elasticity that are low in absolute value, for instance a profile or revenue-maximizing bridge opens for faced with the data in the table, worked as we have seen set a lower toll for workers that wealthy tourists.

Public utility companies also practice price discrimination of the third degree, by grouping their customers into separate market such as residential, commercial and industrial (Amacher and Ulbrich, 2011). Each market is further subdivided into submarkets, such as different times of the day and different uses of the service. Prices differ from one submarket to another, and besides, second-degree discrimination is practiced within each submarket. The regulatory authorities must approve, of course, the complex patterns of price discrimination chosen by public utility companies. The simplest analytical means illustration of third-degree price discrimination is that of the monopolist who sells something, already produced, in two separate markets. The problem resembles that of the monopolistic selling in the immediate market, because there is some given amount to sell, the monopolist adjusts the amounts in each so that marginal revenue are equal. Here is another manifestation of the equi-marginal principle. The last units sold in each of the two markets make the same addition to total revenue. The theory of price discrimination just reviewed can be extended to the problem of determining the prices for the multiple products of a firm.

7.6 Discriminatory Monopoly and the Operations of the Power Holding Company of Nigeria

Despite the critical role of the power sector in the overall development and sustenance of Nigeria's economy, electricity generation, transmission and distribution that constitute the core of the operations of the Power Holding Company of Nigeria (PHCN) have been problematic and a great challenge to the government and people of Nigeria. The paradox of the age-long problem is inability of the country to adequately generate and efficiently transmit and distribute electricity that is required to satisfy the developmental needs of the people and government of Nigeria. Arguably, successive regimes have seemingly continued to make the power sector an area of concern and to invest varying sums of money to tackle the identified problems. For instance, the Obasanjo civilian administration invested about $6b in the electricity sector (Edison, 2013). All the same, the power sector performance in Nigeria leaves much to be desired, especially as it has continually constrained the development of the country at all levels. Statistics show that power generation now stands at 3000-4000mw but supply remained generally very erratic and unsatisfactory following faults and deficiencies caused by drop in power generation (2013).

Some studies had attributed the poor and grossly inefficient and ineffective electricity generation in Nigeria which started at ljora in Lagos in 1896 to governmental control, neglect and inadequate investment that resulted in the dilapidated power system with high technical and non- technical losses, poor maintenance of power generation facilities and inadequate metering capacity and planning for capacity expansion of infrastructure (Egwu, 2013). Other studies that examined the generation reality in Nigeria linked the situation to the low utilization of other available electricity generation sources, particularly gas and coal (Morrison, 2011; Afe, 2012). The major finding is essentially true considering the poor and epileptic power situation in Nigeria despite the fact the gas sector holds significant potential, with Nigeria having the 7th largest gas reserves in the world. Notably, the contention of this study is that the persistently poor and epileptic electricity generation, transmission and distribution problem in Nigeria is a product of the discriminatory monopolistic environment and poor service culture in which the Power Holding Company of Nigeria.

Electricity generation in Nigeria was monopolistic until 2005 when the EPSR Act repealed the National Electric Power Authority (NEPA) Act and the Power Holding Company of Nigeria (PHCN) was formed from NEPA to serve as a transitory holding company prior to the unbundling of the sector. The Act provided for the creation of successor companies (SCs) from PHCN and 18 SCs comprising eleven distribution companies, six generation companies and one transmission company has since been created. The Act supposedly came in to being in response to the dire shortage of electric power and the need for urgent reform of the sector. The role of NERC as

the sector regulator is to provide a formal independent regulatory framework for the electricity industry, ensure sustainable growth, development and stability of the sector, boost investor confidence, protect the interests of consumers, promote competition within the industry, set and enforce quality standards, enforce consumer service obligations and provide all necessary regulatory functions for the electricity industry (Yusuf et al, 2013). In spite of the human, financial and time resources invested in the power sector reform in Nigeria, electricity generation has remained problematic. Arguably, it can be asserted that lack of vision, failure of strategic planning, perverse political incentive and weak commitment to development goals and corruption are key players in the infrastructural, operational and systemic deficit as well as the service malady that have characterized the appalling performance of the power sector in Nigeria.

The facts generated during the focus group discussions involving three groups of discussants: academics, electricity consumers and workers of the Power Holding Company of Nigeria (PHCN) in Nigeria (May-June, 2013) revealed that the discriminatory monopolistic environment in which the company operates, apart from the reality that it did not provide the challenge that is needed to perform optimally for purpose of achieving maximum efficiency and effectiveness the same environment, it also stifled the creation and growth of a service culture that is needed to guide operators in ensuring a customer focus orientation in the discharge of their activities. In fact, a convergence of opinion showed that a competitive environment enhanced with an existing service culture will bring about competition for the cutting- edge among operators in the electricity industry. There is therefore an agreement between the contention in this study and the congruence of ideas generated during the focus group discussions. The two research questions in this study are, as a consequence, relevant. This is because the findings of the study revealed that there exists a significant relationship between the discriminatory monopolistic environment and the lack of service culture with the level of inefficiency and ineffectiveness that has persistently characterized the operations of the Power Holding Company of Nigeria.

8. Conclusive Remarks and Recommendations

Efficient and effective electricity generation, transmission and distribution are central to and at the heart of the development in all societies. This assertion is premised on the reasoning that socio-economic growth and development cannot be successfully actualized without the critical input from the electricity (power) sector. Essentially, individuals groups and governmental as well as business organizations and institutions require adequate and stable electricity supply for their day to day operations. However, the epileptic and unstable nature of the electricity generation, transition and distribution evident in the operations of the Power Holding Company of Nigeria has largely constituted an enduring and in-grained factor that has constrained and is still constraining the developmental activities and aspirations of the Nigerian entity. There is therefore the exigency for a genuine commitment by the Nigerian government to its electricity reform efforts and action plans, a favourable predisposition by the operators in the electricity industry in Nigeria, particularly the management and staff of the Power Holding Company of Nigeria as well as a stimulating competitive and environment with an entrenched service and maintenance culture.

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