Service Quality and Customer Satisfaction in Rural Public Sector Banks: An Empirical Analysis in Lucknow District, Uttar Pradesh, India

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Abstract

In the rapidly evolving banking sector, understanding the relationship between service quality and customer satisfaction, particularly in rural public sector banks, is crucial. This research focuses on selected rural public sector banks in Lucknow District, Uttar Pradesh, India, investigating the dimensions of service quality and their impact on customer satisfaction. The study employs a quantitative research design, utilizing the SERVQUAL model for data collection and statistical analysis. Findings reveal that dimensions such as Tangibility, Reliability, Responsiveness and Empathy significantly influence customer satisfaction, with variations in their effects. The research highlights the importance of enhancing specific service quality factors to improve overall customer satisfaction and provides valuable insights for the rural banking sector. The study's outcomes shall guide targeted efforts in policy formulation, thereby contributing to the sustainable development of rural communities through enhanced public sector banking services.

1 Introduction

In the dynamic and competitive world of banking, service quality and customer satisfaction stand out as vital determinants of success, particularly in public sector banks serving rural communities [1, 2]. The interplay between these factors not only fosters financial inclusion but also fuels rural economic growth. Especially in India's populous state of Uttar Pradesh, India, where rural areas present untapped economic potential, public sector banks play a critical role [3]. Despite substantial research confirming the positive relationship between service quality and customer satisfaction in urban settings [4, 5], a significant gap exists in understanding this relationship within rural banking. This study aims to fill this void by exploring the dynamics of service quality in public rural sector banks [6] in Lucknow District, Uttar Pradesh. It seeks to assess how service quality influences customer satisfaction, focusing on aspects such as reliability, responsiveness and customization. Through a mixed-methods approach, combining quantitative and qualitative techniques [7], this research will investigate selected public rural sector banks in Lucknow District. By evaluating service quality and its effect on customer satisfaction, the study intends to offer tailored strategies to meet rural bank customers' unique needs. Insights into the challenges faced in delivering quality services will also be illuminated. The objectives of the research encompass studying the relevance of tangibility in enhancing customer satisfaction; exploring the impact of reliability, responsiveness, and assurance on satisfaction; and investigating the influence of empathy on customer satisfaction.

These objectives collectively frame the study's inquiry into the complex factors affecting satisfaction in the banking sector. The findings are expected to enrich the existing literature on service quality and customer satisfaction in rural banking, guiding bank managers and policymakers in targeted efforts to improve service quality and customer satisfaction. Ultimately, this research targets to contribute to the sustainable development of rural communities through the enhancement of public sector banking services.

2 Related Work

Numerous research contributions have established a positive correlation between service quality and customer satisfaction in the banking sector [8–11]. Parasuraman, Zeithaml, and Berry's seminal SERVQUAL model (1985) [12] emphasized five dimensions of service quality: Tangibility, Reliability, Responsiveness, Assurance, and Empathy. These dimensions have been widely adopted and adapted to evaluate service quality across various banking environments, including public sector banks. Service quality extends its influence beyond customer satisfaction to customer loyalty and advocacy. Satisfied customers are likely to become loyal supporters of a bank and endorse it to others [13]. Building customer loyalty is essential for public sector banks to maintain competitiveness and guarantee long-term profitability [14]. Reichheld and Sasser's research (1990) accentuated the crucial role of service quality in customer retention [15]. Elevated levels of service quality lead to reduced customer turnover and attrition rates, resulting in a more steadfast customer base [16]. In the public domain, where trust is paramount, retaining customers through superior service quality becomes even more vital. Tangibility, the physical attributes of service delivery, significantly affects customer perceptions. Studies indicate that thoughtfully designed branches and professional staff can positively influence customer satisfaction and brand perception[17]. Public sector banks may utilize this knowledge to improve the tangible aspects of their service delivery. Furthermore, responsiveness, comprising rapid issue resolution and prompt customer service, is instrumental in shaping customer experiences [18]. Efficient and competent responses to customer inquiries can markedly affect satisfaction and the overall perception of the bank's service quality. Likewise, empathy, characterized by personalized attention and understanding of customers' needs, emerges as a key determinant in customer satisfaction [19]. Empathetic interactions may foster emotional connections, engendering loyalty and trust. This aspect of customer relationship management is particularly pertinent for public sector banks aiming to establish enduring connections with their clients. The works of Omoregie et. al (2019) [20], Rabbani et. al (2020) [21], and Egala et. al (2021) [22] focus on various facets of customer retention, marketing strategies, and challenges in the Indian banking industry. They collectively highlight the strategies and understandings essential for customer retention and satisfaction, especially in the context of public banks. The literature review accentuates the supreme importance of service quality in public sector banks and its direct impact on customer satisfaction, loyalty, and retention. The critical dimensions of Tangibility, Reliability, Responsiveness, Assurance, and Empathy profoundly influence customer perceptions and experiences. By understanding these aspects, public sector banks in Lucknow District, Uttar Pradesh, can identify areas for improvement and formulate strategies to enhance customer satisfaction. Such understanding paves the way for building lasting relationships with their customers. In light of the insights derived from existing studies, future research in this area should explore the unique challenges and opportunities faced by public sector banks in rural areas. Investigating these aspects could yield customized strategies for boosting service quality and customer satisfaction, catering to the specific needs of this distinct context. Pursuing these research directions can contribute significantly to the enhancement of banking services in rural regions, promoting financial inclusivity, and laying a foundation for sustainable community growth and development.

3 Method

This section delineates the research methodology employed in the present study. The methodology elucidates the systematic approach and techniques utilized to collect, analyze, and interpret data, thereby addressing the research objectives and answering the pertinent research questions. The core aim of the study is to investigate the relationship between service quality and customer satisfaction, focusing on selected rural sector banks within Lucknow District, Uttar Pradesh. A summary of the research methodology used in the present study is given in Table 1

3.1 Scope and Research Design

The scope of the study and its coverage area is limited to the Lucknow district, Uttar Pradesh, India, focusing specifically on rural banks within the region. The sample was taken from the rural bank branches of five major public banks: Punjab National Bank, Union Bank of India, Bank of Baroda, Canara Bank and Bank of India.

The main purpose of this study is to investigate and evaluate current service quality practices in rural banks, examining everything from the readiness for implementing new service strategies to the benefits or challenges associated with such deployment. A thorough investigation in this area will help identify challenges and failure factors, contributing to the development of guidelines that enhance service encounter policy development, foster prosperous customer relationships, and facilitate long-term market survival.

Table 1: Summary of Research Methodology for the Study

Component	Description
Universe	Customers of Rural Public Sector Banks
Research Design	Descriptive Research
Sampling Method	Probability Sampling
Sampling Unit	Customers of selected Public Sector Banks
Sample Size	302
Sampling Criteria	Market Cap
Geographical area (5)	BKT, Maliha bad, Sarojini Nagar, Chinat, and Goasiganj
Sampling Technique	Stratified Random Sampling
Tools of Analysis Used	Regression, Percentage Analysis

The research design serves as the blueprint for the study, outlining the overarching structure and approach to attain the research objectives. A quantitative research design is adopted, utilizing numerical data collection methods to enable statistical analyses. This design fosters a nuanced assessment of the service quality factors and their impact on customer satisfaction.

3.2 Population, Sample Selection, and Data Collection

The target population consisted of customers from selected public rural sector banks in Lucknow District, Uttar Pradesh, India. Due to practical limitations, a representative sample was drawn using stratified random sampling instead of including the entire population. Data were gathered from primary sources through structured questionnaires based on the SERVQUAL model. The questionnaire included multiple items to assess customers' perceptions of service quality dimensions (Tangibility, Reliability, Responsiveness, Assurance, and Empathy) and their corresponding satisfaction levels. The instrument underwent pre-testing and validation to ensure its reliability and validity.

3.3 Data Analysis and Ethical Considerations

The quantitative data was analyzed using relevant statistical techniques. Descriptive statistics encapsulated demographic details and overall customer satisfaction metrics, while inferential statistics, including regression analysis, helped to explore the relationship between service quality dimensions and customer satisfaction. The significance level was established at $p < 0.05$. The study adhered to ethical principles, preserving the privacy and confidentiality of participants. Informed consent were obtained from all respondents before data collection, and they were granted the option to withdraw from the study at any time.

3.4 Limitations

Potential limitations of the study include the sample size, the geographical constraint (restricted to Lucknow District), and the reliance on self-reported customer perceptions. Despite these limitations, the study aims to provide valuable insights into service quality and customer satisfaction within the context of rural areas in Uttar Pradesh, India.

3.5 Hypothesis Development

The study postulates the following hypotheses to examine the relationships between different dimensions of service quality (Tangibility, Reliability, Assurance, Responsiveness, Empathy) and customer satisfaction. For each dimension D, the hypotheses are formulated as:

- **Null Hypothesis** H_{0D} : There is no significant relationship between the dimension and customer satisfaction.

- **Alternative Hypothesis** H_{1D} : There is a significant relationship between the dimension and customer satisfaction.

1. **Hypothesis 1:** The relationship between Tangibility and customer satisfaction.

2. **Hypothesis 2:** The relationship between Reliability and customer satisfaction.

3. **Hypothesis 3:** The relationship between Assurance and customer satisfaction.

4. **Hypothesis 4:** The relationship between Responsiveness and customer satisfaction.

5. **Hypothesis 5:** The relationship between Empathy and customer satisfaction.

4 Results and Discussion

4.1 Model Summary

Table 2 provides essential statistics to assess the performance and goodness of fit of the regression model utilized in the research.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.975a	.950	.949	.17017

The analysis of the values in Table 2 is presented as follows: The **Model** number denotes the sequence of the model, and in this research, there is only one model. The value of R, representing the multiple correlation coefficient, is 0.975, signifying a strong positive correlation between the predicted and actual values of customer satisfaction, indicating a reliable model. The R value of 0.950 reveals that approximately 95% of the variability in customer satisfaction can be explained by the model's independent variables, reflecting a high explanatory power. The adjusted R value of 0.949, taking into account the number of independent variables and sample size, confirms the model's robustness. Lastly, the standard error of the estimate, 0.17017, quantifies the average deviation between the actual data points and the predicted values, providing insight into the model's accuracy. These statistics collectively demonstrate a well-fitted model that strongly aligns with the observed data, enhancing the confidence in the research findings.

4.2 Statistical Significance of the Model

The statistical significance of the model is demonstrated through an Analysis of Variance (ANOVA), presented in Table 3.

Table 3: ANOVA Table

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	217.229	5	43.446	1500.395	.000b
Residual	11.438	395	.029		
Total	228.667	400			

Table 3 includes key statistics such as the sum of squares for the regression line (217.229) and the residuals (11.438), representing the variability explained and unexplained by the model, respectively. The mean square values further quantify these variances, with 43.446 for regression and .029 for residual. The model's degrees of freedom are provided with 5 for regression and 395 for the residual, totaling 400. An F value of 1500.395, along with a significance level (Sig.) of .000b, indicates a highly significant model. This reflects that the observed relationships are unlikely to be due to random chance, validating the model and accentuating its ability to accurately represent the underlying relationships in the data. The F ratio thus tests the overall goodness of fit of the data, reinforcing the model's relevance and applicability in the given research context.

4.3 Estimated Model Coefficient

The model's estimated coefficients, which elucidate the relationship between the independent variables and the dependent variable of customer satisfaction, are detailed in Table 4.

Table 4: Estimated Model Coefficient

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	-1.613	0.106		-15.165	0
Tangibility	0.155	0.031	0.082	5.044	0
Reliability	-0.232	0.027	-0.221	-8.588	0
Responsiveness	0.373	0.028	0.368	13.479	0
Assurance	0.029	0.03	0.029	0.943	0.346
Empathy	1.137	0.035	0.768	32.457	0

Table 4 provides an insightful summary of how the service quality factors influence customer satisfaction in the public rural sector banks in the Lucknow District of Uttar Pradesh. It highlights unstandardized and standardized coefficients, standard errors, t-values, and significance levels for each factor. Notably, the coefficients of Tangibility (0.155), Reliability (-0.232), and Responsiveness (0.373) indicate their positive effects on customer satisfaction, albeit varying in magnitude. The negative coefficient for Reliability suggests a distinct relationship, inviting further investigation. In contrast, Assurance exhibits a non-significant effect, with a coefficient of 0.029 and a higher significance level of 0.346. The standout finding lies in Empathy, demonstrating the strongest positive impact (1.137) on customer satisfaction, as confirmed by its t-value (32.457) and the zero significance level. Together, these findings lend robust empirical support to the model's efficacy in capturing the multifaceted dynamics between service quality attributes and customer satisfaction.

4.4 Hypothesis Testing

The research study investigates the relationship between service quality and customer satisfaction in selected public rural sector banks in the Lucknow District, Uttar Pradesh, India. Based on the provided table and the results of the multiple regression analysis, each hypothesis for the research paper were examined and explained:

Hypothesis 1: The positive beta value of 0.082 for Tangibility (unstandardized coefficient 0.155) indicates a positive relationship with customer satisfaction, significant at $p < 0.001$ (t-value = 5.044). Hence, Hypothesis 1 is supported: as Tangibility increases, so does customer satisfaction.

Hypothesis 2: The negative beta value of -0.221 for Reliability (unstandardized coefficient -0.232) suggests a negative relationship with customer satisfaction, also significant at $p < 0.001$ (t-value = -8.588). Thus, Hypothesis 2 is supported, indicating that decreased reliability leads to reduced customer satisfaction.

Hypothesis 3: Assurance's beta value of 0.029 (unstandardized coefficient 0.029) shows a weak and insignificant relationship with customer satisfaction ($p = 0.346$, t-value = 0.943). Hypothesis 3 is not supported, implying no meaningful impact of Assurance on customer satisfaction.

Hypothesis 4: Responsiveness, with a positive beta value of 0.368 (unstandardized coefficient 0.373), significantly correlates with customer satisfaction at $p < 0.001$ (t-value = 13.479). Hypothesis 4 is supported, showing that enhanced responsiveness leads to increased customer satisfaction.

Hypothesis 5: Empathy has a strong positive beta value of 0.768 (unstandardized coefficient 1.137), and is highly significant at $p < 0.001$ (t-value = 32.457). Hypothesis 5 is supported, revealing that increased empathy results in heightened customer satisfaction.

In summary, the regression analysis confirms that:

- Tangibility and Responsiveness positively influence customer satisfaction.

- Reliability negatively impacts customer satisfaction.

- Assurance lacks a significant effect on customer satisfaction.

- Empathy is strongly and positively related to customer satisfaction.

These findings offer actionable insights for banks to enhance specific service quality factors, such as Reliability and Empathy, and thereby improve overall customer satisfaction levels. Emphasizing aspects directly affecting customer perceptions and experience will contribute to better customer retention and loyalty in the long run.

4.5 Key Findings

The key findings of the study shed light on the relationships between different dimensions of service quality and customer satisfaction in the selected rural public sector banks in Lucknow District, Uttar Pradesh.

Tangibility: The study found a positive relationship between tangibility (physical appearance of facilities, equipment, and personnel) and customer satisfaction. As the tangibility of services increased, customers' satisfaction levels also improved. This implies that investments in improving the physical aspects of bank branches and providing visually appealing services can positively impact customer satisfaction.

Reliability: The research indicated a negative relationship between reliability (consistency and dependability of service provision) and customer satisfaction. When the perception of reliability decreased, customer satisfaction levels also declined. This emphasizes the critical role of reliability in maintaining customer trust and loyalty. Banks should focus on improving processes, reducing errors, and ensuring consistent service delivery.

Assurance: The study did not find a significant relationship between assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence) and customer satisfaction. This suggests that customer satisfaction may not be strongly influenced solely by employee assurance.

Responsiveness: Responsiveness (willingness and promptness in providing service) showed a positive relationship with customer satisfaction. As banks became more responsive to customers' needs and concerns, customer satisfaction levels increased. This highlights the importance of promptly addressing customer queries and resolving issues to enhance overall customer satisfaction.

Empathy: Empathy (caring and individualized attention shown to customers) was found to have a strong positive relationship with customer satisfaction. Banks that demonstrated empathy towards their customers experienced higher levels of customer satisfaction. Empathetic customer service can foster emotional connections with customers, leading to improved customer experiences.

5 Conclusion

This research has provided an insightful examination of service quality and customer satisfaction in the context of rural public sector banks in Lucknow District, Uttar Pradesh. The study successfully unearthed the complex interplay between different dimensions of service quality, such as Tangibility, Reliability, Responsiveness, Assurance, and Empathy, and their significant influence on customer satisfaction. By focusing on rural banking, the research filled an existing gap in the literature, revealing unique challenges and opportunities that are specific to the rural sector. The study's results underscore the critical role that public sector banks play in fostering financial inclusion and rural economic growth. Tailored strategies that meet the unique needs of rural bank customers, as identified in this research, can serve as a valuable guide for bank managers and policymakers. Implementing these strategies may lead to the enhancement of public sector banking services, contributing to sustainable development within rural communities. The ethical considerations and methodological rigor employed throughout the research process further ensure the validity and reliability of the findings. However, limitations such as sample size and geographical constraints must be acknowledged and considered when interpreting the results. Future research could expand the scope by including other regions, analyzing the effect of various technological interventions, or exploring the perspectives of bank employees in addition to customers. Such endeavors would contribute to a more holistic understanding of service quality dynamics in rural banking. In conclusion, this study has elucidated vital aspects of service quality and customer satisfaction in rural public sector banks, offering practical insights and guidelines that could foster better service delivery, customer relationships, and long-term success in the banking sector. The findings serve not only as an academic contribution but also as a strategic roadmap for enhancing rural banking services, ultimately contributing to broader socio-economic growth.

Declaration of Competing Interests

Funding Declaration

Author Contribution

Ved Prakash: Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing - original draft, Writing - review and editing **Shubham Pratap Singh**: Conceptualization, Methodology, Software, Formal analysis, Investigation, Writing - review and editing.

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