Predictive Validity of Service Quality Dimensions in Commercial Banks

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Abstract

Banks service quality is commonly noticed as a critical pre requisite for satisfying and retaining valued customers. This paper extends a modified SERVQUAL for measuring service quality in Indian commercial banks. The construct of service quality consists of 28 variables belonging to the five dimensions of SERVQUAL. By the test of reliability and validity, the construct has only three dimensions namely Human Skills, Tangibles and Empathy. This paper also investigates the significant influence of the construct's dimensions on overall attitude towards banks. Even though, the overall attitude towards banks is highly influenced by all three dimensions, the human skills have more predictive validity. Apart from that, the impact made by tangibles and empathy on the overall attitude is different, but that difference is not statistically confirmed. This is supposed to help bank managers focus their attention on the most important service quality dimensions that matters most to customers.

Global banking scenario is currently undergoing a radical transformation owing to Globalisation, Liberalisation and Privatisation measures introduced in Indian Banking. The competition in banking industry has increased immensely particularly at metro and urban centers where the new generation banks are aggressively competing for high net-worth individuals. Increased competition and mature markets are forcing the banks to review their customer service strategy. Many banks are channeling more efforts to retain existing customers rather than to acquire new ones. There is enough evidence that demonstrates the customer retention having a significant positive impact on bank profitability (Newman and Cowling, 1996; Adrian, 1995; Reichheld and Sasser, 1990 and Berry et al., 1991). It is estimated that a 5 percent increase in customer retention adds 25 to 150 percent in bottom line (Reichhel and Sasser, 1990). Banks service quality is commonly noted as a critical pre-requisite for satisfying and retaining valued customers (Cronin and Taylor, 1992; Taylor and Baker, 1994; Howcroft, 1991; Naceur et al., 2003).

Because of service quality problems, 40 percent of the customers have been switching their financial institutions in USA. (Radden, 1987). Service quality problems are also the cause of 25 percent of closures of bank accounts (Grubbs and Reidenbach, 1991). The service quality of commercial bank : acts as an important tool of the bank profitability (Nazrul and Ahmed, 2005). The customer satisfaction and loyalty in banking are generated with the help of service quality (Jun et al., 1999; Kwan and Lee, 1994; Lassar et al., 2000). Because of the importance of service quality in banking as a route of competitive advantage and corporate profitability, it has become

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difficult to identify a single bank which has not initiated some kind of service quality improvement (Soterion and Stavrinides, 2000 and Newman, 2001).

Indian commercial banks are not exempted from the urge to improve service quality. The scheduled commercial banks in India during 2003 (Ammannaya, 2004) were 27 Public Sector Banks, 30 Private Sector Banks, 36 Foreign Banks and 196 Regional Rural Banks. The aggregate deposits, investments and bank credit were (i.e. Rs. 13,21,752 crores, Rs. 5,76,685 Rs. crores and Rs. 7,31,140 crores respectively. (Swami, 2004). The return on assets among the 93 scheduled commercial banks during 2003-04 was 0.75 whereas the business per employee, profit per employee were Rs.168.22 lakhs and Rs.2.05 lakhs respectively. The scheduled commercial banks established so many measures to provide better customers' service in order to survive in the competitive banking environment. The banking industry has been changing rapidly in last few years. Many of these changes have been brought about by evolving technologies such as the Increased use of automation, Online banking, ATMs and Customer Care Cell.

This paper develops a modified SERVQUAL for measuring service quality in Indian scheduled commercial banks. It also determines the most important dimension of the instrument. This is intended to help Indian commercial banks to assess and improve their service quality. It will enable Indian commercial banks to know the significant service quality dimensions and identify the most important among them.

Literature Review

Service quality is an important antecedent of customer satisfaction (Cronin et al., 2000). Whatever may be the causal ordering of service quality and satisfaction, many authors conclude that both service quality and satisfaction may have direct links to behavioural intention (Dabholbar, 2000, Cronin et al., 2000) and concluded that there is a significant direct link between service quality and behavioural intention. Some authors revealed that the service quality has direct and significant link with customers' satisfaction while customers' satisfaction has the direct link with behavioural intention. In turn, customer satisfaction is believed to make an impact on post purchase and future decisions.

Parasuraman et al., (1985) have originally identified ten determinants of service quality generic to the service industry. These determinants were tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding the customers. At a later stage, Parasuraman et al., (1988) developed a 22 item instrument, recognized as SERVQUAL, that has become widely used as a generic instrument for measuring service quality. Peter and Vassilis (1997) used only 12 statements to measure the five dimensions of service quality namely tangibles, reliability, responsiveness, assurance and empathy. Necmi (1994) conceptualised the service quality of commercial banks with responsiveness, empathy, staffs conduct, access, communication and reliability through 27 statements. SERVQUAL scores were defined as the difference between the expected service quality and the perceived one. It has been widely used (Hussey, 1999; Nielson and Host, 2000; Engelland et al., 2000; Getz et al., 2001; Joshua and Moli, 2005 and Zillur Rahman, 2005) to identify the research gap. It was however challenged in a number of subsequent studies on the SERVQUAL and proposed the SERVPERF scale (Cronin and Taylor, 1992; 1994; Teas, 1994; Chase and Stewart, 1994; Babakus and Boller, 1992; and Carman, 1990). They challenged the SERVQUAL and proposed SERVPERF as a measure of performance only measurement of service quality.

The psychometric properties of SERVQUAL scale in the banking industry were examined by Kwan and Lee (1994), Blanched and Galloway (1994), Natarajan et al., (1999) and Lassar et al., (2000) Jun et al., (1999) studied the service quality of delivering loan products. They revealed that substantial differences existed between banker and customer groups in the perceived importance of service quality dimensions. Blanched and Galloway (1994) used the SERVQUAL technique in examining the quality in retail banking. Natarajan et al., (1999) examined the continuous improvement of service operations in which the actual service experience is assessed through a customer survey. They did't use the SERVQUAL instrument but many of its items were adopted. Finally, Lasser et al., (2000) adopted technical and functional quality to measure service quality in private banking. The reviews indicate the usage of both SERVQUAL and SERVPERF scale to measure the service quality in

commercial banks. In the present study, the SERVPERF scale was used to measure the service quality in commercial banks because of its supremacy.

Methodology

Madurai district, Tamilnadu has been selected purposively for the present study. The Madurai district consists of Madurai city and thirteen blocks. The Madurai city consists of 135 bank branches whereas the thirteen blocks consists of 111 bank branches. The commercial banks in the abovesaid two areas are classified into Nationalized Banks, State Bank Groups and Private Sector Banks. In total 50 percent of the bank branches belonging to the above three categories of banks are purposively selected for the present study. From each bank, five customers have been selected at the convenience of the researcher. So the sample size came to 165 customers.

Research Questions:

The present study intends to answer the following research questions;

1. What are the important dimensions of banking service in the Indian commercial banks and how valid and reliable are these dimensions? This question is arised because of the recognized instability of the dimensionality of SERVQUAL (Van Dyke et al., 1998; Van Dyke and Kappelman, 1997). The convergent validity and discriminate validity are addressed in the conduct of factor analysis. Predictive validity is tested by using correlation and regression analysis. Reliability is tested by Cronbach alpha coefficient of higher than 0.7 (Nunally, 1978).
2. Do the dimensions of service quality contribute equally to the variations in the overall attitude towards banks? This question finds out the most significant dimensions in the instrument. A pair-wise comparison between the dimensions resulting from the factor analysis will be conducted by using the 'F' test (Chaltergee and Price, 1991).

The instrument:

Studies on banking service quality revolve around SERVQUAL (Parasuraman et al., 1988). The researcher has therefore decided to develop an adopted vension of this generic instrument. The conceptual and psychometric problems linked with using differences between perceptions and expectations (Cronin and Taylor, 1992; Babakus and Boller, 1992), and the desire to make the taste of the respondents of this study, led the researcher to include only the perception of quality.

Table - 1 Variable in the construct

Sl.No.	Variables	Sl.No.	Variables
1.	Knowledgeable employees	15	Performing service right at first time
2.	Personalised service	16	Maintaining errorfree records
3.	Trust worthiness among employees	17	Employees have clear and precise ideas
4.	Polite and courteous with customers	18	Employees' best interest at heart
5.	Convenient operating hours	19	Providing service as promised
6.	Regularity in rendering service	20.	Appearance of employees
7.	Easy accessibility	21.	Clarity and neatness in service
8.	Availability to serve	22.	Communication material
9.	Modern equipment and technology	23.	Neat and convenient interior arrangement
10.	Understanding the needs of customers	24.	Service in solving problems
11.	Employees' willingness to help	25.	Prompt answering to telephone calls
12.	Automation facilities	26.	Visually appealing facilities
13.	Customised service	27.	Comfortable to interact with employees
14.	Information about service performance	28.	Employees at the information desk.

The developed questionnaire includes 28 items (Table 1) where seven items correspond to reliability, six items correspond to tangibles, seven items correspond to the assurance dimensions and four items each correspond to responsiveness and empathy. The questionnaire also included five questions that measure the overall attitude towards banks among customers. Customers were asked to rate these variables related to the quality dimensions and overall attitude at five-point likert scale.

Data collection:

In order to fulfill the research objectives of the study, 615 questionnaires were distributed to 615 bank customers. Because some customers may not have mastery in English language, the questionnaire was designed in Tamil version. The researcher handed questionnaires to branch managers who were kindly requested to pass the questionnaires to their customers. Three months of time had been given to collect the filled in questionnaire. The total filled in questionnaires collected from the branch managers came to 427. Out of 427, only 318 questionnaires were reusable. That 318 customers were included for further analysis.

Results and Discussion:

Factor Analysis:

To test the dimensionality of the instrument, all 28 items were factor analysed using oblique rotation. The number of factors was unconstrained. For the sake of convergent validity, 0.4 was used as a factor loading cut-off point. Factors including less than three items were eliminated. Items had to display a 0.3 loading difference with any other factor to ensure discriminate validity. Using these criteria resulted in three factors totalling 22 items. These factors are named as human skills, tangibles and empathy. The same procedure was repeated, but using principal component extraction within an orthogonal (varimax) rotation. This procedure resulted in the same three factors. The dimensionality of this instrument supports the findings of Babakus and Boller (1992) and Cronin and Taylor (1992). The variables included in the three factors, its factor loading, eigen value, reliability coefficient and the percent of variance explained are shown in table-2.

Table – 2 Service Quality Dimensions in Commercial Banking

Factor (Eigen value)	Variables	Factor loading	Reliability coefficient	Percent of variance explained
Human skills cv(6.8184)	Knowledgeable employees	0.9232	0.8149	48.17
	Trust worthiness among employees	0.8901		
	Polite with customers	0.8569		
	Regularity in rendering service	0.8217		
	Availability to serve	0.7806		
	Employee's willingness to help	0.7716		
	Information about service performance	0.7334		
	Prompt answering to telephone calls	0.7162		
	Clarity and neatness in service	0.6961		
	Providing service as promised	0.6503		
	Maintaining error-free records	0.6411		

	Employees at the information desk	0.6168		
Tangibles	Modern equipment and technology	0.8908	0.7337	22.09
(2.4569)	Visually appealing facilities	0.8114		
	Neat and convenient interior arrangement	0.7249		
	Automation facilities	0.6503		
	Easy accessibility	0.6211		
	Empathy	(1.9962)		
	Personalised service	0.9147	0.7142	16.63
	Convenient operating hours	0.8308		
	Understanding the needs of customers	0.7419		
	Employees' best interest at heart	0.6244		
	Sincere in solving problems	0.5968		86.89
	KMO Measure of sampling adequacy : 0.8608	Bartletts test of Sphericity: Chi-square value: 121.43*		

- Significant at five percent level

Descriptive statistics of the factors:

The score of the three important service quality factors are drawn from the mean score of the variables in each factor. The descriptive statistics namely mean, standard deviation and coefficient of variation of each factor have been computed to exhibit the customers' perception on the three important factors. The results are given in table-3.

Table – 3 Descriptive statistics of the Service quality factors

Sl. No.	Service quality Factors	Mean	Standard Deviation	Coefficien of variation (in percent)	Minimum	Maximum
1.	Human skills (Hum)	3.91	0.74	18.93	1.53	4.3789
2.	Tangibles (Tan)	3.43	0.81	23.62	1.27	4.5281
3.	Empathy (Emp)	3.27	0.96	29.36	1.14	4.1433
4.	Overall (Ove)	3.32	0.98	29.52	1.22	4.0239

The SERVPERF scale on each service quality factor namely human skills, tangibles, empathy and also overall attitude have been examined with the help of its mean score. Since the service quality variables are measured at five point scale, the minimum and maximum score of each variable are 1.00 and 5.00 respectively. The mean of SERVPERF scale is identified as higher in human skills and tangibles since their mean scores are 3.91 and 3.43 respectively. The higher consistency in the perception on service quality factor is noticed in the case of human skills since its coefficient of variation is 18.93 percent. The higher inconsistency in the SERVPERF scale is identified in the case of overall attitude since its respective coefficient of variation is 29.52. The analysis reveals that the customers of banks are from moderate to satisfied regarding all three service quality factors and also their overall attitude towards the service offered by banks.

Predictive validity:

The predictive validity of the service quality dimensions on the overall attitude is examined with the help of correlation and regression analyses. Pearson correlation was used to analyse correlation among the three factors and between these factors and variable of overall service quality. The significance of correlation coefficient is also computed with the help of 't' test. The results are given in table – 4.

Table – 4 Correlation coefficients between variables

S. No.	Variables	Human	Tangibles	Empathy	Overall
1.	Human	—	0.6823*	0.7021*	0.7996*
2.	Tangibles	0.6823*	—	0.5146*	0.6804*
3.	Empathy	0.7021*	0.546*	—	0.6332*
4.	Overall	0.7996*	0.6804*	0.6332*	—

* Significant at five percent level

All the three factors are significantly correlated with each other since their respective correlation coefficients are significant at five percent level. The higher positive correlation is identified between the human skills and empathy factor. The correlation between the service quality factors and overall attitude is also significantly correlated. The higher correlation between human skills and overall attitude is found out since its respective correlation coefficient is 0.7996.

Impact of service quality dimensions on overall attitude:

The impact of service quality dimensions on the overall attitude among the customers is examined with the help of multiple regression analysis. The fitted linear regression model is

Overall = f (Human, Tangibles, Empathy)

The overall attitude is treated as dependent variable whereas the human skills, tangibles and empathy are treated as independent variables. The result of multiple regression analysis is exhibited in table-5.

Table – 5 Regression Coefficients of Independent Variables as Dependent Variable

Sl.	Variables	Regulation Coefficient	Standard Error	T – Statistics	P - Value
1.	Human	0.6824	0.1841	3.7087	0.000
2.	Tangibles	0.2409	0.0896	2.6886	0.0143
3.	Empathy	0.3962	0.1348	2.9392	0.00
4.	Constant	-0.9684	-0.2445	-3.9607	0.00
	R^2	0.6817			
	F-statistics	28.9318*			

* Significant at five percent level

It can be seen from the results provided in table-5 that the R^2 is 0.6817. It indicates that the changes in overall attitude are explained by the changes in the perception on the service quality dimensions to the extent of 68.17 percent. The significant F-statistics confirms the validity of fitted regression model. A unit increase in the perception on human skills, tangibles and empathy results in an increase in overall attitude by 0.6824, 0.2409 and 0.3962 units respectively. The results of correlation and regression analyses indicate a significant predictive validity of the dimensions of the service quality instrument.

Comparing the significance of the resulting dimensions:

The present section investigates whether or not the three dimensions contribute equally to the variations in the overall attitude. This question tests whether or not there is a statistical difference between coefficients of these dimensions in the regression model. This is achieved by comparing the coefficients of two dimensions at a time, while assuming the coefficients of the remaining dimensions to be zero (Chartergee and Price, 1991). The results of these tests are summarized in table-6.

Table – 6 Predictive Validity of Service Quality Dimensions on Overall Attitude

Sl. No.	Nature of function	Constant coefficients	Regression	R^2	F-statistics	P-value
1.	Over=f (Hum, Emp)	-0.7334*	.7913*; 0.2473*	0.6423	88.6914	0.000
2.	Over=f (Hum,+Emp)	-0.4902*	0.6183*	0.6109	92.0346	0.000
3.	Over=f (Hum, Tang)	-0.8127*	0.8014*; 0.2308*	0.6308	83.9408	0.000
4.	Over=f (Hum,+Tang)	-0.7933*	0.5984*	0.6147	73.0968	0.000
5.	Over=f (Emp, Tang)	-0.5962*	0.4733*; 0.5234	0.5969	59.6672	0.000
6.	Over=f(Emp+Tang)	-0.4144*	0.5349*	0.5914	63.3942	0.000

* Significant at five percent level; over – overall attitude
Hum – Human Skills ; Emp – Empathy; Tan – Tangibles.

Initially, the present study compares the coefficients of human skills and empathy while assuring that the coefficient for tangibles is zero. The regression model comprising the above said two independent variables namely human skills and empathy is given below.

"Overall attitude = -.07334* + 0.7913* Human + 0.2473* empathy".

The significance of all coefficients confirms that both human skills and empathy are used in determining the variations of overall attitude. The R^2 for this model was determined to be 0.6423. Intuitively, the human skills have more significant impact on overall attitude because its regression coefficient is greater (0.7913). This, however needs to be confirmed statistically. To verify whether the coefficients of the human skills and empathy are equal, the present study tests whether the above model is equivalent to a reduced model linking the dependent variable to the sum of both independent variables.

A new variable representing the sum of the two dimensions of concern is defined, and then a simple regression model limiting this new variable to the dependent variables is developed. The reduced regression model is found to be:

"Overall attitude = 0.4902* +0.6183* (Human + Empathy)"

The constant and the coefficient of ombination

of both human skills and empathy are significant at five percent level. The coefficient of determination of the reduced regression model is 0.6109. The 'F' values are given by the following formula:

$$F = \frac{(R_p^2 - R_q^2)/(p-q)}{(1-R_p^2)/(n-p-1)}$$ = degree of freedom = p-q, n-p-q-1

Whereas R^2_p – coefficient of determination of original regression model

R^2_q – coefficient of determination of reduced regression model

p – Number of independent variables in coefficient of determination of original regression model

q – Number of independent variables in reduced regression model

n – sample size

In an case, $R^2_p = 0.6423$; $R^2_q = 0.6109$; n=318, p= 2, and q=1.

Substituting the above values into the 'F' formula, the study finds an F-value of 21.13, which is significant at 0.05 level. This means that reduced model does not explain the variations in the overall attitude as adequately as the original full model. It indicates that the coefficients of human skills and empathy are different. Therefore, the present study concludes that human skills contribute more significantly to the variations in overall attitude than the empathy factor.

Repeating the same procedure to compare the coefficients of human skills and tangibles then the coefficient of empathy is around to be zero. The study finds the following original full model:

"Overall attitude = -0.8127* + 0.8014* Human + 0.2308* Tangibles"

All the coefficients including constant are significant at five percent level. This confirms the significance of human skills and tangibles in explaining the overall attitude. The human skills contribute more significantly to the variations in overall attitude since its coefficient (0.8014) is greater than the coefficient of tangibles (0.2308). In order to verify this difference, the reduced model is also developed. It is

"Overall attitude = -0.7933 + 0.5984 (Human + Tangibles)"

The coefficient of determination of the reduced model is 0.6147. The F-value for this case is found to be 10.526, which is significant at the 0.05 level. This indicates that the coefficients of human skills and tangibles are statistically different. Therefore, the analysis concludes that while both human skills and tangibles are significant. The former contributes more significantly to the variations in the overall attitude.

Finally, the study compares the significance of tangibles and empathy. The study repeats the above procedure once again. This results in the following original full model:

"Overall attitude = -0.5962* + 0.4733* (Emp) + 0.5234* (Tangibles)"

The coefficient of variation of this model is $R^2_p = 0.5969$. The coefficients for both empathy and tangibles are significant at five percent level. Looking at the model, one can notice that the difference between the coefficients of both variables (0.4733 and 0.5234) is smaller than the first two comparisons. The reduced model was used to findout the significant difference among them. It is

Overall attitude = -0.4144* + 0.5349* (Emp + Tangibles)

The coefficient determination for the model is $R^2_p = 0.5914$. The coefficients of this model are significant at five percent level. The 'F' value for this case was found to be 3.35 which is not significant at five percent level. This indicates that there is no significant difference between the coefficients of empathy and tangibles. These two dimensions contribute equally to the variations in overall attitude. Therefore the study concludes that the three dimensions are significant in explaining the variations in overall attitude towards Indian commercial banks. The perception on human skills contributes more significantly to these variations in overall attitude than the other two dimensions. The study also concludes that the tangibles and empathy have equal significance in explaining the variations in overall attitude. This

result seems to support consistent observation made by Parasuraman et al., (1988, 1991).

Concluding Remarks

The present paper developed and tested a construct measuring service quality in Indian commercial banks based as the items developed in SERVQUAL by Parasuraman et al., (1988, 1991). The construct consists of 28 items related to five dimensions of SERVQUAL. But the factor analysis admits only 22 items and result in three important dimensions namely human skills, tangibles and empathy. Hence these dimensions are deviated from the original dimensions made by Zeithaml et al., (1988) but it supports the view of Babakus and Boller (1992); and Cronin and Taylor (1992). This paper also investigates the predictive validity of the three dimensions in the overall attitude towards the banks. It results in the customers' overall perception being highly influenced by all three dimensions but the customer value on human skills is the most. Apart from that, the impact made by tangibles and empathy on the overall attitude is different but that difference is not confirmed statistically.

Managerial Implications:

While the commercial banks should pay attention to all three dimension of service quality, they should give more focus on human skills in their pursuit to increase overall attitude of their customers. They acknowledge the importance of the employees' role in service interaction with external customers. (Schneider and Bowen, 1985 and 1994). The importance of internal service quality (human skills) is equally important to the external service quality and customer satisfaction. It is also a widely accepted phenomenon (Heskett and Schlesinger, 1994; Vandermerwe and Gilbert, 1989 and Kang et al., 2002). Assessing internal service quality and better understanding of how various dimensions impact overall attitude of customers would enable organizations to efficiently design the service delivery process. By identifying strengths and weaknesses pertaining to the dimensions of internal service quality organization can better allocate their resources to provide better internal service and ultimately better service to their customers.

In order to improve the human skills, it is necessary to contact employees regularly and assess their internal service experiences. Like the external customer, an internal customer (employee) also considers categories of service attributes, such as reliability and responsiveness, in judging the quality of the internal service. With the knowledge of the internal service quality dimensions, the banks can then judge how well the banks or employees performed on each dimension and manager could identify the weakness to order to make improvements. The managers have to provide training to all employees especially customer contact staffs. The training may focus on humanistic interpersonal skills, humanistic technical skills, mechanistic programme; and mechanistic and performance. These trainings should be in a way that maximizes their positive impact on overall attitude towards the banks among customers Limitations and directions for future research.

The limitations and scope for further research are summarized as follows :

- This study focuses on customers living in Madurai district, Tamilnadu. It therefore has not covered the residents of metro cities.
- Even though, the data were collected from the urban and rural branches, this paper did not address the impact of location (urban and rural areas) on the perceptions of bank's service quality. This can be addressed in future studies.
- This study covered the customers of Nationalized Banks, State Bank Groups and Private Sector Banks. But the present study did not address the difference in service between the three groups of banks. This gap can be fulfilled by the future studies.

Further research may consider more service quality variables in commercial banks. The future studies should be released form the clutches of the 21 service quality varieties identified by Parasuraman et al (1988).

References :

1. Newman, K and Cowling, A (1996), "Service quality in retail banking: the experience of two British clearing banks", **The Interlocal Journal of Bank Marketing,** 14(6), pp.3-11.

2. Andrine, P. (1995), The essence of service marketing, New Delhi, Prentice Hall of India, pp.224-26.
3. Reichheld, F.F. and Sasser, E.W.(1990), "Zero defections: Quality comes to service", **Harvard Business Review,** September – October, pp.105-111.
4. Berry, L.L. and Parasuraman, A (1991), "Marketing services: Competing through quality, New York: Max well Macmillan International, pp.175-203.
5. Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: A re-examination and extension", **Journal of Marketing,** Vol.56, July, pp.55-68.
6. Howcroft, J.B. (1991), "Customer satisfaction in Retail Banking", Service **Industry Journal,** January, pp.11-17.
7. Naceur Jabnonum and Hussein A. Hassan Al – Tamini (2003), "Measuring perceived service quality at UAE commercial banks", **International Journal of Quality and Reliability Management**", 20(4), pp.458-472.
8. Taylor, S.A. and Baker, T.C. (1994), "An assessment of the relationship between service quality and customer satisfaction in the formation of consumer's purchase intentions", **Journal of Retailing,** 70(2), pp.163-178.
9. Nazrul Islam and Ezar Ahmed (2005), "A measurement of customer service quality of banks in Dhara city of Bangaldesh", **South Asian Journal of Management,** 12(1), January – March, pp.37-57.
10. Grubbs, R.M. and Reidenbach, E.R. (1991), "Customer service renaissance: Lessons from the Banking wars, Probus, Chicago, IL.
11. Reddon, G.H. (1987), "Quality service – a low cost profit strategy", **Bank Marketing,** September, pp.10-12.
12. Jun, M., Peterson, R.J., Zsidisin, G.A. and Daily, B.F. (1999), "Service quality perceptions in the banking industry: major dimensions", **Journal Of Business Strategies**, 16(2), pp.770-188.
13. Kwar, W. and Lee,T.J. (1994), "Measuring service quality and user satisfaction in Singapore retail banking", **Singapore Management Review,** 16(2), July, pp.1-24.
14. Lassar, W.M., Manolis, C. and Winsor, R.D. (2000), "Service quality perspectives and satisfaction in private banking", **Journal of Services Marketing** 14(2&3), pp.244-272.
15. Ammennaya, K.K. (2004), "Indian Banking: 2010", IBA Bulletin, 26(1), pp.19.
16. Swain, B.K. (2004), "Indian banks in 2010: Emerging scenario", **IBA Bulletin**, 26(1), p.157.
17. Soterion, A.C. and Stavrindies, Y. (2000), "An internal customer service quality Data Envelopment Analysis model for bank branches", **The Interlocal Journal of Bank Marketing,** 18(5), pp.226-52.
18. Newman, K(2001), "Integrating SERVQUAL: a critical assessment of service quality measurement in a high street retail", **The Interlocal Journal of Bank Marketing,** 19(3), pp.126-139.
19. Dabholkar, P.A. Shepherd, C.D. and Thorpe, D.I. (2000), "A conceptual framework for the service quality: an investigation of critical conceptual and measurement issues through longititudinal study", **Journal of Retailing,** 76(2), pp.139-173.
20. Cronin, J.J. Jr. Brady, M.K. and Hult, T.M. (2000), "Assessing the effects of quality value, customer satisfaction on consumer behavioural intentions in service environment", **Journal Retailing,** 76(2), pp.193-218.
21. Getz, D. Neill, M.U. and Carlsen, J. (2001), "Service quality evaluation at events through service mapping", **Journal of Travel Research,** 39(4), pp.380-389.
22. Peter Kangis and Vassilis Voukelatos (1997), "Private and public banks: a comparison of customer expectations and perceptions", **International Journal of Bank Marketing,** 15(7), pp.279-287.
23. Necrni Kemal Avkiran (1994), "Developing an instrument to measure customer service quality in branch banking", **International Journal of Bank Marketing,** 12(6), pp.10-18.
24. Zillur Rahuman (2005), "Service quality gaps in the Indian banking industry", **The ICFAI Journal of Marketing Management,** February, pp.41-46.
25. Joshua, J. and Moli. P. Koshi (2005), "Expectations and perceptions of service quality in old and new generation banks – A study of select banks in the south canara region", **Indian Journal of Marketing** 35(9), September, pp.6-11.
26. Hussey, M.K. (1999), "Using the concept of loss: an alternative SERVQUAL measure", **The Service Industries Journal,** 19(4), pp.89-101.

27. Nielson, J.F. and Host, V. (2000), "The path to service encounter performance in public and private bureaucracies", **The Service Industries Journal,** 20(1), pp.40-60.
28. Engelland, B., Workman, L. and Singh, L (2000), "Ensuring service quality for campus career service centers: a modified SERVQUAL scale", **Journal of Marketing Education,** 22(3), pp.236-45.
29. Kwan, W. and Lee, T.J. (1994), "Measuring service quality in Singapore retail banking", **Singapore Management Review,** 16(2), July, p.1-24.
30. Cronin, J.J. Jr. and Taylor, S.A. (1994), "SERVPERF versus SERVQUAL: reconciling performance based and perceptions – minus – expectations measurement of service quality", **Journal of Marketing,** Vol. 58, pp.125-131.
31. Teas, R.K. (1994), "Expectations as a comparison standard in measuring service quality: an assessment of a reassessment", **Journal of Marketing,** Vol.58, January, pp.132-139.
32. Chase, R.B. and Stewart, D.M. (1994), "Make your service fail-safe", **Sloan Management Review** 35(3), spring, pp.35-44.
33. Bababus, E. and Boller, G.W. (1992), "An empirical assessment of the SERVQUAL scale", **Journal of Business Research,** Vol. 24, pp.253-268.
34. Carman, J.M. (1990), "Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions", **Journal of Retailing,** 66(1), spring, pp.33-35.
35. Balanched R.F. and Galloway, R.C. (1994), "Quality in retail banking", **Inter Local Journal of Service Industry Management,** 5(4), pp.5-23.
36. Jun, M., Peterson, R.J.Zsidisin, G-A and Daily, B.F. (1999), "Service quality perceptions in the banking industry: major dimensions", **Journal of Business Strategies** 16(2), pp.170-188.
37. Natarajan, R., Balaram, A. and Ramana, V. (1999), "Continuous improvement of service operations: application of service template", **Total Quality Management,** 10(6), pp.877-885.
38. Lassar, W.M., Manolis, C. and Winsor, R.D. (2000), "Service quality perspectives and satisfaction in private banking, **"Journal of Services Marketing,** 14(2&3), pp.244-272.
39. Van Dyke, T.P. and Kappelman, L.A. (1997), "Measuring information systems service quality: concerns on the use of the SERVQUAL questionnaire", **MIS Quarterly,** 21(2), pp.195-209.
40. Van Dyke, T.P., Kappalman, L.A. and Prybulok, V.R. (1998), "Measuring information systems service quality: concerns on the use of the SERVQUAL questionnaire", **MIS Quarrterly,** 26(2), pp.192-208.
41. Nunally, C. J. (1978), Psychometric Theory, McGraw, Hill, New York, NY.
42. Chettergee, S. and Price, B. (1991), Regression Analysis by Example, John Wiley & Sons, New York, NY.
43. Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: a multiple – item scale for measuring customer perceptions of service quality", **Journal of Retailing**, Vol.64, Spring, pp.12-40.
44. Parasuraman, A., Zeithaml, V.A. and Berry, L. (1991), "Refinement and reassessment of the SERVQUAL SCALE", **Journal of Retailing,** 67(4), pp.420-450.
45. Schneider, B., Gunnarson, S.K. and Niles – Jolly, K. (1994), "Creating the climate and culture of success", **Organizational Dynamics,** 23(1), Summer, pp.17-29.
46. Schneider, B. and Bowen, D. (1985), "Employee and customers perceptions of service in banks: replication and extension", **Journal of Applied Psychology**, Vol.70, pp.423-433.
47. Heskett, J.L. and Schlesinger, L.A. (1994), "Putting the service-profit chain to work", **Harvard Business Review**, 72(2), March, pp.164-174.
48. Vandermerwe, S. and Gilbert, D. (1989), "Making internal services market driven", **Business Horizons**, 32(6), pp.83-99.

Gi-Du Kang, Feffrey fames and Kostas Alexandris (2002), "Measurement of internal service quality, application of SERVQUAL battery to internal service quality", **Managing Service Quality**, 12(5), pp.278-291.