

ELECTRICITY SERVICE QUALITY, SERVICE DELIVERY AND CUSTOMER SATISFACTION IN JOS SOUTH LGA OF PLATEAU STATE

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ABSTRACT

The main objective of the study was to investigate the role of electricity service quality (reliability and tangibility) and customer satisfaction in Jos South LGA of Plateau State introducing the role of service delivery. The study employed a cross section research design. Based on data collected from JED office Bukuru, it is on record that JED have 823,000 customers that buys power and numerous post-paid customer, Taro Yamane was used to obtained the sample size of 381 respondents, while 381 copies of questionnaires were distributed among respondents only 362 copies of questionnaire were retrieved, stratified random sampling technique was adopted. Multiple linear regression analysis was adopted for the testing of hypotheses SPSS version 27, while Process analysis developed by Andrew F. Hayes was used for testing the mediation effect of service quality. The result of the study that there is a statistically significant relationship between service quality and customer satisfaction at ($\beta=0.256$: $t=5.030$ $p<0.05$). Also that there is positives significance relationship between service quality and service delivery at ($\beta=0.032$: $t=-2.376$ $p<0.05$). While, the mediation result established that electricity service delivery has a mediating effect in the relationship between service quality and customer satisfaction among JED customers in Jos Plateau State at ($\beta = 0.112, 0.029$, $t = 8.501, 7.163$). The study recommend that nature of electricity supply was detrimental to the poor, who were unable to utilise energy because they lacked the financial means to purchase pre-paid electricity and conclude that JED should sensitizing the customers.

Keyword: customer satisfaction, service quality, service delivery

1. INTRODUCTION

Establishing a business organization requires targeting a specific market segment, which typically represents the target audience. Understanding the specific needs of this market segment is crucial, as it does not only guides the production of goods and services but also ensures that these needs are met profitably. However, the level of satisfaction customers derive from consuming products is a direct reflection of the company's effectiveness. Customer satisfaction is a significant focus for management, particularly in industries with intense competition, such as the service industry and other related industries (Obafemi, 2024). All over the world customers' satisfaction has become a veritable tool for measuring organizational relevance. This explains why many countries established customers' satisfaction degree otherwise known as Customers Satisfaction Indexes (CSI). The customers' satisfaction degree is established for trade, commerce and

industry from the view point of consumers as different from the producers' measure of consumer loyalty and acceptance. Customer satisfaction is a vital aspect of the objectives of any organization not minding the nature of its business operation. Satisfaction is an assessment of the characteristics or privileges of a product or service, or the product itself, that provides a level of consumer pleasure with regard to meeting consumer consumption needs (Sugeng, 2016). Hence, it implies that if performance falls below expectation, the customer is dissatisfied. Where the performance matches the expectations, the customer is satisfied (Kurtkoti & Ashok, 2015). However, it can be achieved and increased in business organizations by carefully identifying and understanding the needs of the target market and providing quality services that will meet and satisfy these needs to a greater extent, thereby building and maintaining long-lasting and favourable relationship with the target market (Ley, Gaines & Ghatikar, 2015). The governments, investors, customers, utilities, regulators and system developers play roles in setting electricity services delivery and impact on determination process. Most of the African governments have a national electricity forum that ensures the affordability, cost-reflectiveness and fairness of electricity tariffs (Swallehe, 2021). This was in realization that in Nigeria's 100 years of existence, electricity supply has always been a major challenge and indeed a stumbling block to the nation's rapid economic growth as well as a barrier to the social transformation of the Nigerian society. The availability of reliable electric power to the homes and businesses of Nigeria citizens has been one item in our national life that has been approached with so much hope and yet experienced so much frustration over the past decades (Shodiya, Ojenike, Jolaosho & Adebayo, 2018). Power generation, transmission and distribution infrastructure, significantly is still inadequate, worsening the problem of the real sector of the economy. There have been historical challenges to the growth of the sector including prolonged federal government presence at commanding heights, consistent under-investment since the early 1980s and poor management of the country's gas resources (Shodiya et al., 2018).

Service delivery is the centre of all activities of public-private sector organizations because both government and private firms are constituted to serve the people and ensure the public good. Sound administrative approach in service delivery is measured by the quality and quantity of those citizen-centric and people-driven services as displayed in the past, the need of effective service for successful implementation (Ukeje, Ndukwe, Chukwuemeka, Ogbulu & Onele, 2019). Consequently, in the present service situation of Nigeria as it affects her public sector in general and power sector in particular. SERVQUAL is used as a tool to measure service providers performance across the two dimension of service quality which is as follows; Tangibility includes a measure of physical facilities, equipment, and staff appearance, Reliability connote measuring the ability to perform or even exceed the promised service dependably and accurately (Hult, Sharma, Morgeson & Zhang, 2019).

However, in Nigeria, studies have been conducted on service quality and these include; Sokefun (2011), Babatunde and Olukemi (2012), Ijeoma (2013) Esther, Abubakar (2015), and Haruna, Kabiru, Faiza. Badiya (2016) and Ghiani E., Galici M., Mureddu M., & Pilo F. (2020), which found a positive effect between service quality and customer satisfaction. None of these studies examined influence of service quality on customer satisfaction with focus on electricity distribution companies, but with major

focus on different banks in Nigeria. Sokefun (2011); Iddrisua, Noonib, Fiankoc and Mensah (2015), revealed that customers are satisfied with Tangibles, Reliability, Responsiveness, and Assurance while customers are not significantly satisfied with empathy. On the contrary, Tran, Nguyen, and Taikoo (2015), in their study established that tangibles, reliability, responsiveness, and assurance, shown that satisfying customers base on tangibles, reliability, responsiveness, and assurance is not enough to retain with them because even satisfied customers may defect at a high rate in many industries. Mahmud, Jusoff, and Hadijah (2013) found that service quality has a positive and significant relationship with customer satisfaction while price has a negative and insignificant relationship with customer satisfaction among passengers travelling on Jakarta-Makassar route in Hasanuddin International Airport, Makassar, Indonesia. Rubogora (2017), revealed that service quality has no significant relationship with customer satisfaction in Banque Populaire du Rwanda, Kigali branches of Rwanda. Mahmud, Jusoff, and Hadijah (2013), found that service quality has a significant relationship with customer satisfaction among airline passenger (Gumel, 2016). Based on the consistence of previous studies, this study introduced service delivery as a mediating variable, measuring services quality in multidimensional (tangibles and reliability). However, the issues surrounding service delivery in Jos South is a very complex trajectory. Nigerians are charged with high tariffs for electricity and yet still do not enjoy regular power supply for the money they pay (Ehsani, &Ehsani, 2015). The inability of the power sector to provide constant electricity in Nigeria increases the cost of doing business which in turn affects the price of goods and services. Some multinational corporations and local businesses in Nigeria are being forced to close down their business operations due to epileptic power (Emodi& Yusuf, 2015). Jos South LGA faces an electricity gap in two senses: a mismatch between supply and demand in grid-connected regions, and a lack of access in off-grid regions. The study noticed that following most of the obstacles and difficulties mainly affected customer satisfaction. The problem which was identified by the researcher was the gap between expected electricity service and perceived electricity service delivered to customers. Therefore, understanding the real requirements and customer's expectations is necessary and delivering the superior quality of service would be essential. The above constraints serve as the motivation to the study which this study intends to bridge the gap in knowledge, by investigating the role of electricity service quality, service delivery and customer satisfaction in Jos South LGA of Plateau State.

1.1 Research Questions

1. What effect does service quality have on customer satisfaction in Jos South LGA of Plateau State?
2. What effect does service quality have on service delivery in Jos South LGA of Plateau State?
3. What role does service delivery play between service quality and customer satisfaction in Jos South LGA of Plateau State?

1.2 Objectives of the Study

- a) To examine the effect of service quality on customer satisfaction in Jos South LGA of Plateau State.

- b) To ascertain the effect of service quality on service delivery in Jos South LGA of Plateau State.
- c) To determine the mediating role of service delivery in the relationship between service quality and customer satisfaction in Jos South LGA of Plateau State.

1.3 Research Hypotheses

H01: Service quality does not have a significant effect on customer satisfaction in Jos South LGA of Plateau State.

H02: Service quality does not have a significant effect on *service delivery* in Jos South LGA of Plateau State.

H03: *Service delivery* does not mediate in the relationship between service quality and customer satisfaction in Jos South LGA of Plateau State.

1.4 Significance of the Study

The findings of this study add value to the current body of knowledge as it recommends ways for improving customer satisfaction through service quality and enhancement of electricity service delivery of Jos Electricity distribution (JED) companies in Jos South LGA of Plateau State. Also will support management of JED electricity distribution companies in Jos South LGA of Plateau State and in all sectors especially in adopting proficient services quality through electricity service delivery to their customers. It will increase supportive approach of NERC since it will shed more light on electricity service delivery in order to assist them in formulating a better policy for the distribution companies to improve customer satisfaction.

2. LITERATURE REVIEW

2.1 Customer Satisfaction

Customer Satisfaction is a feeling of pleasure or disappointment of someone who appears after comparing the performance (results) of the product thought against the expected performance results (Kotler, 2019). The dimension or indicator of Customer Satisfaction is if the performance is below the expectations of dissatisfied customers or if the performance meets expectations then the customer is satisfied, if the performance exceeds expectations then the customer is very satisfied or happy (Kotler, 2019). Customer Satisfaction is an attitude that is decided based on the experience obtained. Satisfaction is an assessment of the characteristics or privileges of a product or service, or the product itself, that provides a level of consumer pleasure with regard to meeting consumer consumption needs (Sugeng, 2016). Dimensions or indicators of Customer Satisfaction can be created through quality, service, and value. The key to generating customer loyalty is to provide high customer value. (Sugeng, 2016)

Customer Satisfaction is the customer's response to the evaluation of perception of differences in initial expectations prior to purchase (or other performance standards) and the actual performance of the product as perceived after wearing or consuming the product in question. (Tjiptono, 2012). Customer Satisfaction has been researched a lot by previous researchers including (Afriliana et al., 2018; Librianty&Yuliarto, 2019; Purwanti et al., 2014; Rahayu&Setyawarti, 2018; Rangkuti, 2003; Risdah, 2019; SiahaanSodiq&Wijaksana, 2014; Supardiasa et al., 2018; Wahyuddin et al., n.d.; Wijayanti, 2019; YUNIATI, 2016; Zahratul Aini, 2019).

According to Deng et al., (2009) Customer satisfaction becomes the most important part in the business field because when your customer is satisfied then it will provide the profitable business to the industry. Basically customer's satisfaction is term which means that how customers predict about your product after the use of a specific product and how they evaluate your product in single manner and compare with the competitors' products. The customer satisfaction is customer's evaluation of goods and services in term of whether it is according to the customer's requirements or it is dissatisfied the customer's needs and wants.

Actually customer's satisfaction is the customer's evaluation of goods and services in term of whether it is according to the customer's needs and wants or customers dissatisfied with the product services or the dissatisfied with the performance of the products and not according to expectation of customers and sometime customers more satisfied if products performance is beyond with their expectations.(Budur&Poturak, 2021), and if one aspect of product and services is not meets the customer's satisfaction then they can be dissatisfied with the overall performance. So for the food variable, it involves the price, quality, and value of money. For the service variable, it includes the staff quality, behavior, and attitude and for the restaurants it also involves the decoration and atmosphere.

Consumer satisfaction is low in most power distribution companies in many countries today, including Nigeria. Customers complain about increasing electricity prices and unsatisfactory levels of service. One of the most basic requirements of the customers is electricity (Kurtkoti& Ashok, 2015). In recent years, customer satisfaction has been increasingly important. Customer satisfaction is increasingly a crucial factor in product quality. In the electricity distribution, customers were the most important link in the aforementioned value chain. The efficiency of the entire value chain is determined by how well customer needs are met and customers are satisfied. Apart from food, clothing, and shelter, electricity is another basic need for customers.

The majority of people in Nigeria's underdeveloped areas lack access to electricity, and many of those who do have access to electricity have unreliable power or are forced to rely on expensive backup alternatives such as solar energy or generators (Budur&Poturak, 2021). With some instances, Nigeria's electricity power sector has consistently failed to deliver adequate electricity services to support the country's present economic growth and increased social welfare. Nonetheless, while Nigeria's changes have not been as wide or as swift as those in many other industrialized countries, considerable experience has been gained over the last decade to analyze the impact and efficacy of these reforms, particularly in the area of customer relations (Budur&Poturak, 2021). In the power industry, there are some fascinating examples of individual engagement through management contracts, concessions, and new investments.

Satisfaction is the customer's assessment of whether a product or service meets their needs and expectations, according to Zeithaml and Bitner (2003). When consumers are satisfied with the quality and reliability of products and services, they are expressing their opinion about the product or service's performance, which is critical for determining how well a firm. is doing. Organizations must concentrate on customer connections rather

than product and service development in order to compete in today's industry, since customers are always seeking for the maximum degree of happiness. Whether or not a corporation provides excellent services is based on how satisfied customers are with the products they have bought. Customers who are more satisfied with a product's quality are more likely to recommend it. As stated in the study (Kotler & Keller, 2009; Omonfoman, 2016).

2.1.1 Concepts of Service Quality

Historically, due to the untouchable nature of services that are often subjectively experienced, researchers have found the quality of services very difficult to define and evaluate. One of the first attempts to confront the concept of quality of service was the so-called Nordic School (Lewis and Broom, 1983). Using this approach, it has been found that service quality has two simple dimensions: technical quality is highly objective and makes living easier. The most popular models of all possible models are SERVQUAL, developed by Parasuraman, Zeithaml, and Berry (1985, 1988). First, ten dimensions are shown, such as (1) reliability, (2) responsiveness, (3) competence, (4) access, (5) courtesy, (6) communication, (7) credibility, (8) security, (9) understanding, and (10) tangibles. This model is designed to fit only five dimensions; such as tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1991, 1993, 1994).

The researchers developed ten general dimensions named- tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communications, and understanding which are evaluated in SERVQUAL. This model was revised later by Parasuraman et al. (1991) based on the result of an empirical study on five service companies. The study noticed that some of the ten dimensions were correlated. Understanding the quality of service is seen as a general assessment, an overall assessment, or a way to purchase a product or service (Olshavsky, 1985). From the customer's point of view, service quality is seen as a brand new phenomenon that varies from person to person. Service quality is the success of customer service in terms of business administration.

As mentioned previously in studies of customers' expectations of service quality and their actual experiences, the following five elements are seen as the most important dimensions to customers (Gitomer, 1998, Heskett et al. 1990, Griffin, 1995, Parasuraman and Grewal, 2000b): Reliability According to Philip Kotler (1999); Bitner, M. J., and Zeithaml, V. A. (2003) the ability to perform the promised service dependably and accurately is the reliability. Gilbert A. Churchill, Jr. & J. Paul Peter (1999) added that customers want performance to be consistent and dependable.

- a. Responsiveness: According to Philip Kotler (1999); Bitner, M. J., and Zeithaml, V. A. (2003) responsiveness is the willingness to help customers and provide prompt service. Gilbert A. Churchill, Jr. & J. Paul Peter (1999) added that customer must see service provider as ready and willing to perform.
- b. Tangibles: According to Philip Kotler (1999); Bitner, M. J., and Zeithaml, V. A. (2003), the appearance of physical facilities, equipment, personnel, and communication material of an organization is the tangibles. Gilbert A. Churchill,

Jr. & J. Paul Peter (1999) added that customer look for quality in the equipment, facilities, and communication materials used to provide the service.

Evaluating the quality of service may require subjective and objective procedures. This is also an aspect of customer contentment that is valued in both cases. However, customer satisfaction is an indirect indicator of service level (Rahim et al., 2010; Agbor, 2011). Research has also shown that there are many implications for service effectiveness, including estimated value improvement, customer satisfaction, and customer loyalty goals. Globally, the service industry is seen as the backbone of the economy and has a prominent place in the economic structure to support the agricultural and industrial sectors. In a competitive environment, quality service delivery is seen as an important strategy for success and safety (Parasuraman, Zeithmal, and Berry, 1985; Reichheld, 1996).

Also, personal and intimate relationships with service providers are recognized as the best aspects of increasing customer satisfaction and loyalty, which will lead to the idea of customer resilience beyond short-term financial goals with value. The provision of quality public services is often seen as a complex process; finding needs that are not addressed in this process, setting priorities, allocating resources, and ensuring public administration and calculating the outcome is not easy. Implemented systematically (Gowan, Segmour, & Ibarrenche, 2001). It also plays an important role in everyday life and can be accountable to citizens and the community for its services to the public sector and consumers. Therefore, this study will certainly provide practical advice to policymakers and researchers on the quality of electricity services. Also, it is considered a key step in measuring consumers' living standards. They refined it and finalized the instrument composed of five dimensions include reliability, responsiveness, assurance, empathy, and tangibles. In this present study two dimensions (reliability and tangibles) will be used to measure the perceived performance as one of the determinants of customer satisfaction.

2.1.2 Dimensions of Service Quality

2.1.3 Service Reliability

Reliability is the Ability to perform the promised service dependably and accurately. In its broad sense, reliability means that the company delivers on its promises-promise about delivery, service provision, problem solution, and pricing. In manufacturing it can be defined as the probability of failure-free performance over an item's useful life, or a specified timeframe, under specified environmental and duty-cycle conditions. It is often expressed as mean time between failures (MTBF) or reliability coefficient. Reliability can also be defined as the consistency and validity of test results determined through statistical methods after repeated trials (business dictionary, 2015). Reliability depends on handling customer service issues, performing the services right the first time; offering services on time, and maintaining a record of error-free. Moreover, they define reliability as the most significant factor in conventional service Parasuraman et.al,(1988). Reliability also consists of the right order fulfillment; accurate records; accurate quote; right in the bill; Results are more accurate than commissions; keep the promise of service. More specifically, in a study by Hanif, Ahsan, Bhatti and Loghari (2020), SERVQUAL was applied to gather data in four different companies, including

banks, credit card companies, the company's maintenance services, and Long Distance Phone Company.

2.1.4 *Service Tangibility*

Tangibles are the appearance of physical facilities, equipment, personnel, and communication materials. Tangibles provide physical representations or images of the service that customers, particularly new customers, will use to evaluate quality. Service industries that emphasize tangibles in their strategies include services in which the customer visits the establishment to receive the service, such as restaurants and hotels, retail stores, and entertainment companies. Although tangibles are often used by service companies to enhance their image, provide continuity, and signal quality to customers (Zeithaml et.al, 2011).

Furthermore, Physical environmental conditions appeared as a clear evidence of the care and attention paid for the details offered by the service provider, summarizes tangibles like the physical confirmation of the service. More specifically, Parasuramanet.al,(1985), define the tangibility appearance of physical facilities, equipment, personnel, and written materials (Al-Azzam, 2015). In the present research, tangibles offered at the service delivery points of the Ceylon Electricity Board's new electrical construction project's customers which were identified by the researcher, are measured by using four items of the tangible dimension of the 25-item questionnaire such as the way of welcome, level of comfort at the Service Delivery point, level of guidance and direction board available, level of safety provided and degree of vehicle parking facility available.

2.1.5 *Relationship between Consumer Satisfaction and Service Quality*

Although the quality of service and customer satisfaction shows similar performance indicators, many researchers suspect that they are identical (Dabholkar, 1995). Studies have shown that structures differ in concept (Bitner, Booms, and Tetreault, 1990). Differences between the quality of service and customer satisfaction can be summarized as follows:

- i. Purchasing is mandatory for determining customer satisfaction, although not necessarily for purchasing customer satisfaction. -quality assessment (Oliver, 1997);
- ii. Satisfaction comes at a price that generally does not correspond to the quality of service (Anderson et al., 1994);
- iii. Service quality solutions are unique, with an emphasis on key features, and customer satisfaction solutions are comprehensive (Oliver, 1997);
- iv. Quality of service is linked to customer satisfaction with thoughtful (reasonable) decision-making and emotional (emotional) decision-making (Iacobucci et al., 1994); And
- v. Expectations are predictive factors in determining service quality and in determining satisfaction (Parasurman et al., 1988). Equally important is the quality of service and customer satisfaction. Both have a positive effect on salvation goals and a positive effect on the mouth. Satisfaction positively affects post-purchase behavior (Oliver, 1980); and quality of service satisfaction has a direct and indirect effect on purchasing goals (Boulding et al., 1993). High quality of service leads to customer satisfaction and repurchase goals, with quality of service we see the promise of satisfaction.

Creating and maintaining the level of customer satisfaction is very crucial for electricity generation and distribution firms' survival, growth, and expansion. This is because the achievement of other business objectives is highly centered on the level of Satisfaction derived by the customers (Ibojo, 2015). Customer satisfaction is one of the most powerful weapons a firm can employ to gain an edge over its competitors in today's ever-increasing competitive environment. Every organization that aims to increase its market share must continuously identify the factors that enhance customer satisfaction and work on them as well identify and avoid those factors that hinder customer satisfaction (Khan, 2012).

2.1.6 Service delivery

Service delivery processes typically aim to provide the client with increased value by setting standards, policies, principles and constraints to guide all aspects of their business and customer interactions. Sometimes service delivery may involve a third-party or outsourced supplier besides the provider and the client. Economic development is the process by which the economic well-being and quality of life of a nation, region or local community are improved. Economic development is the process by which emerging economies become advanced economies. Economic development goes beyond growing the nation's GDP and drawing investors, it also looks at the general well-being of the citizens of the nation. Service delivery is a component of business that defines the interaction between provider and the client where the provider offers the service, whether that information or a task, and the client either finds value or loses value as a result. A good service delivery provides clients with an increase in value.

Service delivery can be found in many different profusions and organization or company structures, such as medical hospitals and IT companies and company structures such as medical hospitals and companies. IT has its own set of standard service delivery practices that are followed by service level delivery. Service level management provides a framework where services are defined and levels of service support are agreed upon. There are service level agreements, services and operational level agreements that are created. Additionally, the management defines the IT and organization roles and establishes clear goals for both roles (Adrian Thompson, 2011). Delivery of a higher service quality compared to a competition is a goal of every service organization. It is a requirement for getting a competitive advantage and achieving a stable profit. Profit is the result of exceeding the benefits in relation to the costs of creating quality (Yadeta, Jaleta&Melese, 2022). Greater benefits are a result of higher customer satisfaction, which leads to an increase in demand, repurchase, and retaining of customers. The main objective of a company is to exceed customer expectations about service quality (Kotler et al., 2007). The delivery of such services includes: The focus on the market and customers. Problems related to service quality are higher in organizations that are not focused enough on the identification and action in order to meet the identified needs and expectations of customers; Competencies of the first service line, given that a service quality is estimated based on the total interaction with service customers, hence, they bind to the service and the organization; Shaping the behaviour of employees and their direction to meeting needs and demands of customers.

Customer service has become a distinctive element to both product and service sectors and with the developments in information technology many organizations find demanding and knowledgeable clients. The worldwide trend toward service quality was initiated in the 18th century when businesses realized that a quality product, in itself, is not guaranteed to maintain competitive advantage (Bardakçı, 2020). Many researchers recognize that service quality can bring an organization a lasting competitive advantage. Quality of services can be the difference between success and failure in both service and manufacturing firms. Service quality, customer satisfaction and customer value have become the main concern of both manufacturing and service organizations in the increasingly intensified competition for customers in today's customer-centred era (Marcos and Coelho, 2022). As a result, many organizations are paying increasing attention to improve service quality. Service quality improvements will lead to customer satisfaction and cost management that result in improved service delivery (Pakurár, et. al., 2019)

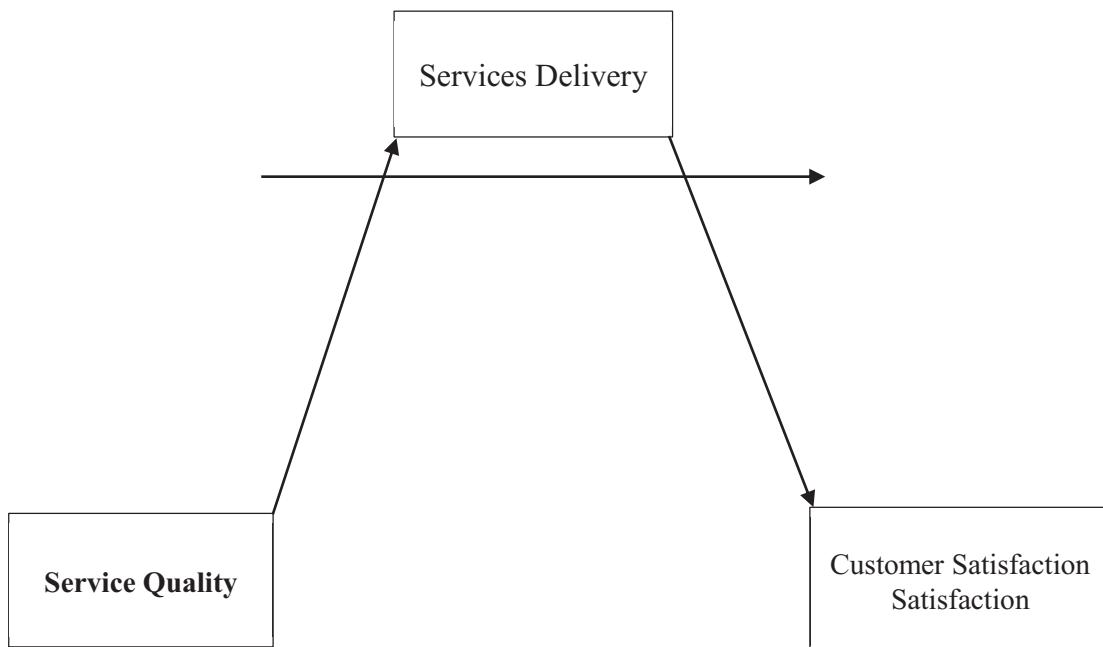
2.1.7 Conceptual model

The research framework depicts that service quality (reliability and tangibility) has direct linear relationship with customer satisfaction, which depicts the research questions, objectives and hypothesis. It entails the influence of the dimensions of independent variables (reliability and tangibility) on dependent variable customer satisfaction, with indirect role of electricity service delivery in the relationship between service quality and customer satisfaction.

2.1.8 *Conceptual Framework*

The diagram delineating the relationships between the variables explained is depicted thus:

Figure (1)



(Source: Abdiissa, 2019; Shodiya et al., 2018).

2.2 Theoretical Review

2.2.1 Expectancy Disconfirmation Theory

Disconfirmation of expectations theory paradigm is conceptualized by Oliver (1980, 1997). It came from a subject of study for antecedents of satisfaction (Anderson and Sullivan, 1993). The standard approach to study the satisfaction involves comparison of prior expectations with observed performance. Thus in this theory, the customer's perception of overall satisfaction results from a comparison between expectation and outcome performance. Therefore, expectation and outcome performance are two important variables which can influence the judgment of satisfaction measure. Because customers' satisfaction is one of the curial factor to predict the customer purchase tendency. To investigate satisfaction toward the products is also a main topic in customer behavior research. Based on expectation disconfirmation theory, firm can increase satisfaction by increasing perceived product performance or decreasing expectation.

This theory posits that the term satisfaction involves the process of putting side by side product/service consumption experience encountered based on preconceived perception and expectation Ekinci&Sirakaya (2004); Mattila & O'Neill (2003). Expectations play a major role in the consumer decision making process (van Raaij, 1991; Spreng et al., 1993). In the pre purchase stage, expectations influence consumer decisions on which brand or type of product or service to buy. During consumption, expectations can be affected by the attitudes of service personnel, other customers and equipment. In the post purchase stage, expectations form the basis of evaluations of satisfaction (Kurtz and Clow, 1998) and service quality (Parasuraman et al., 1988). Most studies have treated expectations as a static variable that exerts both a direct and indirect influence on customer satisfaction (Tse and Wilton, 1988). In these studies, customer expectations were formed prior to consumption; they 29 served as comparative referents for quality judgments, for determining customer satisfaction, and ultimately for behavioral intentions. It has been suggested that marketers who wish to understand and favorably influence customer satisfaction need to understand and influence customer expectations (Anderson, 1973).

The theory suggests that customers determine satisfaction with a service by comparing perceptions of performance against their expectations. If there is a disparity between the expectations and the perceptions of performance, disconfirmation results, which in turn may affect the level of customer satisfaction (Oliver, 1980). There is considerable empirical evidence to suggest that consumers who perceive that a performance matches or exceeds their predictive expectations are more likely to feel satisfied with the service than those whose expectations are not met (Gupta and Stewart, 1996; Anderson and Sullivan, 1993). It was somehow the dominant paradigm of satisfaction/dissatisfaction formation for many years. It specifies that consumer satisfaction/ dissatisfaction results from a comparison of expectations concerning the quality of consumption, with the actual consumption experiences, and provides the theoretical basis for understanding the formation of consumer satisfaction.

2.2.2 Theory of human service delivery

Theory of human service delivery was propounded by Peter Senge in 1990. It theorizes that human beings are a resource within systems for service delivery. In a

study that was conducted in the insurance context, Senge (1978) argued that it was difficult to develop metrics that could be used to measure intangible aspects of the industry, such as the quality and delivery of services. In later years, more scholars began to apply the model to other service-based industries.

Theorists have begun to work to develop a system that can be used to build a system that ensures optimized service delivery for customers. The theorists suggested that every organization should develop internal metrics that they use to measure the quality of human services (Pue, 1996). They should also be able to have aspirational guidelines that direct the human resources within the organization on how to meet their shared vision and goals. The service sector is primarily a service-centered industry. Even though electricity distribution companies provide service such as repairs and installation of transformers, their core business is made up of people: professionals who work within the system to deliver services to the people. This research focuses on the public sector, where the key indicator for measuring performance is service delivery. The theory of human service delivery can be used to inform this research by shedding light on the challenges that electricity face in measuring the quality of their services and suggesting indicators that they can use to objectively draw conclusions about the quality of their service delivery.

2.3 Empirical Review

2.3.1 Service Reliability and customer satisfaction

Khan and Fasih (2014) conducted a study to discover which administration quality measurements might improve consumer loyalty and client reliability in a superior manner. The exploration embraced SERVQUAL model in their examination. The explored overviewed respondents who were browsed an extent of moving fragment features using isolated unpredictable testing. Banks from both public and private region are picked for analyzing. Audit studies were coursed among 225 customers of different banks. The information was examine dosing graphic measurements, one example t-test, connection and relapse. The discoveries demonstrated that assistance quality and every one of its measurements had huge and positive relationship with consumer loyalty and client steadfastness. This study was in banking industry while the proposed is in public organization in monopolistic market and the way employee provide the study may be different.

Chikwawawa (2019) carried out a study to evaluate the fulfillment of retired people with the National Social Security Authority's (NSSA) administration in Harare, Zimbabwe. The review took on the quantitative investigation plan and data were accumulated through a survey from an illustration of 162 discretionarily picked individuals. Five creates of the SERVQUAL model, specifically; impacts, reliability, responsiveness, affirmation and compassion, given the hypothetical framework to the survey. The data was gotten and examined utilizing the Statistical Package for Social Sciences (SPSS) Version 22. Entrancing quantifiable examination for fragment factors and various direct backslide assessments were directed to choose the association between the various components of organization quality and buyer faithfulness. The review surmised that customers are content with organization estimations of impacts, attestation

and compassion, but was not dominating on steadfastness and responsiveness. Based on the above, the study formulated hypothesis to test the relationship.

2.3.2 *Service tangible and customer satisfaction*

A similar study by Eshiett Abubakar and Eshiett (2018) on Customer Satisfaction Billing Process in Nigerian Energy Sector, the researchers posited that customer satisfaction is the basis for overall growth in any organization in both public and private concerns, the poor nature of The essence of study is to assess from the customer perspective their level of satisfaction on the billing process used by the energy sector for service provided. Descriptive survey technique were used through to retrieve and collate data for analysis, The outcome of the study revealed that there is no correlation between service provided and the amount billed customers in the Nigerian Energy sector. The study recommended the need for all stakeholders in the energy sector to embark on a holistic measure that will equate amount billed with the exact value of service provided by the energy sector, to enhance customers' satisfaction.

In a similar study by Adenikinju,(2018), on Efficiency of the Energy Sector and its Impact on the Competitiveness of the Nigerian Economy, the author noted that in-spite of the large energy resources of the country in gas, hydro and thermal, the level of energy efficiency is not sufficient enough to create a positive impact on customer satisfaction and an increase in the productive capacity of Nigeria, the study concludes that government should embark on aggressive implementation of the power reform of 2005, increase its power generation capability, enlarge its transmission capacity and expand its distribution network.

Rana, Lodhi, Butt and Dar (2017) examined how determinants of customer satisfaction are affecting the brand image and behavioural intention in fast food industry of Pakistan, the relationship between customer satisfaction and behavioural intention in the fast food chains were investigated. A survey was conducted in three major cities of Pakistan as Sahiwal, Lahore, and Gujranwala. Data were generated from fast food consumers and the target sample size was 166 respondents arrived at by convenience sampling technique of non-probability sampling. PLS-SEM was used to interpret the results of the study. The finding revealed that positive customer satisfaction leads to positive behavioural intention and healthy brand image in the minds of customers. The results will lead the managers of the industry to prioritize the focus on various antecedents of satisfaction of customer especially food quality, service quality and price value ratio.

Form the empirical studies review, there exist some gaps between customer expectations and management's perception of those expectations, management's perception of what the customer wants and the designed capabilities of the system that management develops to provide the service. Implementation gap, which is between what the service system is designed to provide and what it actually provides and between what the service system provides and what the customer is imagining, also between customers' service expectations and their perception of that service. Gathered from the existing literatures, this forms the premise of the study on comparative analysis of the

factors that account for either low customer satisfaction and poor service quality among the electricity distribution companies.

Previous studies have introduced a new quality perspective by coining the concept of quality in use for customer satisfaction in the context of service and cost (Vargo & Lusch, 2022). Most studies have been focusing on developed countries where the idea of service quality and customer service are entirely different from those of developing countries (Manjunath & Reginald 2016; Khan & Fasih 2014). Studies on service quality have focused on the banking industry (Khan & Fasih 2014; Kaura, et al., 2022), airline industry (Lubbe, Douglas, & Zambellis, 2021), hotel industry (Marković, & RasporJanković, 2022), educational industry (Naidoo, 2019, 2018; Jayasundara, et al., 2018) with little focus on electricity distribution companies. Hence, service quality is of core importance to the survival and profitability of service delivery firms. Based on knowledge gap one of the most significant challenges facing electricity services firms recently is to provide consistently high-quality services. The delivery of consistent service quality is arguably the most vital factors that contribute to the establishment of credibility and reputation of the organizations in the eyes of the public, which distribution companies lack. It is well recognized that providing high quality services has a beneficial effect on the bottom-line performance for the organization evidence indicating that providing top quality services enhances customers satisfaction, and reduces compliant, based on empirical review, which discovered unsatisfactory consumers as a result of negligence on the part of the electricity service provider, as indicated in the studies conducted by (Namupala, 2019; Eshiett Abubakar & Eshiett, 2018; Rana, Lodhi, Butt & Dar, 2017).

As a result, more research needs to be done to determine the clear and actual connection between the standard of service and customer satisfaction in electricity companies. Second, the factors affecting customer satisfaction have not been clearly illustrated in this piece of literature in connection to electricity companies. More research is needed concerning how and to what proportions these mentioned factors influence customer satisfaction. This study filled this gap in knowledge by investigating the relationship between service quality and customer satisfaction among electricity consumers in Jos South LGA of Plateau State, Nigeria, with mediating role of electricity service delivery. The study also examined the relationship of each of the independent variable (service assurance, reliability, responsiveness and tangibility) with the dependent variable (customer satisfaction) and mediating variable as electricity service delivery. It is, therefore, justified to conclude that inadequate research has been undertaken in the area of study in Nigeria. Thus, this research is an attempt to fill this gap.

3. METHODOLOGY

3.1 Research Design

This study employed a cross section research design and survey design; this was used to collect data from a large sample of respondents and which described the service quality, electricity service delivery and customer satisfaction. The research approach that was inductive one. This research follows a mixed method of quantitative and qualitative

approach. This approach allows for the concurrent analysis of both quantitative and qualitative data.

3.1.1 Population

A population is the totality of the objects under the investigation. It is a set of all cases of interest, with respect to this study. Based on data collected from JED office Bukuru, it is on record that JED have 823,000 customers that buys power and numerous post-paid customer, simple random sampling technique was used to select respondents among customers of the two companies operating within Jos South Local Government Area of Plateau State in order to produce more representative and accurate sample. The participants will be selected according to the researcher interest.

. Hence, the population sample was determine using Taro Yamane formul a (1967). The Taro Yamane (1967) formula for populations that are known and finite was used. The formula and computation are show as follows:

$$n = \frac{N}{1 + \frac{1}{N} e^2} \quad \text{---(1)}$$

Where:

n = the desired sample size,

N = the total population under study,

1 = a constant,

e = signifies the allowable error limit (0.05) in Management Sciences Research,

2 = square of e .

Therefore,

$$\begin{aligned} n &= \frac{823,000}{1 + \frac{1}{823,000} (0.05)^2} \\ &= \frac{823,000}{1 + 20.58} \\ &= \frac{823,000}{2158} \\ &= 381 \end{aligned}$$

The sample size for this research is therefore 381 respondents which will be obtained from JED electricity distribution companies.

3.1.2 Method of Data Collection

Self-administered questionnaire was distributed to the respondents personally by the researcher. The respondents read the questions and filled in the answers by themselves, indicating self-response method. Before administering the questionnaire, consent was obtained from the relevant authorities and individuals where the research was carried out. A procedural approach was used in order to avoid common method biasness where a participant respond to a questionnaire from start to finish and is therefore able to predict the direction of the questions and try to satisfy the researcher, for services quality dimensions the questionnaire was adapted from the study of done by (Fernando, 2018; Al-Azzam (2015). Electricity Service delivery questionnaire was adapted from Yadeta, Jaleta and Melese (2022), while for customer satisfaction the

questionnaire was adapted from the study conducted by (Swallehe, 2021). The Cronbach Alpha coefficient of the adapted measuring instruments was all above 0.7.

3.1.3 Method of Data Analysis

The multiple linear regression analysis will be adopted for the testing of hypotheses via the Statistical Package for Social Sciences (SPSS) Statistics 27. According Sekaran and Bougie (2013), multiple linear regression analysis is an analysis of association between two or more independent variables on a single, interval-scaled dependent variable. In this study, independent variables are entered into the same regression equation to predict whether electricity service delivery has any significant effect on customer satisfaction. In addition to the SPSS package, Process analysis developed by Andrew F. Hayes was used for testing the mediation effect of service quality.

3.1.4 Model Specification

Model specification refers to the determination of which independent variables should be included in or excluded from a regression equation.

$$CS = f(ESD, SQ)$$

The function model can be transformed into an equation form as thus;

$$CS = \beta_0 + \beta_1 SQ_1 + \beta_2 SD_2 \text{ et----- (2)}$$

Apriori expectation of the model

$$\beta_1 < 0 \text{ and } \beta_2 > 0$$

4. RESULTS

4.1 Response Rate

Based on the questionnaire, out of the 381 questionnaires that were administered on the respondents, 369 were properly filled and returned. This represent 94.1percent retrieval rate. The retrieved questionnaires were properly coded in statistical package for Social Sciences (SPSS v. 27). The data were properly cleaned before analysis. Multiple regressions were used in testing the hypotheses of the study and the results were adequately discussed.

4.1.1 Demographic Response

Profile of respondents

The profile of respondents was obtained and presented in frequency and tables below.

Table 1: Respondents Personal Information

	Frequency	Percent
Gender		
Male	182	50.2
Female	180	49.8
Total	362	100.0
Age		
Below 35yrs	140	38.6
36- 50yrs	153	42.2
51years and above	69	19.2
Total	362	100.0
Marital Status		

Single	121	33.4
Married	198	54.6
Divorced	20	5.7
Separated	23	6.3
Total	362	100.0
Educational Qualification		
SSCE	101	27.9
B.Sc /HND	178	49.2
M.Sc/M. Ed and Above	83	22.9
Total	362	100
Customer Category		
Individual	198	54.6
Corporate	164	45.4
Total	362	100

Source: Field Survey, 2024

Based on gender male respondent were 183 with 50.3% while female respondents were 180 with 49.8%. The age had below 35years had 140 respondents with 38.6%, 36years to 50years had 153 respondents with 42.2%, 51years and above, while had 69 respondents with 19.2%, 51years and above had 77 respondents with 20%. On the Marital status, single had 121 respondents with 33.4%, married had 198 respondents having 54.6% and for divorced which had the total respondents of 20 with 6%, while separated had total respondent of 23 with 6.3%. Also, Secondary school respondents had 104 with 27.9%, B.Sc/ HND had 178 respondents with 49.2%, while M.Sc/M.Ed/PhD had 83 respondents with 22.9%. for customer category individual had 198 respondents with 54.6%, while Coperate establishment had 164 respondent with 45.4%.

4.1.2 Descriptive Analysis of Constructs

The variables used in this research study were investigated by using the descriptive analysis. Statistical values of means and standard deviation were considered for the dependent and independent variables. The outcomes of these statistical values are shown in table 2.

Table 2: Descriptive Statistics and Correlation

Variables	N	Mean	Std	Skewness	Kurtosis	1	2	3	4	5	6
Reliability	362	19.8667	2.62236	-.276	1.566	.366	1.000				
Tangibility	362	17.7452	3.06228	-.154	-.728	.539	-.035	.160	1.000		
Service	362	16.8723	4.04916	-.112	.234	.681	.012	.321	.387	.401	1.000
<u>Delivery</u>											

Source: Researcher 2024

Based on the above descriptive statistics, the independent variable dimension's result shows that the mean value for Reliability is 19.8667 and Tangibility 17.7452 while service delivery 16.8723. Meaning that the variables pass the fitness test and fit to proceed for analysis.

4.1.3 Multicollinearity

Multicollinearity is a quandary that occurs when independent variables are extremely interrelated to as high as 0.7 and above (Tabachnick & Fidell, 2007). When two or more construct are interrelated, they enclose unnecessary data and for such reason, not all of the data are required in the same analysis. Since they increase the size of error and thereby weaken the analysis. However, if it is found it will only be deleting the offending variables. To screen for multicollinearity, Variance Inflation Factors (VIF) and tolerance level were examined through regression result from SPSS, based on the general rule which state that the cut of point should not exceed 10 and not less than 0.10 (Hair et al., 2019). From the table below (Table 3) it is clearly shown that tolerance ranges between 0.01-0.03 significantly and less than 10. In the same way, VIF ranges from 1.000-1.000 and it is good enough as being < 10 (Tabachnick & Fidell, 2007). Meaning that, there was no multicollinearity issue among the variables used in the study.

Table 3: Result of Multicollinearity

Independent Variable	Tolerance	VIF
Reliability	.094	1.267
Tangibility	.606	1.096

Source: SPSS OUTPUT 27.0

Table 4: Result on Hypotheses Testing

Hypothesis	Relationship	Std (β)	Beta	Std. Error	T-Value	P-Value	Decision
H1	SQ CS	1.256	.026	.026	5.030	0.005	Not Supported
H2	SQ SD	1.032	.045	.045	2.376	0.000	Not Supported

Source: SPSS OUTPUT 27.0

Hypothesis One: Service quality does not have a significant impact on customer satisfaction in Jos South LGA of Plateau State. This hypothesis is accepted based on SPSS output which shows that, there is a statistically significant relationship between service quality and customer satisfaction. Based on the relationship between the construct which is positive ($\beta=1.256$: $t=5.030$ $p<0.05$). The relationship between the variables is strongly significant at $p<0.05$ with a relatively high beta value and t -value <5.030 . it therefore indicates that Service quality has a strong significant impact on customer satisfaction in Jos South LGA of Plateau State. Therefore, the null hypothesis is rejected. Hypothesis Two: Service quality does not have a significant impact on *service delivery* in Jos South LGA of Plateau State. This hypothesis is accepted based on SPSS output which shows that, there is a statistically significant relationship between service quality and *service delivery*. Based on the relationship between the construct which is positive ($\beta=1.032$: $t= 2.376$ $p<0.05$). The relationship between the variables is significant at $p<0.005$ with a relatively high beta value and t -value <2.37 . Hence, the relationship is supported while the null hypothesis is rejected. Therefore, the result indicated that service quality has a strong impact on *service delivery* in Jos South LGA of Plateau State.

4.1.4 Mediating Result

4.1.5 Hypothesis Three

The study also analyzed the mediating role of electricity service delivery on the relationship between service quality and customer satisfaction. The indirect impact of the mediating function of electricity service delivery as a mechanism to mediating the effect amongst service quality and customer satisfaction reveals that when electricity service delivery is applied as a mediation variable, there is a positive impact among service quality and customer satisfaction. Moreover, the study conducted a mediation effect using Process regression analysis by Andre Hayes, to test using the coefficients and their corresponding standard error ($\beta=0.112, 0.029, t=8.501, 7.163$). Meaning that electricity service delivery has a mediating effect the relationship between service quality and customer satisfaction among JED customers in Jos Plateau State. Meaning that results in Table 5 showed that electricity service delivery can be predicted by service quality and customer satisfaction. Mediation effect analysis summary is presented in table 5 below.

Table 5: Mediation Result

Model Summary						
Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval	t statistic	Conclusion
				Lower Bound	Upper Bound	
SQ > ESD > CS	0.193	0.059	0.320	-0.013	0.107	5.781

Process Output for mediation

4.1.6 Discussion of Findings

The research question for hypothesis one is a null hypothesis which states service quality does not have a significant impact on customer satisfaction in Jos South LGA of Plateau State. However, the result from the regression analysis showed a positive significant relationship between service quality and customer satisfaction. Hence, the null hypothesis was rejected. Thus, the study concluded there is a statistically significant relationship between service quality and customer satisfaction among JED a customer because as service quality increases, customer satisfaction also increases, and based on these results H1was rejected. The findings of this study was in agreement with the study done by Mmutle and Shonhe (2017), who established to reduce the level of complaints by paying attention to the quality of service which leads to customer satisfaction, the study established that management improvement in the ability of personnel with adequate service quality leads to customer satisfaction.

The research question for hypothesis two is a null hypothesis which states service quality does not have a significant impact on *service delivery* in Jos South LGA of Plateau State. However, the result from the regression analysis showed a positive significant relationship between service quality and *service delivery*. Hence, the null hypothesis was not supported and thus the study concluded there is a statistically significant relationship between service quality on *service delivery*, because as service quality increases, service delivery also increases, and based on these results H2was rejected. The finding is in consistent with the findings of Namupala (2019), that service quality has positive significant influence on service delivery among residential customers of a Namibian electricity company by the name of Nampower.

The research question for hypothesis four is a null hypothesis which states that electricity service delivery does not mediate the relationship between service quality and customer satisfaction. However, the result from the process showed a positive mediating effect between electricity service delivery, service quality and customer satisfaction. Hence, the null hypothesis was not supported and thus the study concluded there is a mediating effect on the relationship between electricity service delivery, service quality and customer satisfaction because as electricity service delivery increases, there is a corresponding effect on service quality and customer satisfaction, and based on these results H5 was rejected. The finding confirms the conclusion by Yuen, Loh, Zhou and Wong, (2018), which established that electricity service delivery to the customers, goes beyond payment of bills rather satisfies the customers, after taken into consideration the initial enabling environment of adequately planned electric facilities in relation to the users.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

It was concluded that given the research findings and taking into consideration the overall performance of electricity distribution companies from the standpoint of customers satisfaction, it is quite reasonable to conclude that electricity distribution companies does not have the institutional capacity and support to satisfy the users of electricity products in the study area. This poses a serious challenge to the prospects of attaining the current customer satisfaction in the power sector in the study area. The company is presently challenged with many critical factors such as understaffing, poor leadership influence/ style, lack of time management, lack of qualified engineers, also job insecurity as a result of public beatings and harassment of staff by customers as well as fear of the possibility of contract termination at the expiration of probation period.

Based on poor service delivery in their area as it ranges from the constant power interruptions, low voltage, unreliable load shedding, illegal meter adjustments, estimated billing, vindictive/punitive disconnections, delay in the new connection, lack of effective complaints management feedback mechanism in the sector even with the presence of the NERC. Thus, more than 50 per cent of the consumers in the study area have alternative power supply source, at least (I-pass-my-neighbour) thereby driving the state into a generator-based economy. The findings also revealed that the system was detrimental to the poor, who were unable to utilise energy because they lacked the financial means to purchase pre-paid electricity. The study concluded that customer education promotes decision-making in changing settings and gives people more control over their financial fate, resulting in increased personal happiness and appreciation.

5.1.1 Recommendations

Based on the research findings the following recommendations are made:

1. Management of JED should be updating the customers prior to metering exercise in their resident, since it will enhance the level of customer satisfaction and prove them to be reliable
2. Marketer under JED needs to identify the primary quality determinants, by clearly managing the customer expectation since it will enhance service quality and tangibility of the services.

3. JED ought to increase workforce to help bring about ease in running the affairs of the company, thereby attaining to service delivery and satisfying customer particularly as it affects attending to her numerous customers.

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