Determining Customer Satisfaction on Service Quality
Constructs using SERVQUAL Model: Evidence from India’s Rural Banks

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Abstract
The present research piece aims to determine customers’ satisfaction with services offered by rural banks in India. The study has considered a total of 400 customers who are directly associated with the banks i.e., at least having one account with the banks using the purposive sampling method. The opinion of the respondents on the selected variables indicating satisfaction/dissatisfaction level was measured on a Likert scale.

Index terms—service quality, correlation matrix, rural bank, SERVQUAL, customer satisfaction.

I. Introduction
Customer satisfaction with the service provided is becoming a dominant factor in the banking business (Ambashta, 2000). The customers’ assessment of the quality of service offered by banks is essential for building perceptions which is an active thought that necessitates the continuous evaluation of customers’ acuities (Zeithaml & Bitner, 2003). The approach of a bank can either be innovation-oriented or simulation oriented. The innovation-oriented banks position themselves in the first phase of the life cycle of a financial product. In contrast, simulation-oriented banks position themselves in successive stages of the life cycle (Franke, 1998). The innovative services of banks are the key to the survival of banks in a contemporary banking environment and have been playing a pertinent role in curtailing financial exclusions and in improving banking services to satisfy customers’ needs (Malik, 2014).

Therefore, customers’ satisfaction with service quality has received considerable academic attention recently. But the nature of the exact relationship between service quality and customer satisfaction is still covered with uncertainty as the studies have stimulated customer satisfaction by using a single-item scale as well as multiple-item scales (Sureshchandar, Rajendran & Anantharaman, 2002). The banks face their stiffest competition and adopting new innovative strategies gives them a better chance of outperforming the competition (Gupta & Aggarwal, 2014). The rapid development of information technology has resulted in the transformation of banks and banking services. The experience of the past decades shows that the orientation of banks has transformed from being product-oriented to providing customer-oriented services (Franke, 1998). All these innovations have become crucial fragments in the banking sector and have brought many improvements in the economic environment. With this backdrop, the paper attempted to measure customer satisfaction with services offered using the SERVQUAL model with particular reference to Meghalaya Rural Bank, India.

II. Literature Review

a) Customer Satisfaction and Service Quality

The service marketing literature accepted the dependence of the notion of customers’ satisfaction on the cognizance and perception of service quality (Anderson, Fornell & Lehmann, 1994; Cronin & Taylor, 1994; Rust & Oliver, 1994). Parasuraman et al. (1985) defined service quality as ‘the overall evaluation or attitude of the overall services excellence’. They proposed a scale called SERVQUAL, which is a generic measurement tool that
has been widely used to assess service quality in a wide variety of services parameters. The empirical literature advocates that service quality and customers’ satisfaction are heartily interconnected, and service quality is one of the aspects that affect customer satisfaction, along with price and personal recognition [Liu, Lee & Hung, 2016]. However, service quality is more momentous than price since meager quality has been proven to scare away customers more frequently than high prices [Basari & Shamshudin, 2020].

Indication of customers’ satisfaction (Liu, Lee & Hung, 2016). It implies that a business delivers services of some quality, and then the customer judges the perceived value of the service, which ultimately leads to customers’ satisfaction. Several studies have confirmed the positive relationship between service quality and customers’ satisfaction (Ahmed & Sultana, 2022; Kattara, Weheba & El-Said, 2008). Kattara, Weheba & El-Said (2008) explored the relationship between positive and negative employee behaviour; customers’ perception of service quality and overall customers’ satisfaction. The study found that employees’ behaviour is highly correlated with overall customers’ satisfaction. Sureshchandar, Rajendran & Anantharaman (2002), in a factor-specific approach, considered customers’ satisfaction as a multi-dimensional construct just like service quality and argued that customer satisfaction is operationalized with the same factors on which the service quality is operationalized. The relationship between service quality, and customers’ satisfaction was investigated and it proved that the two constructs mentioned above are truly independent, implying that the increasing one is likely to increase the other. Liu, Lee & Hung (2016) studied the impact of service quality on customer loyalty utilizing customers’ satisfaction in the fast-food industry in Taiwan, considering 197 respondents. The study demonstrated that service quality had a positive impact on satisfaction, which in turn, had a considerable positive effect on customers’ loyalty. Using the SERVQUAL model, Huang, Lee & Chen (2019), in another study, determined the relationship between service quality and customers’ satisfaction in the B2B segment technology service industry in Taiwan. The research findings were consistent with those of the previous study as it is found that all five constituents of service quality positively influence customers’ satisfaction. The research conducted by Bhatt & Bhanawat (2016) using the SERVQUAL model for assessing the customers’ satisfaction level in retail units in India confirms that the SERVQUAL model is appropriate and convenient for evaluating customer satisfaction.

### 3 b) Service Quality-Related Studies in Banking Sector

Talwar (1975) believed that customer service is a dynamic concept and recommended that banks to evaluate and re-evaluate customers’ perceptions of services. Goiporia Committee (1991) also stressed responsive banker-customer relationships to be heightened for the satisfaction of customers. Kansal & Singh (2007) studied customers’ orientation towards banking services in urban areas of Punjab, mainly the innovative services to the customers of some private banks and the Bank of Punjab. The study observed that most of the services offered by private banks have remained unutilized by urban customers. Jham & Khan (2008) studied customers’ satisfaction in the Indian banking sector and inferred that the satisfaction of customers with the services of Indian banks is linked with the performance of banks. Ahmed (2002) established some critical antecedents of customers’ satisfaction in retail banking in the competitive world of business and opined that satisfied customers in day-to-day operations remain with the same banks for their services provided. Dutta & Dutta (2009) examined consumers’ expectations and perceptions across the three banking sectors in India relating this perception to banks’ financial performance and found that foreign banks are providing better quality services followed by the private sector and public sector banks. With increasing competition among banks, the results serve as a strategic tool to achieve competitive advantage and customers’ satisfaction, examining the gap between customers’ expectation and their perception of the quality of service provided. While measuring customers’ satisfaction through service quality delivery in the Malaysian banking sector, Munusamy, Chelliah & Mun (2010) used quantitative research to explore the relationship between dimensions of service quality and customers’ satisfaction. It has been found that there exists a positive relationship between reliability and customers’ satisfaction and other attributes such as assurance, tangibles, empathy, and responsiveness. George & Kumar (2013) conducted a study using the technology acceptance model (TAM) to investigate the impact of TAM variables on customers’ satisfaction. The study considered 406 internet bank users from the state of Kerala, and found that perceived ease of use and perceived usefulness have a positive impact on customers’ satisfaction and perceived risk hurts customers’ satisfaction. Özatac, Saner, & Sen (2015) assessed the determinants of customers’ satisfaction on service quality in the North Cyprus Banking Sector using the SERVQUAL model. The study found that customers’ satisfaction depends on a solid relationship between banker-customer and the North Cyprus Banking Sector, which creates trust between customers and bank employees. Felix (2017) found a significant and positive relationship between service quality and customers’ satisfaction, comparing dimensions such as customers’ loyalty with reliability, responsiveness, and assurance. The higher the service quality, the higher the customers’ satisfaction. Molem, Akume & Bihkongnyuy (2018) highlighted the impact of changing technology on service quality and customer satisfaction and found that maintaining high quality is essential to ensure customers’ satisfaction and loyalty in this severe competition spectrum. Khan, Lima & Mahmud (2021) observed an immense need to guarantee superior service quality for the customer to gain inclusive satisfaction, which lead to ensure sustainable growth in mobile banking activities.
4  c) The Dimension of SERVQUAL Model

The SERVQUAL instrument has been extensively applied in a variety of service industries (Yoo and Park, 2007). Parasuraman, Zeithaml & Berry (1988) constructed a 22-item instrument called SERVQUAL for measuring consumer perceptions of service quality. SERVQUAL addresses many elements of service quality divided into the dimensions of tangibility, reliability, responsiveness, assurance, and empathy. According to the SERVQUAL model, service quality may be measured by identifying the gaps between customers’ expectations of the service to be rendered and their perceptions of the actual performance of the service (Barsky, 1992). The researchers have applied the SERVQUAL model to measure service quality in different industry settings with modified constructs to suit specific situations (Bhatt & Bhanawat, 2016; Saleh & Ryan, 1992).

One of the criticisms mentioned in the literature is the applicability of the five SERVQUAL dimensions to different service settings, and replication studies done by other investigators failed to support the five-dimensional factor structure as was obtained by Parasuraman et al. (1988) in their development of SERVQUAL model (Roshnee & Fowdar, 2007). It has been argued that expectation is self-motivated and can change according to customers’ experiences and consumption situations (Nadiri & Hussain, 2005). However, the SERVQUAL model is generally considered a robust measure of service quality. Hence, the dimensions of this model with some modifications have been considered for identifying 28 items of research variables for this study.

5  d) Research Gap

The thoughts of earlier studies confirm that the SERVQUAL model is appropriate for measuring service quality and satisfaction of customers. Therefore, sketching the reviews concerning the previous literature and identifying the gaps in the existing studies relating to direction and scarcity of empirical studies, there is a need to have empirical research on customers’ satisfaction based on services provided by the banks, as attempted in this study particularly in Meghalaya Rural Bank considering the SERVQUAL model.

6  III. Objectives of the Paper

The objective of this study is to determine the customers’ satisfaction with the services offered by rural banks based on SRUVQUAL Model.

7  IV. Method and Analytical Techniques

The study has considered 63 branches out of 94 branches of Meghalaya Rural Bank to determine customer satisfaction with service quality and their relationship. A total of 400 customers directly associated with the banks were selected for the study. For the selection of customers, initially, using multi-stage random sampling techniques, the sample area was divided into three regions viz., Garo Hills, Jaintia Hills, and Khasi Hills of Meghalaya. Subsequently, with the help of the convenient sampling technique, each district having a maximum number of branches has been selected. To maintain a proportionate representative from each selected district, the purposive sampling method was used to select 400 respondents for the study. The distribution of samples was done considering rural-urban as well as professional groups representation to arrive at an appropriate research proposition. Based on the literature review, the opinion of the respondents on the five dimensions of SERVQUAL indicating satisfaction/dissatisfaction level was measured on a Likert scale. The variables considered in this research are tangibility, reliability, responsiveness, assurance, and empathy.

The data analysis has been done using Statistical Package for Social Sciences, Version 21. To analyze the customers’ perception on the services provided by the bank, and to measure the relationship between service quality constructs and customers’ satisfaction of sample respondents, statistical techniques, i.e. descriptive statistics, correlations matrix analysis, and regression analysis, have been applied.

8  V. Analysis and Interpretation a) Demographic Contour of Respondents

The study governs the determination of customers’ satisfaction based on various services provided by the Meghalaya Rural Bank, particularly for an in-depth understanding of the customer taste and preference factors which can enrich the top management in their decision-making process. In this research investigation, the demographic characteristics such as age, gender, marital status, education, occupation, and income of the respondents are considered primary variables influencing customer perceptions. Table 1 depicts the demographic attributes of the sample respondents.

The analysis of the demographic profile confirms the research participants’ characteristics. It is observed that out of the total respondents, 67.5 percent are under the age group of 31-50, followed by 18.3 percent in the age group of 21-30, and 12 percent in the age group of 51-above. It is also revealed that only 2.3 percent of the total respondents are under the 20-below age group. Most respondents are found female comprising 57.5 percent, and the remaining 42.5 percent are under the male category. The marital status of the respondents reveals that unmarried respondents representing 46.8 percent followed by 36% Furthermore, it shows that 11.3 percent are in the divorcee category and only 23 respondents comprising 5.8 percent are widowed. The educationwise distribution of the respondents indicates that 39.3 percent of the total respondents are at a high school level followed by
26.0 percent at the graduate level, 23.8 percent at the postgraduate level, and 5.8 percent of respondents at the 
secondary level. The occupationwise distribution reveals that 53.5 percent of the respondents are engaged in 
the service sector followed by cultivators comprising 23.0 percent, homemakers, i.e.14 percent, business, i.e.7.0 
percent, and others, i.e. 2.5 percent. The income-wise distribution of respondents shows that 35.0 percent earn 
between Rs 400,000-Rs.600,000 annual income, followed by 27.3 percent whose annual income is between Rs 
800,000 and above, 16.5 percent belongs to Rs.200,000 and below group, 12.5 percent comes under the bracket 
of Rs.200,000-Rs.400,000. The analysis of these demographic characteristics leads to an accurate representation 
of research participants and indicates that respondents have been drawn from the required group to persuade 
suitable research inferences.

9  b) Descriptive Statistics and Relationship of Variables Influ-
encing Customer Satisfaction

The correlation matrix analysis was conducted to determine the relationship between the various dimen-
sions/variables that are concerned with the degree of customers' satisfaction on five service quality constructs, 
namely tangibility, reliability, assurance, responsiveness, and empathy, considered for the study. The results of 
the descriptive statistics and the crosscorrelations between factors are presented in table 2. The analysis indicates 
the existence of interrelationship between the variables viz., tangibility, reliability, assurance, responsiveness, and 
empathy based on customers' satisfaction towards bank services. The research shows that there is a positive but 
insignificant correlation between assurance and reliability factors (r=0.069), indicating the customers are not 
entirely convinced of a fast and efficient delivery of service offered by the bank. The study also found that the 
responsiveness factor has a positive but not statistically significant correlation (r=0.116) with the reliability factor. 
These show that the financial advice and employees' willingness to help do not significantly influence the bank 
customers. The analysis further shows the moderately positive and significant inter-relationship of responsiveness 
with tangible infrastructure (r=0.342, p=0.000), and with assurance (r = 0.324, p = 0.000), exist indicating a 
proper service delivery of banks. The analysis also found a positive and significant interrelationship exists among 
the factors such as tangible infrastructure, reliability, assurance, and responsiveness. These indicate that fast 
transactions, speed of depositing money, politeness of the employees, employees willing to help employees, A 
potentiality, and insignificant inter-relationship between empathy and reliability (r = 0.306, p = 0.055) imply that 
delivery of services on time, sincerity of employees, consistency in performance, and employees resolve customers' 
problems swiftly services provided by the bank have a influence on the level of customers' satisfaction. 

Furthermore, analysis results indicate a moderately positive and significant correlation between empathy and 
assurance (r = 0.261, p = 0.000), empathy and responsiveness (r = 0.278, p = 0.000), and empathy and tangible 
infrastructure (r = 0.253, p= 0.000), signifies the rate of services charges, fast transactions, speed of depositing 
money, and efficient delivery of service to the customers, politeness of the employees, providing exceptional care 
to unique customers, etc services provided by the bank have the reasonable implication of the level of customers' 
perceptions.

10  c) Regression Analysis

Having analyzed the correlation coefficients of the constructs, an attempt is made to run the multiple regression 
analysis to determine the relationship between the dependent variable, i.e. customers' satisfaction, and 
independent variables, i.e. service quality constructs such as tangibility, reliability, assurance, responsiveness, 
and empathy. The following regression model was used for predicting the impact of independent variables on the 

where, Y = Satisfaction (dependent variable) ? = constant ?1 to ?5 = Represents coefficients for the 
representative variables X1 = Tangible Infrastructure X2 = Reliability X3 = Assurance X4 = Responsiveness 
X 5 = Empat Table 3 presents the regression model summary. Based on the analysis, the R-value of 0.672 
is a high degree of relationship, which also represents the simple correlation between the dependent variable 
and independent variables. The R square value 0.65 signifies that the customers' satisfaction can be defined by 
independent variables, and shows that 65 percent variation is explained by the predictors, which indicates high 
predictions. 4 determines whether the regression equation fits the given data, i.e. the independent variables 
via tangible infrastructure, reliability, assurance, responsiveness, and empathy have the potential to predict the 
dependent variable (satisfaction level of customers). The analysis indicates that the regression model is significant 
as the p-value is 0.000, which is less than 0.05. Therefore, the overall performance of the constructs is found 
statistically significant and predicts the outcome of the variables. Hence, this model is suitable for the analysis.

Table 5 shows the results of multiple regression analysis to confirm whether the independent variables, such as 
tangible infrastructure, reliability, assurance, responsiveness, and empathy factors are significant predictors of 
customers' satisfaction. The analysis results determine that customers' satisfaction can influence the independent 
variables, which is reflected in the calculated value of 65 percent variation (R square is found at 0.650). Based 
on the stepwise regression analysis for dependent and independent variables, their relationship equation can be 
represented as At the alpha (?) = 0.05 level of significance, the p-value of tangible infrastructure (X 1 ), reliability 
(X 2 ), and empathy (X 5 ), are found to be less than 0.05. Hence, the regression analysis results show that 
reliability, tangible infrastructure, and empathy are significant predictors of customers' satisfaction. The p-value
of the remaining two factors, namely assurance (X3), and responsiveness (X4) found to be more than 0.05, adequately confirmed to conclude that these factors are not valid predictors of customers’ satisfaction. Hence, it may be inferred that the variables relating to tangibility, reliability, and empathy dimensions of the selected SERVQUAL model are the primary variables in determining customers’ satisfaction.

11 Variables

12 VI. Conclusion and Implications

The study on the level of satisfaction of customers is aimed at helping customers to understand banking services and the operating system, as there is a common criticism of the approach of banks towards customers with limited tangible infrastructure and mild responsiveness in the present scenario. The correlation analysis result indicates an interrelationship between the factors, namely intangible infrastructure, reliability, assurance, responsiveness, and empathy, and determines a linear relationship relating to the factors to each other. The regression analysis also specifies that the level of customer satisfaction has the potential to influence the independent variables. The regression analysis reveals sufficient evidence to conclude that tangible infrastructure, reliability, and empathy are significant predictors of customers’ satisfaction. The remaining two factors, i.e., assurance and responsiveness, are not appropriate predictors of customers’ satisfaction. Hence, an urgent step is warranted to ensure the banks’ commitment towards assurance and responsiveness factors by utilizing appropriate financial advice, responding to customers’ requests, and building the trust of the customers towards the banks. The study will enable the bank management to get a comprehensive range of understanding and empower their strategies effectively to reach out to the customers. It will also allow them to implement various promotions, expansion, and growth measures to satisfy the customers and attract new customers to the bank.

Figure 1:

Determining Customer Satisfaction on Service Quality Constructs using SERVQUAL Model: Evidence from India’s Rural Banks
Year 2022

(Note: Source Computed from Primary Data)

Figure 2: Table 1:
VI. CONCLUSION AND IMPLICATIONS

* Correlation is significant at the 0.05 level (2-tailed),
* Correlation is significant at the 0.01 level (2-tailed)
Source: Self-Calculation by the Present Researchers

Figure 3: Table 2:

Table 2:

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Mean (µ)</th>
<th>Std. Dev.</th>
<th>Correlations (r)</th>
<th>Tangibility (TI)</th>
<th>Reliability (RL)</th>
<th>Assurance (AR)</th>
<th>Responsiveness (RP)</th>
<th>Empathy (EM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>1 TI</td>
<td>2 AR</td>
<td>3 RL</td>
<td>4 RP</td>
<td>5 EM</td>
<td></td>
</tr>
<tr>
<td>Tangibility (TI)</td>
<td>3.884</td>
<td>0.4705</td>
<td>1.00</td>
<td>0.389**</td>
<td>0.298**</td>
<td>0.342**</td>
<td>0.253**</td>
<td></td>
</tr>
<tr>
<td>Reliability (RL)</td>
<td>4.146</td>
<td>0.4905</td>
<td>0.389**</td>
<td>1.00</td>
<td>0.389**</td>
<td>0.342**</td>
<td>0.253**</td>
<td></td>
</tr>
<tr>
<td>Assurance (AR)</td>
<td>1.600</td>
<td>1.2334</td>
<td>0.298**</td>
<td>0.069</td>
<td>1.00</td>
<td>0.324**</td>
<td>0.261**</td>
<td>0.278**</td>
</tr>
<tr>
<td>Responsiveness (RP)</td>
<td>2.753</td>
<td>0.7515</td>
<td>0.342**</td>
<td>0.116</td>
<td>0.324**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy (EM)</td>
<td>4.146</td>
<td>1.3589</td>
<td>0.253**</td>
<td>0.306</td>
<td>0.261**</td>
<td>0.278**</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

(Note: ?)

Figure 4: Table 3:

Table 3:

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>Df</th>
<th>Measure</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>31595284.30</td>
<td>1</td>
<td>31695484.27</td>
<td>47.310</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>15698424.63</td>
<td>24</td>
<td>649424.526</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48011412.98</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Customers' Satisfaction
b. Predictors (Constant), tangible infrastructure, reliability, assurance, responsiveness, and empathy.

Figure 5: Table 4:

Table 4:

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient Β</th>
<th>Standardized Coefficient T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>40.392</td>
<td>23.384</td>
<td></td>
</tr>
<tr>
<td>Tangibility</td>
<td>0.123</td>
<td>0.102</td>
<td>2.975</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.141</td>
<td>0.060</td>
<td>2.238</td>
</tr>
<tr>
<td>Assurance</td>
<td>0.061</td>
<td>0.055</td>
<td>1.119</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>0.098</td>
<td>0.056</td>
<td>1.699</td>
</tr>
<tr>
<td>Empathy</td>
<td>0.162</td>
<td>0.057</td>
<td>2.830</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Customers' Satisfaction
Source: Self-Calculation by the Present Researchers

Figure 6: Table 5:
[Report of Talwar Committee (1975)]


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(Report of the Narasimham Committee-1)


