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GROWTH, FINANCE AND REGULATION

LINKAGE BETWEEN ONLINE BANKING SERVICE QUALITY AND CUSTOMERS

S.BASKAR
Department of Management Studies
Manonmaniam Sundaranar University, India

M. RAMESH, PH.D.
Department of Business Administration
Annamalai University, India

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Key words: Online banking, service quality, online information system, customer satisfaction.

Abstract: Banks have expanded the scope of competition to an e-environment with online banking. The commercial banks in India are introducing online banking to their customers in order to retain their customers from the competition given by foreign banks. Even though, these are so many empirical studies related online banking service quality and customers satisfaction. Hence, the present study has an attempt to fill up the research gap. The findings of the study reveals that the online customers service quality, online information system quality and banking service product quality are significantly and positively influencing the customer satisfaction.

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Introduction

Service industries are playing on increasingly important role in the overall world economy, and delivering quality service is considered an essential strategy for success and survival. In service industries especially in banking industry, the online banking has been explored and exploited as a means of improving service provision. Banks have expanded the scope of competition to an e-environment with online banking .These banks are introducing online banking to their customers in order to retain their customers from the competition given by foreign banks. Online banking is defined as several types of services through which a bank's customers can request information and carryout most retail banking services through computer, television or mobile phones.

Banking in India has faced many challenges over the years. One of the major one was the e-age challenge. India has made a tremendous progress in e-world over the last decade and is now competing with other in the global market. The Internet and Mobile Association of India (IAMAI) found that about 23 per cent of the online users in India preferred online banking as the banking channel. The banks are trying to establish this e-service to their customers. However, the public sector banks are yet to adopt this technology completely. Even though few public sector banks are providing this service, it is not up to the level of the services offered by the private sector and foreign banks. Since the online banking helps the banks to build and maintain close relationship with their customers, reducing operating and fixed costs, and achieves more efficient and enhanced financial performance, the banks are competing to provide a better service quality through their online banking. In this juncture, the current research search to seek to examine the dimensions on online banking service quality and its outcome.

On line banking service quality

Service quality is a measure of how well the delivered level of service matches customer expectations. Pioneering work by Parasuraman et al. (1985) led to a best of ten determinants of service quality (reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer's needs and tangibles). The five dimensions of service quality were noticed by Parasuraman et al. (1991). These are reliability, responsiveness, assurance, empathy and tangibles. The service quality was measured by the level of perception on services and also the difference between the level of perception and expectation on the services.

The service quality on traditional banking was examined by Johnston (1995), Johnston (1997), Peter and Olson, (1990), McQuity et al. (2000), Hambung and Giering (2001) and Johnson et al. (2008). In the Indian context, the service quality on traditional banking was analyzed by Rahman (2005), Elango and Gudeep (2006), Vanniarajan and Gurunathan, (2009), Gani and Mushtaq (2003). In all studies, they examined five important dimension of service quality in Indian Commercial Banks with the help of 21 service quality variables.

In the case of online banking, Jayawardhena and Foley (2000) illustrated the web site speed, content design, navigation, interactivity and security to the user of online banking as the service quality factors. Lassar et al. (2000) demonstrated the functional based service quality of online banking. Yang and Fang (2004) found that ease of use and usefulness are the important factors of online service quality. Liu and Arnett (2000) identified the system use,

system design quality, information quality and playfulness as the factors in online service quality. Pikkararinen et al. (2006) used the content, ease of use and accuracy to measure the online service quality.

Customer satisfaction

Customer satisfaction is a collective outcome of perception, evaluation and psychological reaction to the consumption experience with a product or service (Yi, 1990). Buyers from expectations of the specific product or service before purchase and perceived quality level which is influenced by satisfaction (Khalifa and Liu, 2003). Sivadas and Premitt (2000) found that desires and expectations both influence overall satisfaction. (Olashavsky and Kumar 2001) mentioned that overall satisfaction is determined by both satisfaction with goods and satisfaction with information. In the present study, the customer satisfaction is measured with the help of five variables. It is furnished in Table 1.

In the present study, the online service quality has been measured with the help of 30 variables. These are listed in Table 1. The customers are asked to rate above variables at five point scale.

Related reviews

There are so many studies related to e-service quality; Hendrickson and Collins, 1996; Zeithammal et al., 2001). They identified 11 dimensions namely; access, case of navigation, efficiency, flexibility, reliability, personalization, security/privacy, responsiveness, assurance/trust; site aesthetics, and price knowledge. Arasli et al., 2005; Cui et al., 2003; Jabnoun and Al-Tambni, 2003; and Najjar and Bishu (2006) examined the e-service quality and customers satisfaction on online banking context at the different countries. In Indian context, Pooja, and Singh (2005); Khurana (2009); Yahua et al., (2009) and Uppal (2008) have examined the on line banking. But there is no exclusive study on the linkage between online banking service quality and customers satisfaction in Indian context. Hence, the present study has made an attempt to fill up the research gap with the proposed research model. It is given below.

TABLE 1.VARIABLES IN ONLINE BANKING SERVICE QUALITY AND CUSTOMERS SATISFACTION

No	Variables	No	Variables
1.	Online banking web site provides valuable information	19.	On line banking tells the exact time of delivery of required service.
2.	Banks keep up the personal information as confidential	20.	Feeling of safe in on line transactions
3.	Easy to follow the layout of information in online banking	21.	Online banking make the timing of bank hours as my convenience
4.	Higher scope for personnel attention in online banking	22.	Up to date information is available
5.	Online transactions are always accurate	23.	Online banking makes the staffs to delivery the CSQ in online banking
6.	Online banking web site provides me easy information	24.	Ease to log in the account
7.	Easy to complete transaction through online banking	25.	Provision of accurate information
8.	Attractive web site in online banking	26.	Staffs have best interest at their bank in online banking
9.	Online banking website is visually appealing	27.	Low risk is associated with online transactions
10.	No delays for seeing of information in online banking	28.	Staffs understand specific needs of customers in online banking
11.	Attractive features of online services I expect	29.	Wide range of online service package
12.	All my online service needs are in the menu options	30.	Bank provides most of the online services I need
13.	Online banking helps the bank deliver service as promised	II	Customers Satisfaction
14.	Clear and well documentation of information in online banking	1.	Satisfied with the service of my bank
15.	Online banking deliver service right at first time	2.	Satisfied with internet based transactions
16.	Many useful free online services	3.	Satisfied with online free services
17.	I feel secure in providing sensitive information for online transaction	4.	Bank deliver online service up to my expectation
18.	Bank shows sincere interest in solving problems if any in online banking	5.	Satisfied on the experience with the bank

Objectives of the study

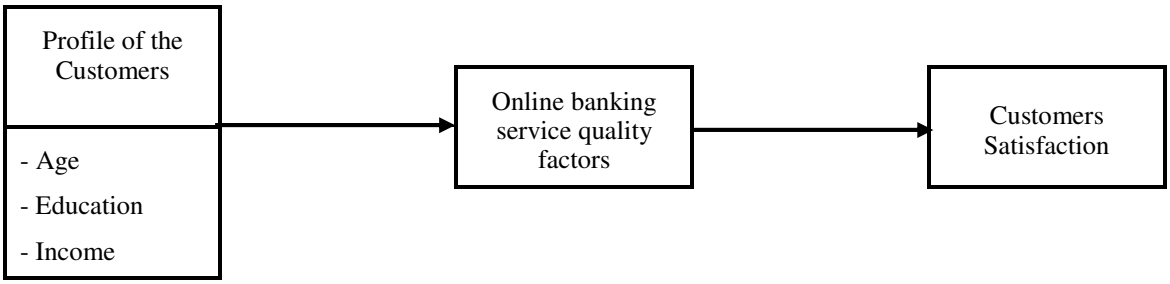
Based on the proposed research model, the present study focuses on the following objectives: (i) to identify the important service quality factors in online banking; (ii) to measure the customers perception on the service quality factors and, (iii) to evaluate the linkage between the customers perception on service quality factors and the customers satisfaction.

Research method

To collect the data for the study, a total of 400 individualized questionnaires were distributed by mail to a systematic random sampled customers of major commercial banks with online banking facilities. This research employed a systematic sampling technique. The sample was chosen by selecting a random starting point and then picking every 100th individual customers in succession

from the banks' derived data base. Applying this technique, 400 individuals from 42 banks were selected. These customers were identified as online banking users at the time of the survey and were made aware that the questionnaire related to their online banking experiences. The critical response was very poor, 23% with in a period of 2 months. Another 2 months were utilized to collect the data from other customers. With greater effort, the response rate on the second attempt was 36.00% to the total of 400 respondents. In total, the sample size came to 236 (92+144) customers.

PROPOSED RESEARCH MODEL



To ensure that sample bias and non-response bias were not present, appropriate comparison were made between initial and late respondents and between respondents and non-respondents . Early and late respondents were compared on all variables of interest, using 't' tests following Armstrong and Overton (1977) recommendation. Unpaired 't' tests were used to compared the group means to each others. Differences between the means were not statistically significant at five per cent level which indicates that there was no difference between the group means of initial and late respondents. At the same time, early and late customers were compared and following the recommendation of Mentzer and Flint (1997), 30 non responded customers were contacted and asked five survey questions relating to the variables. There was no statistical significant difference among the customers and non-responded customers.

Measurement

In designing the survey instrument the relevant writings in the online banking service quality literature were canvassed (Han and Back, 2004; Yang et al., 2004). In total 30 items were used to measure the dimensions in online banking service quality. Finally, customer satisfaction was measured with five items. Responses to the questionnaire items were elicited on five point scales ranging from "5 = highly satisfied" to "1 = highly dissatisfied" and "5 = strongly agree" to "1 = strongly disagree". The appropriate statistical tools namely exploratory factor analysis, confirmatory factor analysis, correlation analysis, and multiple regression analysis were used to fulfill the objectives of the study.

TABLE 2.IMPORTANT ONLINE BANKING SERVICE QUALITY FACTORS (OBSQF)

No	OBSQF	Variables in	Eigen Value	Percent of variation explained	Cumulative per cent of variation explained
1.	Online customers service quality	12	4.1236	36.38	36.38
2.	Online information system quality	13	4.0843	34.11	70.49
3.	Banking service product quality	5	1.2081	8.65	79.14
KMO measure of sampling adequacy: 0.7346.		Bartlett's test of sphericity: Chi-square value: 86.11*			

Note: * Significant at zero per cent level.

Results: Important online banking service quality factors

The perception score on the thirty service quality variables have been included for the narration analysis in order to identify the important online banking service quality factors (OBSQFs). In order to test the reliability and validity of data for factor analysis, the Kaiser-Meyer-Ohlin measure (KMO) of sampling adequacy and Bartlett's test of sphericity have been employed. The minimum acceptable level of KMO measure is 0.5 and the maximum level of significance of chi-square value is at five per cent level. In the present study, the above two tests satisfy the conditions for the reliability of data for factor analysis. The Exploratory Factor Analysis have been executed to narrate the variables into factors. The narrated factors, variables in each factor, eigenvalue and the per cent of variation explained by each factor is given in Table 2.

The thirty service quality variables are narrated into three important factors namely online customers' service quality, online information system quality and banking service product quality. These three factors together explain the online banking service quality to the extent of 79.14 per cent. The most important factors are online customer's service quality which consists of 12 variables with the eigenvalue of 4.1236.

TABLE 3. RELIABILITY AND VALIDITY OF VARIABLES IN ONLINE BANKING SERVICE QUALITY AND CUSTOMERS SATISFACTION

Sl. No.	Factors	No. of variables in	Range of Standardized factor loading	Range of t-statistics	Cronbach's alpha	Composite reliability	Average variance extracted
1.	Online customers service quality	12	0.9145 - 0.6586	5.4125*-2.6661*	0.8187	0.7971	58.18
2.	Online information system quality	13	0.8911- 0.6017	4.2408*-2.0453*	0.7449	0.7242	52.45
3.	Banking service product quality	5	0.9244 - 0.6145	5.6846* - 2.2048*	0.7808	0.7617	56.06
4.	Customers Satisfaction	5	0.9133 - 0.6406	5.3023* - 2.5081*	0.7616	0.7508	55.11

Note: * Significant at five per cent level.

The second important factor is online information system quality since its eigenvalue is 4.0843. It consists of 13 variables with the per cent of variation explained by the factor of 34.11%. The third important factor identified by EFA is banking service product quality since its eigenvalue and the per cent of variation explained is 1.2081 and 8.65% respectively.

Reliability and validity of variables in each factor

In total, there are three service quality factors and customer satisfactions have been included for the present study. It has been measured with the help the relevant variables included in each factor. Before summarizing the score of the variables in each factor, it is imperative to analyze the reliability and validity of variables in each factor. Hence, the Confirmatory Factor Analysis (CFA) has been executed. The resulted standardized factor loading, its 't' statistics, Cronbach's Alpha, composite reliability and average variance extracted by each factor is summarized in Table 3.

The standardized factor loading of the variables included in each factor is greater than 0.6 which reveals the content validity. The Cronbach's Alpha of all factors are greater than the standard minimum of 0.5. The included 12 variables in online customers' service quality explain it to the extent of 81.87% since its reliability co-efficient is 0.8187. The 't' statistics of the standardized factor loading of the variables included in each factor are significant at five per cent level. It reveals the convergent validity of the factors. The composite reliability of the factors are greater than the standard minimum of 0.6. The average variance extracted by each factor is greater than the minimum threshold of 50.00 per cent. All these results are supporting the convergent validity of the factor. The result of CFA indicates that the included variables in three online banking service quality factors and customers satisfaction explain it to a reliable extent.

Customers' perception on online banking service quality factors and customers satisfaction

The perception on three online service quality factors have been computed by the mean score of the variables included in each factor. Similarly, the score on customers' satisfaction have been derived from the mean of score of the variables in customers satisfaction. The mean score on above said four factors and its deviation have been computed to represent the level of perception on online banking and overall attitude towards banking. The inter correlation between these factors have been computed to find out the discriminant validity of the factors. The discriminant validity is confirmed when the average variance extracted by a factor is greater than the sum of square of the correlation co-efficient between the factor with other factors. The results are given in Table 4.

The higher perception on online banking service quality is identified in the case of the online customers' service quality since their respective mean score is 3.6734. It is followed by the online information system quality since its mean scores is 3.4046 whereas the higher consistency in the perception on online information system quality have been identified since its co-efficient of variation is 9.06%. The discriminant validity of the factors have been noticed since their respective AVE is higher than the sum of square of correlation co-efficient between the factor with other factors. For example, the AVE of online customers' service quality of 58.18% is greater than the sum of square of correlation co-efficient of online customers' service quality with other factors (26.21%)

Perception on online banking service quality at various customers segment

Since the customers profile may have its own role in the perception on service quality factors in online banking, the present study has made on attempt to analyze the level of perception on online customers' service quality, online information system quality and banking service product quality at various customer segment. On the basis of the age of customers, they are classified into youngsters and elders whereas on the basis of the level of education, they are grouped into highly and lesser educated. One the basis of the nature of income, they are divided into fixed and flexible income groups. The mean score on 3 service quality factors among the two groups of customers in each segment have been computed separately. The 't' test have been applied to find out the significant difference among the groups regarding their per cent on each service quality factors. The results are illustrated in Table 5.

The elders are perceiving more on the online customers service quality of banks since their respective mean (3.8245) is greater than the mean score among youngsters. The same trend is noticed in the other service quality factors. The 't' test revealed that there is a significant difference among the youngsters and elders regarding their perception on 3 online banking service quality factors since

their respective 't' statistics are significant at five per cent level. The same result is also noticed in the perception on online information system quality. Among the fixed income groups, the higher perceptions on the service quality factors have been noticed than the flexible income groups. The significant 't' statistics are noticed in all three service quality factors. It reveals that there is a significant difference among the fixed and flexible income groups regarding their perception on online banking service quality factors.

Impact of online banking service quality on customer satisfaction

The perception on service quality factors may have its own influence on the customer satisfaction. It is imperative to analyze the degree of influence of online banking service quality factors on customers' satisfaction with the help of multiple regression analysis. The fitted regression model is:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + e,$$

Where: Y - customer satisfaction score among the customers; x_1 - score on online customers service quality among the customers; x_2 - score on online information system quality among the customers; x_3 - score on banking service product quality among the customers; b_1, b_2, b_3 - regression co-efficient of independent variables; a - intercept and e - error term.

The result of regression analysis is illustrated in Table 6. All the three online banking service quality have a significant positive impact on the customers satisfaction since their respective 't' statistics are significant at five per cent. A unit increase in the perception on the online customers service quality, online information system quality and banking service product quality result in an increase in customers' satisfaction by 0.3685, 0.2144 and 0.2033 units respectively. The co-efficient of determination (R^2) reveals that the changes in the perception on the above said three online banking service quality explain the changes in customers' satisfaction to the extent of 76.82 per cent. The analysis reveals the importance on online customers' service quality in the determination of customers' satisfaction.

TABLE 4.PERCEPTION ON ONLINE BANKING SERVICE QUALITY AND CUSTOMERS SATISFACTION

No	Factors	Mean	Standard deviation	Coefficient of variation in per cent	Inter correlation			
					1	2	3	4
1.	Online customers service quality	3.6734	0.4493	12.23		.2676*	.1859*	.2903*
2.	Online information system quality	3.4046	0.3086	9.06			.3144*	.2634*
3.	Banking service product quality	3.2658	0.4125	12.63				.2197*
4.	Customers satisfaction	3.1147	0.4907	15.75				

Note: * Significant at five per cent level.

TABLE 5. PERCEPTION ON ONLINE BANKING SERVICE QUALITY OF VARIOUS CUSTOMERS SEGMENT

No	Online banking service quality	Mean score among			Mean Score among			Mean Score among		
		Youngsters	Elders	t-statistics	Higher Educated	Lesser educated	t-statistics	Fixed Income Group	Flexible Income Group	t-statistics
1.	Online customers service quality	3.0847	3.8245	-3.1345*	2.8543	3.9107	-3.2693*	3.8314	3.0456	3.1454*
2.	Online information system quality	2.9961	3.6533	-2.9308*	2.7309	3.6562	-3.3011*	3.6542	2.8491	2.9092*
3.	Banking service product quality	2.8233	3.8564	-3.4082	2.6617	3.8103	-3.9033*	3.5089	2.7646	2.6234*

Note: *Significant at five per cent level.

TABLE 6. IMPACT OF ONLINE BANKING SERVICE QUALITY FACTORS ON CUSTOMERS SATISFACTION

No	Independent Variables	Regression Coefficient	Standard Error	t-statistics	p-value
1.	Online customers service quality	0.3685	0.1144	3.2212	0.0246
2.	Online information system quality	0.2144	0.0669	3.2048	0.0311
3.	Banking service product quality	0.2033	0.0514	3.9552	0.0117
4.	Constant	1.0896			
	R^2	0.7682			
	F-statistics	9.3345			0.0176

Research implications

The present study identified three important online banking service quality factors namely online customers service quality, online information system quality and banking service product quality which supports the findings of Jun and Cai (2001), Han and Back (2004), Yang et al. (2004) and Rod et al. (2009). The resulted three service quality factors are extended into five factors by Khurana (2009). The findings of the association between the profile of customers and their perception on service quality factors replicate the findings of Sathye (1999), Khalifa and Liu (2003) and Fu and Wu (1999). The positive significant influence of online service quality on customers satisfaction

towards online banking indicates the importance of quality of customers service in the context of online banking which reveals the finding of Pathrose (2001), Shastri (2001) and Avasthi (2001). All results reveal an additional finding of that even in the absence of face-to-face interactions of between the customers and service providers, the service quality is essential to satisfy the bank customers.

Managerial Implications

On the basis of the findings of the study, the present study suggests a number of implications for online banking services management. This includes the need for managers to acknowledge that the provision of online service quality is an expectation of bank customers. It is possible that customers see online service as separate to their relationship with other banking activities and merely perceive it as an expected service. The findings suggest the following implications for managers regarding online banking service provision:

- The managers should evaluate the service quality of online banking according to the need of their customers at various segments and also in industry-specific measures;
- If the manager wishes to retain the existing customers, they have to monitor the level of customers' expectation continuously and also the level of service offered by their competitions, then only, they can enrich their online service consistently;
- There is a need to look beyond simply providing service through online service sites to build strong, enduring relationship with customers.

Conclusion

The present study concludes the online service quality factors are having a significant positive impact on customer satisfaction. The level of perception on the service quality factors vary from one customers segment to another. Since the usage of online banking among the customers is increasing, the bank managers are advised to enrich the service quality consistently. On the other hand, the online banking helps to build and maintain close relationship with their customers and reduces the operating and fixed cost to the bank; and also the opportunity cost to their customers. Hence, in order to reveal the benefits; the service providers are advised to provide online banking services at par with their customers expectations.

References

Anderson, J., Gerling, D., 1988. "Structural Equation Modeling in Practice: A Review of and recommended two-step approach," Psychological Bulletin, 103(3), pp.411-23.

Anita (Dexo), "Mobile Banking," Professional Bankers, 10(2), February, pp.32-33.

Arasli, H., Katircioglu, S., Mehtap-Smadi, S., 2005. "A comparison of service quality in the banking industry: Some evidence from Turkish - and Greek Speaking areas in Cyprus," The International Journal of Bank Marketing, 23(6×7), pp.508-26.

Armstrong, J., Overton,S., 1977. "Examining non response bias in mail surveys," Journal of Marketing Research, 14(3), pp.396-402.

Avasthi, M., 2001. "Information technology in banking: Challenges for regulators," Prajnan, 24(4), pp.3-17.

Baston, E., 1989, Managing services marketing, London: Dryden Press.

Cronin, J., Taylor, S., 1992. "Measuring Service Quality: a reexamination and extension," Journal of Marketing, 56(3), pp.55-68.

Cui, C., Lewis, R., Park, W., 2003. "Service quality measurement in the banking sector in South Korea," The International Journal of Bank Marketing, 21(4×5), pp.191-201.

Daniel, E., 1999. "Provision of electric banking in the UK and Ireland," International Journal of Bank Marketing, 17(5), pp.211-32.

Dawkins, P., Reichheld, F., 1990. "Customers retention as a competitive weapon," Directors and Boards, 14 (Summer), pp.42-47.

Deyong, R., Lang, W., Nolle, D., 2007. "How the internet affects output and performance at community banks," Journal of Banking and Finance, 31(4), pp.1033-1060.

Doll, W., Torkzadesh, G., 1994. "A confirmatory factor analysis of the end user computing satisfaction instrument," MIS Quarterly, 18(4), pp.43-61.

Fornell, C., Lancker, F., 1981. "Evaluating structural equation model with unobservable variables and measurement error", Journal of Marketing Research, 18(1), pp.39-50.

Gani, A., Mushtaq, A., 2003. "Service quality in Commercial Banks: A Comparative Study," Paradigam, 7(1), pp.24-36.

Gerling, D., Anderson, C., 1992. "Monte Carlo evaluation of goodness fit indices for structural equation models," Sociological Methods and Research, 21(1), pp.132-60.

Gonzalez, M., Quesada, G., Picado, F., Eckelman, C., 2004. "Customer Satisfaction using QFD: An e-banking case", Managing Service Quality, 14(4), pp.317-30.

Hambung, C., Giering, A., 2001. "Personal characteristics as moderates of the relationship between customers satisfaction and loyalty - an empirical analysis," Psychology and Marketing, 18(1), pp.43-66.

Han, S., Back, S., 2004. "Antecedents and consequences of service quality in online banking in our application of the SERVQUAL instrument," Advances in Consumer Research, 31(2), pp.208-14.

Han, S., Back, S., 2004, "Antecedents and consequences of service quality in online banking and application of SERVQUAL instrument," Advances in Consumer Research, 31(2), pp.208-14.

Hendrickson, R., Collins, R., 1996, "An assessment of structure and cansation of IS usage," The data base for advances for information systems, 27(2), pp.61-67.

Jalnoun, N., Al-Tamini, A.., 2003. "Measuring perceived service quality at UAE Commercial Banks," The International Journal of Quality Reliability Management, 20(4×5), pp.458-72.

Jayawardhena, C., 2004. "Measurement of service quality in internet delivered services: The development and validation of an instrument," Journal of Marketing Management, 20(1&2).

Jenkins, H., 2007, "Adopting internet banking services in a small island state: assurance of bank service quality," Managing Service Quality, 17(5), pp.523-27.

Johnson, D., Bandhi, F., Dunn, D., 2008. "Understanding how technology paradoxes affect customers satisfaction with self service technology: the role of performance ambiguity and trust in technology," Psychology and Marketing, 25(5), pp.416-43.

Johnston, R., 1995. "The determinants of service quality: Satisfiers and dissatisfiers," International Journal of Service Industry Management", 6(5), pp.53-71.

Johnston, R., 1997. "Identifying the Critical Determinants of Service quality in Retail Banking: Importance and Effect," The International Journal of Bank Marketing, 15(4), pp.111-16.

Jun, M., Cai, S., 2001. The key determination of internet banking service quality: A content analysis," The International Journal of Banking Marketing, 19(7), pp.276-91.

Jun, M., Yang, Z., Kim, D., 2004. "Customers perceptions of online retailing service quality and their satisfaction," International Journal of Quality and Reliability Management, 21(8), pp.817-40.

Khalifa, M., Liu, V., 2003. "Determinants of satisfaction at different adoption stages of internet based services," Journal of the Association for information systems, 4(5), pp.206-32.

Koepp, S., 1987. "Pul-eeze! Will some body help me?" Time, February 2, pp.28-34.

Lassar, M., Manolis, C., Winnsor, D., 2000. "Service Quality Perspective and Satisfaction in Private Banking," International Journal of Bank Marketing, 18(4), pp.244-71.

Lewis, C., Bernard, H., 1983. "The marketing aspects of service quality," in: Berry, G., Shostak, and Upah, G. (Eds.), Emerging Perspectives on service marketing, Chicago: American Marketing Association, pp.99-107.

Liu, C., Arnett, P., 2000. "Exploring the factors associated with web sites success in the context of electronic commerce," Information and Management¸ 38(1), pp.23-33.

McQuity, S., Finn, A., Wiely, B., 2000. "Systematically varying consumer satisfaction and its implications for product choice," Academy of Marketing Science Review, 2000 (10), pp.1-16.

Mentzer, T., Flint, J., 1997. "Validity in logisties research," Journal of Business Logistics, 18(1), pp.199-216.

Mols, P., 2000. "The internet and banks strategic distribution channel decision," International Journal of Bank Marketing, 17(6), pp.295-300.

Nagesh, R., 2007. "Internet banking: A regulating challenge," Professional Bankers, December, pp.40-41.

Najjar, L., Bishu, R., 2006, "Service Quality: A case study of a Bank," The Quality Management Journal, 13(3), pp.35-44.

Nunnally, J., 1978. Psychometric Theory, Mc-Graw-Hill, New York.

Parasuraman, A., Zeithammal, A., Benny, L., 1985. "A conceptual model of service quality and its implication for furniture research," Journal of Marketing, 49(4), pp.41-50.

Parasuraman, A.., Zeithammal, A.., Berry, L., 1988. "SERVQUAL: A multi item scale for measuring consumers perception of service quality," Journal of Retailing, 64(1), pp.12-40.

Parasuraman, A., Zeithammal, A., Berry, L., 1991. "Refinement and reassessment of the SERVQUAL Scale," Journal of Retailing, 67(4), pp.420-50.

Peter, P., Olson, C., 1990. Consumer behaviour and marketing strategy, Irwin, Homewood, IL.

Pikkaraninen, K., Karajaluoto, H., Patimilla, S., 2006. "The measurement of end-user computing satisfaction of online banking services: Empirical evidence from Finland," The International Journal of Bank Marketing, 24(2&3), pp.158-72.

Pooja M., Balwinder S., 2005. "The impact of internet banking on banks performance: The Indian experience," South Asian Journal of Management, 13(4), pp.25-57.

Reicheld, F., Earl Sasser, J., 1990. "Zero defections: Quality comes to service," Harvard business review, 68, September, October, pp.105-11.

Rengasamy, E., Vijaya, G., 2006. "A comparative study on the service quality and customers satisfaction among private, public and foreign banks," The ICFAI Journal of Marketing Management, 5(3), pp.7-24.

Richard O., and Anand, K., 2001. "Revealing the actual roles of expectations in consumer satisfaction with experience and credence goods," Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour, 14(1), p.60.

Sathye, M., 1999. "Adoption of Internet banking of Australian Consumers: An Empirical investigation," International Journal of Bank Marketing, 17(7), pp.324-334.

Shastri, V., 2001. "Technology for banks in India - Challenges," IBA Bulletin, 23(3), pp.23-45.

Sivadas, E., Baker - Premitt, L., 2000. "An examination of the relationship between service quality, customers satisfaction and store loyalty," International Journal of Retail and Distribution Management, 28(2), pp.73-82.

Sofri, Y., Thakur, R., 2009. "Internet banking in Hyderabad issues and prospects," Professional Banker, September, p.56.

Sunayna, K., 2009. "Managing service quality: an empirical study on internet banking," The ICFAI University Journal of Marketing Management, 8(3×4), pp.96-113.

Vanniarajan, P., Gurunathan, 2009. "Demographic discriminators of service quality in the banking industry," GITAM Journal of Management, 7(4), pp.117-135.

Yang, I., Peterson, T., 2004, "Measuring customers perceived online service quality: Scale development and managerial implications," International Journal of Operations and Production Management, 24(11), pp.1149-171.

Yang, Z., Jun, M., Peterson, T., 2004. "Measuring Customers perceived online service quality: scale development and managerial implications," International Journal of Operations and Production Management, 24(11), pp.1149-174.

Yi, Y., 1990. "A critical review of consumer satisfaction", Review of Marketing, American Marketing Association, Chicago, IC.

Zeithammal, A.., Parasuraman, A.., Malhotra, A.., 2001, "A conceptual work for understanding e-service quality: implications for future research and managerial practice," MSI Working Paper Services, N.00-115, Cambridge, M.A., pp.1-49.

Zillur, R., 2005. "Service quality gaps in the Indian Banking Industry," The ICFAI Journal of Marketing Management, February, pp.37-43.