Service quality and its effect on customer satisfaction and loyalty: a study of banks in Chandigarh

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Abstract

The study aimed to examine the factors influencing customer satisfaction in the banking sector of Chandigarh and to analyse the relationship among service quality, customer satisfaction, and customer loyalty. The research adopted a quantitative design and employed the survey method for data collection. Data were gathered from 172 respondents across four different areas using a pre-tested structured questionnaire. The results indicate a significant relationship between various service quality attributes and customer satisfaction. Furthermore, the study found a positive relationship between customer satisfaction and customer loyalty. The findings suggest that higher service quality leads to greater customer satisfaction, which in turn enhances customer loyalty. In an increasingly competitive banking environment, delivering superior service quality can provide banks with a sustainable competitive advantage.

Keywords: Service quality, Customer satisfaction, Customer loyalty

Introduction

The banking sector of India plays a pivotal role in the country's economic development by mobilizing savings, facilitating investments, and enabling financial inclusion. As one of the largest and fastest-growing financial systems in the world, India's banking industry serves as the backbone of its economy, supporting sectors ranging from agriculture and small-scale industries to large corporations and international trade. The Indian banking system is regulated primarily by the Reserve Bank of India (RBI), which ensures financial stability, monetary control, and the smooth functioning of payment systems.

The evolution of the Indian banking sector can be broadly divided into three phases: the pre-nationalization period (before 1969), the post-nationalization era (1969–1990), and the liberalization and reform period (post-1991). The nationalization of banks in 1969 marked a turning point, expanding the reach of banking services to rural and semi-urban areas. Subsequent financial sector reforms in the 1990s introduced private and foreign banks, improved efficiency, and enhanced competitiveness within the industry.

In recent years, technological advancements such as digital banking, mobile payments, and fintech innovations have transformed the way banking services are delivered. Government initiatives like Pradhan Mantri Jan Dhan Yojana (PMJDY) and the Unified Payments Interface (UPI) have further deepened financial inclusion and digital adoption. Moreover, the growing emphasis on sustainable and green banking reflects the sector's commitment to inclusive and environmentally conscious growth.

Despite its progress, the Indian banking sector faces challenges such as rising non-performing assets (NPAs), cybersecurity risks, and the need for regulatory modernization. However, ongoing reforms, digital transformation, and improved risk management practices continue to strengthen its resilience and global standing.

The banking sector in Chandigarh comprises a diverse mix of local, foreign, and specialized financial institutions, with the Reserve Bank of India (RBI) serving as the central bank of the country. Currently, 53 banks operate within the city. These include five public sector banks—State bank of India, Punjab National Bank, Union Bank of India, Bank of Baroda, Punjab and Sind Bank—and four specialized banks, namely HDFC bank, ICICI bank, Kotak Mahindra Bank, Axis Bank

All commercial banks in Chandigarh provide a wide range of standard financial services similar to those available globally—such as debit and credit cards, traveller's cheques, money transfers, personal loans, and car financing. Selected banks also offer specialized services, including VIP, women's, minor, and student accounts, as well as digital banking platforms like online, telephone, and mobile banking, which ensure 24/7 access.

The growth of private banking, coupled with the introduction of personalized and technology-driven services, has intensified competition within the sector (Khalid & Irshad, 2010) [10]. In this environment, customer satisfaction has emerged as a critical source of competitive advantage. It serves as both a key performance indicator and a fundamental element of business strategy, as customer expectations strongly influence satisfaction levels.

Organizations are increasingly focusing on retaining existing customers rather than expending additional resources to attract new ones. Satisfied customers are more likely to develop brand loyalty, leading to repeat purchases and long-term profitability. Given this context, the purpose of the present study is to explore the interrelationships among service quality, customer satisfaction, and customer loyalty in the banking sector of Chandigarh. The findings of this study are expected to provide valuable insights for banks seeking to enhance service quality, improve customer retention, and achieve a sustainable competitive advantage through increased customer loyalty.

Customer satisfaction

The concept of customer satisfaction holds a central place in marketing, as it represents a key outcome of marketing activities. It connects the processes of purchase and consumption with changes in customer attitudes, repeat purchases, and ultimately, brand loyalty. The idea stems from the marketing philosophy that profitability can be achieved through the effective fulfillment of customer needs and wants.

According to the *Business Dictionary*, customer satisfaction refers to *"the degree of satisfaction provided by the goods or services of a company as measured by the number of repeat customers."* For many firms that traditionally focused on price and product availability, this concept represents a new strategic orientation. In essence, customer satisfaction reflects the customer's mental state after using a product or service, based on how well their expectations are met. Higher satisfaction leads to repeat purchases, which in turn foster brand loyalty.

The academic study of customer satisfaction gained prominence in the early 1970s. The U.S. Department of Agriculture's Index of Consumer Satisfaction was among the first studies to directly measure customer satisfaction (Pfaff, 1972). Moreover, research has established strong linkages among customer satisfaction, brand loyalty, and profitability (Hallowell, 1996).

Customer loyalty

Customer loyalty is a critical determinant of long-term business success. Caruana (2000) emphasized that customer loyalty mediates the relationship between service quality and service loyalty in the retail banking sector. Similarly, Ahmad and Sana ul Allah (2011) found that factors such as the availability of spare parts, technicians, warranties, and customization services positively influence consumer purchasing behavior. They argued that manufacturers and importers should ensure easy access to these elements to enhance customer loyalty and buying intentions.

Loyal customers tend to maintain long-term relationships with companies based on satisfaction, trust, and perceived value. As noted by Gronholdt *et al*. (2000), firms following low-price strategies often experience higher customer loyalty than expected, whereas those emphasizing branding may achieve high satisfaction without equivalent loyalty levels. Oliver (1999) also highlighted that customer loyalty can be maintained through the creation of exit barriers, although such "forced loyalty" may not always be desirable.

Loyal behavior may also stem from inertia, where customers remain with a brand out of convenience or low involvement. This form of loyalty, known as cognitive loyalty, is based primarily on brand belief rather than deep emotional attachment (Oliver, 1999). Hofmeyr and Rice (2000) suggested that some customers do not switch brands even when dissatisfied, as they perceive alternatives to be equally unsatisfactory.

Research by Anderson *et al*. (2000) led to the development of the American Customer Satisfaction Index (ACSI), which identifies three antecedents of satisfaction: perceived quality, perceived value, and customer expectations. Similarly, the European Customer Satisfaction Index (ECSI) divides perceived quality into "hardware" (product or service attributes) and "humanware" (customer interaction and behavior). Both models affirm that higher satisfaction levels enhance customer loyalty (Reichheld *et al*., 2000). However, studies indicate that even satisfied customers sometimes defect, highlighting the need to measure satisfaction by examining the gap between expectations and perceived performance.

Service quality

Service quality has emerged as a vital factor influencing organizational success across industries, including banking (Parasuraman *et al*., 1988; Hossain & Leo, 2009) [12, 7]. It serves as a key performance indicator and competitive differentiator (Cowling & Newman, 1995). Banks recognize that superior service quality fosters customer loyalty and profitability (Dawes & Swailes, 1999; Davies *et al*., 1995) [4]. Hence, service quality is viewed as a strategic imperative for sustainable competitive advantage (Chaoprasert & Elsey, 2004) [3].

Gronroos (2000) [6] defined a service as a process comprising intangible activities that occur during interactions between the customer and service provider, aimed at solving customer problems. Similarly, Fogli (2006) [5] described service quality as a global judgment reflecting the customer's overall impression of an organization's performance and service superiority.

Parasuraman *et al*. (1988) [12] initially proposed ten determinants of service quality reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding, and tangibles. Later, their SERVQUAL model (1988) refined these into five key dimensions:

- **Tangibility:** Physical facilities, equipment, and appearance of personnel.
- **Reliability:** Ability to perform promised services dependably and accurately.
- **Responsiveness:** Willingness to assist customers and provide prompt service.
- **Assurance:** Employees' knowledge and courtesy that inspire trust and confidence.
- **Empathy:** Personalized attention and understanding of customer needs.

In the present study, only the first four dimensions are considered—tangibility, reliability, responsiveness, and assurance—while empathy is excluded.

Theoretical framework

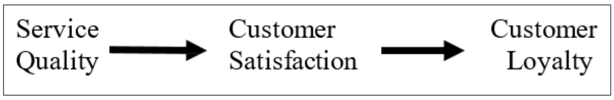

Fig 1: Conceptual model

The review of existing literature indicates a strong and consistent relationship among service quality, customer satisfaction, and customer loyalty. Numerous studies have demonstrated that higher service quality enhances customer satisfaction, which in turn fosters customer loyalty. Several researchers have employed service quality attributes as key indicators of customer satisfaction, emphasizing the critical role of service delivery in shaping customer perceptions (Siddiqi, 2011) [14].

Empirical findings suggest that customers tend to experience the highest satisfaction in the responsiveness dimension of service quality, whereas tangibility often yields the lowest satisfaction ratings. To attain superior service quality levels, bank managers must reassess and redesign their customer satisfaction strategies with a focus on service quality dimensions (Khalid, Babak, Abbas, & Hussain, 2011) [11].

Afsar *et al*. (2010) identified multiple determinants influencing customer loyalty, including perceived quality, satisfaction, trust, switching cost, and commitment. However, the present study focuses specifically on customer satisfaction as the mediating factor linking service quality and customer loyalty.

Hypotheses of the Study

- **H1:** There is a positive relationship among service quality, customer satisfaction, and customer loyalty.
- **H2:** Service quality positively affects customer satisfaction.
- **H3:** Customer satisfaction positively affects customer loyalty.

Research methodology

Research Instrument Design

The questionnaire used in this study was developed based on prior research conducted by Berry *et al*. (1985), Parasuraman *et al*. (1988) [12], Zeithaml and Bitner (1996), and Stafford (1996).

Berry *et al*. (1985) and Zeithaml and Bitner (1996) identified five key dimensions of service quality:

- Tangibility – physical facilities, equipment, appearance of personnel, and written materials.
- Reliability – the ability to deliver promised services accurately and dependably.
- Responsiveness – willingness to assist customers and provide prompt service.
- Assurance – employees' knowledge and ability to inspire trust and confidence.
- Empathy – caring and providing individualized attention to each customer.

Parasuraman *et al*. (1988) [12] proposed eleven service quality dimensions: reliability, competence, responsiveness, access, courtesy, communication, credibility, security, competence, tangibles, and understanding the customer. Among these, reliability was considered the most essential dimension.

Stafford (1996) further explored customer service through seven dimensions, including relationships, bank atmosphere, rates and charges, ATM services, availability and convenience, counter services (tellers), and honesty or reliability of bank personnel.

For the present investigation, four dimensions of service quality have been selected Tangibility, Reliability, Responsiveness, and Assurance as these are most relevant to the banking context and align closely with the study objectives.

Data collection methods

A quantitative research approach was employed for data collection. The study utilized a survey method, which is widely recognized in non-experimental social science research due to its objectivity, representativeness, and replicability. A total of 172 respondents were selected using the simple random sampling technique to ensure that every individual in the population had an equal chance of being included.

Although the intended study population was Chandigarh, data collection was constrained by factors such as limited resources, language barriers, lack of cooperation, geographic limitations, and time and cost constraints. Consequently, data were collected from respondents in North and South Chandigarh using the same random sampling approach.

The primary data collection tool was a structured questionnaire, adapted from previously validated studies to ensure reliability and validity. The questionnaire was divided into two sections:

- The first section included questions related to demographic information such as age and gender.
- The second section contained items related to service quality, customer satisfaction, and customer loyalty.

A self-administered five-point Likert scale (ranging from *strongly disagree* to *strongly agree*) was used to measure respondents' perceptions. The use of an already established and validated instrument enhanced the accuracy and comparability of the results.

Due to financial and time limitations, the study also employed elements of convenience sampling to supplement the random sampling process.

Data analysis methods

Data collected through the questionnaire were analyzed using Statistical Package for the Social Sciences (SPSS) version 20. The analysis process was carried out in several stages to ensure accuracy and reliability of the results.

Initially, reliability analysis was conducted to assess the internal consistency of the measurement scales using Cronbach's Alpha. This test was performed for all variables service quality, customer satisfaction, and customer loyalty to ensure that the questionnaire items consistently measured the intended constructs.

Subsequently, correlation analysis was employed to examine the interrelationships among the key variables. Pearson's correlation coefficient was used to determine the strength and direction of relationships between service quality, customer satisfaction, and customer loyalty.

Finally, regression analysis was conducted to evaluate the impact of service quality on customer satisfaction and the influence of customer satisfaction on customer loyalty. This statistical method helped in testing the proposed hypotheses and determining the predictive power of independent variables on dependent variables.

Results

The data analysis was carried out using SPSS-20, and it was divided into two major parts.

The first part comprised descriptive statistics, which included measures of central tendency (such as mean) and dispersion (such as standard deviation). These statistical measures provided an overview of the respondents' characteristics and the overall distribution of responses, how closely data points clustered around the mean. The second part focused on inferential analysis. Pearson's correlation was applied to identify the relationship between at least two continuous variables. The correlation coefficient ranges from –1 to +1, where values near 0 indicate no relationship, while values closer to +1 indicate a strong positive correlation. Typically, a coefficient value of 0.80 or above is considered to represent a high positive correlation between variables.

Additionally, multiple regression analysis was employed to estimate the coefficients of the variables in a linear equation. This analysis was used to determine the extent to which service quality predicts customer satisfaction, and how customer satisfaction, in turn, influences customer loyalty. The results of regression analysis provided insights into the strength and direction of these relationships, thereby confirming or rejecting the stated hypotheses.

Table 1: Descriptive statistics

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Name of bank	172	14.00	1.00	15.00	347.00	5.9828	.40227	3.06360	9.386	.991	.314	.926	.618
Type of account	172	3.00	1.00	4.00	91.00	1.5690	.07821	.59566	.355	1.014	.314	2.842	.618
Gender	172	1.00	1.00	2.00	70.00	1.2069	.05365	.40862	.167	1.486	.314	.214	.618
Location	172	3.00	1.00	4.00	102.00	1.7586	.11875	.90438	.818	1.390	.314	1.501	.618
Martial status	172	3.00	1.00	4.00	85.00	1.4655	07861	.59870	.358	1.407	.314	3.628	.618
Age group	172	5.00	1.00	6.00	148.00	2.5517	.12583	.95830	.918	1.768	.314	3.124	.618
Highest education	172	4.00	3.00	7.00	306.0	5.2759	.12247	.93270	.870	-.588	.314	.235	.618
Monthly income	172	7.00	1.00	8.00	178.00	3.0690	.18051	1.37474	1.890	.963	.314	2.440	.618
Profession	172	4.00	1.00	5.00	128.0	2.2069	.09764	.74360	.553	1.764	.314	4.024	.618
Howlong you working	172	4.00	1.00	5.00	126.00	2.1724	.12084	.92030	.847	1.602	.314	3.192	.618
Kind of family	172	3.00	1.00	4.00	100.00	1.7241	.10375	.79014	.624	1.424	.314	2.541	.618
Time of using bank	172	4.00	1.00	5.00	146.00	2.5172	.13526	1.03010	1.061	.501	.314	-.733	.618
Frequency of bank use	172	4.00	1.00	5.00	193.00	3.3276	.17632	1.34279	1.803	-.180	.314	-1.284	.618
Valid n (listwise)	172												

Reliability analysis

The reliability of the measurement scales for all variables was assessed using Cronbach's Alpha. The study included three main variables: Service Quality, Customer Satisfaction, and Customer Loyalty. The Cronbach's Alpha values for all three variables were found to be above 0.70, which is generally considered the threshold for acceptable internal consistency (Nunnally, 1978).

These results indicate that the items used to measure each construct are reliable and internally consistent, meaning that the statements within each variable are highly interrelated and measure the same underlying concept. Therefore, the scales employed in this study are deemed appropriate for further statistical analysis, including correlation and regression testing.

Table 2: Cronbach Alpha

Cronbach's Alpha	N of Items
.887	20

Correlation analysis

To examine the interrelationships among the study variables, Pearson's correlation coefficient was employed. The correlation results indicate a moderate to strong positive relationship among the variables under study. The correlation coefficient between Service Quality and Customer Satisfaction was found to be 0.57, between Service Quality and Customer Loyalty it was 0.651, and between Customer Satisfaction and Customer Loyalty it was 0.658.

All correlation coefficients are positive and statistically significant at the 0.05 level (2-tailed), which confirms that the relationships among the variables are not due to random chance. The positive direction of the coefficients suggests that an increase in one variable leads to an increase in the other, and conversely, a decrease in one result in a decrease in the other.

Thus, the analysis provides empirical support for the hypothesis that Service Quality, Customer Satisfaction, and Customer Loyalty are positively and significantly correlated. This implies that improvements in service quality enhance customer satisfaction, which subsequently strengthens customer loyalty.

Table 3: Model summary

	Customer service_quality	Customer_Loyality	Customer satisfaction
Pearson Correlation	1	.651**	.570**
Customer_Service_Quality Sig. (2-tailed)	-	.000	.000
N	100	100	100
Pearson Correlation	.651**	1	.658**
Customer_Loyality Sig. (2-tailed)	.000	-	.000
N	100	100	100
Pearson Correlation	.570**	.658**	1
Customer Satisfaction Sig. (2-tailed)	.000	.000	-
N	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin-watson
1	.739[a]	.546	.529	.43816	1.773

a) Predictors: (Constant), Customer_Service_Quality, Customer Satisfaction b) Dependent Variable: Customer_Loyality

Regression analysis

To examine the degree and strength of the relationships among the variables, multiple regression analysis was employed. The analysis aimed to determine the effect of Service Quality and Customer Satisfaction on Customer Loyalty.

The results indicate a strong positive relationship between Service Quality and Customer Satisfaction, as well as between Customer Satisfaction and Customer Loyalty. The Durbin–Watson value was found to be 1.773, which lies within the acceptable range of 1.5 to 2.5, indicating that there is no autocorrelation among the residuals and that the regression model is appropriate.

The adjusted R^2 value for the model was 0.545, suggesting that approximately 54.5% of the variation in Customer Loyalty can be explained by Service Quality and Customer Satisfaction. This implies that improvements in service quality and customer satisfaction lead to a significant positive impact on customer loyalty.

The Standard Error of the Estimate was 0.43, indicating that about 43% of the variation in Customer Loyalty is attributable to other factors not included in the model. Overall, the regression analysis confirms that Service Quality and Customer Satisfaction are significant predictors of Customer Loyalty, supporting the proposed research hypotheses.

Table 4: Regession

Model		Sum of squares	Df	Mean square	F	Sig.
	Regression	12.694	2	6.347	33.061	.000[b]
1	Residual	10.559	97	.192		
	Total	23.253	99			

(a) Dependent Variable: Customer_Loyality (b) Predictors: (Constant), Customer_Service_Quality, Customer_Satisfaction

Conclusion

The findings of this study reveal a positive and significant relationship between service quality attributes and customer satisfaction, thereby supporting Hypothesis 1 (H1). Furthermore, the results indicate that approximately 54% of the variation in customer loyalty can be explained by service quality and customer satisfaction, confirming Hypothesis 2 (H2).

These results provide empirical evidence that high-quality service delivery enhances customer satisfaction, and in turn, satisfied customers are more likely to remain loyal to their banks. Hence, customer satisfaction acts as a mediating factor between service quality and customer loyalty.

In today's highly competitive banking environment, the ability to deliver superior service quality is a key differentiator that can provide banks with a sustainable competitive advantage. Financial institutions that prioritize consistent service improvement, responsiveness, reliability, and customer care are more likely to achieve long-term customer retention and profitability.

Limitations of the study

This research was conducted within a limited time frame and was subject to financial and logistical constraints. Consequently, data were collected only from respondents in Sahiwal, Okara, Pakpattan, and Arifwala, which may limit the generalizability of the findings to other regions or larger populations.

Additionally, while the study focused on service quality and customer satisfaction as primary determinants of customer loyalty, there are other influential factors such as trust, switching costs, perceived value, and brand image that were not examined. Future research may expand the scope by incorporating these variables and using larger, more diverse samples to provide deeper insights into customer loyalty in the banking sector.

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