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Finding Service Quality Dimensions and Measuring Service Quality Gaps: A Study on Service Quality of Indian Banks

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ABSTRACT

Service quality of the banking sector is one of the major tools to retain consumers. Identification of service gaps is one of the primary responsibilities of the banks to enrich their service quality and gain more consumers. To understand the gaps in service quality, banks are required to have a primary understanding about the service quality dimensions of banking services. The difference between consumers' expectations about the banking services and their perception about the received services could be measured as service quality gaps for banks. Knowledge about the gaps will provide banks to design more efficient services for their consumers and thereby attain higher level of consumer satisfaction. The present research, which is conducted on the Indian banks,identifies the service quality dimensions for the banking sectors. The work also provides a methodology to measure the difference between expected and perceived banking services.

Keywords: *Service quality dimensions; Service quality gaps; Indian banking sector; SERVQUAL model; Perceived service; Expected service.*

1.0 Introduction

The Indian banking industry has been subject to continuous changes from decades. According to Jain (2016), the present day transformation of banking sector in India is a result of these reforms which were initiated way back in 1990. However, the recent change, which is related to the merger of public sector banks, has left a few players in the market while the demand for banking services is increasing rapidly.

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Although this creates a huge opportunity for both the private and the foreign banks and also to the existing nationalised banks, it requires huge efficiency in the service domain to cater such a huge demand. Under this changed scenario, service delivery is going to play a very crucial role for acquiring the consumers and keeping the market share. Barring the financial issues related to NPA and slow rate of loan recovery, the domestic banks of India were often blamed also for their slow responsiveness while the private and foreign banks were praised for the same. Moreover, the growth in internet banking and the legal and security issues, as pointed out by Roy *et al.* (2016), add more to this competitive framework. In this competitive scenario, banks have to look into the improvement of customer satisfaction and this could only be achieved if the service quality is improved. None of the discussion related to service quality is possible without mentioning SERVQUAL model of Parasuraman *et al.* (1988). In this changed world, where human banking service providers are largely substituted by machine, internet banking is growing rapidly due to several reasons. Roy *et al.* (2016) point that where payment apps have replaced traditional physical currency transaction, the parameters which measure the banking service quality dimensions are required to be checked. Thus the purpose of the study is primarily to identify the service quality dimensions of banking services. Besides, the work also examines the gap between service quality expectations and perceptions of the consumers about the quality of the received service. For the purpose of this research, primarily an exploratory study was conducted to create a pool of service qualities. Consumers' perceptions about the expected and perceived service were collected. Consumers' perceptions about the expected service qualities were analysed to identify the service quality dimensions. The difference between consumers' rating about the expected and perceived service provides the estimation of the service quality gap. Thus the study provides an understanding about the service quality dimensions of the banking service and also a methodology to measure the service gaps.

2.0 Literature Review

Consumers in the present day market place are becoming extremely quality conscious and Lee (2005) has rightly pointed out that the demand of consumer for services of higher quality is increasing rapidly. Firms, according to Berry *et al.* (1985) are involved in constant struggle to meet and sometimes, even to go beyond the expectations of the consumers. The seed of survival of the service manufacturers in today's market lies in providingworld class and cost competitive service (Cook and Verma 2002). Although there is hardly any doubt about the importance of service

quality, different researchers and practitioners have defined service quality in different ways. The definitions of service quality are based on two main components, and these are customer expectation and perception (Oliver, 1980). Service quality is also defined as the gap between the expectation about the service and the perception about the service received (Munusamy *et al.*, 2010). Eshghi *et al.*, (2008) defined service as customers' overall evaluation of a service. Asubonteng *et al.*, (1996) and Wisniewski and Donnelly, (1996) on the other hand defined service quality as quality when it regularly meets to the expectations of the consumers. Czepiel (1990) defined service quality on the basis of the perception of consumers about how a service is meeting or going beyond their expectations. Oliver (1980) has pointed out that quality of a service, whether low or high depends upon the perception of the consumers. If the perception about the quality of the service is lower than expectation, it is judged as a low quality service and when it exceeds the consumers' expectation, the quality of the service is judged as high.

The studies in this field also faced difficulty in the measurement of service quality. Parasuraman *et al.* (1985) used the idea of comparison between the service expectation and delivery as a measure of service quality. He also stated that the difficulty associated with defining and measuring the constructs of service quality made it hard for the researchers and practitioners to measure service quality. To facilitate the measurement of service quality, Parasuraman *et al.* (1988) developed SERVQUAL (service quality) model. The model is constructed on the basis of five perceived service quality dimensions: tangibility, reliability, responsiveness, assurance and empathy. These dimensions are also used as the instruments of measuring service quality (Parasuramanet *et al.*, 1988; Zeithaml *et al.*, 1990). Several researchers also applied the SERVQUAL model in the banking sector and found related service qualities applicable to the banking services.

Tangibility in a service, as defined by Parasuraman *et al.* (1985) is represented by the manifestation of equipment, physical amenities, personnel and written materials. Studies of Ananth *et al.*(2011) reveal that tangibility in banking service is represented by visually appealing materials, well-dressed service personnel and above all modern equipments and amenities. Reliability, which is also stated as the most important service quality dimension by Parasuraman *et al.* (1988), depends on the timeliness in service delivery, accuracy of the service, handling consumers' problem and maintenance of error free documentation. Yang *et al.* (2004), has also pointed out reliability as the most important service quality dimension for banking sector. He mentioned that accuracy in the context of fulfilling orders, maintenance of records, providing quotations, estimation of bills and commissions and keeping service promise are the key factors which create

service reliability of a bank. Responsiveness, which is also described by Parasuraman *et al.* (1985) as timeliness of service, measures the employee willingness to deliver the service. Responsiveness in the context of banking industry, as pointed out by Kumar *et al.* (2009) encompasses the understanding of consumers' needs, looking after consumer security, attentiveness to consumers' problems, providing convenient timing and providing individual attention to consumers.According to Parasuraman *et al.* (1985),ability of the employees to build up consumer trust and confidence, knowledge of the employees about the service and their courtesy, are the qualities which create assurance, the fourth factor of service quality. Similar reflection is observed in the study of Sadek *et al.* (2010) on British banks, where according to them assurance is manifested through politeness and friendliness of the staffs, experienced team of managers, facility toreceive financial advice and easiness in accessing information related to accounts. Parasuraman *et al.* (1985) defined empathy, the fifth dimension of service quality, as the level of care, understanding of consumers' needs and personal attention provided by the service industry. In the context of banking industry, Ananth *et al.* (2011), by the term empathy referred to bank employee's understanding of consumer specific needs, their ability to provide personal attention to every individual consumers and bank's ability to provide suitable operating hours.

Identification and measurement of the service quality gaps are really crucial for business development but at the same time it is difficult to measure. Swartz and Brown (1989) stated that the evaluation of service quality will be done by consumers and the finding of this evaluation will be ranging between satisfaction and dissatisfaction. Berry *et al.* (1985) has explained the perception of service quality as a result of comparison between the expected service and actual service. Kakouris and Finos (2016) also tried to measure the service quality gaps in banking sector by using the SERVQUAL model. Rijwani *et al.* (2017) tried to identify service quality dimension and its relationship with customer satisfaction in the banks of Gujrat, India. Several researchers have tried to find out the relationship between consumers satisfaction with service quality. Research work of Kumar *et al.* (2009) on Malaysian banking services, Culiberg *et al.* (2010) on Slovenian banking services, Bahia and Nantel (2000) on Canadian banking services, and Islam (2011) on banking services of Bangladesh are examples of such studies. Some researchers also tried to analyse the applicability of SERVQUAL model in banking industry. Kumar (2010) made a comparative analysis of different SERVQUAL dimensions across the banks of Peru and Malaysia and found that different service quality dimensions have different impact with respect to the service qualities of banks of different countries.

Although a lot of study was conducted on service quality of the banking system, most of the studies are directed towards analysing the impact of service quality on customer satisfaction. The banking sector is perhaps one of the sectors which faced largest amount of changes in the name of reforms. With this reforms banks has not only changed in its financial regulations, but also changed the service delivery process which has serious impact on the service quality of the banks. But it is hard to find out any research work which tried to evaluate the applicability of the SERVQUAL model and the service dimensions on today's banking system. Besides that, limited effort is observed to measure the gap between the expected and perceived service quality. The following research work aims to bridge these gaps.

2.1 Research gaps

RG1: Although the reforms in banking sector have transformed banking service providers largely from human to machine and the service quality dimensions associated with banking services might change, very few studies are found to identify the dimensions of service qualities for banking sectors.

RG2: Although much is discussed about the gap between the expected and perceived quality of banking services, suitable methodology to measure this gap is hard to find.

3.0 Research Objectives

RO1: To identify the service quality dimensions on present day banking system and see whether these parameters have changed from the traditional SERVQUAL model

RO2: To provide a methodology that could estimate the gap between consumers' perception about the expected and perceived service

3.1 Research hypothesis

RH1: Service quality dimensions of banking services are found to have close relation with the traditional SERVQUAL model

RH2: There is a significant and measurable gap between perceived and expected service quality in banking sector

4.0 Research Methodology

4.1 Creating the pool of service qualities

For creating the pool of service qualities, an exploratory study was conducted. Two sources were considered for this purpose. Primarily the consumers of banks were

asked to mention the qualities and facilities which they feel as important for the services produced by the banks. As a second source, employees of the banks were asked to mention the service qualities which they feel are important for providing a better service to the consumers. Initially responses from 100 respondents (both consumers and bank employees) were collected. Almost all the respondents have mentioned some important service qualities among which some are unique and some of them are repetitions. Thus removal of repetitions was required for finding out the unique set of service qualities. After removing the repetitions finally 20 unique qualities are found to be tested in the final stage.

4.2 Gathering consumers' perception about the expected and perceived service of banking services

In the next stage, a questionnaire was prepared where the service qualities selected in the earlier stage weregiven to the consumers and their perception and expectation about the given service qualities were recorded.Consumer's perception about the expected and perceived service were gathered by using a five point Likert scale where 1 being completely agree and 5 being completely disagree. The sample size, according to Nunnally (1978) is dependent upon the number of variables. In this case the number of variables was 20 and according to Nunnally (1978) the sample size should have been ten times of the cases, 200. But in this research responses were gathered from 400 respondents, which is double the size stated by the theory of Nunnally (1978). Active consumers, who had at least five transactions in the last three months, were chosen as respondents. Data were collected from the consumers of eight different nationalized, private and foreign banks and in each case data were collected from 50 consumers of each bank. The entire survey was conducted in the banks of Kolkata, India.

4.3 Methodology to identify the dimensions of service quality associated with banking services and measuring the gaps between expected and perceived service

A factor analysis was administered on the consumers' responses on expected service quality of the banks. This is done for identification of the factors associated with banking services.

After finding out the factors of expected service quality, the respective components of expected service were gathered under each factor following the rotated component matrix of factor analysis. As similar components were provided to the consumers for rating the perceived service quality, following the same rotated component matrix, the components of perceived service quality were also placed under the same factors as in case of expected service quality. Finally the mean of the

components under each factor was taken for both expected and perceived services separately. Now we have the mean score of both for expected and perceived service qualities. The service quality gaps between expected and perceived services were measured by estimating the differences between the means of these factors.

5.0 Data Analysis

As discussed earlier, Factor analysis was conducted on consumers' perception about the expected service to find out the dimensions of Service Quality. Factor analysis is reliable only with enough value of sample size (Costello &Osborne, 2005; Field, 2009; Tabachnik&Fidell, 2001). Literature agrees that a factor analysis should have a sample size 300 or more (Tabachnik *et al.* 2001). As discussed earlier, for this research, responses were gathered from 400, which could be claimed as more than sufficient.

5.1 Findings and Interpretations

5.1.1 Findings related to dimensions of service quality

As discussed in the previous stage, to find out the dimensions of service quality, a factor analysis is conducted on the perception data of the consumers. The findings are given below. A test of sample adequacy is to be carried out through Kaiser-Meyer-Olkin (KMO) method and Bartlett's test of sphericity. Both of these tests help to determine the factorability of the variable matrix as a whole. It is widely adopted that if the *p* value of Bartlett's test of sphericity is significant ($p<0.001$) and Kaiser-Meyer-Olkin measure is greater than 0.6, then factorability of the matrix could be assumed. In this research work, the value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy, as observed in Table 1, is found to be 0.836, which is greater than 0.6. This indicates that there are sufficient items in each factor. The Bartlett's test of sphericity shows the p-value (sig.) 0.000 which is less than 0.001. This implies that the sample population is adequate to determine factorability.

Table 1: KMO and Bartlett's Test Value

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.836
Bartlett's Test of Sphericity	Approx. Chi-Square	1377.708
	df	66
	Sig.	.000

The communalities show the extent to which one item correlates to other items for the extracted components. As evident in Table 2, all items had extraction values more than 0.4, no item was dropped from the model. For example, 69.8% of the variance in the item 'Staff telling customers exactly when services will be performed was loaded on the factor space while only 42.7% of the variance in the item 'Materials associated with services are visually appealing' was accounted for the same.

Table 2: Findings related to Descriptive Statistics – Communalities

	Initial	Extraction
Bank use modern technology and equipment	1.000	.563
Bank Employees provide personal attention	1.000	.484
Banking transaction is safe in this bank	1.000	.689
Staffs are equipped to provide service right at the first time	1.000	.451
Staffs are very sincere and interested in solving problems	1.000	.477
Attractive physical facilities	1.000	.601
Staff telling customers exactly when services will be performed	1.000	.698
Staffs are Courteous	1.000	.600
Staffs are punctual in providing service	1.000	.437
Staffs keeps documentation clean and free of errors	1.000	.596
Staffs are always eager to help	1.000	.560
Keeps promise about service execution and delivery	1.000	.501
Staffs are knowledgeable and competent to address queries	1.000	.633
Staffs never keeps us waiting for responding to customers' needs	1.000	.616
Behaviors of the staffs builds confidence in customers	1.000	.386
Staffs provide what they guarantee	1.000	.640
Convenient operating hours	1.000	.669
Staffs are neat and clean in their appearance	1.000	.688
Staffs think of consumers' interest by heart	1.000	.647
Materials associated with services are visually appealing	1.000	.427
Extraction Method: Principal Component Analysis.		

The number of factors could be generated from the initial eigen values where the eigen values ≥ 1 decides the number of components. The eigen values associated with each component explained the variance of the particular linear component (Field, 2009). Table 3, which deals with 'Total Variance Explained' shows five components with Eigen values ≥ 1, i.e. 3.945, 2.684, 1.957, 1.478 and 1.302 for component 1, 2, 3, 4&5 respectively. These components also explained the variance of 17.466%, 15.443%,

13.946%, 9.001% and 7.491%. Moreover, these five components could explain cumulative variance of 63.347%. All the remaining components with Eigen values < 1 were insignificant.

Table 3: Findings related to Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.945	17.466	17.466	3.945	17.466	17.466	3.061	14.303	14.303
2	2.684	15.443	32.909	2.684	15.443	32.909	2.115	12.860	27.164
3	1.957	13.946	46.855	1.957	13.946	46.855	1.603	10.613	37.777
4	1.478	9.001	55.856	1.478	9.001	55.856	1.276	9.980	47.757
5	1.302	7.491	63.347	1.302	7.491	63.347	1.014	9.070	56.826
6	.903	6.774	70.121						
7	.882	4.112	74.233						
8	.797	3.775	78.008						
9	.777	3.111	81.119						
10	.686	3.016	84.135						
11	.606	2.541	86.676						
12	.591	2.112	88.788						
13	.572	2.012	90.8						
14	.538	1.786	92.586						
15	.436	1.674	94.26						
16	.427	1.345	95.605						
17	.337	1.233	96.838						
18	.330	1.104	97.942						
19	.297	1.056	98.998						
20	.256	1.002	100						
Extraction Method: Principal Component Analysis.									

The resultant principal component was rotated orthogonally using Varimax orthogonal transformation. 20 question items were reduced to five independent factors (Table 4). The result shows that factor loadings from 0.732 to 0.631 were substantially loaded on component 1, factor loadings from 0.687 to 0.519 were substantially loaded on component 2, factor loadings from 0.709 to 0.508 were loaded on component 3, factor loadings from 0.891 to 0.532 were loaded on component 4, and 0.726 to 0.525 on component 5.

Table 4: Rotated Component Matrix[a]

	Component				
	Reliability	Responsiveness	Assurance	Empathy	Tangibility
Bank use modern technology and equipment					.726
Bank Employees provide personal attention				.671	
Banking transaction is safe in this bank			.508		
Staffs are equipped to provide service right at the first time	.732				
Staffs are very sincere and interested in solving problems	.717				
Attractive physical facilities					.622
Staff telling customers exactly when services will be performed		.519			
Staffs are Courteous			.709		
Staffs are punctual in providing service		.670			
Staffs keeps documentation clean and free of errors	.631				
Staffs are always eager to help		.687			
Keeps promise about service execution and delivery	.664				
Staffs are knowledgeable and competent to address queries			.651		
Staffs never keeps us waiting for responding to customers' needs		.628			
Behaviors of the staffs builds confidence in customers			.666		
Staffs provide what they guarantee	.705				

Convenient operating hours				.532	
Staffs are neat and clean in their appearance					.641
Staffs think of consumers' interest by heart				.891	
Materials associated with services are visually appealing					.525
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 6 iterations.					

Component 1 – Reliability: Table 4 shows that the items highly loaded on component 1 indicated the service qualities related to reliability of the banking services. Therefore, it is named as 'Reliability'. The number of variables is for this component is five. It explained 17.466% of variance on all components with acceptable factor loading from 0.732 to 0.631. The factor played a significant role on identifying the reliability dimension of banking services associated with and experienced by the respondents.

Component 2 – Responsiveness: Four variables are found which constitute the second component (Table 4). All these variables which are highly loaded on component 2 indicated the service dimensions related to responsiveness of the banking system and thus it was named as "Responsiveness'. The component had explained 15.443%, of variability on all components with loadings of 0.687 to 0.519.

Component 3 – Assurance: The items highly loaded on component 3 shows the impact of service quality assurance related issues in the mind of the consumers of the different banks. The component had explained 13.946% of variability on all components with loadings of 0.709 to 0.508 (Table 4). This factor named as "Assurance" and observed to have significant impact in measuring the quality of the banking services.

Component 4 – Empathy: The variables which are associated with Component 4, embodies consumers' perception about empathy (Table 4). The component had 9.001% of variability on all components with loadings of 0.891 to 0.532. This factor is constructed with the variables which indicate towards bank's understanding of the requirement of the consumers and design their service accordingly. Thus the factor is named as "Empathy".

Component 5 – Tangibility: Finally Component 5 is the last factor which clearly indicates the tangible things associated with the banking services. The variables associated with this particular component are all indicative of the tangible aspect of the service quality dimension and thus termed as "Tangibility". The component had

explained, 7.491% of variability on all components with loadings of 0.726 to 0.525 (Table 4).

Thus from the analysis of the data five factors have emerged. Based on the components under the factors, the factors are named as Reliability, Responsiveness, Assurance, Empathy and Tangibility. All these variables, according to the SERVQUAL Model, describe the dimensions of service qualities. Thus the analysis supports and empirically justifies the relevance of SERVQUAL model provided by Zeithaml, Parasuraman and Berry.

5.1.2 Findings related to the service quality gaps

As discussed earlier, the mean of each component under a single factor was calculated for both expected and perceived services and the gap between the mean values of expected and perceived service quality were considered as service quality gaps. The scale reliability was checked by using Cronbach's alpha and in each case the value of Cronbach's alpha is found to be greater than 0.7, which means that the scale is reliable (Table 5).

The overall service quality gap was calculated by measuring the gap between the mean of expected service quality and perceived service quality. The mean of perceived service was 3.9635 and the mean of expected service was 4.5195.

Table 5: Reliability Test

Dimension	**No. of Components**	**Cronbach's alpha**
Expected service quality		
Reliability	5	0.891
Responsiveness	4	0.723
Assurance	4	0.730
Empathy	3	0.771
Tangibility	4	0.716
Perceived service quality		
Reliability	5	0.708
Responsiveness	4	0.886
Assurance	4	0.763
Empathy	3	0.801
Tangibility	4	0.719

Thus, the overall service quality gap is (3.9635 - 4.5195) = -0.556. Thus the finding implies that perceived service of the consumers of the banks are yet to attain the expectation of the consumers.

Finally the gaps between perceived and expected services were also calculated across the five different dimensions. The findings are given below.

5.1.3 Findings related to the gaps between perceived and expected service quality across different service quality dimensions

The findings show the service gaps of each dimension (Table 6). The highest negative gap is observed in case of Reliability dimension, followed by Empathy dimension and the lowest negative gap is observed in case of Tangibility dimension. Thus from the findings, it could be inferred that the banks are not able to provide service according to the expectations of the customers. Larger is the gap between expected and perceived service, greater the amount of dissatisfied customers.

Table 6: Gaps between Perceived and Expected Service Quality

Service quality dimensions	Perceived Service	Expected Service	Gaps
Reliability	3.125	4.0925	-0.9675
Responsiveness	4.33	4.5975	-0.2675
Assurance	3.875	4.3025	-0.4275
Empathy	3.925	4.7975	-0.8725
Tangibility	4.5625	4.8075	-0.245

6.0 Conclusion

The research work started with two objectives; to find out the service quality dimensions of the banking services and see whether it follows the SERVQUAL model provided by Zeithaml, Parasuraman and Berry and to measure the service gaps by measuring the gaps between expected and perceived service. The work successfully identifies the dimensions associated with banking services and also finds its similarities with SERVQUAL model provided by Zeithaml, Parasuraman and Berry. Besides that, through the methodology developed in this research, the service gaps between expected and perceived banking service was also measured. The findings provide deeper insight in the areas which require improvement in service. But the study also has some limitations. The survey was conducted on the banks of Kolkata, India. A larger picture could have

been found if data were collected from the banks of other states of India. Besides this, banks situated in urban and rural areas could highlight a different picture with respect to service gaps. Further studies could be conducted over large sample respondents from different banks of different geographical region. Studies could also be conducted separately on nationalised banks, private banks and foreign banks to find out the avenues of competitive advantage and areas of concern.

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