

A Critical Review on E-Service Quality Dimensions

Vivek Agrawal¹, Vikas Tripathi² and Nitin Seth³

^{1,2}IBM, GLA University, Mathura NH#2, 17 KM Stone, Mathura-Delhi Road, Mathura, U.P.-281406

³Indian Institute of Foreign Trade, Delhi, India

E-mail: ¹Vivek.agrawal@gla.ac.in, ²Vikas.tripathi@gla.ac.in, ³nitinseth@iift.ac.in

Abstract: This paper is to highlight research avenues for improving the understanding of electronic service quality (E-service quality), based on a critical review of previous literature. The paper explores various dimensions of e-service quality in different applications and also tries to focus on e-service quality, specifically towards Indian banking industry. The review of various previous studies reveals that customer satisfaction and behavioral intention is affected by e-service quality. Number of models has also been developed by several authors to find out the dimensions of e-service quality affecting customer satisfaction and behavioral intention but these models are not tested empirically in banking industry. This paper comprises a compiled report on the review of previous research on dimensions of e-service quality in different application and banking sector. The review had shown that there are various dimensions which are common to all researches while some dimensions are different in different researches. This paper brings a lot of information on e-service quality under one roof and provides new directions to e-service quality researchers. This paper offers practical help to researchers and practitioners in providing a direction for e-service quality improvement by indicating the common theme that emerges from the literature review on e-service quality. It also throws the light on dimensions of e-service quality, which can help to the banking industry to develop a website in a country like India where e-word is still in its nascent stage.

Keywords: Banking, e-service quality, dimensions, literature review

1. INTRODUCTION

In the era of globalization and liberalization and use of information technology, most companies are now trying to attract and win customers by providing high quality of e-service [21]. The organizations are shifting their focus to e-service quality in place of traditional service quality in their complete transaction process i.e. pre, in and post stages.

This is a new changing way of interactions between customers and service firms. Companies are establishing websites, which are regarded as a new corridor to carry out business transactions and customers can make purchase and other works by these websites. It had also made possible to the companies to access a worldwide market with low operating cost, to provide information in depth, and to provide customers electronic services. But this new corridor to carry out business specifically in service sector has also opened a new front of competition for the companies.

The dimension that determines the success or failure of any company that uses the latest technologies is not only low prices or web, but the quality of e-service [56]. Proper utilization of e-services can be a powerful tool to increase overall service provision and create higher standards in various industries [17]. Offering high level of e-service quality is crucial in building customer loyalty, encouraging repeated purchases, and maintaining long term relationships with customers. This in turn will enhance operational efficiency and profitability [12]. It has been argued by [11] that firms move their focus to e-service in their complete transaction process before, during and after transaction stage.

In banking industry, the more efficient banking services have been significantly affected due the development in information technology. Due to this more banking services are affected. The internet provides an efficient delivery channel through which customers banking services can be delivered more conveniently and economically [16]. Internet is a delivery channel in internet banking by which bank activities are to be conduct for example, transferring funds, paying bills, viewing and checking account balances, purchasing financial instruments etc. [16]. By [8] internet banking is "Banking services delivered over the internet. These include opening and closing accounts, domestic and foreign money transfer, standing orders, direct debit, debit card application, loan application etc."

During the last few years there have been so many published reports in referred international journals and conferences on identifying the key dimensions of electronic service quality, the subjects of these studies have been customers in Sweden, Taiwan, Hongkong, USA and US [5, 38, 30].

However given theories of e-service quality are based on behavior, perception, satisfaction etc. and some scale were prepared for assessing the e-service quality for measuring the dimension in different service industry, which were used by various authors in their research. Similarly some models were also developed by some authors to analyze the dimensions of e-service quality like [45, 33, 43] etc.

In India, only 7% account holders use internet banking [52]. The reason for these low users of internet banking may be unforeseen fraud or may be no personal interaction with the bank or bank employee. So research is needed to uncover those dimensions by which bank can satisfy their customers to build up and maintain the relationship with them without personal interaction.

In the light of fewer studies found on internet banking and e-service quality and there are various issues like (dimensions, model etc.) yet to be explored. This research provides a significant contribution to the literature by exploring the nature of e-service quality.

2. NEED FOR PRESENT STUDY

The use of information technology is affecting the economies of the nations. Now the focus has been shifting from profit maximization to maximizing profit through customer satisfaction. This is now creating a pressure on the companies. This pressure of competition is forcing the organizations to not only take place at the processes, but also on the way that are delivered. During past decade scenario has been changed drastically due to the increased use of information technology. Some of the changes that have been taken place in the business are:

1. Necessity to coordinate processes across many sites
2. Quick response to customers' needs
3. Worldwide relationships between various trade partners, suppliers through internet;
4. Easily accessible information through internet;
5. Flexible and efficient online service/product customization etc.

This study can help to identify the various general dimensions of e-service quality at one roof. It is also aimed to review the previous research on e-service quality specifically for the banking industry. This study thus attempts to provide benefits to practicing managers and researchers by compiling a large amount of information on dimensions of e-service quality at one place.

3. LITERATURE REVIEW

With the rapid increase in the no. of banks offering online services, e-service quality is a new parameter it the differentiating factor to their services. Therefore comprehensive review of literature and related models relevant to the research problem is them presented, starting with introducing the concept of e-service quality, and followed by measurement on e-service quality.

E-Service Quality

Based on the traditional service definition of Rowley [42] defines e-service as “deeds, effort or performances whose

delivery is mediated by information technology (including the web, information kiosk and mobile devices). Such e-service includes the service element of e-tailing, customer support and service, and service delivery”. According to Ziehaml [57], e-service quality is “*the extent to which a website facilitates efficient and effective shopping, purchasing and delivery of products and services*”. Another definition by [45] is “consumers’ overall judgment and evaluation of the excellence and quality of e-service offerings in the virtual marketplace”.

Measurement for E-Service Quality

There are number of methods that allow for the measurement of a company’s e-service profile as perceived by its customers. The best-known methods are: WEBQUAL, developed by [34], E-SERVQUAL, developed by [57], E-TailQ developed by [50] and E-S-QUAL developed by [38] and Other measurement instruments use the commercial performance of a website, measured by the number of clicks, or purchases generated by the website [28]. A selected critical review of e-service quality dimensions had been shown in Table 1

E-Service Quality in Banking

Review on Internet banking e-service quality dimensions used to measure e-service quality at the country level shows that beside the dimensions used in E-SERVQUAL, some researchers found site aesthetics, assurance and personalization are also important. The study of [25], on Internet banking e-service quality in USA indicated that three dimensions constituted the e-service quality; namely Efficiency, Contact and Customization. Efficiency also was found to be a major component of Internet banking e-service quality in Hong Kong [37], Sweden [30], and Taiwan [51]. The study of [51] on Internet banking in Taiwan indicated that dimensions that constitute Internet banking e-service quality were Efficiency, Fulfillment, System Availability, Privacy, Contact, Compensation, Site Aesthetics, Customization.

Table 1: REVIEW TABLE

Author	Domain of Measure	Dimensions
[3]	web site quality	Usability, design, information, trust, empathy
[14]	internet retailing quality	Web store functionality, product attribute description, ownership condition, delivered products, customer service, security
[23]	internet retail service quality	Performance, access, security, sensation, information
[39]	web site	Information content, design, security, privacy
[53]	e-service quality	Reliability, access, ease of use, personalization, security, credibility

[6]	online service quality	Web site design, trustworthiness, reliable service, communication
[50]	etail quality	Website design, reliability, security, customer service
[27]	online service quality	Reliable, attentiveness, ease of use, access, security, credibility
[31]	apparel ebsite quality	Web appearance, Entertainment, Informational fit to task, Transaction capability, Response time, Trust
[35]	e-retail service quality	Tangibility, assurance, reliability, purchasing process ,responsiveness
[54]	online service quality	Reliability, responsiveness, competence, ease of use, security, product portfolio,
[33]	online service quality	Web site design, reliability, responsiveness, trust, personalization
[38]	electronic service quality	Efficiency, system availability, fulfillment, privacy, responsiveness, compensation, contact
[54]	web portal quality	Usability, usefulness of content, adequacy of information, accessibility, interaction
[22]	e-banking service quality	Accuracy, reliability, good queue management, personalization, responsiveness, customer service, targeted customer service
[11]	e-service quality	Customer service , web design, assurance, order management
[20]	e-travel service quality	Information quality, security, website functionality, customer relationships, responsiveness
[49]	e-CRM service quality (library)	Tangibles, Reliability, Responsiveness, Assurance, Empathy
[36]	e-service quality (online banking)	Web usability, Security, Information quality, Access, Trust, Reliability, Flexibility, Responsiveness, Self-recovery, Personalization/customization
[43]	e-service quality	Efficiency, Trust, system availability, fulfillment, loyalty, privacy, satisfaction
[46]	e-service quality	Trust, customized communication, ease of use, website content, reliability, speed of delivery
[47]	e-service quality in banking	Privacy, Information quality, Ease of use, Graphic style, Reliability, Responsiveness
[19]	e-service quality (e-retail banks)	Personal needs, Site organization, User friendliness, Efficiency of web site
[40]	e-service quality	Ease of use, Information, Content, Reliability, Privacy, Post purchase service
[7]	e-service quality	Usefulness, Ease of use, Entertainment, Complimentary relation
[18]	e-health service quality	Potential quality, Process quality, Outcome quality,

[15]	e-service quality	Web site quality, Service fulfillment process, High variety of offerings
[48]	e-service quality (e-technology based services)	Reliability, Responsiveness, Competence, Accessibility, Courtesy, Communication, Credibility, Security, Understanding, Tangibility
[29]	e-service quality (ATM)	Tangibles, Card, Discipline, Reliability, Affordability, Instruments, Ease of use, Location
[44]	e-service quality (e-banking)	Efficiency, Availability, Fulfillment, Privacy, Responsiveness, Contact
[2]	e-service quality (banking)	Reliability, Responsiveness, Ease of use, Personalization, Website design, Security
[32]	e-service quality in banking	System availability, e-fulfillment, efficiency, cost-effectiveness, responsiveness, convenience, contact, perceived value, brand reputation

4. OBSERVATIONS

It has been noticed that existing research into e-service quality is based on the examination of actual service quality performance. The opportunity now exists to extend this by assessing the degree to which the measures are fully representative of customer expectations. There are many studies assessing e-service quality in banking contexts, with most emphasizing the importance of technical aspects of web site delivery. In the context of online product [14], [3], [10] and [9] focus on internet retailing and shopping service quality. Other research investigating electronic delivery channels (including internet banking, ATMs and telephone banking) confirms banking success and profitability as being dependent upon service quality [44] and [22]. However, as [1] indicate, a significant relationship between internet service quality and consumer satisfaction is yet to be established, and this gap provides the impetus for an examination of how important attributes of online delivery such as web site content, information accuracy, security, timeliness of information and web site aesthetics are to consumers. Hence, this research is positioned within the specific context of internet banking exclusively, to avoid biasing influences of multiple e-channel distribution methods.

5. CONCLUSION

Due to technological advancement and globalization India is flooded with foreign banks and e banking facilities. Efforts are being put in to give a satisfactory service to customers. Phone banking and Net banking have been introduced. The entire system has become more convenient and swift.

To offer variety of financial services to their customers many banks have utilized the internet. These services involve the interaction between banks and customer. According to [40] e-banking makes favorable conditions for their customers to

access the financial information and to make transactions without going to banks. 532 incidents were analyzed by [26] and they developed 17 dimensions for banking service quality: product variety/diverse features, reliability, responsiveness, competence, courtesy, creditability, access, communication, understanding the customer, collaboration, continuous improvement, content, accuracy, ease of use, timeliness, aesthetics and security. [13] have suggested four dimensions such as: service offered access to services, security and reputation. Then five dimensions were delivered by [24], such as web site interface, trust, attention and credibility. Six dimensions were given by [4] for e-banking portal and they were security, trust, additional services, added values, transaction support and responsiveness. Four dimensions, personal needs, site organization, user friendliness and efficiency of web site were identified by [19] in e-retail banks.

This review reveals confusion and gaps in understanding the models empirically and dimensions of e-service quality in Indian internet banking industry for the satisfaction of the customers. Since less studies have been found on internet banking and e-service quality in India hence there are various issues yet to be unfolded. So a study is needed to examine it further and to find out the dimensions of e-service quality, their impact on customer satisfaction, and behavioral intention of customers in Indian banking spectrum.

6. FUTURE RESEARCH AGENDA

The review of literature has brought forward a scarcity of research on e-service quality in Indian banking. So, empirical research could be organized for further exploration of the subject, alongside the following steps of:

1. For the moment, the research on importance of e-service quality in banking sector still is missing a strong theoretical basis. So, to better understanding of importance of e-service quality in Indian banking industry researcher can conduct a research.
2. What are the dimensions of e-service quality in Indian Banking industry?
3. What is the impact of e-service quality on customer satisfaction?
4. What is impact of e-service quality on behavioral intention?
5. Researcher can also find the linkages between e-service quality dimensions, customer satisfaction and behavioral intention in the context of banking sector.
6. How is e-service quality best measured for online banking?
7. Are there any particular e-service quality aspects that are of particular importance to online banking customers?

REFERENCES

- [1] Al-Hawari, M., and Ward, T., "The Impact of automated service quality on Financial Performance and the mediating role of customer satisfaction", *Marketing intelligence & Planning*, 24 (2), 2006, pp. 127-147.
- [2] Al-Tarawneh, K. A., "Measuring E-Service Quality from the Customers' Perspective: An Empirical Study on Banking Services", *International Research Journal of Finance and Economics*, 91, 2012, pp. 123-197.
- [3] Barnes, S. J. and Vidgen, R. T., "An integrative approach to the assessment of e-commerce quality", *Journal of Electronic Commerce Research*, 3(3), 2002, pp. 114-127.
- [4] Bauer, Hans H.; Hammerschmidt, M. and Falk T., "Measuring the quality of e-banking portals", *International Journal of Bank Marketing*, 23 (2), 2005, pp. 153-175
- [5] Broderick, A. J. and Vachirapornpuk, S., "Service Quality in Internet Banking: The Importance of Customer Role", *Marketing Intelligence & Planning*, 20 (6), 2002, pp. 327-335.
- [6] Cai, S. and Jun, M., "Internet users' perceptions of online service quality: a comparison of online buyers and information searchers", *Managing Service Quality*, 13(6), 2003, pp. 504 – 519.
- [7] Carlson, J. and O'Cass, A., "Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites", *Journal of Services Marketing*, 24(2), 2010, pp. 112 – 127.
- [8] Centeno C., "Adoption of Internet Services in Enlarged European Union: Lessons from the Internet Banking Case", *European Commission Joint Research Centre, Report EUR 20822 En*, June 2003.
- [9] Chang, H. H. and Wang, H. W., "The Relationships among e-Service Quality, Value, Satisfaction and Loyalty in Online Shopping", *European Advances in Consumer Research*, 8, 2008, pp. 10-14.
- [10] Collier, J. E. and Bienstock, C. C., "Measuring Service Quality in E-Retailing", *Journal of Service Research*, 8 (3), 2006, pp. 260-275.
- [11] Cristoal, E. Flavian, C. and Guinaliu M., "Perceived e-service quality: Measurement validity and effects on consumer satisfaction and web site loyalty", *Managing Service Quality*, 17 (3), 2007, pp. 317-340.
- [12] Cronin, J. J., "Looking Back to See Forward in Services Marketing: Some ideas to Consider", *Managing Service Quality*, 13 (5), 2003, pp. 332-337.
- [13] Flavian, C.; Tores E. & Guinaliu M., "Corporate Image Measurement: A further problem for the tangibilization of Internet Banking Services", *The International Journal of Bank Marketing*, 22 (5), 2004, pp. 366-384
- [14] Francis, J.E. and White, L., "Exploratory and confirmatory factor analysis of the Perceived Internet Retailing Quality PIRQUAL model", in Shaw, R.N., Adam, S. and McDonald, H. (Eds), *Proceedings of ANZMAC 2002*, CD-ROM.
- [15] Gera, R., "Modelling the service antecedents of favourable and unfavourable behaviour intentions in life insurance services in India: An SEM study", *International Journal of Quality and Service Sciences*, 3 (2), 2011, pp. 225-242

- [16] Gkoutzinis, "Internet Banking and the Law in Europe; Regulation Financial Integration", Cambridge University Press, 2006.
- [17] Griffith, D. A. and Krampt, R. A., "An examination of the web-based strategies of top 100 US retailers", *Journal of Marketing Theory and Practices*, 6 (3), 1998, pp. 12-13
- [18] Hadwich, K., Georgi, D., Tuzovic, S., Bu'ttner, J. and Bruhn, M., "Perceived quality of e-health services: A conceptual scale development of e-health service quality based on the C-OAR-SE approach", *International Journal of Pharmaceutical and Healthcare Marketing*, 4(2), 2010, pp. 112-136.
- [19] Herington, C. and Weaven, S., "E-retailing by banks: e-service quality and its importance to customer satisfaction", *European Journal of Marketing*, 43 (9/10), 2009, pp. 1220 – 1231.
- [20] Ho, C. I. and Lee, Y. L., "The development of an e-travel service quality scale", *Tourism Management*, 28, 2007, pp. 1434–1449.
- [21] Hongxiu Li and Suomi R., "A Proposed Scale for Measuring E-Service Quality", *International Journal of E-service, Science and Technology*, 2 (1), 2009.
- [22] Ibrahim, E.E., Joseph, M. and Ibeh, K.I.N., "Customers' perception of electronic service delivery in the UK retail banking sector", *International Journal of Bank Marketing*, 24 (7), 2006, pp. 475 – 493.
- [23] Janda, S., Trocchia, P.J. and Gwinner, K.P., "Consumer perceptions of internet retail service quality", *International Journal of Service Industry Management*, 13(5), 2002, pp. 412-31.
- [24] Jayawardhena, C., "Measurement of service quality in Internet Banking: The development of an instrument", *Journal of Marketing Management*, 20, 185 – 207.
- [25] Joseph M., McClure C., Joseph B., "Service quality in the banking sector: the impact of technology on service delivery", *International Journal of Bank Marketing*, 17 (4), 1999, pp. 182 – 193.
- [26] Jun, M. and Cai, S., "The key determinants of Internet banking service quality: A content analysis", *International Journal of Bank Marketing*, 19 (7), 2001, pp. 276-291.
- [27] Jun, M., Yang, Z., and Kim, D., "Customers' perceptions of online retailing service quality and their satisfaction", *International Journal of Quality & Reliability Management*, 21 (8), 2004, pp. 817-840.
- [28] Jung, T. H. and Butler R., "Perceptions of Marketing Managers of the Effectiveness of the Internet in Tourism and Hospitality", *Journal of Information and Tourism*, 3 (3/4), 2000, pp. 167-176.
- [29] Katono, I. W., "Student evaluation of e-service quality criteria in Uganda: the case of automatic teller machines", *International Journal of Emerging Markets*, 6 (3), 2011, pp. 200-216.
- [30] Kenova, V. and Jonasson, P., "Quality Online Banking Services", Bachelor Thesis within Business Administration, Submitted to Jönköping International Business School Jönköping University, 2006, pp. 3-4
- [31] Kim, M. and Stoel, L., "Apparel retailers: Web site quality dimensions and satisfaction", *Journal of Retailing and Consumer Services*, 11 (1), 2004, pp. 109-117.
- [32] Kumbhar, V. M., "Reliability of "Ebankqual" scale: retesting in internet banking service settings", *Business Excellence and Management*, 2(2), 2012, pp. 13-24.
- [33] Lee, G-G. and Lin H-F., "Customer Perception of E-service Quality in Online Shopping", *International Journal of Retail and Distribution Management*, 33 (2), 2005, pp. 161-176.
- [34] Lioacono, E.T., Watson, R.T. and Goodhue, D.L., "WebQual: a measure of quality", in Evans, K.R. and Scheer, L.K. (Eds), *Proceedings of the 2002 American Marketing Association Winter Educators Conference: Marketing Theory and Applications*, American Marketing Association, Chicago, IL, 13, 2002, pp. 432-8.
- [35] Long, M. and McMellon, C., "Exploring the determinants of retail service quality on the internet", *Journal of Services Marketing*, 18 (1), 78-90.
- [36] Loonam, M. and O'Loughlin, D., "Exploring e-service quality: a study of Irish online banking", *Marketing Intelligence & Planning*, 26 (7), 208, pp. 759 – 780.
- [37] Noel, Y. M. S. and Jeremy C. W. M., "Measuring service quality in Internet banking: The case of Hong Kong", *Journal of International Consumer Marketing*, 17, 2005, pp. 99–116.
- [38] Parasuraman, A. Zeithaml, V.A. and Malhotra, A., "E-S-QUAL: A Multiple Item Scale for Assessing Electronic Service Quality", *Journal of Service Research*, 7 (3), 2005, pp. 213-233.
- [39] Ranganathan, C. and Ganapathy, S., "Key dimensions of business to consumer web sites", *Information and Management*, 39, 2002, pp. 457-465.
- [40] Rolland, S. and Freeman, I., "A new measure of e-service quality in France", *International Journal of Retail & Distribution Management*, 38 (7), 2010, pp. 497-517.
- [41] Rotchanakitumnuai, S. & M. Speece, "Barriers to Internet Banking Adoption: A qualitative study among corporate customers in Thailand", *International Journal of Bank Marketing*, 21 (6), 2003, pp. 312-323
- [42] Rowley, J., "An analysis of the e-service literature: Towards a research agenda", *Internet Research*, 16 (3), 2006, pp. 339-359.
- [43] Sahadev, S. and Purani, K., "Modeling the Consequences of E-service Quality", *Marketing Intelligence and Planning*, 26 (6), 2008, pp. 605-620
- [44] Sanayei, A., Shaemi, A., and Jamshidi, H., "An Analysis of the Factors Affecting Customers Satisfaction and Trust in Mobile Banking; Case Study: Branches of Bank Mellat in Isfahan", *Interdisciplinary Journal Of Contemporary Research In Business*, 3 (7), 2011, pp. 440-452.
- [45] Santos, J., "E-service Quality – A Model of Virtual Service Dimensions", *Internet Research*, 15 (1), 2003, pp. 21-48.
- [46] Sohn, C. and Tadisina, S.K. "Development of e-service quality measure for the internet-based financial institutions", *Total Quality Management & Business Excellence*, 19 (9), 2008, pp. 903-918.
- [47] Sousa, R., Yeung, A. and Cheng, E., "Customer heterogeneity in operational e-service design attributes: An empirical investigation of service quality", *International Journal of Operations & Production Management*, 28, (7), 2008, pp. 592-614.
- [48] Sutarso, Y. and Suharmadi, A., "Promotion of E-Technology-Based Services: A Case Study of E-Service Quality at a University in Indonesia", *International Journal of Business and Information*, 2011.
- [49] Wang, M., "Measuring e-CRM Service Quality in the Library Context: A Preliminary Study", *The Electronic Library*, 26 (6), 2008, pp. 896-911.

-
- [50] Wolfinbarger, M. F & Gilly, M.C., "ETailQ: Dimensionalization, measuring and predicting Etail quality", *Journal of Retailing*, 79 (3), 2003, pp. 183-198.
- [51] Wu Yu Lung, Chang, M.C.S., Pei-Chi Yang and Ying Jun Chen, "The Use of E-SQ to Establish the Internet Bank Service Quality table", *IEEE International Conference on Industrial Engineering and Engineering Management*, December, 2008, pp. 1446-1450
- [52] www.business-standards.com/india/news/7-account-holders-in-india-net-use-banking-tudy/141873 browsed on July 20, 2014.
- [53] Yang, Z. and Jun, M., "Consumer perception of e-service quality: From Internet purchaser and non purchaser perspectives", *Journal of Business Strategies*, 19 (1), 2002, pp. 19-41.
- [54] Yang, Z., Jun, M. and Peterson, R.T., "Measuring customer perceived online service quality: scale development and managerial implications", *International Journal of Operations & Production Management*, 24(11), 2004, pp. 1149-1174.
- [55] Yanga, Z., Caib, S., Zhouc, Z. and Zhou, N., "Development and validation of an instrument to measure user perceived service quality of information presenting Web portals", *Information & Management*, 42, 2005, pp. 575-589
- [56] Zeithaml, V., Bitner, M., Gremler, D., "Services marketing: integrating customer focus across the firm", (5th ed.): McGraw-Hill, Boston, 2009.
- [57] Zeithaml, V.A., Parasuraman, A. and Malhotra, A., "Service quality Delivery Through", New York: McGraw Hill, 2002