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TOTAL QUALITY MANAGEMENT AND CUSTOMER SERVICE EFFICIENCY IN SELECTED ENERGY ORGANIZATIONS IN NIGERIA

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Abstract. The research examined the effect of total quality management on customer service efficiency in two selected energy organizations in Nigeria. The study sought to establish the effects of customer focus, continuous improvement, and process management as dimensions of total quality management on customer service efficiency in the sampled organizations. The population of the study were the employees of both organizations. A combination of purposive, stratified and convenience sampling approaches was employed in this study. The representativeness of the sample was assured by engaging stratified sampling wherein we ensured that the respondents were from across the various strata of both organizations in the three cities of interest. A properly structured questionnaire was used as the survey instrument and a total of 360 copies of the research instrument were distributed to the two organizations across the three cities. A response rate of about 75% was obtained as only 273 copies of the instrument were returned and found usable. The hypotheses were tested using regression analysis. The result confirms that there is a significant positive effect of customer focus, continuous improvement, and process management as dimensions of total quality management on customer service efficiency in both organizations. The study recommended that policies and practices that facilitate customer focus, continuous improvement, and process management should be encouraged to improve customer service efficiency in the organizations.

Keywords: customer focus, continuous improvement, process management, total quality management, customer service efficiency.
JEL Classification: M10, M11, M30.

INTRODUCTION

Globally, organizations across sectors face rising customer expectations as clients have become more informed and demand superior, personalized products and services. To achieve performance excellence and efficiency, corporate leaders have embraced diverse strategic

approaches prominent, of which is total quality management (TQM). Evidence from literature and practice shows that TQM provides an effective framework for enhancing operational efficiency, customer satisfaction, and long-term loyalty (Anil & Satish, 2019; Chika, et.al., 2025).

The global energy industry is increasingly using total quality management (TQM) to boost efficiency, compliance, and customer satisfaction. In a competitive, tech-driven market, energy firms apply TQM to optimize operations and support sustainability. However, many still struggle to fully integrate process orientation, continuous improvement, employee involvement, and customer focus into their systems. In Nigeria, the energy sector plays a vital role in driving economic growth and development but faces challenges such as poor infrastructure, inconsistent regulations, and limited technological advancement. Implementing total quality management (TQM) is crucial to enhance service delivery, customer satisfaction, operational cost efficiency, and sustainability (Chika, et.al., 2025). The sector however, continues to struggle with uneven quality standards, weak customer engagement, and low employee involvement in quality programmes, which limit its ability to fully harness the benefits of TQM (Asawo, Mgbechi & Blue-Jack, 2023).

The Nigerian energy sector comprises various organizations handling distinct functions, including the Generation Companies (GENCOs), the Transmission Company of Nigeria (TCN), distribution companies (DISCOs), and the Rural Electrification Agency (REA). The Transmission Company of Nigeria (TCN) is responsible for transmitting electricity from generating companies to distribution companies. Distribution companies (DISCOs) are responsible for the final delivery of electricity to customers, including stepping down the voltage and maintaining the local network. The Rural Electrification Agency (REA) focuses on expanding access to electricity in rural areas through its own projects and by promoting electrification in unserved and underserved communities. This study specifically focuses on the DISCOs and the REA, both which are responsible for extending electricity access to rural and underserved areas. Both organizations are guided by the mission to expand energy access, support economic growth, and enhance living standards in rural communities.

Total Quality Management emerged during the 20th century as a broad management philosophy aimed at improving goods and services by fostering continuous innovations and refinements throughout all parts of an organization, with the core objective of promoting operational efficiency and enhancing customer experience (Snongtaweeporn, Siribensanont, Kongsong, & Channuwong, 2020; Chika, et.al., 2025). Rather than being solely a distinct technique or tool, TQM represents a business philosophy founded on fundamental guiding principles. It encompasses the engagement of all employees in an unceasing quest to elevate quality, satisfy customers, enrich customer experiences, minimize defects, and nurture a culture of ongoing improvement. The TQM philosophy contends that quality should not be viewed merely as a product feature, but instead as intrinsic to every organizational action, culture, process, and operation (Khanam, Siddiqui, & Talib, 2013). The key tenets of TQM advocate for a comprehensive perspective on quality management across the organization with components such as strong customer focus, continuous improvement, reliance on data-driven decision making, and full employee participation among others. Ultimately, implementing TQM principles aims to elevate organizational efficiency, enhance customer satisfaction, and deliver outstanding service experience (Anil & Satish, 2019; Chika, et.al., 2025). Customer experiences with energy companies in Nigeria however reveal a noticeable gap between the stated ideals of total quality management and their actual application in operational and customer service practices. While the total quality management approach is widely acknowledged in the sector, it appears there is a struggle with its practical implementation to achieve efficient and high-quality customer service. This study aims to contribute to this discourse by exploring the selected energy sector organizations seeking to apply total quality management principles to improve customer service efficiency and overall performance.

Statement of Problem

While TQM offers a strategic pathway for improved customer satisfaction and operational excellence, the energy sector faces hurdles in its implementation as customers are far from getting efficient services. Addressing these issues requires a concerted effort to streamline processes, encourage continuous improvements, and foster a customer-centric culture, among other things. Without addressing these core components, energy organizations will continue to struggle with achieving the full potential of TQM and, consequently, fail to meet and exceed the needs of the average Nigerian consumer. Despite being Africa's largest economy, many Nigerians experience frequent power outages, which adversely affect businesses and households; areas still lack access, power quality is poor and supply is unreliable, voltage fluctuations occur, electricity cost and tariffs are high, many customers lack access to functional meters -leading to estimated billing that often exceeds actual consumption; meter tampering issues and theft further complicate billing and technical losses. There are also issues of transparency - for example, customers often lack clear, accurate information about energy usage, tariffs, or the causes of outages. There are also customer-service failures like billing errors, estimated billing disputes, slow complaint resolution, and unsafe infrastructure from poorly maintained and outdated systems. The implementation of total quality management principles presents a strategic approach for addressing these challenges and enhancing service excellence. Within this context, this work seeks to evaluate how components of total quality management orientation - such as customer focus, continuous improvement, process improvement influence customer service efficiency in the sampled energy organizations. To address these study objectives, the following research questions were raised:

i. What is the influence of customer focus on the customer service efficiency in the sampled energy sector organizations?
ii. What effect does continual improvement have on the customer service efficiency in the sampled energy sector organizations?
iii. What effect does process management have on customer service efficiency in the sampled energy sector organizations?

LITERATURE REVIEW

Understanding total quality management

Total Quality Management (TQM) is a continuous process of achieving excellence by equipping employees with the right skills and attitudes to prevent defects and consistently meet customer expectations (Chika, et.al., 2025). It represents an organization-wide philosophy that emphasizes continuous improvement, employee participation, customer satisfaction, and quality across all operations. TQM requires cultural transformation and long-term commitment, integrating quality into every process to reduce errors, improve efficiency, and enhance service delivery. When effectively applied, it leads to greater customer satisfaction, improved employee morale, and sustainable performance (Anil & Satish, 2019). TQM involves aligning all organizational functions to meet customer needs while minimizing internal costs and inefficiencies. Prajogo and Sohal, (2006) and Chika, et.al. (2025) view TQM as a strategic approach that harmonizes every organizational activity toward achieving superior product and service quality.

Scholars such as Dubey (2015) and Bouranta, Psomas, and Pantouvakis (2017); and Chika, et.al., (2025) identify several core principles that underpin total quality management such as:

i. Continuous improvement (Kaizen): TQM promotes a culture of ongoing enhancement in every organizational area, encouraging gradual and consistent refinement of processes, products, and services.
ii. Process orientation: It stresses defining, analyzing, and optimizing processes to reduce waste, prevent errors, and boost operational efficiency.

iii. Customer focus: TQM centers on understanding and satisfying customer expectations, using customer feedback as a foundation for improvement and innovation.
iv. Employee involvement: Active participation of employees at all levels is essential. TQM nurtures an inclusive environment where workers share ideas and contribute to performance enhancement.
v. Strategic leadership: Effective TQM relies on strong leadership committed to fostering a quality-driven culture, allocating adequate resources, and guiding improvement initiatives (ul Hassan, Mukhtar, Qureshi, & Sharif, 2012).
vi. Data-driven decision-making: Decisions are based on factual data and performance analysis, enabling evidence-based strategies and continuous monitoring of progress.
vii. Supplier partnerships: Quality extends to supply chains, with collaboration between firms and suppliers to maintain input quality and solve shared challenges.
viii. Defect prevention: Emphasis is placed on designing quality into processes rather than detecting faults afterward, promoting proactive quality assurance.
ix. Benchmarking: Organizations compare their operations and outcomes against industry best practices to identify gaps and adopt superior approaches.
x. Training and recognition: Continuous employee training ensures required skills and knowledge, while recognition and rewards motivate ongoing quality contributions.

Scholars such as Bouranta et al. (2017), Uluskan, Godfrey, and Joines (2017), and Rexhepi, Ramadani, and Ratten (2018) highlight benefits of adopting TQM in organizations to include enhanced customer satisfaction, loyalty, positive customer experiences, improved productivity resource optimization, cost efficiency, profitability, improved employee engagement and involvement, promotes process enhancement and enables organizations to remain responsive and competitive. It is also known to support supplier collaboration, ensure adherence to quality standards, improve input reliability, reduce defects, improve competitive advantage and enhance brand image and organizational credibility. Overall, TQM provides a structured approach to improving quality, operational excellence, and long-term competitiveness relying on committed leadership, employee participation, and a persistent focus on improvement (Bouranta et al., 2017; Uluskan et al., 2017; Adedoyin et. al., 2025).

Aside from the numerous benefits total quality management orientation confers, it is important to consider potential challenges or drawbacks that organizations may face when implementing total quality management. Some scholars like Barouch and Kleinhans (2015); and Kaouthar (2020) identify some criticisms against total quality management to include intensive time and resource utilization, can breed resistance to change, lead to an initial drop in productivity, there is difficulty in measuring return on investment, may lead to an overemphasis on processes, also the potential problem of inflexibility, and potential bureaucracy problems that may occur in large organizations. This can lead to heavy documentation and lengthy procedures and if not managed effectively it can create excessive administrative burdens, hinder operational efficiency or cause failure. Smith (2004) opined that quality management programs often fail because they are treated as quick fix temporary initiatives rather than requiring a cultural change in how activities are conducted across the organization and not as sub-unit practices only (Asif, et. al., 2009). Also, where employees feel excluded from the decision-making processes and have limited authority to contribute to quality improvement efforts, issue of poor rewards structure and the high cost of providing quality service are major hindrances to TQM implementation in organizations (Huq, 2005; Dilawo & Salimi 2019),

Understanding customer service efficiency

Customer service efficiency describes an organization's capacity to provide high-quality service promptly and cost-effectively (Adedoyin, et. al. 2025). It describes how effectively an organization produces and delivers its products and services to customers relative to the amount of time and money invested to deliver them. It involves optimizing processes, utilizing resources

effectively, and offering effective solutions to customer inquiries or problems. Customer service efficiency is crucial for boosting customer satisfaction, loyalty, and overall customer positive experience management (Goodman, 2019; Adedoyin, et. al. 2025). In marketing terms, customer service efficiency refers to the strategic optimization of interactions between a brand and its customers so that issues are resolved swiftly, accurately and with minimal effort from both parties, while still maintaining the expected level of service quality (Sprout Social, 2023). This concept emphasizes not merely speed or cost-cutting, but the ability to deliver value in a manner that respects customers' time and builds trust. According to Acquire (2024) efficiency in customer service means achieving service goals with the minimum amount of effort, minimal waste and still satisfying the customer's objective (Acquire, 2024). In a competitive marketing environment, service efficiency becomes a differentiator: when customers receive rapid, competent resolutions, their overall experience of the brand improves, and the brand's promise is reinforced (An, 2025; Adedoyin et. al., 2025).

From a marketing perspective, enhancing customer service efficiency supports broader goals such as customer retention, brand advocacy and lifetime value. Efficient service reduces frictions /customer complaints, shorter waiting times, fewer repeat contacts and also strengthens customer satisfaction and loyalty (Business.com, 2024; Igbinedion & Adedoyin 2024). For marketers, this means that efficient service is not simply an operational metric but a vital part of the service-marketing mix as it shapes perceptions of responsiveness, reliability and brand care (Adedoyin & Igbinedion 2024). When companies align service operations to deliver smooth, low-effort experiences, they are effectively converting service encounters into marketing opportunities for reinforcing brand reputation, reducing churn and encouraging positive word-of-mouth (Igbinedion & Adedoyin 2024). From a marketing standpoint, customer service efficiency is a tangible expression of brand promise and customer value delivery. It is useful in positioning organizations to build positive relationships, enhance brand loyalty, and gain a competitive advantage. In customer-focused industries, efficiency extends to delivering timely and high-quality services, aligning with a customer-centric culture (Igbinedion & Adedoyin 2024; Adedoyin & Igbinedion, 2024). This is rooted in the works of quality gurus like Edwards Deming and Joseph Juran. The digital age has further transformed the landscape of customer service, necessitating a convergence of operational excellence with customer-centricity.

Theoretical Review

Theories underpinning total quality management

Several theories and principles underpin TQM, providing a foundation for its implementation.

1. Edwards Deming's 14 Points - Proposed by Edwards Deming, these points outline principles for transforming organizational effectiveness. Deming's ideas emphasize a focus on quality, employee empowerment, continuous improvement, constancy of purpose, elimination of fear, and continuous education (Chika, et.al., (2025).

2. Juran's Quality Trilogy - Joseph M. Juran introduced the quality trilogy, which consists of three interrelated processes: quality planning, quality control, and quality improvement. Juran emphasized the importance of management involvement, the Pareto principle (80/20 rule), and the need for a structured approach to quality. This theory helps in developing and facilitating a structured approach to problem-solving, quality planning and quality improvement.

On the other hand, there are some theories that contribute to understanding and improving customer service efficiency. These include:

3. Service Profit Chain - The Service Profit Chain, proposed by James L. Heskett, W. Earl Sasser, and Leonard A. Schlesinger, emphasizes the link between employee satisfaction, customer satisfaction, and financial performance. It suggests that satisfied and engaged employees lead to improved customer experience, which, in turn, drive profitability.

4. SERVQUAL Model - Developed by A. Parasuraman, Valarie Zeithaml, and Leonard Berry, the SERVQUAL model identifies five dimensions of service quality: reliability, assurance, tangibles,

empathy, and responsiveness (Pasuraman et. al., 1985; Abolarinwa, et.al., 2024). Addressing these dimensions helps organizations improve customer service efficiency by focusing on key aspects of service delivery.

Empirical review and hypothesis development

Empirical research by Brah, Wong, and Rao (2000) found that when organizations adopted total quality management practices such as customer focus, employee involvement, and continuous improvement, they not only achieved higher service quality but also recorded shorter response times and fewer process errors. These findings highlight how total quality management process discipline translates directly into operational speed and reliability.

Similarly, Fotopoulos and Psomas (2010) demonstrated through structural equation modelling methodology that hard quality practices such as process management and measurement work hand in hand with soft elements like leadership and employee empowerment to improve service performance. Their results suggest that total quality management creates a synergistic system where process control and employee engagement jointly enhance service efficiency.

The study by Prajogo and Sohal (2006) revealed that TQM acts as a bridge between firm strategy and customer performance, ensuring that quality efforts directly support efficient service delivery. In the hospitality sector, Chi and Gursoy (2009) empirically confirmed that when employees are satisfied and motivated under TQM systems, customers experience faster and smoother service interactions, leading to stronger satisfaction and loyalty. Also, Psomas and Jaca (2016) examined Spanish service companies and found that those with mature TQM programs achieved tangible improvements in service reliability, delivery speed, and reduced rework which are key indicators of customer service efficiency.

More recently, Busu (2019) studied TQM process indicators and management performance in the Romanian renewable energy sector. The study examined TQM process and attributes and its relationship with improved management performance. Using sector-specific data and quantitative analysis, the study finds that integrated processes, workforce competencies and CSR-related practices are among the most important predictors of enhanced managerial performance in renewable energy firms. The study by Al-Saffar and Obeidat (2020) on impact of TQM practices (customer focus, continuous improvement, leadership and process management showed a statistically significant influence on performance in the organization.

The link between customer focus and customer service efficiency

Customer focus sometimes viewed as customer centricity, describes the orientation to place customer satisfaction as central in all organizational policies and actions. It relates to the value and degree of importance which an organization places on its customers in terms of considering and meeting their needs (Fader, 2020). Customer focus derives from the need to satisfy customers. It is an indication of how satisfied the organization believes its customers should be with the product or service they receive. Customer focus emphasizes customer happiness with the product provided by the organization. Organizations with customer focus perspective put adequate efforts on value proposition and product features (Tuan, 2020). The features of the product include its quality as well as its convenience, reputation, and cost. The assessment of customer focus is frequently a reflection of the organizational results that include market share, customer acquisition, customer retention, customer profitability, feedback rate, and customer happiness. The kind of customers that the organization serves and the kinds of products that it sells are also important considerations that influence the customer perspective measurements and outcomes (Akhtar, Raza, Siddiqi, Shouqat, & Ijaz, 2016; Tuan, 2020). Customer focus is of huge interest as organizations are dependent on their customers for continued patronage. There is the need to assess their present and future demands, fulfil their requirements, and work to surpass their expectations (Cai, 2009). The study by Yashchenko et,al., (2024) established that customer focus contributes to the development of long-term relationships with customers, maintaining a loyal customer base, attracting new consumers and increasing their level of loyalty. The study by Duncan and Elliott, (2004); Auramo, et.al. (2004)

further supports the fact that there is a positive relationship between efficiency, financial performance and customer-focused service quality in organizations. In view of the above we hypothesize that

H1: there will be a significant positive effect of customer focus on customer service efficiency in the sampled energy sector organizations in Nigeria.

The link between continual improvement and customer service efficiency

Continual improvement involves focusing on ensuring that all members of the organization are keeping with the requisite standard of organizational processes. It has been suggested that organizations wanting to engage in continual improvement should pay attention to top management support; strict observance of machinery operations; proper functioning of human resource management system; and an efficient information system (Escrig-Tena, 2004). Tibeibaho et al (2021) believe that organizations that want to practice continual quality improvement should seek to find answers to certain questions. First, the organization needs to identify how it is currently doing. That is the present performance of the organization should be known. Then the organization should ascertain how it can perform better. They argue that organizations should institutionalize continual quality improvement as a culture. Researchers such as Chang (2005); Al-Saffar and Obeidat (2020) have all reported that continual improvement has the capacity to influence the performance of organizations positively. In view of the above we hypothesize that

H2: there will be a significant positive effect of continuous improvement on customer service efficiency in the sampled energy sector organizations in Nigeria.

The link between process improvement and customer service efficiency

Process improvement is a disciplined approach aimed at enhancing organizational processes to deliver superior outcomes with less waste, fewer errors, and greater consistency. Within the context of service delivery, process improvement initiatives directly foster customer service efficiency by streamlining workflows, reducing response and resolution times, and enhancing first-contact resolution rates (Antony et al., 2019; García-Alcaraz et al., 2020). By systematically analyzing customer service processes organizations can identify non-value-adding steps and remove redundancies, thereby improving both operational processes and customer experience (Ghobadian et al., 2020). These improvements ensure that customers receive faster, more reliable, and higher-quality support, transforming service encounters into efficient exchanges that conserve both customer and organizational resources (Antony et al., 2019). From a marketing perspective, process improvement enhances service efficiency not only operationally but also strategically, as it strengthens the brand's reputation for responsiveness and dependability. Continuous process enhancement allows firms to adapt service delivery mechanisms to evolving customer expectations, thus sustaining loyalty and competitive advantage (Psomas & Antony, 2019; García-Alcaraz et al., 2020). Process improvement acts as both the engine and enabler of customer service efficiency - ensuring that service processes are not only faster and cheaper but also more aligned with customer needs and expectations, ultimately reinforcing the brand's promise of excellence. Studies have shown that organizations adopting process improvement methodologies experience measurable gains in customer satisfaction, retention, and perceived value, as efficient service delivery reduces friction and enhances perceived service quality (Ghobadian et al., 2020; Psomas & Antony, 2019). In view of the foregoing, we hypothesize that H3: there will be a significant positive effect of process improvement on customer service efficiency in the sampled energy sector organizations in Nigeria.

METHODOLOGY

A cross-sectional research design was adopted for this study and executed by carrying out a survey. The survey was conducted using employees of two energy sector organizations across Abuja, Asaba and Benin Cities in Nigeria. Both energy organizations were used based on factors

such as their several years of operating experience as nationwide energy organizations, their active involvement in the daily affairs of the citizenry, their huge customer traffic, and their large workforce. The population of this study consisted of staff members of both energy organizations. Using a combination of purposive, stratified and convenience, sampling approaches a total of 360 copies of the research instrument were distributed to the two energy sector organizations across the three cities. The representativeness of the sample was assured by further engaging stratified sampling wherein we ensured that the respondents were from across the various strata of both organizations. A response rate of about 75% was obtained as only 273 copies of the instrument were duly returned and found usable.

The instrument for the study was a properly structured 28 item questionnaire comprising selected items for each of the three predictor variables - customer focus, continual improvement, process improvement - as components of total quality management and the predicted variable customer service efficiency. The instrument was designed in a 5-point Likert-type scale, ranging from strongly disagree to strongly agree to afford the respondents the opportunity to express their opinions concerning the variables unhindered. The validity of the instrument was assured using both the face and content validation method. We engaged academic and industry experts in evaluating the instrument and incorporated their contributions before its administration. This ensured that the instrument captured all aspects of the study based on the study objectives.

A preliminary study was conducted to assure the reliability of the instrument through a reliability test using cronbach's alpha reliability coefficient test. The result indicated alpha values for all the variables ranging between 0.72 and 0.88. These values satisfy the 0.70 requirement for a reliable and standardized measure as suggested by Nunnally (1978). Table 1 below presents the reliability results:

Table 1

Reliability Statistics

	Variables	No of Items	Alpha value
1	Customer focus (CUSFoc)	6	0.80
2	Continual improvement (CONImp)	6	0.88
3	Process improvement (PROImp)	6	0.72
4	Customer service efficiency (CUSSef)	10	0.84

Source: Fieldwork, 2024.

The hypotheses were tested using regression analysis. The value (p) was used to take decision on the hypotheses. Where the p-value is less than or equal to 0.05 then the null hypothesis is not supported while if p-value is greater than 0.05, then the null hypothesis is supported.

RESULTS AND DISCUSSION

Descriptive Statistics:

Table 2

Mean index of variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Customer focus	273	1	5	3.94	0.89
Continual improvement	273	1	5	3.81	1.04
Process improvement	273	1	5	4.21	0.99
Customers service efficiency	273	1	5	3.93	1.02

Research Output (2024).

A mean performance index was applied to summarize the data, as presented in Table 2. The mean scores showed that the respondents generally perceived that the total quality management practices and customer service efficiency were at a high level in their organizations. Specifically, customer focus showed a mean value of (M = 3.94, SD = 0.89), reflecting consistent efforts to understand and meet customer needs; continual improvement had a slightly lower mean value (M = 3.81, SD = 1.04), implying moderate but ongoing efforts to refine systems and services, while process improvement had the highest mean score (M = 4.21, SD = 0.99), suggesting that the organizations place strong emphasis on process improvement by streamlining operations and eliminating inefficiencies to enhance service outcomes. The dependent variable, customer service efficiency, had a mean of 3.93 (SD = 1.02), suggesting that respondents generally perceive service delivery as effective and timely, though with some variations across respondents. The standard deviations (ranging from 0.89 to 1.04) indicate moderate variability, showing that the respondents' perceptions were not entirely uniform. This implies that the respondents opine that the applications of total quality management practices were at different levels, some higher than the others. The results imply that there is evidence of total quality management practices with a strong orientation toward quality and efficiency, there is still ample room for improvement in achieving consistency across all the dimensions of total quality management explored and in improving customer service efficiency.

Hypothesis testing and regression results.

At the inferential level of analysis, multiple regression was used to test the hypotheses at a 5% significance level with the aid of the SPSS V20 software.

Table 3

Summarized regression coefficient output

Model		Unstandardized Coefficients		Standardized Coefficients	t- value	p-value	Sig
		B	Std. Error	Beta			
1	(Constant)	0.842	0.098		8.682	0.000	**
	CUSFoc	0.412	0.047	0.445	8.766	0.001	**
	CONImp	0.289	0.055	0.317	5.255	0.001	**
	PROImp	0.236	0.051	0.278	4.627	0.001	**

a. Dependent variable: customer service efficiency
b. Predictors: (constant), customer focus, continual improvement, process improvement.
Research Output (2024).

Table 4

Summarized statistics output

Statistic	R	R^2	Adjusted R^2	F-statistic	p-value (Model)
Value	0.79	0.624	0.620	148.9	0.000

Source: Research Output (2024).

Interpretation of results

The regression model was statistically significant, with an F value of 148.9; $p < 0.05$. Also, the result shows that the three predictors collectively explain about 62.4% of the variations in customer service efficiency. Among the predictors, customer focus ($\beta = 0.412$, $p < .005$) had the strongest influence, followed by continual improvement ($\beta = 0.289$, $p < .005$) and process

improvement (β = 0.236, p < .005). These results suggest that where the organization places emphasis on customer focused practices, continual improvement of operations, and intentional process improvements, the organization would likely achieve higher levels of customer service efficiency.

Discussion of Findings

The first hypothesis tested was that there is no significant effect of customer focus on customer service efficiency in the sampled energy organizations. The results of the study show that customer focus had significant effect on customer service efficiency (β = 0.412, p = .001). This means that we reject the null hypothesis and accept the alternate that there is a significant effect of customer focus on customer service efficiency. This finding is consistent with the work of Yashchenko, et. al., (2024) who established that customer focus is a key tool for improving enterprise efficiency for customer satisfaction. Also, the study by Andrade and Tumelero (2022) supports that customer service efficiency will increase especially with focus on customer needs through digital transformation tools. Kavulya, Muturi, Rotich, and Ogollah (2018) from their study also established that customer focus strategy has a positive and significant effect on efficient performance of Saccos in Kenya.

The second hypothesis that there is no significant effect of continual improvement on customer service efficiency in the sampled energy organizations is not supported by the study findings as the results show that continuous improvement had significant effect on customer service efficiency (β = 0.289, p = .001). This means that we accept the alternate hypothesis that there is a significant effect of continuous improvement on customer service efficiency in the sampled energy organizations. This finding is in line with the results of the study by Koval, et.al., (2018) which confirmed that there is a direct positive impact of continuous improvement on customer service and satisfaction. Their study further demonstrated that management commitment and rewards system encourage employees to participate in continuous improvements play the major facilitating role in improving customer satisfaction. Similar findings include the work by Tague (2023) that continual improvement will influence customer service and performance positively.

The third hypothesis that there is no significant effect of process improvement on customer service efficiency in rural electrification agency of Nigeria is not supported as the results of the study show that process improvement had significant effect on customer service efficiency (β = 0.236, p = .001). The study by van Assen (2021) supports that process improvement improved customer-focused performance. The results of the study by Dickson (2015) affirmed that improvement practices in organizations facilitated customer service efficiency. Larson (1998) showed that using process improvement improved service quality and efficiency and that process improvement methodologies supported a more specific and valid measurement of success than is normally possible. Similar studies by Ooi, (2009), and Linderman, Schroeder, and Sanders, (2010) also affirm that effective process improvement supports customer service efficiency, operational performance and competitive advantage.

CONCLUSION

This study concludes that there is the existence of a significant link between the dimensions of total quality management investigated and customer service efficiency. All dimensions examined had significant effect on customer service efficiency. The customer focus component had the greatest effect on customer service efficiency.

Based on the findings of this study, the following recommendations are put forward to the energy organizations sampled and the sector at large:Customer focus as an orientation should continuously be promoted in the sampled energy organizations.

1. The management of the organizations should further engage in continual improvement policies and practices to improve service efficiency.

2. Furthermore, process improvement should be prioritized in the sampled energy organizations.

3. In summary, management should continue to promote policies and practices that would uplift total quality management as it would improve quality customer service delivery.

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ЗАГАЛЬНЕ УПРАВЛІННЯ ЯКІСТЮ ТА ЕФЕКТИВНІСТЮ ОБСЛУГОВУВАННЯ КЛІЄНТІВ У ЕНЕРГЕТИЧНИХ ОРГАНІЗАЦІЯХ НІГЕРІЇ

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У дослідженні розглянуто вплив загального управління якістю на ефективність обслуговування клієнтів у двох вибраних енергетичних організаціях Нігерії. Метою дослідження було встановити вплив орієнтації на клієнта, постійного вдосконалення та управління процесами як вимірів загального управління якістю на ефективність обслуговування клієнтів у вибіркових організаціях. Досліджувану сукупність становили співробітники обох організацій. У цьому дослідженні було використано поєднання цілеспрямованої, стратифікованої та зручної вибірки. Репрезентативність вибірки була забезпечена шляхом застосування стратифікованої вибірки, де ми гарантували, що респонденти представляють різні верстви обох організацій у трьох містах, що нас цікавлять. Як інструмент опитування було використано належним чином структуровану анкету, і загалом 360 примірників дослідницького інструменту було розповсюджено серед двох організацій у трьох містах. Було отримано близько 75% відповідей, оскільки лише 273 примірники інструменту було повернуто та визнано придатними для використання. Гіпотези були перевірені за допомогою регресійного аналізу. Результат підтверджує значний позитивний вплив орієнтації на клієнта, постійного вдосконалення та управління процесами як вимірів загального управління якістю на ефективність обслуговування клієнтів в обох організаціях. У дослідженні рекомендовано заохочувати політику та практику, що сприяють орієнтації на клієнта, постійному вдосконаленню та управлінню процесами, для підвищення ефективності обслуговування клієнтів в організаціях.

Ключові слова: орієнтація на клієнта, постійне вдосконалення, управління процесами, загальне управління якістю, ефективність обслуговування клієнтів.