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The Impact of Privatization of the Power Sector on the Economy in Nigeria 2013-2022

Okeke MaryPrecious Chiamaka[1*], Mateo Rojas Samper[2]

[1,2]School of Politics and Governance, Department of Public Policy Analysis, National Research University, Higher School of Economics, Moscow.*

Corresponding Email: [1]marypreciousokeke@gmail.com*

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Abstract: ***This study explores the impact of Privatization of the Power Sector on the Economy in Nigeria and proposes strategies to enhance efficiency and sustainability. The findings, based on data collected through a semi-structured interviews from various stakeholders, reveal diverse perspectives on the performance of privatization reforms. While some stakeholders acknowledge improvements in electricity supply, others highlight the loss of benefits. Challenges faced by the power sector after privatization include insecurity, vandalization of equipment, imbalance in load distribution, outdated infrastructure, and unreliable service delivery. The evaluation of privatization on electricity tariffs and the economy shows mixed views, with some stakeholders expressing dissatisfaction and others noting positive impacts on business performance. Strategies for improvement include government intervention, improved infrastructure, customer engagement, fair distribution of prepaid meters, anti-corruption measures, training and expertise. Implementing these recommendations can enhance the efficiency and sustainability of the power sector, supporting economic growth and development in Nigeria. The study emphasizes the crucial role of the power sector in the economy and highlights the need for collaboration among stakeholders for a robust and reliable power supply system.***

Keywords: ***Privatization, Economic Impact, Power Sector, Nigeria, Public -Private Partnership, Regulation.***

1. INTRODUCTION

In a world where profitable growth is increasingly linked to the effective operation of power resources, African countries, including Nigeria, have joined the global trend of power sector liberalization, driven by privatization. still, the performance of this reform in Nigeria has reacted in a series of unique challenges that have left a significant impact on the country's economy.

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Unlike other countries that have successfully executed power sector privatization, Nigeria's experience has been far from ideal. According to recent statistics, the power sector in Nigeria has incurred losses of at least N117.8 billion over a period of 66 days due to gas crunches and other issues (African Development Bank and Association of Power Utilities of Africa, 2019). This figure highlights the distinctive challenges that Nigeria faces in its quest for power sector reform. The installed capacity remains low, with roughly 8,000 MW, out of which only 4,000 MW is exploitable and lower than 2,000 MW is available for energy generation (Ogunleye, 2016). This difference in energy generation sets Nigeria piecemeal from other African countries, analogous as South Africa, which boasts a per capita consumption of nearly 5,000 kWh(Ogunleye, 2016). likewise, the power sector in Nigeria is predicated on marketable values, testament, exposure, and supposition of free request that operates on a competitive terrain (Aminu, Isa, and Zainab, 2014). This has led to the handover of an imperfect privatization model, frequent gas crunches, electricity theft, illiquidity problems, estimated billing, low electricity pricing, shy structure for the transmission of electric power, and lower technology operation(Asore and Ekene, 2021). These issues have reacted in a situation where the maturity of the population is unfit to pierce the necessary services, leading to a vicious cycle of poverty and dependence on necessary sources of electricity.

2. RELATED WORKS

Global Trends in Power Sector Liberalization:
In the quest for profitable growth, countries worldwide, including African nations like Nigeria, have embraced power sector liberalization driven by privatization. This global trend aims to enhance the effective operation of power resources. Examining successful implementations of power sector privatization in other countries provides valuable insights into potential models and strategies.

Challenges in Power Sector Privatization:
While many countries have realized positive outcomes from power sector privatization, Nigeria's experience has been marked by unique challenges. The literature reveals a series of issues, including frequent gas crunches, electricity theft, illiquidity problems, estimated billing, low electricity pricing, and inadequate infrastructure for the transmission of electric power.

Comparative Analysis of Power Sector Performance:
A comparative analysis of power sector performance in Nigeria against other African countries, such as South Africa, sheds light on disparities. Examining factors like installed capacity, energy generation, and per capita consumption provides a comprehensive understanding of Nigeria's distinct position and challenges within the broader African context.

Empirical Studies on Power Sector Reforms:
Reviewing empirical studies that have investigated power sector reforms in various contexts offers valuable insights into the factors influencing success or failure. This section synthesizes findings from studies that have examined the impact of privatization on efficiency, sustainability, and economic outcomes in comparable settings.

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Lessons Learned from Global Power Sector Reforms:
Drawing lessons from global experiences in power sector reforms can inform strategies for mitigating challenges in Nigeria. Analyzing successful cases and learning from the mistakes of others provides a roadmap for developing tailored solutions to address the specific issues faced by Nigeria in its pursuit of an efficient and sustainable power sector.

The study aims to probe these unique challenges and give a thorough understanding of the reasons behind these problems and their impact on the Nigerian economy. By slipping light on these distinctive challenges, it's hoped that practical results can be linked to palliate the negative impacts of power sector privatization in Nigeria.

In the Context of Nigeria's Power Sector, This Integrated Literature Review Explores Key Dimensions Guided by the Theoretical Framework:
Theoretical Framework: The study employs the policy cycle theory proposed by Lasswell in 1956 and Easton's input and output model of political system analysis (Easton, 1957) to understand the policy process and evaluate policy effects. Applying the policy cycle theory to Nigeria's power sector reveals its current position in the implementation stage. This framework provides a comprehensive analysis of policy decisions' effects on stakeholders during various stages, including agenda-setting, policy formulation, adoption, implementation, and evaluation. The study utilizes this theoretical framework to analyze reforms, identify grassroots needs, and understand reasons for inadequate solutions to public issues related to Nigeria's power sector privatization reforms. The policy cycle theory proves invaluable for analyzing the impact of privatization reforms on Nigeria's economy and power sector, emphasizing rigorous implementation plans and evaluations to ensure policies achieve their intended objectives.

In this Context, the Integrated Literature Review Examines Key Dimensions:
1. Generation:
Generation Companies (Gencos) are responsible for the generation of electric power in the power sector. In Nigeria, power generation can be broadly categorized into four types: (a) generation connected to the transmission grid, (b) embedded generation typically linked to the distribution network, (c) off-grid generation, and (d) captive generation (Nigerian Electricity Regulatory Commission, 2020).

2. Transmission:
The transmission network in Nigeria comprises around 20,000 kilometers of 132kV and 330kV lines, along with high voltage substations. It is estimated to have a theoretical wheeling capacity of approximately 7.5GW (Nigerian Electricity Regulatory Commission, 2020).

3. Distribution:
Network distribution is made up of distribution transformers, low voltage and medium voltage power lines, distribution substations, and distribution feeders. The primary voltage levels utilized in Nigeria's power distribution network are predominantly low voltage (11kV) and medium voltage (33kV) (Ley, Gaines, & Ghatikar, 2015).

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4. Power Access and Affordability in Nigeria:
Access to reliable and affordable power is a critical issue for economic development in Nigeria. Many Nigerians lack access to electricity, and those who do often face high tariffs and unreliable access to services (Borenstein, 2008).

5. Public-Private Partnership in the Power Sector:
Public-private partnership (PPP) in Nigeria's power sector involves collaboration between the government and private entities to develop and manage power infrastructure (Ogunleye, 2016).

6. Impact of Privatization on Tariff and Pricing in Nigeria:
Privatization of the power sector in Nigeria has had a significant impact on tariff and pricing. Before privatization, the government regulated the prices of electricity, resulting in prices that did not reflect the true cost of producing and distributing electricity (Ogunleye, 2016).

7. Consumer Satisfaction and Quality of Service:
Consumer satisfaction and quality of service are important aspects of the power sector that cannot be ignored. In Nigeria, the power sector has faced several challenges, which have resulted in poor quality of service and low consumer satisfaction (Ise, 2014)

Research Objectives and Scope of the study
Research Question
How can the power sector improve efficiency and sustainability, taking into account the impact of privatization reforms on the Nigeria's economy from 2013 to 2022?

Research Goal
The goal of the research is to explore the effects of privatization reforms on the efficiency and sustainability of the power sector in Nigeria. The findings will provide valuable information for policymakers and industry practitioners to make informed decisions and improve the overall performance of the power sector in Nigeria.

Research Task
The study will address the following research task;
- To analyse the impact of privatization reforms on the performance of the Nigerian power sector.
- To identify the challenges facing the Nigerian power sector after the implementation of privatization reforms.
- To evaluate the impact of privatization reforms on electricity tariffs and the economy in Nigeria.
- To identify strategies that can be employed to improve the efficiency and sustainability of the power sector in Nigeria.

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3. METHODOLOGY

This study aims to evaluate the effects of privatization reforms in Nigeria's power sector on the economy and identify strategies for enhancing efficiency and sustainability. Qualitative research methods, specifically semi-structured interviews, will be utilized to collect data and address the research question (Magaldi & Berler, 2020). The interviews will be conducted online via Zoom with six respondents, including business owners, customers, and workers in the power sector. Each interview lasted approximately 30-40 minutes, and the primary data collected will be analyzed using thematic analysis. In addition to the interviews, secondary data sources such as official sites and relevant literature will be used to complement the findings. Ethical considerations will be maintained by ensuring confidentiality of respondent information and utilizing the data exclusively for research purposes.

4. RESULTS AND DISCUSSION

Demographic Profile of Respondents

Table 1 provides an overview of the demographic data for the six respondents, representing various stakeholders in the power sector. The table includes gender, stakeholder roles, income status, and geographic distribution.

Respondents	Gender	Stakeholders	Income Status	Region
Q1	Male	Business owner	Low	East
Q2	Male	Business owner	Middle	South
Q3	Male	Worker	Low	West
Q4	Female	Customer	Middle	West
Q5	Female	Customer	Low	North
Q6	Male	Worker	High	East

The impact of privatization reforms on the performance of the Nigerian power sector;
The first task of the study seeks to understand the impact of the privatization reforms performance from stakeholders and various questions were asked which includes:

1. Perceptions of Privatization Reforms in Addressing the Performance of Power Supply:
To get an insight of the impact of privatization reforms to address the performance of the power supply in Nigeria, stakeholders that are involved in the interview gave their views based on experiences on the increase in the hours of electricity supply by the private initiators and some respondent stated how the reforms has brought loss of benefits.

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Furthermore, in explaining the impact of the privatization on the electricity supply, respondent gave their perception on how it affects their workforce in general, businesses and their place of residence. Here is the observation presented as follows:

"..... I work in the private generation company as an operation personnel but there is no benefit given to us as a worker and the good thing is that private individuals are managing the sector properly but are after more profits than the government" Q2 (South) "..... ah there have been some changes in the job duties"Q6 (East)

Moreso, other respondents gave their own views on the changes been noticed in the performance of the electricity supply:
"..... I prefer now that it is owned by the private because when it was owned fully by the government, there was frequent power outages" Q4(West)

"..... Well, I noticed that the power supply increased partially in the urban areas then neglecting the rural areas" Q1 (East)

"..... Previously, we had about five hours electricity supply per day, leaving us with nineteen hours without power. However, after privatization, we now receive around eleven hours of electricity. Although it's an improvement but there is still Challenges" Q3 (West)

"..... I don't like it being held by the private. When the government is in charge, the money comes back to the masses most especially the youth benefit from it.

But when it is owned by the government, I prefer it" Q5 (North)
These shows that stakeholders gave their various perception of the electricity supply on how it has brought changes but there are more that needs to be done because there are still areas that don't have power supply, while others gave an in-depth perception that the privatization performance has brought little changes and others said that the ideas was not encouraging.

2. Challenges Facing the Nigerian Power Sector After the Implementation of Privatization Reforms:
To understand this research task, questions were asked in line with the challenges that are faced after the implementation of the reforms and stakeholders explicitly gave their opinions which are:

"..... Well, the main challenges are the issue of insecurity, which leads to the vandalization of power system equipment. Recently there were Vandalization of the power towers that cause power system failures and blackouts. Another challenge is the imbalance in load consumption and distribution, which result in blackouts and inconsistencies in power supply" Q2 (South)
Furthermore, another dimension of challenges facing the power grid operation was given by the respondent:

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"..... outdated equipment, leading to frequent breakdowns and power outages and the insufficient investment in maintenance and expansion of the grid, resulting in unreliable service delivery" Q6 (East)

3. Evaluation of the Privatization Reforms on Electricity Tariffs and the Economy in Nigeria

In this third task of the study, researcher sought out to find the opinions of the stakeholders such as the business owners, workers and the paying customers on the electricity tariff and to access the effects it has to the economy in Nigeria. Respondents' opinions are stated as follows:

"..... Oh, the high electricity bills, especially in urban areas. Presently, I am using solar energy and generator due to the high tariffs imposed by private companies after privatization. It has affected business negatively, as it adds to expenses." Q1 (East)
"..... I'm not always satisfied. Sometimes, even after paying a significant amount, the power supply is insufficient. It feels like the units are not accurately calculated based on the price paid." Q4(West)
"..... I must make monthly payments without accurate measurement of Consumption" Q2 (South)
"..... It has not been easy because the income expected to generate at the end of the month doesn't always align with our expenses most especially with the payment of tariff" Q3(West)
"..... I am at the negative aspect. In Lokoja, you pay for what you don't consume. It's better because you pay for the exact amount of electricity you Use" Q5(North)

The views of respondents that indicated that the electricity tariffs by the private initiators is still preferable in their business than when it is held by the government, here are their views
"..... the tariffs were cheaper when the government owned the electricity supply. However, the current tariffs are higher, but the duration of supply has increased. It has had a slight positive impact on my business. Although the expenses have increased, the availability of electricity for longer hours allows me to generate more income than I did before" Q3(West)

4. Strategies for Improving the Efficiency and Sustainability:

This is the fourth task of the study and stakeholders explore several dimensions that should be done to improve the supply of power to be efficient and sustainable to the Nigerians.
However, Respondents states the roles government should play to improve in the electricity supply such as:

"..... I would like the government should intervene by providing more transformers and improving the distribution of electricity" Q1 (East)
"..... Oh, every area there should be more transformers because it will reduce
the challenges that are encountered due to overload and low voltage" Q4 (West) ".....The government needs to work on the corruption aspect and ensure transparency in the power sector" Q5 (North)

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Respondents gave their views on roles of Private initiators and customers in the improvement of the power supply in Nigeria:
"..... private companies should be considerate to customers and provide refunds or flexible payment options and ensure a functioning power sector. Customers paying their bills on time to support the operations of power Supply" Q1 (East)
"…. Well, there should be a focus on improving the equipment and infrastructure, ensuring that they meet the demands of the sector. Secondly, the leaders and managers in the power sector should have relevant experience and expertise to be able to meet up the demand. And sending engineers for proper training to enable then handle the new technology. Q2 (South)
".... public consultations, and awareness campaigns to gather feedback and address Concerns" Q6 (East) Moreso, some respondent stated on the evenly distribution of prepaid should bring about improvement in the power sector and it will be of benefits to both customers, privates' owners and the government.

"..... Private individuals should add more megawatts together with the government and try to distribute prepaid to all customers" Q3 (West)
"..... refer prepaid because it allows them to manage their expenses better and won't make them share the cost with other occupants" Q4 (West)

Others suggested on the mechanisms that should bring about the effective electricity supply.
"..... As a private firm supplying electricity, it is important to actively communicate with customers and address their concerns public sensitization campaigns can be conducted to educate customers on the importance of proper payment and discourage bypassing of meters. Laws and regulations should be established to hold both the power companies and customers accountable" Q2 (South)
"..... Well, I will still say there is strong need to fight against corruption" Q5 (North)
"..... The maintenance personnel that will always check the transformers to notify if there is any issue in the power supply" Q4 (West)

The response of the findings above, stakeholders involved in the power sector reform in Nigeria have different views on the impact of privatization. While some stakeholders perceive positive outcomes, such as increased hours of electricity supply and improved management, there are also contradictions and concerns raised. These include the loss of benefits for workers, high electricity tariffs, inadequate power supply in rural areas, and a focus on profit rather than public welfare. These diverse perspectives highlight the complexity of the reform process.

Despite these differences, there are areas of agreement among stakeholders. The show that stakeholders identified the common challenges facing the power sector, which include insecurity, imbalance in load consumption and distribution, outdated equipment, insufficient investment in maintenance and expansion of the grid, and high electricity bills. Acknowledging these shared concerns provides a starting point for addressing the issues and improving the sector's performance. On the other hand, stakeholders hold divergent views on various aspects of the reform, including workforce conditions, power supply adequacy, fairness of tariffs, and

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distribution of prepaid meters. Some stakeholders perceive improvements, while others express dissatisfaction and the need for further actions.

Considering the findings, it is evident that addressing the challenges in the power sector requires collaboration and coordination among stakeholders. Government intervention, private companies' considerations for customers, improved infrastructure, transparency, public consultations, awareness campaigns, and efforts to fight corruption are some of the strategies that can be employed. By incorporating the diverse perspectives and addressing the identified issues, the power sector can strive towards efficiency, sustainability, and reliable service delivery to support Nigeria's economic growth and development.

5. CONCLUSION

The investigation delved into the effects of privatization reforms on Nigeria's power sector and proposed methods to improve efficiency and sustainability. Stakeholders expressed contrasting opinions regarding the reforms' impact, with some noticing enhanced electricity supply while others highlighted challenges. The study identified high electricity tariffs, inaccurate measurement of consumption, and inconsistent power supply as issues. To mitigate these challenges, the study suggested government intervention, enhanced infrastructure, customer engagement, even distribution of prepaid meters, anti-corruption measures, and training and expertise. By implementing these recommendations, Nigeria can work towards a more efficient and sustainable power sector that supports economic growth and enhances the quality of life for its citizens.

6. REFERENCES

1. African Development Bank and Association of Power Utilities of Africa. (2019). Revisiting reforms in the power sector in Africa: Final report. Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Power-Utilities/Revisiting-reforms-in-the-power-sector-in-Africa-Final-report.pdf
2. Aminu, I., Peterside, I., & Brown, Z. (2014). The impact of privatization of power sector in Nigeria: A political economy approach. Mediterranean Journal of Social Sciences, 5(26)
3. Asore, Ekene(2021) The Impact of the Privatization of the Power Sector on the Economic Growth and Development of Nigeria. African Scholar Journal of Management Science and Entrepreneurship, vol. 20, no. 7.
4. Borenstein, S.(2008) Equity Effects of Increasing-Block Electricity Pricing. Paper CSEMWP180, Centre for the Study of Energy Markets, University of California, Energy Institute.
5. Easton, D. (1957) An Approach to the Analysis of Political System. World Politics, 9, no. 3: 384.
6. Ise, J. O.(2014) Issues and Challenges in the Privatised Sector in Nigeria. Journal of Sustainable Development Studies, 6, no. 1,161-174.

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http://journal.hmjournals.com/index.php/JPOME
DOI: https://doi.org/10.55529/jpome.42.8.17

7. Lasswell, H. D. (1956). The Decision Process: Seven Categories of Functional Analysis. College Park, MD: University of Maryland.
8. Ley, K., Gaines, J., and Ghatikar, A.(2015) The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification., Retrieved from https://www.giz.de/en/downloads/giz2015-en-nigerian-energy-sector.pdf.
9. Magaldi D. and Berler M.(2020). Semi-Structured Interviews Encyclopedia of Personality and Individual Differences. Springer, Cham. https://doi.org/10.1007/978-3-319-24612-3_857
10. Nigerian Electricity Regulatory Commission, (2020). Nigerian Electricity Supply Industry. https://nerc.gov. ng/index.php/home/nesi
11. Ogunleye, E. K., (2016). Political economy of Nigerian power sector reform. Energy Policy, 90, 171-180. doi:10.1016/j.enpol.2015.12.017.

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