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Impact of Estimated Billings on Small and Medium-Scale Businesses in Akwa Ibom State, Nigeria

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Abstract
Several small and medium-scale business operators in Akwa Ibom State still face major challenges due to unreliable power supply and excessive estimated billing practices. These challenges persist despite the privatisation of Nigeria's power sector, which was designed to improve efficiency, accountability and overall service delivery. Consequently, many businesses struggle to remain operational, while a considerable number have either relocated or indefinitely closed down. This study examined the impact of estimated billings under Nigeria's privatised power sector on small and medium-scale businesses in Akwa Ibom State. The study was anchored on the theory of capitalism, adopted a descriptive survey design, and 122 participants were selected using a combination of purposive, stratified, convenient and cluster sampling techniques. Data were gathered through focus group discussions and in-depth interviews, and were analysed thematically. The results indicated that the majority of small and medium-scale business operators expressed strong dissatisfaction with inconsistent electricity supply and outrageous estimated billings. These challenges were found to stifle business growth, increase operating costs and erode trust in the electricity distribution company. To promote more equitable and transparent electricity charges that support entrepreneurship, job creation, poverty reduction, income generation, improved standards of living and overall economic development, the study recommends the elimination of estimated billings for small and medium-scale business operators and immediate implementation of prepared meters for electricity consumers.

Keywords: Estimated billings, privatisation, power sector, small and medium-scale businesses

Introduction

A reliable and affordable electricity supply is essential for the survival and growth of small and medium-scale businesses (SMSBs) in all economies (Arumdeben et al., 2023). Business performance is closely linked to the stability and cost of power provision, making public electricity supply a primary responsibility of government (Olufemi, 2025). However, in Nigeria, inefficiency, corruption, and poor sector management have led to chronic underperformance, frequent power outages, and high operational costs (Adoyi, 2022; Obinna, 2025). As a result, businesses depend on expensive private generators, raising production costs, eroding competitiveness, and contributing to failures and liquidations (Oko, 2010; Olufemi, 2025). In response, Nigerian governments have pursued privatisation to enhance efficiency and service delivery in the electricity sector (Marshal, 2025).

Privatisation, the transfer of public enterprise ownership or control to private hands, aims to improve efficiency, reduce state expenditure, and enhance service quality (Marshal, 2025). In Nigeria, power sector reform was underpinned by the National Electric Power Policy of 2001 and the Electric Power Sector Reform Act of 2005, which enabled private sector participation and established the Nigerian Electricity Regulatory Commission (NERC) (Savio, 2013). The unbundling of the Power Holding Company of Nigeria (PHCN) into generation, transmission, and distribution entities ended NEPA's monopoly (Awosope, 2014). Despite these reforms, Nigeria's electricity sector continues to suffer from inadequate infrastructure, capacity underutilisation, and unreliable supply, which have limited the anticipated economic and developmental gains (Idowu et al., 2020).

SMSBs are vital to economic development, job creation, and poverty reduction, yet their limited assets and capital make them highly vulnerable to electricity supply challenges (Adedeji, 2017; Ekpeyong & Olorunfemi, 2021). In Nigeria, persistent power outages, voltage fluctuations, and estimated billing systems negatively impact production quality and operational costs, constraining the growth of these enterprises (Adisa et al., 2014; Oteh et al., 2021). Although the country boasts an installed generating capacity exceeding 16,000 MW, access remains limited, leading to widespread self-generation and undermining the expected benefits of privatisation, such as increased competition, efficiency, and affordability (Remteng et al., 2023). This study, therefore, investigates the impact of estimated billing practices under Nigeria's privatised power sector on the performance of SMSBs in Akwa Ibom State.

Statement of the Problem

Electricity plays a critical role in contemporary business operations, and its availability and affordability significantly influence the growth and sustainability of small and medium-scale businesses (SMSBs). Although the privatisation of Nigeria's power sector was designed to enhance billing transparency and consumer satisfaction, operators of SMSBs in Akwa Ibom State continue to face persistent challenges linked to excessive and inaccurate electricity bills. Despite regulatory guidelines issued by the Nigerian Electricity Regulatory Commission (NERC) on electricity billing, estimated billing remains prevalent, resulting in many businesses paying for power not actually consumed (Ekpenyong & Olorunfemi, 2021; Fasoranti et al., 2022). These inflated charges erode profit margins, discourage reinvestment and constrain business expansion and job creation. The slow deployment of prepaid meters has further entrenched arbitrary billing practices, while weak complaint resolution mechanisms within distribution companies (DISCOs) intensify financial pressure and undermine trust in the privatised electricity system (Ubi & Effiom, 2020).

Despite growing concern over billing irregularities, empirical research examining their specific effects on SMSBs at the subnational level remains limited. Existing studies on Nigeria's power sector largely focus on macro-level challenges such as infrastructure deficits, generation capacity and supply reliability, often treating electricity consumers as a homogeneous group (Ohajianya, 2021; Ubi & Effiom, 2020). Consequently, the distinct vulnerabilities of SMSBs, particularly in relation to billing systems introduced or exacerbated by privatisation, are insufficiently explored. Reports by NERC and the National Bureau of Statistics acknowledge the persistence of estimated billing and slow prepaid meter rollout but rarely analyse how these practices translate into reduced cash flow, constrained investment and workforce downsizing among small businesses (Edet et al., 2022; Anyaehie et al., 2018). This gap underscores the need for context-specific studies focusing on SMSBs in locations such as Akwa Ibom State.

Objective of the Study

1. To examine the effects of estimated electricity billing practices under Nigeria's privatised power sector on the operational performance and sustainability of small and medium-scale businesses in Akwa Ibom State.

Research Question

1. To what extent do estimated billing practices under Nigeria's privatised power sector affect the performance and sustainability of small and medium-scale businesses in Akwa Ibom State?

Literature Review

Idowu *et al.* (2020) evaluated the privatisation of Nigeria's electricity industry, with a focus on the Ikeja and Ibadan power distribution companies' performance. A research design was adopted that included a questionnaire that focused on the electricity distribution firms that serve domestic and commercial consumers in the areas. Data were analysed using multiple regression statistics. Findings revealed that the high cost of estimated billings caused huge operational costs and loss of revenue for SMSBs in hotel operations, welding and fabrication and business centres, thereby limiting their ability to pay suppliers, workers, or reinvest for expansion.

Soyemi *et al.* (2021) examined the challenges in estimated electricity tariffs in Nigeria through a meta-analysis of the literature. It was desk research, and the study found that high electricity bills force businesses to shut down, while some operate with exorbitant operating costs. Anyaehie *et al.* (2018) critically examined the electricity consumption patterns of consumers through estimated and prepaid bills at a sizable estate in Imo State. Electricity bills from September 2016 to August 2017 were utilised for the investigation. The collected data was subjected to a graphical analysis using software, and the results showed that customers, including operators of SMSBs, were affected by an estimated billing system under privatisation, in contrast to the advantages of prepaid billing.

Rimšaitė (2019) analysed and evaluated the factors that lead to corrupt activities in the energy sector in his study and showed the connections between the laws governing competitiveness and corruption. Among other techniques, data gathering and systematic review were employed. The findings demonstrated that business owners experienced increased stress and burnout as a result of financial pressures associated with high estimated electricity bills, which negatively impact their decision-making and overall business health.

The study conducted by Abraham and Bello (2017) investigated the impact of corruption in Nigeria's privatised electricity companies on the socio-economic development of Uyo City. The study used a cross-sectional research design, distributing 150 copies of the questionnaire to the public through a systematic sampling technique and using an in-depth interview method to obtain information from the management of the PHEDC, Akwa Ibom State Branch. The study discovered that PHEDC officials do not read consumers' meters before issuing their monthly electricity bills; instead, they base their monthly charges on estimates, which invariably result in inflated bills for Uyo city residents. This billing system disrupts cash flow management, making it impossible for operators of SMSBs to meet other financial obligations like payments for worker salaries, loan repayments, supplies and rents, among others.

Theoretical Framework

Karl Marx's theory of capitalism provides the theoretical framework for this study. Rooted in historical materialism, the theory posits that material conditions and economic relations are the primary drivers of social and historical change. Marx argued that the economic base—comprising the means and relations of production—shapes the superstructure, including

political, legal and cultural institutions (Elster, 1986). He further maintained that capitalist society is divided into two dominant classes: the bourgeoisie, who own and control the means of production, and the proletariat, who sell their labour power for wages. Within this structure, the bourgeoisie exploits the proletariat by appropriating surplus value generated through labour, a process that generates persistent class conflict and structural inequality inherent in capitalist systems (Elster, 1986).

Central to Marx's analysis is the concept of exploitation, whereby workers are compensated less than the value they produce, enabling capitalists to extract profit as surplus value (Elster, 1986). This process contributes to workers' alienation from their labour, products and broader social relations, reinforcing inequality within capitalist economies. Wright's extension of Marxist theory refines this binary class structure by introducing the notion of "contradictory class locations," recognising intermediate groups such as managers and small business owners who occupy ambiguous positions within capitalist relations (Wright, 2010). Although these groups may exercise limited control over production, they remain constrained by broader capitalist imperatives. Wright further argues that capitalism, while unequal, allows for incremental and democratic reforms capable of advancing more egalitarian economic arrangements through practical institutional innovations (Wright, 2010).

Applied to Nigeria's privatised power sector, Marxist theory illuminates the class dynamics embedded within neoliberal reforms. Privatisation represents a shift from public to private ownership, positioning private electricity firms and investors as the bourgeoisie, while workers and electricity-dependent SMSBs constitute the proletariat. Profit-driven billing practices, including estimated billing, reflect attempts to maximise surplus value at the expense of consumers and small business owners. SMSBs in Akwa Ibom State experience heightened operational costs, unreliable supply and financial insecurity, exemplifying exploitation and alienation within capitalist production relations. The prioritisation of profit over service delivery results in underinvestment and systemic inefficiencies, constraining business growth and employment. Consequently, unresolved class tensions within the privatisation framework threaten economic stability and reinforce structural inequalities, aligning with Marx's predictions of social conflict under capitalism (Elster, 1986).

Materials and Methods

This study adopted a descriptive survey research design, utilising both primary and secondary data sources. The study population comprised registered operators of small and medium-scale businesses (SMSBs) in Akwa Ibom State, including fashion designers, barbers, welders, dry cleaners, cold-room operators, online thrift business owners, hospitality providers, printers and other electricity-dependent enterprises. According to records from the Directorate of Small and Medium-Scale Enterprises of Akwa Ibom State, the statistical population stood at 447,903 registered SMSB operators as of 2020 (Etuk et al., 2025). Primary data were obtained directly from business operators to capture their experiences with electricity billing practices, while secondary data were sourced from official documents and relevant literature to provide contextual and empirical support for the study.

The research was conducted in Akwa Ibom State, located in Nigeria's South–South geopolitical zone, with Uyo as its capital. The state comprises 31 local government areas across three senatorial districts and has an estimated population of 4,979,400 residents (National Population Commission, 2025). Its economy is largely driven by oil, agriculture and small-scale enterprises that rely heavily on electricity for daily operations. The study focused on Uyo, Eket and Ikot Ekpene, selected due to their status as major commercial hubs with high concentrations of SMSBs. These areas provide an appropriate setting for examining electricity billing practices and their implications for business performance.

Table 1: Registered SMSBs according to Senatorial Districts in Akwa Ibom State

Senatorial District	Population
Akwa Ibom North East	187,000
Akwa Ibom South	150,000
Akwa Ibom North West	110,903
Total	447,903

Source: Directorate of Small and Medium-scale Enterprises, Akwa Ibom State (2020)

The data in Table 1 reveal the distribution of small and medium-scale businesses (SMSBs) across Akwa Ibom State's three senatorial districts, with Akwa Ibom North East hosting the majority of the 447,903 registered SMSBs, followed by Akwa Ibom South and Akwa Ibom North West. The predominance of SMSBs in Akwa Ibom North East is attributable to its status as the location of Uyo, the state capital, and its concentration of infrastructure, accessible markets, and urban amenities, all of which foster business growth (Etuk et al., 2025). Akwa Ibom South, with 150,000 SMSBs, benefits from its coastal resources and activities in oil, tourism, and fishing, while Akwa Ibom North West's lower count of 110,903 SMSBs may reflect infrastructural deficits, reduced population density, and fewer urban centres, highlighting urbanisation and infrastructure as key drivers of business development.

Table 2: Population of registered SMSBs according to sampled locations in Akwa Ibom State

LGA	Population
Uyo	138,000
Eket	95,000
Ikot Ekpene	62,000
Total	295,000

Source: Directorate of Small and Medium-Scale Enterprises, Akwa Ibom State (2020)

The distribution of small and medium-scale businesses (SMSBs) across selected local government areas in Akwa Ibom State demonstrates significant spatial disparities. Uyo has the highest concentration of SMSBs, attributable to its status as the administrative and commercial hub, supported by government institutions, financial and tertiary services, and advanced infrastructure, all of which enhance its entrepreneurial appeal. Eket also exhibits a substantial SMSB presence, driven by its coastal location and economic ties to the oil and gas industry, tourism, and marine trade, which foster additional commercial activities. Conversely, Ikot Ekpene records the lowest SMSB concentration, indicating reduced commercial activity despite its historical trade prominence. These variations reflect the influence of infrastructure, urbanisation, and market access. For this study, 122 participants were purposively sampled using convenience, stratified, and cluster methods to ensure broad representation across the selected locations.

Table 3: Sample distribution of participants according to the nature of business (N = 108)

Category of business	Number of Participants	Percentage (%)
Fashion designing/tailoring	6	5.56
Barbering	6	5.56
Welding	5	4.62
Laundry services	5	4.62
Ice block	10	9.26
Online thrift (bet naija)	8	7.40
Drinking joint	12	11.11
Computer Business centre	6	5.56

Phone/computer repair	10	9.26
Hotel	12	11.11
Pure water factory	6	5.56
Printing	10	9.26
Fast food/eateries	6	5.56
Super market	6	5.56
Total	108	100

Source: Field data (2025).

Table 3 presents the distribution of participants by business type, demonstrating the diversity of small and medium-scale businesses (SMSBs) included in the study. The sample comprised a wide range of enterprises, including fashion designing, barbering, welding, laundry services, ice block production, online thrift businesses, hospitality outlets, computer-related services, printing, pure water factories and food services. Hospitality-related businesses recorded the highest representation, indicating the prominence of service-based enterprises within the local economy. The inclusion of both technology-driven and traditional businesses reflects evolving entrepreneurial patterns and underscores the economic significance of SMSBs in providing essential services, employment opportunities and supporting local economic development (Etuk et al., 2025).

Table 4: Sample distribution of participants according to selected LGAs in Akwa Ibom State (N = 122)

Study Locations	FGD	IDI	Sample
Uyo	45	5	50
Eket	27	6	33
Ikot Ekpene	36	3	39
Total	108	14	122

Source: Field data (2025)

Table 4 outlines the sample distribution of 122 participants across Uyo, Eket, and Ikot Ekpene Local Government Areas (LGAs) in Akwa Ibom State, classified by research methods—Focus Group Discussions (FGDs) and In-Depth Interviews (IDIs). Uyo contributed the largest share with 50 participants, reflecting its status as a major commercial and administrative hub, which likely facilitated greater respondent engagement. Ikot Ekpene and Eket followed with 39 and 33 participants, respectively. The predominance of FGDs across all sites underscores the study's focus on collective perspectives and shared experiences, enriching qualitative insights into local issues. Conversely, the limited use of IDIs suggests a supplementary role for individual viewpoints. The observed distribution also highlights underlying differences in economic activity, infrastructure, and population density among the LGAs, influencing respondent participation and engagement levels.

Table 5: Respondents according to methods of data collection (n = 122)

Respondents	FGD	IDI	Total
SMSB Operators	108	-	108
PHEDC Staff	-	14	14
Total	108	14	122

Source: Field data (2025)

Table 5 presents the distribution of participants by data collection instrument, indicating that the study sample of 122 respondents comprised 108 small and medium-scale business (SMSB) operators and 14 Port Harcourt Electricity Distribution Company (PHEDC) staff. SMSB operators participated through focus group discussions (FGDs), facilitating the exploration of

shared experiences regarding estimated electricity billing, while PHEDC staff were engaged through in-depth interviews (IDIs) to obtain institutional perspectives. The study adopted a qualitative approach, employing open-ended interview guides administered in English and pidgin. Data were audio-recorded, complemented with field notes and analysed thematically, enhancing the credibility and depth of the findings.

Results

The socio-demographic data gathered from the operators of SMSBs (108) and 14 PHEDC officials during FGDs and IDIs were descriptively presented as shown in Table 5. This was followed by thematic analysis of the responses of the participants on how estimated billings under Nigeria's privatised power sector affect SMSBs in Akwa Ibom State.

Table 5: Distribution of socio-demographic information of SMSBs operators (N=108)

Characteristics	Frequency	Percentage (%)
Age		
18 -22	13	12.04
23- 27	10	9.26
28 – 32	16	14.81
33 – 37	22	20.37
38 and above	47	43.42
Sex		
Male	73	67.59
Female	35	32.41
Marital Status		
Single	39	36.11
Married	60	55.56
Separated/divorced	6	5.56
Widowed	3	2.77
Educational Qualification		
FSLC	10	9.26
SCE	16	14.81
ND/NCE	30	27.78
HND/BSc/MSc/PhD	52	48.15
Religion		
Christianity	85	78.70
Islam	5	4.63
African Traditional Religion	12	11.11
Others	6	5.56
Nature of Business		
Fashion designing/tailoring	6	5.56
Barbering	6	5.56
Welding	5	4.62
Laundry services	5	4.62
Ice block	10	9.26
Online thrift (bet naija)	8	7.40
Drinking joint	12	11.11
Computer Business Centre	6	5.56
Phone/computer repair	10	9.26
Hotel	12	11.11
Pure water factory	6	5.56

Printing	10	9.26
Fast food/eateries	6	5.56
Supermarket	6	5.56
Source of Electricity Supply		
Public Electricity(PHEDC)	58	53.71
Generator	38	35.18
Solar Energy	12	11.11
Estimated Monthly Income		
Less than ₦100,000	59	54.63
₦100,000-₦150,000	32	29.63
Above ₦150,000	17	15.74

Source: Fieldwork (2025)

Table 5 presents the socio-demographic characteristics of small and medium-scale business (SMSB) operators and PHEDC officials in the study area. Findings revealed that 43.52% of participants were aged 38 or above, indicating that SMSB operators are predominantly mature adults. The majority (67.59%) were male, suggesting a higher male participation in business activities, while 55.56% were married, highlighting the role of business ownership in supporting families. Most respondents (48.15%) possessed tertiary qualifications (HND/BSc/MSc/PhD), reflecting a trend of graduates entering business due to limited formal employment opportunities. The sample was largely Christian (78.70%), consistent with the religious profile of the region. Operators of drinking joints and hotels formed the largest business group (11.11%). Over half (53.71%) relied on public electricity, underscoring its cost-effectiveness, while 54.63% reported estimated monthly incomes below ₦100,000, indicating high operational costs relative to earnings.

Table 6: Distribution of Socio-demographic Characteristics of PHEDC Officials (N=14)

Characteristics	Frequency	Percentage (%)
Age (years)		
18 -22	0	0
23- 27	2	14.28
28 – 32	3	21.43
33 – 37	3	21.43
38+	6	42.86
Sex		
Male	12	85.71
Female	2	14.29
Marital Status		
Single	5	35.71
Married	9	64.29
Divorced	0	0
Widowed	0	0
Educational Qualification		
FSLC	0	0
SCE	0	0
ND/NCE	3	21.43
HND/BSc/MSc/PhD	11	48.57
Religion		
Christianity	10	71.42
Islam	0	0
African Traditional Religion	2	14.29

Others	2	14.29
Rank		
Junior Staff	3	21.43
Senior Staff	11	48.57

Source: Fieldwork (2025)

Table 6 outlines the socio-demographic profile of PHEDC officials participating in the study, detailing their age, gender, marital status, educational background, religious affiliation, and job designation. Results indicate that 42.86% are aged 38 or above, suggesting a predominantly experienced workforce. A notable male predominance points to potential gender imbalance within the organisation. Most officials (64.29%) are married, which may influence work-life dynamics and job retention. The workforce is well-educated, with 48.57% holding HND, BSc, or higher degrees, supporting effective technical and administrative operations. Christianity is the leading religious affiliation (71.42%), consistent with regional patterns. Additionally, the sample includes more senior (48.57%) than junior officials, ensuring perspectives from experienced personnel with significant decision-making roles.

Research Question: In what way do estimated billings under Nigeria's privatised power sector affect small and medium-scale businesses in Akwa Ibom State?

Responses from SMSB operators and PHEDC officials indicate that excessive estimated billing significantly hinders the development of SMSBs in Akwa Ibom State. Participants agreed that accurate, transparent billing by PHEDC would enhance both operational efficiency and financial stability. PHEDC officials explained that billing is ideally based on precise meter readings; however, where this is not feasible, estimated billing is applied according to supply bands: Band A (20 hours), Band B (16 hours), Band C (12 hours), Band D (8 hours), and Band E (4 hours) of electricity per day. Despite using historical consumption data, these estimates often lead to unpredictable and inflated bills, sometimes resulting in disconnection, which further undermines business viability and economic growth.

A 40-year-old drinking joint owner recounted, *"There is a lot of irregularity in the billing methods, especially for customers who do not use prepaid meters. I frequently receive estimated bills that are significantly higher than my actual consumption, which makes budgeting difficult and puts a heavy financial burden on my small business. Due to excessive billing, a large number of enterprises have gone out of business, which has damaged the economy, particularly in terms of generating income, creating jobs and reducing poverty" (FGD/male/Uyo/July 11, 2025).*

The above response indicated that inconsistent and inflated estimated billing by PHEDC places severe financial strain on small businesses, often leading to closures. This has adversely affected job creation, income generation, and economic stability, making estimated billing a critical concern for already vulnerable enterprises.

A 45-year-old hotel owner said: *High estimated bills, which sometimes surpass my monthly earnings, have been a major issue. This affects my capacity to manage stock levels and puts a strain on my finances. I work less efficiently overall and provide my guests with slower service, which has a detrimental effect on customer satisfaction and business expansion* (FGD/female/Uyo/July 16, 2025).

The response reveals frustration with excessive estimated bills that surpass earnings, causing financial strain and operational disruption, and underscores the need for transparent, accurate billing to support sustainable business growth.

A 35-year-old printer said that: *the biggest issue I have had is the unreliable electricity supply and excessive billing. There are some months when the bills are outrageously high for no apparent reason. For me, paying for power frequently means taking money away from other important expenses like computer upgrades and upkeep. Due to this, I am unable to draw in as many clients, and my services are of low quality. My planning and financial status have been affected by this. Positively, proper billing facilitates financial management and good business planning* (FGD/male/Ikot Ekpene/July 20, 2025).

The response highlights that unpredictable, excessive electricity bills strain finances, reduce service quality, hinder growth, and underscore the need for transparent, consistent billing practices.

A computer/phone technician narrated his experience: *Inaccurate and high billing is a serious issue. The costs are frequently more than what I use, which puts a burden on my finances and limits my capacity to buy replacement parts in my shop. Just look at my shop; it is now empty due to the expenses we incur monthly, due to the high estimated electricity bills. I agree that effective financial management is aided by correct billing; however, these situations are rare in this country, where everyone wants to make money by all means possible, including PHEDC* (FGD/male/Ikot Ekpene/July 21, 2025).

The response indicates that consistently high and inaccurate electricity bills severely strain finances, limit investment in essential stock, and reduce operational efficiency. The technician expressed frustration over PHEDC's focus on revenue rather than fair billing, doubting the likelihood of accurate billing practices in the present climate.

A 32-year-old laundryman said: *The billing system is quite erratic, and getting large bills regularly has been a big problem. This hinders my ability to invest in new equipment to make washing and drying customers' clothes easier and save more money to pay wages and sort out domestic issues. However, accurate and moderate electricity billing will contribute to stable business operations and expansion and also attract investors as well as discourage capital flight* (FGD/male/Eket/July 23, 2025).

This respondent highlighted erratic and excessive billing as a barrier to business growth, limiting investment in equipment, savings, and wage payments. He stressed that transparent and moderate billing would promote business expansion, attract investment, and prevent capital flight, underscoring the economic importance of accurate billing.

Also, a 45-year-old printer lamented: *PHEDC's exorbitant and arbitrary billing methods have presented a serious obstacle to my business. My cash flow is affected, and financial planning is challenging during some months when the bills are excessively high for no apparent cause. Accurate billing can occasionally aid in financial management and budget planning, although these situations are far from reality due to the type of business environment we are operating in* (FGD/male/Eket/July 26, 2025).

The respondent, who is a 45-year-old printer, highlights the challenges posed by PHEDC's inconsistent and excessive billing, which disrupts cash flow and complicates financial planning. He lamented PHEDC's arbitrary billing methods, which disrupt cash flow and complicate financial planning. Although accurate billing would support business budgeting, the respondent was sceptical about its feasibility, emphasising the need for more consistent and transparent practices for business sustainability.

An official of PHEDC interviewed on the electricity billing system and its effects on customers' businesses narrated thus: *When meters are available, PHEDC bills consumers according to their band and metered consumption. We utilise estimated billing for unmetered consumers, which is predicated on typical consumption patterns. We know that SMSB finances may be*

strained by the estimated billing system's occasional tendency to produce greater costs. Financial planning may be challenging for these businesses due to this volatility (IDI/male/Uyo/July 11, 2025).

The PHEDC official acknowledges the dual approach to electricity billing, where metered customers are charged based on consumption while unmetered customers receive estimated bills. The estimated billing system, however, can sometimes impose higher costs, leading to financial strain on SMSBs. This unpredictability in billing makes financial planning difficult for business owners, affecting their ability to allocate resources efficiently. The statement highlights the need for improved metering systems to ensure fair and transparent billing, ultimately supporting business stability and growth.

Another official added thus: *Our goal is to read meters once a month and adjust bills accordingly. On the other hand, we use approximated billing based on historical usage data in situations where meter readings are not feasible. Regular adjustments in billing amounts can cause financial issues for businesses, forcing them to make other cost reductions or staff reductions* (IDI/male/Ikot Ekpene/July 19, 2025).

The PHEDC official highlights the company's approach to billing, aiming for monthly meter readings while relying on estimated billing when readings are not possible. However, fluctuations in billing amounts create financial challenges for SMSBs. These inconsistencies often force businesses to cut costs in other areas, including reducing staff or limiting operational expenses, which can negatively impact growth and stability. The statement underscores the need for a more accurate and predictable billing system to support business sustainability.

Another official has this to say: *The metre readings in our billing system are intended to be as precise as possible. We use area consumption averages and historical statistics as our bases for estimates. Business owners may become irate and unhappy as a result of incorrect estimations, which could harm their working relationships with PHEDC and their operational stability. Due to fluctuating electricity prices, businesses have difficulty creating budgets, which might hinder their ability to grow and operate efficiently* (IDI/male/Eket/July 23, 2025).

The PHEDC official emphasises that the billing system is designed to be accurate, relying on area, consumption averages and historical data for estimated billing. However, inaccuracies in these estimations often lead to frustration among business operators, straining their relationship with PHEDC and disrupting business operations. The unpredictability of electricity costs makes budgeting difficult for SMSBs, potentially hindering their growth and overall efficiency.

Discussion of Findings

First, the findings revealed that outrageously estimated billings in Nigeria's privatised power sector significantly harm SMSBs in Akwa Ibom State, causing financial uncertainty, higher operating costs, and reduced profitability. Many SMSBs have consequently shut down or relocated, particularly those unable to absorb these increased expenses. Second, these results align with Idowu et al. (2020), Soyemi et al. (2021), Rimšaitė (2019), Abraham and Bello (2017), and Ofonyelu and Eguabor (2014), who noted that electricity distribution companies often disregard NERC's guidelines, issuing indiscriminate bills. This practice undermines cash flow for SMSBs and forces some to lay off workers, downsize, or close.

Third, the reliance on estimated billing leads to persistent overcharging, with business owners frequently billed above actual usage. This disconnect between consumption and cost increases operational expenses, reduces profitability, and deepens the financial strain on SMSBs. The lack of billing transparency further compounds the issue, leaving business owners confused and without recourse. Fourth, the study found that SMSB operators in Afaha Ube Itam and similar areas benefit from prepaid meters (PPMs), which eliminate estimated billing. PPMs allow users

to pay only for consumed electricity, enhancing financial control, enabling better expense planning, and reducing billing errors through digitalised systems and online payments.

Fifth, the contrast between estimated billing and prepaid meters underscores the potential benefits of widespread PPM adoption. Universal access to prepaid meters could minimise disputes, overbilling, and financial uncertainty, allowing SMSBs to optimise electricity usage, reduce waste, and improve economic viability across the state. Sixth, the uneven application of billing systems contributes to economic inequality among business operators. Those with prepaid meters have fairer, predictable costs, while others face inflated charges and higher business risks. This disparity discourages investment and expansion in regions still subject to estimated billing, damaging the overall business climate and trust in PHEDC.

Conclusion

The findings demonstrate that excessively estimated billings under Nigeria's privatised power sector have significantly undermined the viability of SMSBs in Akwa Ibom State, resulting in financial uncertainty, increased operational costs, and reduced profitability. These adverse outcomes have forced some SMSBs to close or relocate. However, business operators in areas such as Afaha Ube Itam, utilising prepaid meters (PPMs), enjoy more accurate and manageable billing, enabling greater financial stability and business sustainability. This underscores the importance of a transparent and reliable billing system for fostering business growth and economic development.

Recommendations

Addressing these challenges necessitates urgent policy intervention. The government and regulatory authorities should enforce regulations to phase out estimated billing and expedite the universal installation of prepaid meters across Akwa Ibom State. The success observed in digitalised billing areas should serve as a template for wider implementation. The Port Harcourt Electricity Distribution Company (PHEDC) must also enhance its customer service and dispute resolution processes to restore trust within the business community. Replicating this research in other states is advised for broader generalisation, and anti-corruption measures must be prioritised. Ultimately, ensuring fair, transparent billing is vital for sustainable economic progress and the effective contribution of SMSBs to local and national development.

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