

THE IMPACTS OF ELECTRICITY PRICE AND QUALITY ON CONSUMERS' SATISFACTION IN LAFIA METROPOLIS, NASARAWA STATE, NIGERIA

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Abstract

This study assessed the effect of electricity price on consumers' satisfaction in Lafia Metropolis. The study also examines the relationship between customers' satisfaction and the willingness to pay electricity bills. A total of 394 structured questionnaires were issued to electricity consumers in Lafia, Nasarawa State. Out of the total questionnaires issued, 328 were returned and analyzed using ordered logistic regression and descriptive statistics.

The results show that 77 percent of the respondents agreed that they are willing to pay high price if the quantity of electricity supplied in terms of the numbers of hours improves. Only 22 percent of respondents agreed to receive electricity service proportionate to the cost of electricity bills received. The study finds out that although quality and price has significant impact on consumers' satisfaction in the electricity industry in Lafia Metropolis, there is no significant relationship between consumers' satisfaction and willingness to pay electricity bill. The findings of this study have important policy implications for electricity regulatory agency; regulatory agency can restore consumers' confidence in the electricity industry by ensuring consumers' interest in costing process. In addition to restoring consumers' confidence, electricity regulatory agency can enforce policies that will ensure efficiency in the electricity sector by ensuring quality provision of electricity that is aimed at improving consumers' satisfaction and as well cover producers' cost.

Keywords: Electricity price, Customer satisfaction, quality of electricity

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1. Introduction

Energy is an essential commodity for sustainable growth and development in any nation, since most economic activities depend largely on adequate supply of energy to operate effectively (Beaudreau, 2005). Thus, not only does energy have to be in abundance but also it must be affordable to its users. This is because the quality and the cost of energy used for domestic and industrial purposes affect the welfare of citizens. However, in Nigeria access to electricity is very low as only 48% of Nigerians have access to electricity (Eleanor, 2014). In addition, Nigeria has the lowest generating capacity in Africa, for example in 2014, demand for electricity stood at 12,800 MW, but supply was only 3,400 MW (Obe and Wilkinson, 2014). This tends to affect the level of foreign direct investment and economic activities in the Nigeria (Trinh and Nguyen, 2015).

One major problem facing the government in Nigeria is providing sustainable energy-especially electricity-to her citizens. Poor access to electricity in terms of quantity and quality has led to poor economic growth over the past five decades. In a bid to boost the quantity and quality of electricity supply, the Nigeria electricity industry in 2007 was unbundled into six generation, one transmission and eleven distribution companies (Nigeria Electricity Regulatory Commission [NERC], 2008). Unbundling the electricity industry is aimed at increasing competition in the electricity industry (Akin, 2011). Competition arguably increases efficiency and make electricity price affordable to consumers. This is because each of the producers would probably want to increase their market shares and would want to improve their products. Hence, the concept of competitive market is effective only if we have many producers who are ready to behave competitively otherwise the industry have to be regulated (Varian, 2006).

Several factors account for the need to privatize the electricity sector; first, is the increasing demand for electricity due to increase in population and growth in the number of small firms. Second, is the need to replace outdated and ageing power plants with new ones (NERC 2014). Thirdly, the government can no longer afford to provide large capital requirement needed to keep the industry efficient (Gilbert, 2013). In addition, the privatization of the electricity industry will create avenue for private industry participation and arguably increases the efficiency in the electricity industry. Furthermore, the socioeconomic impacts of low quality electricity which include unemployment, loss of jobs, and high cost of production will be reduced. Privatization however, does not guarantee quality because if left unregulated, because private firms in pursuit of profit maximization may end up reducing the quality of electricity supply while making customers pay for unsupplied electricity.

In the context of electricity sector in Nigeria, making the market competitive means ensuring quality of services at a lower prices that will improve the welfare of the citizens, improve employment opportunities, reduce cost of production for small and medium scale enterprises (SMEs) thus making Nigeria's products competitive in the international market. However, in Nigeria since the deregulation of electricity, the impact of such regulation has little or no impact on customers; there have been increase in electricity tariff (NERC, 2015), little or no improvement in power supply, high voltage fluctuations and poor customer service (Ochugudu and Onodugo, 2013).

Overtime the Nigeria Electricity Regulatory Commission (NERC) has assured consumers that deregulation and competition will increase the quality of electricity. In a bid to ensure competition in the electricity industry, increase quality of service and provide efficient pricing mechanism-the NERC introduced the multi-year tariff order (MYTO) tariff system (NERC, 2007). Unfortunately, since the introduction of the MYTO there is no compelling evidence for customers to believe that the quality of electricity supplied has improved (Usman, 2013). A close look at the MYTO tariff system shows that the price system is designed in a way that is aimed at covering the cost of production for electricity producer with little attention given to the consumers' welfare. This may account for why the government is calling for an increase the price of electricity despite the gap between expected quality of electricity and the actual electricity received (NERC, 2015). This study assessed the effect of electricity tariff on consumers' satisfaction.

Olarinde and Omojolaibi (2014) studied the long run relationship between institutional quality and electricity consumption in Nigeria. Their study shows that increase in the quality of

institutional service tends to increase the consumption of electricity. Other studies such as Ochugudu and Onodugo (2013) also opined that quality affects consumers' welfare. What remains unclear is whether improving the quality of electricity increases the willingness to pay electricity tariff in Nigeria. It is therefore important to examine the relationship between quality service and willingness to pay electricity tariff in Nigeria.

The rest of this paper is organized thus: section 2 is an overview of MYTO tariff system. Section 3 deals with the nexus of quality, efficiency and poverty in the electricity market, section 4 is the theoretical framework. Next is the literature review in section 5. In section 6 we discuss the methodology. Section 7 is an analysis of the results of the findings and section 8 concludes the study.

2. An Overview of MYTO Electricity Tariff System in Nigeria

The supply electricity in Nigeria was for a long time the sole responsibility of the government since the establishment of electricity industry in Nigeria in 1936. The name of industry has been changed three times in a bid to improve the services rendered to its customers: Electricity Corporation of Nigeria (ECN) 1956-1972, National Electrical Power Authority (NEPA) 1972-2005, and Power Holding Company of Nigeria (PHCN) 2005 -2012. The industry was finally sold to private companies in 2012 who now manage the generation, transmission and distribution of electricity with NERC as a regulatory body.

In 2005, the Nigeria Electricity Regulatory Commission (NERC) was formed with the aim of regulating the tariff of power generation, transmission and distribution companies. The commission is responsible for enforcing standards in the production and use of electricity in Nigeria. Until the electricity industry was privatized in 2005, the industry operates as state owned monopoly structure from generation through the transmission and distribution to the final consumers. The electricity prices were usually fixed by the government. Consumers are classified based on their mode of consumption and tariff classification. The tariffs were categorized into residential, commercial, industrial, street light and special tariff. The tariff for each category is usually fixed by voltage class.

The NERC in 2007 developed the Multi-Year Tariff Order [MYTO] pricing policy which was based on the neoclassical pricing theory. The MYTO is an incentive regulatory framework that provides incentives for utility provider to minimize cost and operate efficiently (NERC, 2007). In the MYTO pricing scheme, prices are set equal to the long run marginal cost of an effective firm. In other to encourage investment in the electricity industry, the MYTO allows electricity providers to adjust price according to the rate of inflation, collection and transmission losses, cost of fuel and exchange rate (NERC, 2014). It also allows for a major review of price to account for change in the cost of inputs.

Although this method of regulatory framework is said to combine the advantages of the rate of return and price cap regulation (NERC, 2007); one major challenge of using MYTO approach is that-there is no benchmark at which we can measure the performance of the most effective firm in the industry, at least not for the next ten years. Furthermore, the MYTO model in a way does not favour the consumer, since producers are allowed to adjust price to reflect change in cost just like the rate of return regulation and price cap regulation. Thus, it fails to identify the price which

would yield a fair rate of return to the producers and consumers of electricity in Nigeria since a profit maximizing firm will continue to increase profit by increasing the cost of production.

MYTO advocates price discrimination where small consumers of electricity will pay lower rates than large consumers. Again, there are problems in the use of this method of pricing. First, the consumers will be encouraged to consume less electricity which may affect producers' revenue and the level of investment. Secondly, such price discrimination is an inefficient method of income distribution because subsidizing the price of a commodity distorts the market. Instead, the consumer should be empowered so that they can choose to consume more electricity.

One major assumption in the above literatures is that consumer have the ability to pay-thus price is set to marginal cost or above the marginal cost. They did not take into consideration a situation where the consumers' ability or willingness to pay is below the marginal cost.

3. Nexus of quality and efficiency in the Electricity market

OECD (2014) defined quality as the "flow of service or the level of value that consumers derive from a product". Although quality is subjective and unlike price it is difficult to measure, the consumers' reveal preferences can show whether the consumers prefer the quality of product A to product B. Apart from the customers' reveal preference, organisation or supervisory agencies could also set a minimum standard for a product. In this study we limit the quality of electricity to the generally accepted standard of service received which includes: stable power, stable voltage and uninterrupted supply.

Generally, consumer perceive price to be positively related to quality. However, where high price does not match high quality consumers will want to default in payment for such product or may not buy such product. Increasing price has two effects: first the product becomes less attractive because of the disutility of paying more and secondly it makes the product more attractive to customers' with high taste for quality because high price indicates quality. Thus, an individual may move in or out of the market depending on the person's specific utility function.

Table 1: Possibilities of price and quality relationship

Market Structure	Price change	Quality response	Consumers' welfare	Producers' response
No Competition	Increase price	Increase quality	No change in welfare	Increase/constant supply
	Reduce price	Reduce quality	No change in welfare	Reduce supply
With Competition	Constant price	Increase quality	Increase in welfare	Increase supply
	Reduce price	Increase/Unchanged quality	Increase in welfare	Constant/reduced supply
	Increase price	Increase quality	No change in welfare	Increase supply
Competition with regulatory agency	Reduce price	Increase quality	Increase in welfare	Reduced supply or force to keep supply constant
	Constant price	Increase quality	Increase in welfare	Reduced supply or force to keep supply constant

	High price	Increase quality	No change in welfare	Increase supply
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Source: authors' computation

Table 1 depicts a summary of the effect of change in price and quality on consumers' welfare and producers' response. Implicitly, high price to the consumer gives a signal of quality. On the side of the producer high price arguably connotes the need to increase supply in terms of quality and quantity. This is because the price of a product is assumed to be positively related to the quality of the product. Table 1 shows that competition increases the incentives for efficient operation and investment as companies will be obliged to use resources more efficiently. However, competition with regulation tends to make firms perform better especially when there is no market incentive to do so.

Efficient electricity pricing is achieved when the market is competitive with little or no government intervention. As shown in the table competition does not guarantee increase in quality. Thus, in Nigeria where 60 percent of the people live below the poverty line (World Bank, 2015) and government over the years had subsidized electricity it becomes difficult for those who cannot afford the unsubsidized price to pay for electricity. As such, competitive market where price reflects cost although necessary in achieving economic efficiency, reliability and environmental responsible energy sector, will require a long time for firms in the industry to recoup investment in developing world compare to their counterparts in the developed world.

4. Theoretical Framework

The study adopts the normative theory of regulation. The main proponents of this theory are Laffont and Tirole (1993) and Shleifer (1985). The normative theory postulated that regulatory price should be designed to maximize social welfare. Their argument is based on the principal-agent framework where the regulator (that is the principal) has little information on the production possibilities and opportunities for cost reduction than the utility supplier (that is the agent) does. The regulator who represents the consumer fixes revenue for the utility in order to keep price close to cost.

According to this theory, the regulator faces two main problems: first is the information constraint with respect to the firms' cost. The regulator cannot expressly determine the possible level of consumer demand and he cannot directly observe the firms' effort. If the regulator has information on the relevant cost and demand information, they could set optimal prices and enforce the firm to minimize cost. In this case, the regulator's objective will be to set appropriate incentives that will induce the firm to act in accordance with public interest.

The second constraint faced by the regulator is to ensure that the firm break-even. But a regulated firm is usually faced with large initial cost. Thus, we expect price to be different from marginal cost, which may lead to a second best pricing where utility needs to be subsidized.

The theory maintained that although there is asymmetric information, but the regulator knows that the utility will maximize its profit. As such, will set price such that revenue is greater or equal to total cost. That is, he set an ideal price that will ensure efficiency, where the utility can finance its investment and cover its operating cost. A regulator that is consumer bias will ensure that revenue is close to total cost as much as possible. The theory maintained that utilities are expected to operate for the public interest.

The major criticism faced by this theory is the trade-off between achieving greater efficiency and fixing a price of utility that is beneficial to the consumers because prices fixed at a reduced price means the producer will operate at an inefficient level. This study tends to overcome this shortcoming by looking at the possibility where consumers' level of satisfaction and choice could affect either price or output such that the producers' earns normal profit.

5. Literature Review

A key challenge in the electricity market in Nigeria is designing a price system that will encourage prompt payment of electricity bills as well as satisfy the consumer utility. Many scholars have examined the effect of billing methods on consumers' satisfaction (Abdulwahab, 2009; Gilbert, 2013). For instance, Borenstein (2012) studied the distributional impact of nonlinear electricity pricing in America found that the use of increasing block pricing creates a trade-off between efficiency and distributional effects in regulated tariff design. This is because the use of block-pricing allows for increase in the marginal price of electricity as the amount of electricity consumed by households increases. In Nigeria, the use of block pricing tariff system allows electricity firms to adjust price relative cost. By implication, a fluctuation in the international energy prices means the retail energy prices will rise/fall in order to reflect the full cost of consumption. Firms operating in this form of tariff system tend to be inefficient and most cases will want to increase revenue by increasing cost which may have negative impact on households with low income.

Setting a price for electricity has a trade-off. If the price is set too low, it will discourage production from high-marginal-cost plants and may lead to disinvestment in the industry, as producers will be unable to cover cost of capital. If price is set too high, it will lead to wealth transfer from the consumer to producers and may lead to inefficiency in the industry. High price of electricity does not necessarily translate into increase in investment except when accompanied with increase in demand (Borenstein and Bushnell, 2000; Catherin, 2000).

The proponents of privatization of electricity industry believe that private ownership and the drive for profit will ensure efficiency and reduce corrupt practices (Growitsch, Jamasb and Pollitt, 2011), increase the recovery rate of debts (Subair and Oke, 2008). Makwe, Akinwale and Atoyebi (2012) assessed the pre and post electricity market reform in Nigeria using a linear programming optimization model. The study pointed out that post reform era benefits the country more since increases investment in the industry. They however, argued that the post electricity market reform can only be sustainable when certain conditions such as removal of subsidy, increase in electricity price and reduction in transmission losses are in place.

Apart from the impact of competition on price, it is expected that competition also affect the quality. Arguably competition should improve both the price and quality of a product in terms of ensuring high quality at lower prices. Anderson and Semester (2008) argued that an efficient market must be informative on the price and quality of its product. If consumers perceive a market to be efficient, they tend to have more confident in the price and quality of the products. They noted that demand tends to decrease if consumers perceive unfair prices in relation to quality. Thus, consumers' willingness to pay depends on individual attitude to gains and losses which to a large extent depend on perception, Plott and Zeiler (2009).

Olarinde and Omojolaibi (2014) studied the long run relationship between institutional quality and electricity consumption. Using the bound test approach, the study found out that there is a unidirectional causality running from institution to electricity consumption. Their study shows that increase in the quality of institutional service tends to increase the consumption of electricity. The study opined that an improvement in the quality of institutional services creates room for more investment thus the need for more energy.

In addition, Poor electricity supply does not only affect the consumer but also the supplier and the economy as a whole since it increases the cost on private investors; reduce competitiveness in the international market; lower returns on investment and increase business uncertainty (Adeola, 2005). Also, where electricity is available but at a high cost it reduces competitiveness of small and medium enterprises. Abdulwahab (2009) assessed the perceptions of billing consumers via analogue meter in Kano in Nigeria. Using frequency tables and percentages, the author observed that 38 percent of meters are obsolete. The study also revealed that poor and unreliable power supply and billing system are the major causes of poor responses to electricity bills payment by consumers.

6. Methodology

The study used primary data for analysis. The primary data are generated through structured questionnaires which were designed to achieve the objectives of this study. The customers' responses were obtained using 5 likert scales. The first part of the questionnaires contains the age, gender and residence of respondents. All the respondents live in Lafia, Nasarawa state.

The population of the study constituted is electricity consumers in Lafia, the capital of Nasarawa state. The total number of registered electricity consumers in Lafia is 27,320 (Abuja Electricity Distribution Company [AEDC], 2016). The study employs the Yamane (1967) sample size determination:
$$n = \frac{N}{1+N(e)^2}$$

Where n is the sample size, N is the population size and e is the level of precision. The level of precision used for this study is 5%. The sample size for the study calculated at 5% level of precision (e) is 394.

The convenience sampling technique was used to select the total number of respondents for the study. This sampling method was chosen due to the difficulty in meeting people at their homes during working hours. As such responses were solicited from people at their work places. To ensure the reliability and validity of responses, questionnaires were only issued to people who own a house or rent a house and are connected to the national electricity grid. We also ensure that the questions are simple and easy to understand by respondents.

394 structured questionnaires with close ended questions were issued. Out of 394 questionnaires issued 328 questionnaires were returned and validated. This shows a response rate of 83 percent. The responses were retrieved and coded into quantitative options and inputted into stata software. The ordered logistic regression and the Pearson chi-square were employed to achieve the two main objectives of the study. The ordered logistic model is appropriate when the dependent variable have multiple response categories that are naturally ordered (Green, 2008). Responses were categories into strongly agree, agree, indifferent, strongly disagree and disagree. The logistic regression model is specified thus:

$$\text{Logit } [Y_i = 1, 2, \dots, 5] = \alpha + \beta_i X_i + \varepsilon_i \varepsilon_i$$

Where:

Y_i is the ordered dependent variable from 1 to 5 (1= strongly disagree and 5 = strongly agree). X_i is the ordered independent variables. ε_i is the error terms and are independent and identically distributed. We employed the Pearson chi-square analysis to examine the relationship between consumers' satisfaction and willingness to pay electricity bills. The null hypothesis for the Pearson chi-square assumes no relationship between the two variables.

7. Presentation and Discussion of Results

To achieve the objectives of this study, first, we assess if the use of electricity meters affects consumers' perceptions of quality and price of electricity and their level of satisfaction. The results are presented in the tables that follow.

Table 2: Relationship between owners of Electricity Meter and Perception of Price

Owners of electricity meter	Price of Electricity			Total
	Agree	Disagree	Indiffe..	
Does not have meter	19	139	13	171
Have meter	28	102	12	142
Missing	4	9	2	15
Total	51	250	27	328

Source: Field Work

Table 2 shows the relationship between owners of electricity meter and their perception of electricity price in Lafia Metropolis. As seen in column 2, a total of 241 (139+102) of respondents (which represent 77% of respondents) are not satisfied with the price of electricity in Lafia. Of those who disagree, 139 and 102 are consumers with electricity meters and without electricity meters respectively. This implies that electricity consumers who have meters and those who do not have meters are not satisfied with the electricity bills.

Table 3: Relationship between owners of Electricity Meter and Perception of Quality

Owners of electricity meter	Quality of electricity			Total
	Agree	Disagree	Indiffe..	
Does not have meter	15	143	13	171
Have meter	26	105	11	142
Missing	3	11	1	15
Total	44	259	25	328

Source: Field Work

In table 3, we present the relationship between owners of electricity meters and their perception of the quality of electricity provided in Lafia metropolis. Table 3 depicts that 143 of respondents without meter and 105 respondents with meters indicated that the quality of electricity supplied does not match the price of electricity bills especially where bills are estimated. The result from table 3 implies that 76 percent of respondents are not satisfied with the quality of electricity.

To analysis this further, we test to see if there is a significance difference between the satisfaction of consumers who have electricity meters and those who do not in relation to electricity bills received. To test for this difference, the Analysis of Variance (ANOVA) between customers with and without meters was conducted and depicted in table 4.

Table 4: ANOVA showing the Influence of Meter on Customers' Satisfaction

Source	Analysis of Variance			F	Prob > F
	SS	df	MS		
Between groups	3.39795798	4	.849489496	3.25	0.0125
within groups	79.2773667	303	.261641474		
Total	82.6753247	307	.269300732		

Bartlett's test for equal variances: $\chi^2(4) = 3.5518$ Prob> $\chi^2 = 0.470$

Source: Field Work

Table 4 depicts the result of ANOVA test on whether owning a meter could determine customers' satisfaction of electricity consumption in Lafia. Here we test the null hypothesis of equal variance against its alternative hypothesis at 5 percent level of significance. The ANOVA test shows F-value of 3.55 and a p-value of 0.47. This shows that there is no significant difference in consumers' satisfaction between respondents with meter and those without. This implies that the owning electricity meter does not influence consumers' perception of the quality and price of electricity consumed in Lafia Metropolis. Thus, the results from the regression will not be bias towards any particular group of consumers.

7.1 Impact of Price and Quality Electricity Service on Customers Satisfaction in Lafia

Five likert scale was used to elicit responses of consumers' level of satisfaction on electricity price and quality of service received with 1 = strongly disagree..... 5 = strongly agree. The study examined the impact of electricity price and quality on consumers' satisfaction in Lafia metropolis using ordered logit regression. Table 5 shows the results of the impact of the quality of electricity (AVHC) and consumers' perception of electricity bills (EBEC) on consumers' satisfactions (HQE).

Table 5: Regression Analysis

VARIABLES	Ordered Logit	Marginal Effects
	HQE	HQE
AVHC	0.6299*** (5.201)	0.0142*** (3.15)
EBEC	0.5846*** (6.576)	0.0132*** (3.27)
Constant cut1	2.0646*** (7.536)	
Constant cut2	3.9382*** (11.447)	
Constant cut3	4.5606*** (12.283)	
Constant cut4	6.0587*** (12.913)	
Observations	328	
LR chi-square	91.51**	
Log-likelihood	-353.05	

z-Statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

From table 5 it can be inferred from the likelihood ratio chi-square of 91.51 that the model as a whole is statistically significant. The cut values depict the difference between categories of responses. Since all the cut values are significant it means that respondents clearly identify the differences across the categories of response. The coefficients of AVHC and EBEC are statistically significant at 1 percent. The result shows that holding other variables constant an increase in the quality of electricity supplied increases the log odds of higher level of customers' satisfaction by 0.63. The marginal effect shows that the predicted probability of satisfaction of respondents who strongly agreed is 1.42 percent greater than respondents in other categories.

Table 5 also revealed that the log odds of customers' satisfaction increases by 0.58 if customers' perception of electricity bills as an indicator of electricity consumes increases by 1 percent. The marginal effect shows that the predicted probability of consumers who strongly agreed that electricity bills is an indicator of electricity consumed is 1.32 percent greater than respondents in other categories.

The objective here is to ascertain whether price and quality of electricity in Lafia metropolis affects consumers' satisfaction. The results show that 6.3 out of 10 respondents think that the price of electricity affects their level of satisfaction while 5.8 out of 10 respondents think that the price of electricity affects their level of satisfaction in Lafia metropolis.

7.2 Consumers' satisfaction and willingness to pay

Economic theory shows that the willingness to pay for a product is a function of expected utility and income. Thus, customers are willing to pay for a product if the expected utility (satisfaction) is high. Further analysis was conducted to assess the relationship between consumers' satisfaction and willingness to pay electricity bills. Here, we carried out the chi-square test for consumers' satisfaction of quality (HQE) and payment of electricity bills (PFCE) after which we also conducted the chi-square test for consumers' satisfaction of electricity price (HPE) and payment of electricity bills (PFCE). Table 6 reveals the Pearson chi-square test for consumers' satisfaction and willingness to pay electricity bills in Lafia metropolis.

Table 6: Chi-Square test showing customers' satisfaction and willingness to pay

VARIABLES	Pearson Chi-square	P-value
PFCE & HQE	23.02	0.113
PFCE & HPE	22.32	0.33

From table 6 the Pearson chi-square shows that we do not reject the null of no relationship in both cases. This means that there is no relationship between customers' satisfaction on quality and willingness to pay electricity bills. Also, Customers' perception of price does not affect willingness to pay electricity bills. The result on table 6 implies that consumers pay for electricity bill even when the quality and the price of electricity are not favourable to them. The possible explanation could be that most of the consumers are forced to pay electricity bills even when they are not supplied.

The implication that can be drawn from the above analysis is that most electricity customers in Lafia Metropolis do not view price as an indication of quality. Unlike in other product market where price indicates quality of product and determines expected utility. This may explain why the willingness to pay by most electricity consumers is very low. Customers' satisfaction is generally very low due to inadequate power supply.

Lastly, with the recent bid by electricity regulatory commission to increase the electricity tariff; respondents were asked if they are willing to pay high price if the quality of electricity received increase. The response of the consumers is presented in table 7.

Table 7: Willingness of Electricity Consumers to pay High Price if Electricity if Quality Increase

Willing to Pay High Price	Freq.	Percent	Cum.
Indifferent	31	9.45	9.45
Missing values	4	1.22	10.67
Agree	254	77.44	88.11
Disagree	39	11.89	100.00
Total	328	100.00	

Table 7 shows consumers' willingness to pay high price with increase in the quality of electricity supply. As seen in column 1, 254 (represent 77 percent) of respondents agreed that they are willing to pay high price for quality electricity services. While only 11 percent of the respondent disagreed to increasing price for high quality.

8. Conclusion

This paper studied the impact of electricity price and quality on consumers' satisfaction in Lafia. Basically, we found that quality and price has significant impact on consumers' satisfaction in the electricity industry in Lafia Metropolis. As indicated, the results show that consumers' satisfaction increases by 63 percent if quality improves and increase by 58 percent if consumers' perception of the electricity price is an indication of what they consume. We examine the relationship between consumers' satisfaction and willingness to pay electricity bill. Our findings show that there is no strong relationship between consumers' satisfaction and willingness to pay electricity bills. This finding contradicts basic economic theory where consumers pay for products because of the satisfaction they hope to derive. Quality and price affect consumers, but the level of satisfaction does affect consumers' willingness to pay which shows that consumers' choice is not reflected in the electricity market in Nigeria. This is not surprising because consumers are usually forced to pay electricity bills even when they don't consumed electricity or faced the option of being disconnected from the national electricity grid. Another reason that may account for this phenomenon is illicit deals that some the consumers have with electricity agents where the consumers is allowed to pay part or whatever amount they could and forgo the rest amount.

The study also reveals that poor billing management and unreliable service still constitute a problem in the electricity sector. Thus, electricity providers and regulators should give adequate attention to consumers' satisfaction in fixing appropriate prices that reflect level of consumption and also provide quality service to electricity consumers. In this regard the government plays an important role in establishing competitive markets and provide firm with policy directions in reducing market failures such as ensuring efficient pricing policy and quality product. The study recommends that the government and electricity providers should restore consumers' confidence in the electricity industry by ensuring that electricity policies should be consumer inclusive while electricity providers should aim at maximizing consumers' welfare.

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