PRINCIPAL FACTORS MEASURING SERVICE QUALITY: A STUDY OF SELECTED BANKS IN INDIA

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ABSTRACT. Several studies have revealed that there is a relationship between the quality of service offered by the service provider and the level of satisfaction among their customers. But as we know that service quality from the customer's perspective is very subjective. Therefore, service quality dimensions cannot be generalized for all types of services. Though the SERVQUAL model of measuring service quality has proven its applicability across all services, there is a need to have sector-specific Service Quality Management (SQM) Model. This paper attempts to find out the SQM model for the Indian banking sector covering public, private and foreign banks. Principal factors of banking service quality have been identified which are important for customer satisfaction in a particular type of bank.

1. INTRODUCTION

The banking industry being in the service industry is becoming the primary source of wealth, trade, and economic growth across all the countries. Recent tendencies in globalization and privatization are confronting the banking sector with new challenges and causing an urgent need for the design and development of management concepts and techniques specifically geared to the banking service. Achieving competitive advantages in banking service requires the integration of service quality with service delivery to meet or exceed customer requirements. Customers are an important aspect of bank and loyal consumers can add value to the profitability of banks. Banks must focus on identifying and implementing that service quality factor which contributes to customer satisfaction.

Therefore, the present study focuses to find out the principal factor for measuring service quality from the customer's perspective which affects customer satisfaction in Public, Private and Foreign Banks of India using eight dimensions SQM. Specific objectives are stated as below:

- To understand service quality, its dimensions and derive hypothetical SQM for banks
- To measure customer satisfaction on the service quality attributes of the SQM model for each type of bank.
- To find out principal factors measuring service quality for each bank.

2. LITERATURE REVIEW

Though too many businesses still think quality in terms of manufactured goods only, the time has come that the management must see the quality in terms of service. In the book 'Out of the Crisis' author W. Edwards Deming observes that there is no distinction between quality practices in manufacturing and service industries. Many studies have derived various dimensions, techniques and organizational requirements for effective implementations quality management practices are mainly for manufacturing industries, but they are not the complete

yardstick for service quality improvement. The logic here is that the transferability of manufacturing quality management dimensions to services calls for some serious soul-searching as services differ from the manufactured goods. Unlike the quality of goods, which may be tangible and measured objectively by using indicators such as performance, features, reliability, etc, service quality, however, is not tangible and is thus defined in terms of attitude, interaction, and perception. Thus, service quality is judged by what a customer perceives rather than what a provider offers. The main argument is that the customer's satisfaction is subjective and transaction-specific while perceived service quality is a universal judgment or attitude to service. Saravana & Rao, (2007) point out that customer satisfaction is based on the level of service quality delivered by the service providers which is determined by the consumer's cumulative experiences at all of the points of contact with the company. This shows that there is some link between service quality and customer satisfaction which highlights the importance of customer satisfaction when defining quality. Many studies confirm that there is a strong relationship between quality of service and customer satisfaction. But according to Asubonteng et al., (1996) there is no agreement on the exact kind of relationship between the two constructs and points out that most researchers agree that service quality and customer satisfaction have measurable attributes.

In the book "Delivering Quality Service" by Zeithaml et al. (1990), the authors used focus groups of four service sectors: retail banking, credit cards, securities brokerage, and product repair & maintenance, to determine the criteria used by customers in judging service quality. Ten general criteria or dimensions known as SERVQUAL Model revealed from this study are: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding. In 1988, these determinants reduced to five: tangibles; reliability; responsiveness; service assurance, and empathy in the so-called RATER model. These are tangibles, reliability, responsiveness, assurance, and empathy. Shahin et al., (2006) in their study mentioned that this model is the best way to measure service quality as it takes into account customer's expectations of service as well as the perception of the service. The same is supported by Chingang Nde Daniel & Lukong Paul Berinyu (2010) in their empirical study to assess service quality and customer satisfaction of grocery stores in Umea using the SERVQUAL Model. S. Santhana Jeyalakshmi and Dr. S. Meenakumar (2016) conducted a literature review on the SQM models and concluded that the adoption of SQM models as a tool of measurement suggests that service standards and compliance strategies are especially critical for the service industry to ensure customer satisfaction. Sabrina Tazreen (2012) has applied the SERVQUAL model in the randomly selected bunch of customers regarding the service quality provided by a particular commercial bank in Chittagong and concluded that this model is the best suited to measure service quality with necessary modifications for the service sector. Therefore, the highly subjective concept of service quality not only confines to the realms of elements suggested in SERVQUAL but also encompasses other critical factors, such as the service product or the core service, systematization/standardization of service delivery, and the social responsibility of the service organization. Therefore, the Service Quality Management (SQM) model must have the following eight dimensions (Figure I).

- Tangibles
- Reliability
- Responsiveness
- Assurance
- Empathy
- Service product
- Service delivery
- Social responsibility

3. Service Quality Management in Banking Sector

Today, banks are facing challenges like reaching to the rural market, managing human resources, global banking, financial inclusion, customer and employee retention, product differentiation, social and ethical aspects. Customers, whether at the retail or corporate level have always been important for banks, and therefore, customer satisfaction is highly related to service quality as service quality improves the probability of customer satisfaction. Banks now know that delivering quality service to the customer is essential for success and survival in today's global and competitive banking environment. A research study (2003) on 'comparative analysis of cultural, conceptual and practical constraints on quality management implementations' – findings from Australian and Korean banking industries' found significant relationship and path links between perceived service quality, customer satisfaction, and customer loyalty. In India, the banking industry is the largest in the service sector which caters to the needs of the different categories of people. Notably, the service quality of commercial banks tends to play a dominant role in high involvement industries. And therefore, providing the best service quality is viewed as the pre-requisite for the success of service organizations like banks.

4. Research Methodology

A self-administered questionnaire has been designed and collected responses from 15 selected banks including 7 public sector banks (PSBs), 5 private sector banks (PvtSBs), and 3 foreign banks (FBs) from twin cities Hyderabad and Secunderabad of Telangana state, India (Table I) The focus of the study has been on the top-performing banks which are having the maximum number of branches in the selected geographic area. The purpose of selecting this segment is to get holistic responses of the people who are aware of traditional as well as modern banking methods. A stratified sampling procedure has been used because it increases the sample's statistical efficiency and provides adequate data for analysing the various subpopulation. Each stratum (i.e. three sectors of banks PSB, PvtSB, and FB) is homogenous internally (in terms of Indian banking system/procedure) and heterogeneous (in terms of registration status) with other strata. The population for convenience of obtaining responses is segregated into several mutually exclusive subpopulations or strata. After a population is divided into appropriate strata, a simple random sample is taken within each stratum. The sampling result then is weighted and combined into appropriate population estimates. Selection of the strata in the form of the different banking sector has been the convenience of obtaining responses.

Responses of the items in the questionnaire were obtained on a five-point Likert scale with anchors 1 – 'Extremely Satisfied' and 5 – 'Extremely Dissatisfied'. The customers were asked to mark a number that truly reflects their feelings regarding banking services for all the 68 statements. Total 531 responses covering 15 banks including PSBs (227), PvtSBs (153), and FBs (151) have been obtained. Keeping in mind the infinite population, at 95% confidence level and 5 confidence intervals, the minimum determined sample size is 384 (using statistical formula). Since the obtained sample size is more than the determined sample size, the sample mean and standard deviation has been used to estimate the population mean and standard deviation. Respondent customers from these selected banks have been chosen using simple random sampling. However due care has been taken to get responses from all age groups, gender, occupation, and frequency of visiting the bank to get unbiased responses.

The internal consistency, which measures the homogeneity or consistency of responses across all the 68 statements, was evaluated using Cronbach's alpha (Coefficient alpha). A reliability coefficient of 0.70 or higher is considered "acceptable". Factor analysis was carried out to identify the latent factors/dimensions of SQM. The Principal Component Analysis (PCA) approach of factor analysis is used to identify a new set of a composite variable or principal variable that are not correlated with each other. The following key statistics have been calculated to apply PCA on the Data.

i).   Kaiser-Meyer-Olkin (KMO): It is a measure of sampling adequacy. It acts as an index to examine the appropriateness of factor analysis. High values between 0.5 and 1.0 indicate factor analysis is appropriate. Values below 0.5 imply that factor analysis may not be appropriate.

ii).   Eigen Value: This represents the total variance explained by each factor. In the present study, only variables with Eigenvalue greater than one are retained.

iii).   Factor Loading: This is a correlation coefficient between the statements and the factors. Taking the findings of Nithan Zhao (2009) as the base, the loading size cut-off value is set at 0.6 and any factors with Cronbach's alpha less than 0.7 are dropped.

iv).   Communalities: The communalities represent estimates of the variance in each variable. In the present study, only variables with Communalities more than 0.6 are retained.

v).   Factor Matrix: This contains the factor loadings of all statements on all the factors extracted.

vi).   Percentage of Variance: The percentage of the total variance attributed to each factor.

vii).   Rotation of Factors: Factor matrix is transformed through rotation into a simpler one that is easier to interpret. It does not affect the percentage of total variance explained. However, the variance explained by the individual factors is redistributed by rotation. The most commonly used method is the varimax rotation procedure. This procedure maximizes the variance of the loadings on each factor, thus minimizing the complexity of the factor.

viii).   Interpretation of Factors: It is facilitated by identifying the statements that have large loadings on the same factor. The factor can be interpreted in terms of the statements that load high on it.

Table I: Population Framework Defined for Banks to Determine Sample Size				
Number of Banks and Their Branches in Hyderabad and Secunderabad Cities				
SN	Name of Bank	No. of branches	Assumed no. of employees per branch	Total no. of employees
1	RBI	1	10	10
2	State Bank of India	202	10	2020
3	State Bank of Bikaner & Jaipur	6	10	60
4	State Bank of Hyderabad	141	10	1410
5	State Bank of Patiala	5	10	50
6	State Bank of Mysore	14	10	140
7	State Bank of Travancore	9	10	90
8	Allahabad Bank	18	10	180
9	Andhra Bank	139	10	1390
10	Bank of Baroda	39	10	390
11	Bank of India	45	10	450
12	Bank of Maharashtra	24	10	240
13	Canara Bank	47	10	470
14	Central Bank of India	24	10	240
15	Corporation Bank	31	10	310
16	Dena Bank	17	10	170
17	Indian Bank	38	10	380
18	Indian Overseas Bank	49	10	490
19	Oriental Bank of Commerce	36	10	360
20	Punjab & Sind Bank	6	10	60
21	Punjab National Bank	43	10	430
22	Syndicate Bank	65	10	650
23	UCO Bank	22	10	220

SN	Name of Bank	No. of branches	Assumed no. of employees per branch	Total no. of employees
24	Union Bank of India	30	10	300
25	United Bank of India	9	10	90
26	Vijaya Bank	45	10	450
27	IDBI Bank	23	10	230
28	Bharatiya Mahila Bank	1	10	10
29	Axis Bank	47	10	470
30	Catholic Syrian Bank	2	10	20
31	City Union Bank	4	10	40
32	Dhanlaxmi Bank	3	10	30
33	Federal Bank	14	10	140
34	HDFC Bank	78	10	780
35	ICICI Bank	69	10	690
36	IDFC Bank	1	10	10
37	IndusInd Bank	15	10	150
38	ING Vysya Bank	38	10	380
39	Karnataka Bank	13	10	130
40	Karur Vysya Bank	30	10	300
41	Kotak Mahindra Bank	32	10	320
42	The Lakshmi Vilas Bank	17	10	170
43	South Indian Bank	33	10	330
44	Yes Bank	24	10	240
45	Development Credit Bank Ltd.	7	10	70
46	Bandhan Bank Ltd.	2	10	20
47	RBL Bank Ltd	2	10	20
48	The Jammu and Kashmir Bank	3	10	30
49	Bank of Bahrain and Kuwait	1	10	10
50	Bank of Nova Scotia	1	10	10
51	BNP Paribas	1	10	10
52	HSBC	1	10	10
53	Standard Chartered Bank	3	10	30
54	Citibank	1	10	10
55	Shinhan Bank	1	10	10
	Total	1572		15720
	Source: http://banksifsccode.com; http://banklocations.in			

Sample Framework

The following details are extracted on top performing commercial banks including public sector, private sector and foreign banks in India during the year 2018-19:

Top Performing Banks in the year 2018-2019			
Sr. No.	Top 15 public commercial banks in India	Top 10 Indian Banks	Top 15 private / foreign banks in India
1	SBI	BOB	HDFC
2	PNB	HDFC Bank	ICICI
3	BOB	Axis Bank	Axis Bank
4	IDBI	Yes Bank	Kotak Mahindra
5	Syndicate Bank	SBH	Yes Bank
6	BOI	PNB	ING Vysya

7	Canara Bank	Canara Bank	Indusind Bank
8	Union Bank of India	Andhra Bank	Dhanalakshmi Bank
9	Corporation Bank	Corporation Bank	Federal Bank
10	Allahbad Bank	Indian Bank	Jummu & Kashmir Bank
11	Bank of Maharastra		Lakshmi Vilas Bank
12	Indian Oveseas Bank		Ratnakar Bank
13	Oriental Bank of Commerce		HSBC Bank
14	Central Bank of India		Bank of America
15	Dena Bank		Deutches Bank
Source : http://companiesinindia.in; www.zeenews.india.com; www.indiaranker.com			

5. DATA ANALYSIS AND INTERPRETATION

5.1. SQM: Public Sector Banks (SQM_PSB).

5.1.1. *Reliability Coefficient.* The overall Cronbach's alpha of the data for responses from PSBs' customers is 0.969 which is very high.

5.1.2. *Correlation Analysis (Table II).* Correlation among the eight factors was checked. There is a low degree to a high degree of positive correlation (Karl Person's Correlation Coefficient values between 0.435 and 0.826) between the eight factors. This means that the factors are related and interdependent.

Table II: Correlation Between Factor Mean (SQM_PSB)								
	F1mean	F2mean	F3mean	F4mean	F5mean	F6mean	F7mean	F8mean
F1mean	1.000							
F2mean	0.539	1.000						
F3mean	0.635	0.742	1.000					
F4mean	0.568	0.675	0.824	1.000				
F5mean	0.553	0.603	0.740	0.682	1.000			
F6mean	0.648	0.695	0.713	0.711	0.667	1.000		
F7mean	0.679	0.737	0.745	0.683	0.826	0.805	1.000	
F8mean	0.435	0.468	0.548	0.508	0.528	0.640	0.529	1.000
Correlation is significant at 0.05 level								

5.1.3. *Factor Analysis (Table III - at the end of the article).* Using the PCA extraction method with Varimax rotation on the basic category level, 12 factors defining 55 service attributes have been extracted which explains 76.22% of the total variance in the responses on service quality. These extracted factors are labelled as: (i) behaviour and attitude of bank staff, (ii) bank charges, (iii) net-banking and mobile banking, (iv) reliability, (v) customer-oriented services, (vi) tangibles, (vii) ATM services, (viii) ambience, (ix) physical layout, (x) service delivery, (xi) convenience, and (xii) credibility. Cronbach's alpha for 11 of the 12 extracted factors lie between 0.808 and 0.982 indicating high internal reliability of the scales for each of these 11 factors. Factor 8: Ambience is dropped due to the inability of calculating Cronbach's alpha.

5.2. SQM: Private Sector Banks (SQM_PvtSB).

5.2.1. *Reliability Coefficient.* The overall Cronbach's alpha of the data for responses from PvtSB' customers is 0.977 which is very high.

5.2.2. *Correlation Analysis (Table IV).* Correlation among the eight factors was checked. There is low degree to high degree of positive correlation (Karl Person's Correlation Coefficient values between 0.354 and 0.933) between the eight factors. This means that the factors are related and interdependent.

Table IV: Correlation Between Factor Mean (SQM_PvtSB)								
	F1mean	F2mean	F3mean	F4mean	F5mean	F6mean	F7mean	F8mean
F1mean	1							
F2mean	0.629	1						
F3mean	0.496	0.736	1					
F4mean	0.498	0.816	0.916	1				
F5mean	0.526	0.692	0.813	0.797	1			
F6mean	0.562	0.733	0.677	0.758	0.785	1		
F7mean	0.652	0.766	0.778	0.769	0.933	0.839	1	
F8mean	0.354	0.517	0.494	0.592	0.574	0.771	0.549	1
Correlation is significant at 0.05 level								

5.2.3. *Factor Analysis (Table V - at the end of the article).* Using the PCA extraction method with Varimax rotation on the basic category level, 11 factors explaining 48 service attributes have been extracted which explains 85.68% of the total variance in the responses on service quality. These extracted factors are labelled as: (i) behaviour and attitude of bank staff, (ii) bank charges, (iii) reliable service delivery, (iv) net-banking and mobile banking, (v) ATM services, (vi) service products, (vii) physical environment and social responsibility, (viii) service ethics, (ix) tangible, (x) other service products, and (xi) physical layout and convenience. Cronbach's alpha for 10 of the 11 extracted factors lies between 0.806 and 0.976 indicating high internal reliability of the scales for each of these 10 factors. Factor 11: physical layout and convenience is dropped due to unreliable Cronbach's alpha (0.681).

5.3. **SQM: Foreign Banks (SQM_FB).**

5.3.1. *Reliability Coefficient.* The overall Cronbach's alpha of the data for responses from Foreign Banks' customers is 0.927 which is very high.

5.3.2. *Correlation Analysis (Table VI).* Correlation among the eight factors was checked. There is a low degree to a high degree of positive correlation (Karl Person's Correlation Coefficient values between 0.187 and 0.670) between the eight factors. This means that the factors are related and interdependent.

Table VI: Correlation Between Factor Mean (SQM_FB)								
	MeanF1	MeanF2	MeanF3	MeanF4	MeanF5	MeanF6	MeanF7	MeanF8
MeanF1	1							
MeanF2	0.325	1						
MeanF3	0.268	0.573	1					
MeanF4	0.554	0.501	0.547	1				
MeanF5	0.420	0.527	0.497	0.542	1			
MeanF6	0.416	0.222	0.247	0.477	0.335	1		
MeanF7	0.356	0.444	0.579	0.475	0.670	0.411	1	
MeanF8	0.317	0.076	0.050	0.218	0.195	0.423	0.187	1
Correlation is significant at 0.05 level								

5.3.3. *Factor Analysis (Table VII - at the end of the article).* Using the PCA extraction method with Varimax rotation on the basic category level, 18 factors explaining 54 service attributes have been extracted which explains 81.76% of the total variance in the responses on service quality. These extracted factors are labelled as: (i) bank charges, (ii) reliability, (iii) net-banking and mobile-banking, (iv) social responsibility, (v) service outcomes, (vi) behaviour and attitude of bank staff, (vii) service delivery, (viii) operational speed, (ix) tangibles, (x) service products, (xi) physical layout, (xii) convenience, (xiii) receptivity, (xiv) availability, (xv) equity, (xvi) credibility, (xvii) communication and (xviii) ATM services. Cronbach's alpha for 10 of the 11 extracted factors lies between 0.806 and 0.976 indicating high internal reliability of the

scales for each of these 10 factors. Factor 11: physical layout and convenience is dropped due to unreliable Cronbach's alpha (0.681).

Factors "F8: Operational Speed", "F11: Physical Layout", "F13: Receptivity", "F14: Availability & Willingness", "F15: Equity", "F16: Credibility", "F17: Communication", and "F18: ATM Service" are dropped from the analysis as the Cronbach's Alpha values of these factors are below 0.7 which means unreliability of scale. However, the factor loadings of 11 service attributes defined under these factors are above 0.6 which shows that there is a linear relationship between the service attributes and their respective factors. Cronbach's alpha for 10 factors of the 18 extracted factors lies between 0.716 and 0.987 indicating high internal reliability of the scales for each of these 10 factors.

6. Research Findings

Comparing the working model along with the original model obtained using literature review of the secondary research for SQM_ PSB, SQM_ PvtSB and SQM_FB (Table VIII, IX, X), reveals that there is a close similarity between the hypothesized model (derived from literature review) and the emerging model based on factor analysis. The below table summarises the research findings.

The above table reflects the findings of the study with the following results.

Table VIII: Comparison of SQM Dimensions in Public Sector Banks			
SQM Dimensions Generated from Factor Analysis		SQM Dimensions based on Secondary Research for General Service Sector	
Factor	Factor Name	Factor	Factor Name
Factor1	Behaviour and Attitude of Bank Staff	Factor2	Reliability
		Factor3	Responsiveness
		Factor4	Assurance
		Factor5	Empathy
		Factor7	Service Delivery
Factor2	Bank Charges	Factor8	Social Responsibility
Factor3	Net-Banking and Mobile Banking	Factor5	Empathy
		Factor7	Service Delivery
Factor4	Reliability	Factor2	Reliability
		Factor7	Service Delivery
Factor5	Customer Oriented Service Outcomes	Factor5	Empathy
		Factor6	Service Product
		Factor8	Social Responsibility
Factor6	Tangibles	Factor1	Tangibles
Factor7	ATM Service	Factor1	Tangibles
		Factor3	Responsiveness
		Factor7	Service Delivery
Factor8*	Ambience		
Factor9	Physical Layout	Factor1	Tangibles
Factor10	Service Delivery	Factor6	Service Product
		Factor7	Service Delivery
Factor11**	Convenience		
Factor12	Credibility	Factor2	Reliability
		Factor7	Service Delivery
* Factor 8 was dropped after inability of calculating Cronbach's Alpha			
** Factor 11 was dropped after providing unreliable Cronbach's Alpha = 0.516			

6.1. **Public Sector Banks.** The emergence of principal factors like "Bank Charges", "Net-Banking and Mobile-Banking" and "ATM Services" which were earlier latent in "Social Responsibility" and "Service Delivery" respectively with bigger coverage. Similarly, "Customer Oriented Service Outcome" has also emerged as a separate factor combining service attributes of original factors "Service Product" and "Social Responsibility". On the other hand, "Behaviour and Attitude of Bank Staff" has emerged as a single factor combining human aspects of "Reliability, Responsiveness, Assurance, Empathy, and Service Delivery".

Table IX: Comparison of SQM Dimensions in Private Sector Banks			
SQM Dimensions Generate from Factor Analysis		SQM Dimensions based on Secondary Research for General Service Sector	
Factor	Factor Name	Factor	Factor Name
Factor1	Behaviour and Attitude of Bank Staff	Factor2	Reliability
		Factor3	Responsiveness
		Factor4	Assurance
		Factor5	Empathy
		Factor7	Service Delivery
Factor2	Bank Charges	Factor8	Social Responsibility
Factor3	Reliable Service Delivery	Factor2	Reliability
		Factor4	Assurance
		Factor7	Service Delivery
Factor4	Net-Banking and Mobile-Banking	Factor5	Empathy
		Factor7	Service Delivery
Factor5	ATM Service	Factor1	Tangibles
		Factor2	Responsiveness
		Factor7	Service Delivery
Factor6	Service Product	Factor6	Service Product
Factor7*	Physical Environment and Social Responsibility		
Factor8	Service Ethics	Factor8	Social Responsibility
Factor9	Tangibles	Factor1	Tangibles
Factor10*	Other Service Product		
Factor11**	Physical Layout and Convenience		
* Factor 7 and Factor 10 were dropped after providing factor loading less than 0.60			
** Factor 11 was dropped after providing unreliable Cronbach's Alpha = 0.681			

6.2. **Private Sector Banks.** The emergence of principal factors like "Bank Charges", "Net-Banking and Mobile-Banking" and "ATM Services" which were earlier latent in "Social Responsibility" and "Service Delivery" respectively with wider coverage. Whereas, "Behaviour and Attitude of Bank Staff" have emerged as a single factor combining human aspects of "Reliability, Responsiveness, Assurance, Empathy, and Service Delivery". Likewise, private sector customers have evaluated "Reliable Service Delivery" as one factor combining "Reliability" and "Assurance" and service delivery.

6.3. **Foreign Banks.** The emergence of principal factors like "Bank Charges", "Net-Banking, and Mobile-Banking" which were earlier latent in "Social Responsibility" and "Service Delivery" respectively with broader coverage. However, "Behaviour and Attitude of Bank Staff" has emerged as a single factor combining human aspects of "Reliability, Responsiveness, Assurance, and Empathy.

Table X: Comparison of SQM Dimensions Foreign Banks			
SQM Dimensions Generated from Factor Analysis		SQM Dimensions based on Secondary Research for General Service Sector	
Factor	Factor Name	Factor	Factor Name
Factor1	Bank Charges	Factor8	Social Responsibility
Factor2	Reliability	Factor4	Reliability
		Factor7	Service Delivery
Factor3	Net-Banking and Mobile Banking	Factor5	Empathy
		Factor7	Service Delivery
Factor4	Social Responsibility	Factor5	Empathy
		Factor8	Social Responsibility
Factor5	Service Outcome	Factor6	Service Product
		Factor7	Service Delivery
Factor6	Behaviour and Attitude of Bank Staff	Factor2	Reliability
		Factor3	Responsiveness
		Factor4	Assurance
		Factor5	Empathy
Factor7	Service Delivery	Factor7	Service Delivery
Factor8*	Operational Speed		
Factor9	Tangibles	Factor1	Tangibles
Factor10	Service Product	Factor6	Service Product
Factor11*	Physical Layout		
Factor12	Convenience	Factor1	Tangibles
Factor13*	Receptivity		
Factor14*	Availability		
Factor15*	Equity		
Factor16*	Credibility		
Factor17*	Communication		
Factor18*	ATM Service		
* Factors 8, 11, 13, 14, 15, 16, 17 and 18 were dropped from the analysis after unreliable Cronbach's alpha (below 0.70).			

6.4. **Conclusion.** We can conclude that the hypothesized model of Service Quality based on secondary research is adequate to derive specific SQM for Public, Private and Foreign Banks in India. The research work can be used as a reference guide by different sets of banks to implement quality practices within the individual constraints and requirements of the environment. The study highlights the importance of quantifying service quality and attempt to quantify certain aspects of service quality. This is because what is measurable can be easily compared and better understood. This study can form a base for researchers, academicians, and practitioners for further advanced studies in Banking Sector as well as other Financial Sectors.

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7. List of Figures

Fugure 1: Hypothesized Service Quality Management Model

Table III: Extracted Principal Factor after Data Reduction using Varimax Rotation (SQM_PSB)						
	KMO		0.865			
Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F1	Behaviour and Attitude of Bank Staff (13.62%)	12	Interest in Solving Customer Problems	0.76	10	0.949
		16	Ability to Provide Prompt and Timely Service eg. Speed of work	0.76		
		17	Availability of Bank Staff (Punctuality)	0.64		
		18	Ability to explain processes & procedures, schemes, system, banking operations, etc.	0.77		
		20	Communication with customers	0.79		
		21	Possession of the required skills and knowledge eg. Awareness of new schemes, rules, interest rates, etc.	0.69		
		22	Ability to Gain Customer's Trust. Bank employees' efforts to convince the customers satisfactory	0.79		
		24	Bank Staff's caring, individualized attention on customers' enquiries	0.78		
		28	Intensity of work of the banks staff	0.77		
		52	Extent to which the feedback from customers is used to improve service standard i.e. Willingness for improvement	0.79		
F2	Bank Charges (12.57%)	55	Bank Charges for A/C statement	0.77	11	0.959
		56	Bank Charges for Transfer of fund through RTGS, NEFT, etc.	0.84		
		57	Bank Charges for Debit Card Charges	0.87		
		58	Bank Charges for Credit Card Charges	0.84		
		59	Bank Charges for Withdrawal from ATMs	0.81		
		60	Bank Charges for Cheque book charges	0.85		
		61	Bank Charges for Stop payment charges	0.85		
		62	Bank Charges for On-line transactions (net-banking or mobile-banking)	0.82		
		63	Bank Charges for Locker charges	0.75		
		64	Bank Charges for Loan processing charges	0.74		
		43	Reasons specified for any query	0.85		

Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F3	Net-Banking and Mobile-Banking (9.68%)	45	Navigation in Net Banking & Mobile-Banking	0.84	8	0.947
		46	Download speed in Net & Mobile-Banking	0.81		
		47	Server Support in Net & Mobile-Banking	0.82		
		48	Transaction Settlement Time in Net Banking, Mobile-Banking, RTGS, NEFT, etc.	0.85		
		25	Keeping customers' best interest at heart by maintaining Privacy of Transaction	0.89		
		26	Keeping customers' best interest at heart by providing Security of Transaction	0.86		
		49	SMS Services	0.68		
		50	Bank Mobile Application, if any	0.61		
Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F4	Reliability (7.17%)	14	Ability to Provide Error Free A/C Statement, Interest Statement, etc.	0.85	4	0.913
		15	Ability to Perform Services accurately in providing any documents	0.86		
		37	Maintenance of documents	0.83		
		38	Accuracy of documentation	0.84		
F5	Customer Oriented Service Outcome (10.07%)	31	Loan facility	0.75	8	0.947
		32	Locker facility	0.78		
		33	Bankassurance [Insurance offered by Bank]	0.81		
		34	Investment Plans [FDs, RDs, Mutual Funds, etc.]	0.74		
		35	Innovative services, if any [eg. SIP]	0.76		
		27	Taking Customer Feedback on regular interval	0.60		
		65	Bank promotes ethical conduct	0.61		
		67	Customer education programs	0.60		
F6	Tangibles (4.35%)	2	Physical Facilities, Equipment, etc. eg. Kiosk, Drop boxes, token machine	0.91	2	0.847
		11	Proper Housekeeping	0.91		
F7	ATM Service (4.68%)	6	Security at ATMs	0.73	4	0.829
		19	Willingness to help customers at all time	0.67		
		44	Operationality of ATMs	0.73		
		53	Problem solving speed	0.64		

Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F8*	Ambience (2.47%)*	1	Visually appealing ambient condition like air conditioning, seating, waiting areas etc.	0.62	1	
F9	Physical Layout (3.56%)	4	Security system inside the bank	0.88	2	0.808
		10	Visually Appealing Written Material inside the bank	0.88		
F10	Service Delivery (3.00%)	40	Clarity in Documentation Processes	0.64	2	0.890
		29	Clarity of statements, Documents, etc.	0.64		
F11**	Convenience (2.38%)**	8	Convenience in parking area	0.60	1	0.516
F12	Credibility (2.69%)	13	Right Deliver of Service First time and every time	0.69	2	0.982
		41	Standard of services	0.68		
* Factor 8 is dropped after inability of calculating Cronbach's Alpha						
** Factor 11 was dropped after providing unreliable Cronbach's Alpha = 0.516						

Table V: Extracted Factor after Data Reduction using Varimax Rotation (SQM_PvtSB)						
	KMO		0.632			
Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of St	Cronbach's Alpha
F1	Behaviour and Attitude of Bank Staff (16.57%)	12	Interest in Solving Customer Problems	0.88	10	0.976
		16	Ability to Provide Prompt and Timely Service eg. Speed of work	0.88		
		17	Availability of Bank Staff i.e. Punctuality	0.78		
		18	Ability to explain processes & procedures, schemes, system, banking operations, etc.	0.83		
		20	Communication with Customers	0.87		
		21	Possession of the required skills and knowledge eg. Awareness of new schemes, rules, interest rates, etc.	0.79		
		22	Ability to Gain Customer's Trust. Bank employees' efforts to convince the customers satisfactory	0.87		
		24	Bank Staff's caring, individualized attention on customers' enquiries	0.81		
		28	intensity of work of the banks staff	0.87		
		52	Extent to which the feedback from customers is used to improve service standard i.e. Willingness of improvement	0.75		
F2	Bank Charges (14.56%)	55	Bank Charges for A/C statement	0.75	11	0.958
		56	Bank Charges for Transfer of fund through RTGS, NEFT, etc.	0.89		
		57	Bank Charges for Debit Card Charges	0.84		
		58	Bank Charges for Credit Card Charges	0.80		
		59	Bank Charges for Withdrawal from ATMs	0.85		
		60	Bank Charges for Cheque book charges	0.89		
		61	Bank Charges for Stop payment charges	0.85		
		62	Bank Charges for On-line transactions (net-banking or mobile-banking)	0.83		
		63	Bank Charges for Locker charges	0.69		
		64	Bank Charges for Loan processing charges	0.77		
		43	Reasons specified for any query	0.80		

Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of St	Cronbach's Alpha
F3	Reliable Service Delivery (11.41%)	13	Right Delivery of Service First time and every time	0.67	7	0.960
		14	Ability to Provide Error Free A/C Statement, Interest Statement, etc.	0.89		
		15	Ability to Perform Services accurately in providing any documents	0.88		
		23	Ability of Bank Employees to handle critical incident by having close coordination	0.60		
		37	Maintenance of documents	0.89		
		38	Accuracy of documentation	0.88		
		41	Maintaining Standard of services	0.67		
F4	Net-Banking and Mobile-Banking (12.16%)	45	Navigation in Net Banking & Mobile-Banking	0.87	8	0.971
		46	Download speed in Net Banking & Mobile-Banking	0.87		
		47	Server Support in Net Banking & Mobile-Banking	0.85		
		48	Transaction Settlement Time in Net Banking, Mobile-Banking, RTGS, NEFT, etc.	0.86		
		49	SMS Services	0.79		
		50	Bank Mobile Application, if any	0.80		
		25	Keeping customers' best interest at heart by maintaining Privacy of Transaction	0.87		
		26	Keeping customers' best interest at heart by providing Security of Transaction	0.85		
F5	ATM Service (7.65%)	6	Security at ATMs	0.80	5	0.913
		9	Convenience in Location of ATMs	0.66		
		19	Willingness to help customers at all time	0.64		
		44	Operationality of ATMs	0.66		
		53	Problem solving speed	0.67		
F6	Service Product (4.94%)	34	Investment Plans [FDs, RDs, Mutual Funds, etc.]	0.64	2	0.806
		35	Operating hours of banks	0.69		
F7	Physical Environment and Social Responsibility (3.70%)*				6	0.825

Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of St	Cronbach's Alpha
F8	Service Ethics (4.15%)	65	Bank promotes ethical conduct	0.85	1	0.870
F9	Tangibles (4.41%)	2	Physical Facilities, Equipment, etc. eg. Kiosk, Drop boxes, token machine	0.88	2	0.814
		10	Proper Housekeeping	0.89		
F10	Other Service Product (2.70%)*				2	0.823
F11	Physical Layout and Convenience (3.44%)**	3	No. of counters	0.63	2	0.681
		7	Convenience in Location of branches	0.70		
* Loading of all service attributes under Factor 7 and Factor 10 are below 0.60. Hence dropped from the analysis						
** Factor 11 is dropped from the analysis after providing unreliable Cronbach Alpha = 0.681						

			Table VII: Extracted Factor after Data Reduction using Varimax Rotation (SQM_FB)			
	KMO		0.691			
Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F1	Bank Charges (14.38%)	55	Bank Charges for A/C statement	0.63	10	0.987
		56	Bank Charges for Transfer of fund through RTGS, NEFT, etc.	0.92		
		57	Bank Charges for Debit Card Charges	0.95		
		58	Bank Charges for Credit Card Charges	0.97		
		59	Bank Charges for Withdrawal from ATMs	0.99		
		60	Bank Charges for Cheque book charges	0.99		
		61	Bank Charges for Stop payment charges	0.99		
		62	Bank Charges for On-line transactions (net-banking or mobile-banking)	0.95		
		63	Bank Charges for Locker charges	0.99		
		64	Bank Charges for Loan processing charges	0.99		
F2	Reliability (5.47%)	14	Ability to Provide Error Free A/C Statement, Interest Statement, etc.	0.85	4	0.847
		15	Ability to Perform Services accurately in providing any documents	0.75		
		37	Maintenance of documents	0.75		
		38	Accuracy of documentation	0.62		
F3	Net-Banking and Mobile-Banking (10.34%)	45	Navigation in Net Banking & Mobile-Banking	0.88	8	0.960
		46	Download speed in Net Banking & Mobile-Banking	0.94		
		47	Server Support in Net Banking & Mobile-Banking	0.92		
		48	Transaction Settlement Time in Net Banking, Mobile-Banking, RTGS, NEFT, etc.	0.93		
		25	Keeping customers' best interest at heart by maintaining Privacy of Transaction	0.81		
		26	Keeping customers' best interest at heart by providing Security of Transaction	0.83		
		49	SMS Services	0.84		
		50	Bank Mobile Application, if any	0.79		

Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F4	Social Responsibility (5.48%)	27	Taking Customer Feedback on regular interval	0.75	4	0.896
		66	Public responsibility among employees especially towards physically challenged people, old age people, etc.	0.73		
		67	Customer education programs	0.87		
		68	Sensitivity towards environment	0.78		
F5	Service Outcome (5.32%)	40	Clarity in Documentation Processes	0.76	3	0.833
		29	A/C related services eg. bank statement, debit card, credit card, ATM, net-banking, mobile banking, RTGS, NEFT, etc.	0.88		
		30	Clarity of statements, Documents, etc.	0.83		
F6	Behaviour and Attitude of Bank Staff (5.20%)	12	Interest in Solving Customer Problems	0.72	4	0.802
		18	Ability to explain processes & procedures, schemes, system, banking operations, etc.	0.68		
		21	Possession of the required skills and knowledge eg. Awareness of new schemes, rules, interest rates, etc.	0.80		
		24	Bank Staff's caring, individualized attention on customers' enquiries	0.72		
F7	Service Delivery (3.81%)	51	Error Free Services i.e. service perfection	0.76	3	0.716
		52	Extent to which the feedback from customers is used to improve service standard i.e. Willingness of improvement	0.71		
		53	Problem solving speed	0.65		
F8*	Operational Speed (3.44%)*	39	Speed of documentation	0.71	1	0.640
F9	Tangibles (3.10%)	2	Physical Facilities, Equipment, etc. eg. Kiosk, Drop boxes, token machine	0.79	2	0.771
		11	Proper Housekeeping	0.75		
F10	Service Products (4.21%)	33	Bankassurance [Insurance offered by Bank]	0.82	3	0.851
		34	Investment Plans [FDs, RDs, Mutual Funds, etc.]	0.87		
		35	Innovative services, if any [eg. SIP]	0.77		

Factors	Factor Name and % Variance Explained	Qn St	Service Attributes	Loadings	No. of Statements	Cronbach's Alpha
F11*	Physical Layout (3.28%)*	3	Physical Layout and Furnishing Facilities like No. of counters	0.65	2	0.611
		4	Security system inside the bank	0.75		
F12	Convenience (3.38%)	9	Convenience in Location of ATMs	0.78	2	0.717
		32	Locker facility	0.61		
F13*	Receptivity (2.21%)*	43	Reasons specified for any query	0.71	1	0.327
F14*	Availability (2.37%)*	19	Willingness to help customers at all time	0.67	2	0.305
		36	Operating hours of banks	0.63		
F15*	Equity (2.13%)**	54	Equal treatment to all customers	0.68	1	
F16*	Credibility (2.23%)*	13	Right Deliver of Service First time and every time	0.60	1	0.540
F17*	Communication (2.82%)*	20	Communication with Customers	0.76	2	0.671
		28	intensity of work of the banks staff	0.60		
F18*	ATM Service (2.60%)*	44	Operationality of ATMs	0.77	2	0.564
* Cronbach's alpha value of Factors 8, 11, 13, 14, 16, 17 and 18 below 0.70. Thus, dropped from the analysis.						
** Factor 15 contains only one service attribute. Thus, Cronbach's alpha cannot be calculated.						