Evaluating Consumer Perceptions of NESCO's Service Quality in Rajshahi City Corporation

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Abstract

The problem addressed in this study is the limited understanding of consumer perceptions of electricity service quality in Bangladesh, particularly within Rajshahi City Corporation. The main objective was to evaluate NESCO's service quality across key dimensions: tangibles, reliability, responsiveness, assurance, empathy, accessibility, and service recovery. A descriptive research design with quantitative methods was employed. The target population comprised approximately 2,36,400 NESCO customers, and a stratified sampling procedure was used to ensure proportional representation across residential, commercial, and industrial categories. Using Yamane's formula, a minimum of 95 respondents was required; however, 180 customers were surveyed to enhance representativeness. Data were collected through structured questionnaires on a five-point Likert scale, complemented by secondary sources. Content validity was ensured via expert review, while reliability testing yielded Cronbach's alpha values above 0.70. Data were analyzed using SPSS-20 with descriptive statistics. Findings revealed moderate service quality perceptions, with responsiveness and reliability rated lowest, while tangibles, empathy, and accessibility showed relatively better performance. Customers emphasized the need for accurate billing, timely complaint resolution, and improved communication. Recommendations include strengthening billing transparency, enhancing customer service responsiveness, and upgrading digital platforms. Applications of this study extend to utility managers and policymakers seeking to improve service delivery and consumer trust. Limitations include the single-city scope and modest sample size. Future research should adopt multi-city studies with advanced statistical analysis to improve generalizability and inform sector-wide reforms.

Keywords: NESCO, service quality, consumer perception, electricity distribution, SERVQUAL.

Introduction

Service quality in the power distribution sector plays a vital role in customer satisfaction and socio-economic development. In Bangladesh, the Northern Electricity Supply Company Limited (NESCO) is responsible for electricity distribution in Rajshahi and Rangpur divisions, where reliable and efficient service is essential for urban growth and improved quality of life (Islam & Khan, 2018). Measuring consumer perceptions of service quality provides insights into customer expectations and identifies areas for improvement (Parasuraman et al., 1988). Previous studies have shown that dimensions such as reliability, responsiveness,

assurance, empathy, and tangibility significantly influence consumer satisfaction in public utilities (Zeithaml et al., 1996; Hossain & Suchy, 2013). In Rajshahi City Corporation, rapid urbanization has heightened demand for consistent electricity supply, making consumer evaluation of NESCO's services particularly relevant. This study, therefore, aims to assess consumer perceptions of NESCO's service quality to inform policy and enhance customer-centric service delivery.

Review of Literature

Service quality has been widely analyzed using multiple dimensions, with the SERVQUAL model providing a foundation for measurement (Parasuraman et al., 1988). Tangibles, which include physical facilities, equipment, and appearance of staff, play a critical role in shaping consumer perceptions in utility services (Zeithaml et al., 1996). Reliability, the ability to perform promised services dependably, is often found to be the most influential determinant of satisfaction in public service organizations (Ladhari, 2009). Responsiveness, referring to the willingness to help customers promptly, is particularly important in utility sectors where delays can cause significant inconvenience (Kumar et al., 2010).

Assurance, encompassing knowledge and courtesy of employees and their ability to instill trust, is crucial for maintaining customer confidence in service providers (Yousapronpaiboon, 2014). Similarly, empathy, which reflects individualized care and attention, has been shown to strengthen customer trust and loyalty (Aydin & Özer, 2005). Beyond the SERVQUAL framework, accessibility—ease of reaching service points or obtaining information—has emerged as a vital factor in customer satisfaction, especially in essential services like electricity (Hossain & Suchy, 2013). Furthermore, service recovery, defined as organizational efforts to resolve service failures, has been found to significantly impact customer retention and word-of-mouth behavior (Tax et al., 1998).

Collectively, these dimensions' highlight that both functional and relational aspects of service quality shape consumer perceptions. In the context of electricity distribution, examining these variables provides a comprehensive understanding of customer experiences and areas requiring managerial attention.

Methodology

Research Design

A descriptive research design with quantitative methods was adopted for this study. The descriptive approach was appropriate as it enabled an accurate assessment of existing service quality perceptions among NESCO customers without manipulating variables (Creswell, 2014). Quantitative methods facilitated the collection of measurable data from a large consumer base, ensuring objectivity and generalizability of findings. Limited qualitative inputs from open-ended responses added contextual depth to the analysis (Bryman, 2016).

Target Population

The target population of this study consisted of approximately 2,36,400 customers of the Northern Electricity Supply Company Limited (NESCO) in Rajshahi City Corporation, Bangladesh. This population included both prepaid and postpaid users across three major categories: residential, commercial, and industrial. Given the essential role of electricity

in urban life and economic activities, capturing perceptions from these diverse customer segments was necessary to provide a comprehensive understanding of service quality.

Sampling Procedure and Sample Size

A stratified sampling technique was applied to ensure adequate representation of the distinct customer groups (residential, commercial, and industrial). Stratification enhanced the precision and generalizability of the findings by proportionally including respondents from each subgroup (Creswell, 2014). Based on Yamane's (1967) formula, at a 95% confidence level and a 0.10 margin of error, the minimum required sample size was calculated to be 95 respondents. However, to increase reliability and reduce sampling error, the study expanded the sample to 180 customers. This larger sample size provided greater statistical power and a more accurate reflection of customer perceptions across all service categories.

Data Collection Instruments and Procedure

Primary data were collected through structured questionnaires (both online and offline). The instrument used a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Secondary data were obtained from journals, books, government reports, and institutional documents. Data collection was conducted between July and August 2025.

Pilot Study

A pilot test was carried out with 10% of the intended sample to assess validity and reliability. Based on feedback from respondents and expert review, the questionnaire was refined before final administration.

Validity and Reliability

Content validity was ensured through expert evaluation by faculty members specializing in service management and customer satisfaction. Reliability was tested using Cronbach's alpha, with all subscales exceeding the threshold of 0.70, confirming internal consistency (Hair et al., 2017).

Data Analysis Techniques

Data were analyzed using SPSS-20. Descriptive statistics such as frequencies, means, and standard deviations were applied to summarize consumer perceptions of NESCO's service quality.

Results

The demographic profile of respondents indicated that a majority (51.1%) were below 25 years, followed by 22.2% aged 25–35, 13.9% aged 36–45, and 12.8% above 46 years. Most respondents had been NESCO customers for over five years (35%), suggesting long-term familiarity with services. Postpaid meters were more common (78.9%) than prepaid meters (21.1%). In terms of connection type, residential users were predominant (55%), followed by commercial (25.6%) and industrial (19.4%) customers. Gender distribution was balanced, with 49.4% male and 50.6% female respondents.

Service quality dimensions were assessed using mean scores. Tangibles averaged 3.18, suggesting moderate satisfaction with physical offices, printed materials, and digital platforms. Reliability scored slightly lower (M = 3.12), with concerns about accurate billing and advance communication of load-shedding schedules. Responsiveness (M = 3.02) was the lowest-rated dimension, indicating delays in complaint

handling and inadequate online resolution systems. Assurance (M = 3.14) reflected moderate trust in staff competence and billing accuracy, while Empathy (M = 3.17) suggested that courteous treatment and fairness in complaint handling were appreciated but not exceptional. Accessibility and Service Recovery (M = 3.16) indicated moderate satisfaction with service center access and dispute resolution, though tariff clarity and error correction required improvement.

Qualitative feedback further contextualized these findings. While 68.3% of respondents described their overall experience as good, recurring issues included low voltage, billing errors, and ineffective complaint resolution. Positive experiences highlighted the convenience of online bill payment systems. When asked about improvements, 86.1% of respondents emphasized general service enhancement, while specific recommendations included accurate billing (5%) and better complaint handling (2.8%).

Overall, the results suggest that NESCO's service quality is perceived as average, with particular weaknesses in responsiveness and reliability. Customers expect improvements in billing transparency, voltage stability, and complaint management systems. These findings highlight the need for NESCO to prioritize customer-focused reforms to enhance satisfaction and strengthen trust among its diverse consumer base.

Discussion

The findings of this study indicate that NESCO's overall service quality in Rajshahi City Corporation is perceived as moderate, with mean scores across all dimensions slightly above average. Tangibles such as service centers and printed materials were rated positively, consistent with prior studies that highlight the importance of physical evidence in shaping customer perceptions (Zeithaml et al., 1996). However, reliability and responsiveness scored lower, particularly in relation to billing accuracy, advance communication of load shedding, and timely complaint handling. These results align with Ladhari's (2009) assertion that reliability is often the most critical determinant of customer satisfaction in utility services.

Assurance and empathy were perceived moderately, indicating that while staff competence and courtesy are valued, customers still expect higher levels of personalized attention. Similar findings were reported by Yousapronpaiboon (2014), who emphasized empathy as a driver of trust in service organizations. Accessibility and service recovery were also rated average, reflecting challenges in dispute resolution and tariff clarity, echoing Tax et al.'s (1998) findings on the impact of effective service recovery on customer loyalty.

Thus, NESCO must prioritize improvements in responsiveness, billing transparency, and complaint management to enhance consumer satisfaction and long-term trust.

Conclusion

This study concludes that NESCO's service quality in Rajshahi is moderate, with responsiveness and reliability as key weaknesses. It is recommended that NESCO improve billing accuracy, complaint handling, and communication to enhance consumer trust. Findings can guide managers in prioritizing customer-centric reforms and serve as

benchmarks for utility service evaluation. However, the study is limited to one city and a relatively small sample. Future research should use larger, multi-city samples and advanced analysis to strengthen generalizability and practical applications.

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