ONLINE BANKING SERVICE QUALITY SCALES: A STRUCTURED LITERATURE REVIEW

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ABSTRACT

Firms aiming to excel by developing and delivering services of high quality through the internet face new challenge, which is not evident in traditional brick-and-mortar provided services. Several studies have been undertaken to examine the effective measurement of perception of customers of e-banking service quality across globe. The purpose of this paper is to put in foreground key methodological issues on prevailing research related to scale development for the measurement of service quality in the context of online retail. The present study is conducted to review and summarizes the methodology chosen by scholars for their studies conducted in approximately 20 different countries. Papers are sourced from prestigious databases. Observations regarding dimensionality of online banking service quality constructs also have been highlighted. The various dimensions of the online banking service quality are important for improving perceived service quality. A fundamental understanding of factors that affect online banking service quality from their client's perspective is must for decision maker to sustain the growth and market share. The managerial contribution of this study is to present a compiled view of e-service quality dimensions for e-banking having cross cultural flavor and the issues which need to be taken care by future researchers while developing any new scale for the measurement of e-service quality in banking sector.

Keywords: Online service quality banking scales, Cross country, e-SQ, Literature review, Methodological issues

Introduction

One of the key challenges of the internet as a service delivery channel in general and specifically in the banking industry is how they manage e-service quality. These challenges are primarily attributed to service providers' lack of experience in operations in this new channel of delivery and their limited understanding of consumer's behavior in electronic markets (Mols 2000). But there is also an opportunity for the online commercial companies to have competitive advantage in this new marketspace and involve customers in the product development through quick feedback and enhanced customer relationship. However, improvements in the quality of service delivered can only be made only if it can be measured in the first place. Various scales have been developed by the research scholars for the measurement of perceived e-service quality of general services such as SERVQUAL by Parasuraman et al. (1998), SITEQUAL by Yoo & Donthu(2001), eTail- Q by

Wolfinbarger & Gilly (2003). But all these scales are meant to measure "general measure" of quality, which further needs fine tuning as per the products or situations (Parasuraman et al. 2005). The present study is a small endeavor to highlight the methodological variances across various scales suggested by the authors to measure the online service quality in the context of banking services.

I Literature review: e-service quality is defined as a consumers' overall evaluation and judgment on the quality of the services that is delivered through the internet (Parasuraman et al. 2005). Till now researchers from across countries have developed e-service quality concept across different industries and countries. For example, Wolfinbarger & Gilly (2003) defined e-service quality as attributes that contribute to consumers having a satisfying, high quality online shopping experience. Pearson et al. 2012 defined it as a state where companies meet customer expectation without the service encounter relying on human-to-human interaction. According to Yang et al. (2004), service quality consists of customer service, front store and product portfolio. Similarly, Ho and Lin (2010), a study from Taiwan, explored five dimensions of measuring e-service quality of internet banking, namely: customer service, web design, assurance, preferential treatment, and information provision. To establish a competitive position, banks must measure and determine their level of service quality, if they desire to keep their customers and satisfy their needs (Hall 1995). To assess the current level of service quality and further enhance it calls for its quantification and measurement through a reliable and well-defined measurement scale. Researchers in the field of e-banking and service quality have developed such scales.

2. Research Methods and Design: The paper is focused to review and summarize the various scales which are developed in twenty different countries for measuring e-service quality for online banking service. Studies considered for literature survey are sourced from well-known publishers like Elsevier, Routledge, Emerald, Sage, reputed conference proceeding etc.

3. Results and Analysis: Table 1 depicts the studies pertaining to scale developed for measurement of online banking service quality since 1999 till date, their sampling methods, ways to administer survey, method of item generation and purification, its dimensionality, and its reliability and validity assessment.

3.1Research Methodology

Studies of development of various e-banking service quality measurement scales use variety of methodologies- like quantitative, qualitative and mixed. There is noticeable heterogeneity in methodologies used in different studies. It includes quantitative (Amin 2016, Boon-itt 2015; Zavareh et al. 2012; Herington & Weaven 2009), qualitative (Wu et al. 2012; Loonam & O'Loughlin 2008; Jun & Cai 2001), and mixed (Hussien & Aziz 2013; Ho & Lin 2010, Khan et al. 2009; Bauer et al. 2005). Out of studies which are reviewed for the paper approximately half have followed quantitative methodology. Quantitative techniques have their own relevance for validating the existing work on different sets of samples and for cross cultural studies. But this method is criticized on the grounds of respondent's unwillingness or inability to answer questions or giving untruthful answers of the questions which they feel is invading their privacy or affect their ego or status (Malhotra 2007). Approximately 60 percent of the studies reviewed used either already developed scale or used hybrid scale as the basis of their own scale development which in consequence is a "tube thinking" leading to "creation of a scale within a scale" (Kalia 2017). In developing measurement scale in any context qualitative research at the earliest stage possible of their work is suggested (Ladhari 2010). There are several qualitative techniques available with researchers, like critical incident technique, case study research, blog and buzz mining, conversation analysis, content analysis etc. Only few authors (Karatepe et al. 2005; Yang et al. 2004; Jun & Cai 2001) have used qualitative techniques like content analysis. Therefore, it is advisable to the researchers that they should use more qualitative or mixed research methodology for the real contribution to the existing body of knowledge. It would help in exploring various variables or dimensions which can be detrimental for enhanced e-service quality.

3.2 Sampling Methods

Various methods can be followed to draw the samples from the given population for the study. Several studies use convenience sampling (Akinci et al. 2010, Herington & Weaven, 2009, Liao & Cheung 2002). While various researchers (Parasuraman et al. 2005, Yang & Jun 2002) recommend random sampling, but only few studies (Ayo et al. 2016, Khan et al. 2009, Jayawardhena 2004) applied it. There are some studies (Zavareh et al. 2012, Han & Baek 2004) who have not reported any information about the method of their sample selection. While reviewing, it is found that there is considerable gender difference in the sampling frame across studies. For example, there were as low as 19.2% females respondents (Yang et al. 2004) and approximately 27% females respondents (Gupta & Bansal 2011, Bauer et al. 2005) and as high as 87% females cases (Hossain & Leo 2009) and 70% females cases (Akinci et al. 2010). The sample is also skewed towards relatively young population in various studies like Hussien & Aziz (2013) who has taken approximately 96% respondents of the age less than 40 years and Hussien & Leo (2009) chose 80% sampling frame of age less than 35 years. Demographic variables have the capacity to affect the result of any empirical study which is evident by Marrimon et al. 2012, who reported in their study that students are very knowledgeable representation of the web users and they might not have reported service failure, since they can solve some non-routine encounters by seeking advice through social network media. Hence, researchers are advised to be mindful while choosing the sampling frame for their studies as it is very important part of the methodological design.

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Table 1: Reviewed Studies Related to Service Quality Measurement Scale Development in Context of Online Retail Banking

Sr. No.	Study	Research Method	Sample size	Sampling Method	Surveys	Generation of Items	Data analysis Procedure	Internal reliability α/ composite construct reliability ρ	Validity	Dimensions considered for study/ Items	Related to
1.	Amin (2016) Malaysia	Quanti-tative	520 respon-dents Age<30: 60.6%Gen der: 61.3% females	Convenience Sampling	Offline Method (5 point scale)	Adapted from Herington & Weaven (2009) & Ho & Lin (2010)	CFA Amos 19	Ranges from 0.851 to 0.916 (Cronbach α)	Content, Convergent, discriminanat	personal need (3), site organization (4), user friendliness (4), efficiency of website (3)	Positively related to e-customer satisfaction, No direct positive relationship was found with e-loyalty
2.	Ayo et al. (2016) Nigeria	Quanti-tative	254 respon-dents Age <30: 74.02% Gender: 54.72 females	Random sampling	Offline Method (5 point scale)	Adapted from Pearson et al. (2012), Wu et al. (2012), Yang et al. (2004)	CFA (Smart PLS 3.0)	Ranges from 0.742 to 0.840 (Cronbach α)	Convergent Discriminant,	Reliability (3), responsiveness (3), competence (3), service availability (3), privacy (2), service portfolio (3)	Positively impact attitude towards e-banking and customer satisfaction.
3.	Boon-itt (2015) Thailand	Quanti-tative	222 respon-dends Age: No informa-tion reported Gender: 59% females	Purposive sampling	Online survey through email (5 point scale)	Adapted from Lin & Hsieh 2006, Lin & Hsieh 2011, Ibrahim & Nazir 2008, Bauer et al. 2006, Cristobal 2007, Yoo & Donthu 2001, Kim et al. 2006	CFA using Amos	Ranges from 0.72 to 0.85 (composite reliability)	Content, Face, Convergent, Discriminant	Functionality (3), Convenience (3), enjoyment (4) Assurance (2), Security (4)	Perceived value has partially mediates the relationship between service quality SSTs and satisfaction.
4.	Hussien & Aziz (2013) Egypt	Mixed	133 respon-dents Age<40: 96.3% Gender: 54.1% females	Random sampling	Online survey (5 point scale)	Review of literature & Semi structured interview	Regression analysis	N/A	Face	Usability (6), reliability (4), responsiveness (7), privacy/ security (4), incentive (3), fulfillment (3), efficiency (3), assurance (4), empathy (3)	e-service quality related to customer satisfaction

5.	Wu et al. (2012) Taiwan	Quanti-tative	312 respon-dents Age <35: 78.53% Gender: 46.47% females	Random sampling	No information about administration of survey is reported (5 point scale)	Adapted from Jayawardhena 2004, Khan & Mahapatra 2009, Siu & Mou 2005	EFA CFA	Each	Content, Convergent, Discriminant	Efficiency (5), Privacy/ security (4), reliability (4), responsiveness (4), contact (4)	N/A
6.	Zavareh et al. (2012) Iran	Quanti-tative	392 respon-dents no demo-graphic informa-tion reported	No information regarding sampling	No information reported regarding survey administration (No information about anchors of scale)	Adapted from Parasuraman et al. 2005	CFA Principal Component with varimax rotation	Ranges from 0.735 to 0.810 (Cronbach α)	Content Predictive	Efficient and reliable services (4), security/ trust (3), site aesthetic (2), responsiveness/ contact (3), fulfillment (4), ease of use (3)	Positive correlation between e-service quality and e- customer satisfaction
7.	Marimon et al. (2012) Spain	Quanti-tative	428 respon-dents Age<34: 59.8% Gender: 52.6% females	Random sampling	E-mail invitation with embedded URL link to the website hosting the survey (5 point scale)	Adapted from Parasuraman et al. 2005	EFA SEM (PLS)	Ranges from 0.819 to 0.904 (Cronbach α)	Convergent, Discriminant	Efficiency (8), system availability (4), Fulfilment (4), privacy (3)	e-quality dimension 'efficiency' is the most significant in determining perceived value whereas technical dimensions are less important.
8.	Ariff et al.(2012) Malaysia	Quanti-tative	256 respon-dents no demo-graphic informa-tion reported	Random sampling	No information reported regarding survey administration (No information about anchors of the scale)	Adapted from Parasuraman et al. 2005	CFA Principal Component with varimax rotation	Ranges from .781 to .912 (Cronbach α)	Content	Efficiency (6), assurances (4), contact (4), website aesthetic and guide (4), privacy (2)	N/A
9.	Gupta & Bansal (2011) India	Quanti-tative	1350 respon-dents Age<35: 66.6% Gender: 27.1% females	Mixed sampling (stratified, area and random sampling)	No information reported regarding survey administration (5 point scale)	Adapted from Jayawardhena 2004, Siu & Mou 2005, Sohail &Saikh 2008	EFA	Ranges from .85 to .95 (Cronbach α)	Content	Security/ Privacy (6), reliability (6), efficiency (3), responsiveness (3), site aesthetics (3)	N/A

19.	Bauer et al. (2005) Germany	Mixed	280 respon-dents Age<29: 78% Gender: 27.5% females	Random sampling	Online survey (7 point scale)	Review of literature & In-depth interviews	EFA CFA (LISREL)	Ranges from .57 to .89 (Cronbach α)	Convergent, Discriminant	Security (2), trustworthiness (3), choice (2), conditions of basic services (4), payment transactions (2), online loans (4), all-in-finance products (4), enjoyment & entertainment (4), non-bank services (4), convenience of transaction processing (4), interactivity (3), information provision (4), decision support (4), customer care (5), availability accessibility (4), personaliza-tion (5), community (2), complaint management (1)	N/A
20.	Karatepe et al. (2005) Northern Cyprus	Mixed	1220 resp-ondents Age< 46: 84% Gender: 34% female	Systematic random sampling	Offline survey (5 point scale)	One –on-one interview with bank customers	EFA CFA	Ranges from .81 to .92 (Cronbach α)	Content Convergent, Discriminant Nomological	Service environment (4), interaction quality (7), empathy (5), reliability (4)	Service quality has its strongest effect on customer satisfaction.
21.	Al-Hawari et al. (2005) Australia	Mixed	442 respon-dents No demo-graphic informa-tion reported	Convenience sampling	Mall-intercept method (Offline Method) (7-point scale)	One-to One Interview & Review of Literature	CFA	Ranges from .829 to .947 (Cronbach α)	Criterion, Convergent, Discriminant	ATM service quality (4), Telephone service quality (5), Internet banking service (7), core service quality (3), customer perce-ption of service quality (3)	N/A

22.	Yang et al. (2004) USA	Mixed	235 respondents for survey Age <54: 76.9% Gender: 19.2% females	Random sampling	Online questionnaire through e-mail (5 point scale)	Content analysis of 848 respondents	Ethnograph 5.0 SEM Regression analysis	Ranges from .75 to .86 (Cronbach α)	Convergent, Discriminant Criterion	Reliability (3), responsiveness (3), competence (3), ease of use (3), product portfolio (4), security (4)	Responsiveness, reliability and ease of use have strong associations with overall service quality.
23.	Jayawardhena (2004) U.K.	Mixed	426 respondents no demographic information reported	Random sampling	Online survey through invitation (5 point scale)	Focus groups , Review of literature, & SERVQUAL given by Parasuraman et al. in 1998	EFA CFA Regression analysis	Ranges from .80 to .87	Construct Convergent Discriminant	Access (6), web interface (4), trust (5), attention (4), credibility (4)	N/A
24.	Han & Baek (2004) Korea	Quantitative	740 respondents no demographic information reported	No Information about method of sampling reported	Online Survey via bank's website (No information about anchors of the scale)	Adapted from SERVQUAL given by Parasuraman et al. in 1998	EFA SEM (LISREL 8)	Ranges from .72 to .85 (Cronbach α) Ranges from .72 to .85 (Composite reliability)	Convergent Discriminant Predictive	Tangibles (5), reliability (5), responsiveness (4), assurance (4), empathy (5)	Service quality has positive impact on customer satisfaction.
25.	Liao & Cheung (2002) Singapore	Liao & Cheung (2002) Singapore	323 respondents Age: Respondents were not significantly different in age Gender: No information reported	Convenience sampling	Offline Method (7point scale)	Review of literature & Structured Interview	Regression analysis	Ranges from .61 to .90 (Cronbach α)	Convergent	Accuracy (1), convenience (3), user experience (2), user friendliness (5), user involvement (2), system security (4), transactions speed (2)	Quality attributes are instrumental in augmenting perceived usefulness of internet–based e-retail banking.

26.	Jun & Cai (2001) USA	Qualitative	532 incidents	Random sampling	e-mail, chat room, BBS, phone, fax, mail, automatic online service	Review of literature & Content analysis	Critical Incident Technique	N/A	N/A	*Product variety/diverse features (2), reliability (4), responsiveness (3), competence (2), courtesy (2), credibility (2), access (5), communication (3), understanding the customer (1), collaboration (2), continous improvement (3), contents (2), accuracy (3), ease of use (7), timeliness (1), aesthetics (1), security (2)*	N/A
27.	Joseph et al. (1999)	Mixed	300 respondents	Convenience sampling	Online questionnaire through e-mail (No information about anchors of the scale)	Focus groups & Review of literature	EFA	Not reported	Not reported	Convenience/accuracy (10), efficiency (6), queue management(3), accessibility(4), customization (2)	N/A

3.3 Survey Administration

Researcher used both online and offline methods to collect primary data for their studies. For reaching and identifying online users of any service, online methodology is considered more appropriate (Szymanski & Hise, 2000). Several researchers like Boon-itt,2015; Marimon et al., 2012; Rod et al. 2009 have conducted online survey. Approximately one third of the studies reviewed (Amin 2016; Santouridis et al. 2009; Liao & Cheung 2002) used offline methods of survey administration without giving any reason for choosing it. Zavareh et al. (2012), Gupta & Bansal (2011) gave no information on how they administer their survey. Though, it is suggested to the researchers that they should describe why they choose one mode rather than another.

3.4 Item generation& purification

Most of the studies either adapted/adopted existing scales for measuring e-service quality in banking sector or item generation was purely based on the review of literature (table 1). This method of item generation gives limited opportunity to identify novel dimensions because of already comprehended dimensions. Researchers consider primary factor loading values as their bases for retaining the items in the scale. Study conducted by Sohail & Shaikh 2008 considered cutoff value 0.60 which demonstrated conservative approach for retaining items in a scale. Most of the researchers (Marimon et al. 2012, Khan et al. 2009) adopted a cut off score e" .50. Score less than .05 indicate less solid factor (Costello & Osborne, 2005), but some studies used relatively lower cut off such as, ≤ .04 (Ho & Lin, 2010) and ≤ .03 (Herington & Weaven, 2009).

3.5 Scale reliability: The reliability of scales gives researcher comfort about getting consistent results after using same scale over different sample frame. Cronbach (1951) developed α to furnish a measure of the internal consistency of a test or scale. The values expressed as a number between 0 to 1. All the papers under review (table 1) indicate good reliability with Cronbach α coefficient ranging between .72 to .95 except one study (Bauer et al. 2005) in which value of α is found to be ranging .57 to .89.

3.6 Scale Validity

Validity refers to the degree to which the instrument measures the concept which researcher wants to measure. For assessing the validity of a scale, reliability is must though converse is not true. There are mainly two types of validity: Translation validity which includes face validity and content validity, and the other is criterion validity which encompasses concurrent validity, convergent validity, discriminant validity and predictive validity (Drost 2004). The results of the present study show that most of the studies (other than qualitative) reported construct (convergent & discriminant) validity. Convergent validity reflects the extent to which two measures capture a common construct while discriminant validity gives assurance about the dissimilarity of the two constructs. In case of absence of discriminant validity, a measurement scale may not function correctly (Farrell & Rudd 2009). Predictive validity measures some outcome in the future (Drost 2004). Approximately half of the studies reviewed (table 1) reported predictive /nomological validity. These studies tested the relationship of e-service quality with perceived value, e-loyalty, and customer satisfaction. However future studies developing the measurement of online banking quality scale should rigorously test and report psychometric soundness of the scale (includes three types of validity i.e. convergent, discriminant, and predictive) to make it a well-establish and parsimonious scale.

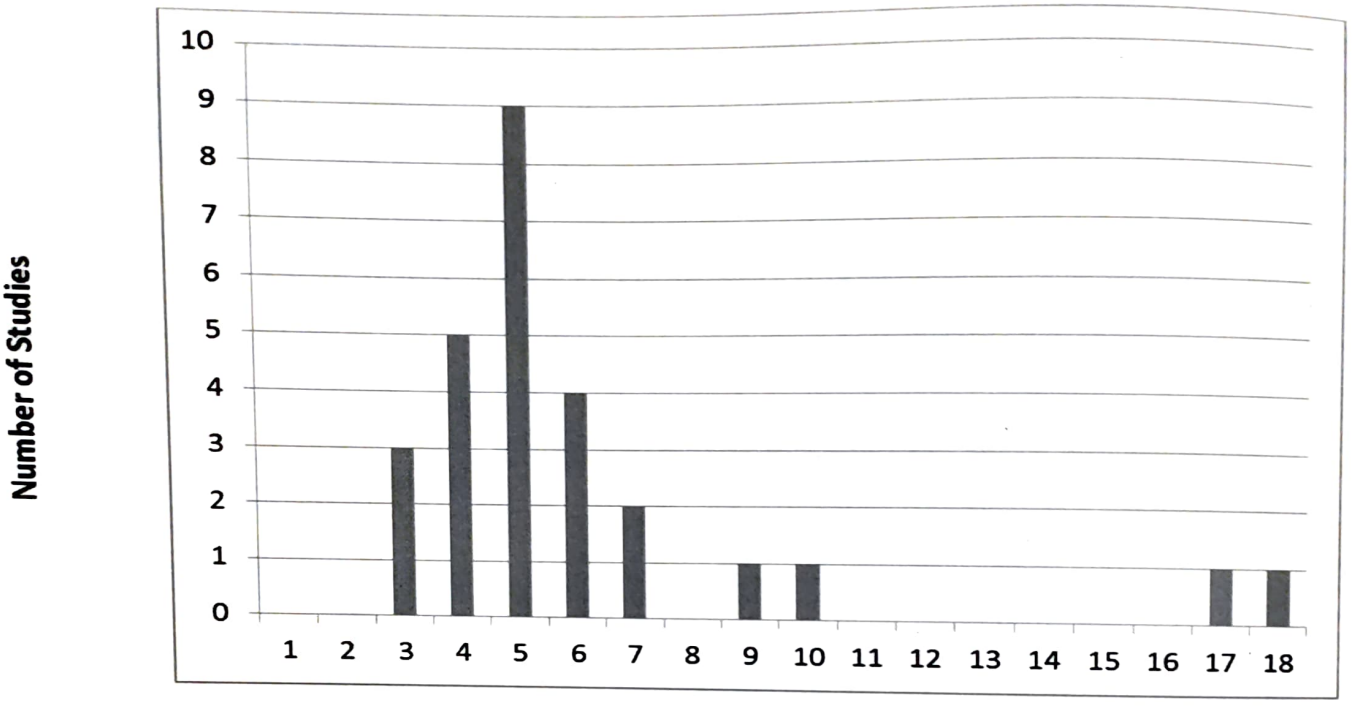
3.7 Dimensionality of the banking e-SQ construct

Figure 1 illustrates the instability associated with the number of dimensions which are supposed to measure service quality of online banking service. The number of final painstaking dimensions proposed by scholars range from minimum 3 dimensions (Rod et al. 2009, Sohail & Shaikh 2008) to the maximum of 18 dimensions (Bauer et al. 2005). Most of the studies (approximately 70 percent) under review reported 4 to 6 dimensions of the e-SQ confirming the multidimensional nature of the construct. Some common dimensions found across studies suggested by maximum researchers for example reliability, efficiency, privacy/security, responsiveness.

Similarly, some unique dimensions are also reported by the scholars such as understanding the customer, continuous improvement (Jun & Cai 2001), preferential treatment (Ho & Lin 2010), conditions of basic service (Bauer et al. 2005) etc. Al-Hawari (2005) measured online banking service quality in the unique perspective. He has taken various interfaces of online banking services such as ATM, Internet, or telephone banking as different dimensions of online service quality. Furthermore, dimensional structure of online banking service quality is unstable even in the same country. Table 1 shows that two different scales developed in India one by Gupta & Bansal (2010) and other by Khan et al. (2009) are different in the number of dimensionality and the order of importance of dimensions as well.

IV. Conclusion: The review of study supports the work of Ladhari (2010), who found that even in same industry the dimensions of e-SQ depend on the type of user service. This study shows that online/internet banking service quality is multidimensional in nature and scholars empirically tested the relationship of dimensions of service quality with satisfaction, value, trust and commitment. Nonetheless, among the various dimensions cited in the reviewed studies, the five dimensions 'efficiency', 'privacy/security', 'responsiveness', 'ease of use/ user friendliness', 'web interface/ website aesthetic', 'fulfillment' cover maximum aspects of online banking service quality. Nowadays, various alternative banking sites are available to customers; therefore, banks should provide their customers an effective and efficient website in a suitably presented environment and update the technology. Thus, a fundamental understanding of factors that affect online banking service quality from their client's perspective is must for decision maker for sustaining and development.

Figure1. Final painstaking number of dimensions



References

- Amin M. (2016), Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty, *International Journal of bank Marketing*, 34(3), pp 280—306
- Ariff M. Shoki Md., Yun L. Ooi, Zakuan N. & Jusoh., (2012), Examining dimensions of electronic service quality for internet banking services, *Social and Behavioral Sciences* ,40, pp 854-59
- Akinci S.,Inan- Atilgan E.,&Aksoy S. (2010), Re-assessment of E-S-Qual and E-RecS-Qual in a pure service setting, *Journal of Business Research*, 63, pp 232-240
- Al-HawariM., Hartley N. &Tony Ward (2005), Measuring bank's automated service quality: a confirmatory factor analysis approach, *Marketing Bulletin* (16), pp1-19
- Ayo C.K., Oni A. A., Adewoye O.J., & Eweoya I.O.(2016), E-banking users' behavior: e-service quality, attitude, and customer satisfaction, *International Journal of Bank Marketing*, 34(3), pp 347-367
- Bauer H.H, Hammerschmidt M. & ., Falk T. (2005), Measuring the quality of e-banking portals, *International Journal of Bank Marketing*, 23(2), 153-75
- Bauer H.H., Falk T. & Hammerschmidt M. (2006), eTransQual: a transaction process-based approach for capturing service quality in online shopping, *Journal of Business Research*, 59(7), pp 866-875
- Berry L.L., Parasuraman A. & Zeithaml V.A. (1985), Quality counts in services, too, *Business Horizons*, May-June, pp 44-52
- Boon-itt S. (2015), Managing self-service technology service quality to enhance satisfaction, *International Journal of Quality and Service Science*, 7(4), pp 373-391
- Costello A.B. & Osborne J. W. (2005), Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis: four recommendations for getting the most from your analysis, *Practical Assessment, Research & Evaluation*, 10(7), 1-9
- Cristobal E., Flavian C. & Guinaliu M. (2007), Measurement validation and effects on consumer satisfaction and website loyalty PeSQ, *Managing Service Quality*, 17(3), pp 317-40
- Cronbach L.J. (1951), Coefficient alpha and the internal structure of tests, *Psychometrika*, 16(3), pp 297-334
- Drost E.A. (2004), Validity and reliability in social science research, *Education Research and Perspectives*, 38(1), pp 105-123
- Farrell A.M. & Rudd J.M.(2009), Factor analysis and

discriminant validity: a brief review of some practical issues. in Tojib, D.(Ed.), ANZMAC 2009, *Australian & New Zealand Marketing Theory and Applications*, pp 263-70.

- Gupta K. & Bansal I. (2011), Effects of demographic variables on customer perceived internet banking service quality: empirical evidence from India, XV(1&2), pp 83-92
- Hall G. (1995), Surviving and prospering in the small firm sector, Routledge, London
- Han S. & Baek S. (2004), Antecedents and consequences of service quality in online banking: an application of the SERVQUAL instrument, *Advances in Consumer Research*, 31, 208-214
- Herington C. & Weaven S. (2009), E-retailing by banks: e-service quality and its importance to customer satisfaction, *European Journal of Marketing*, 43(9/10), pp 1220-1231
- Ho C.B.& Lin W. (2010), Measuring the service quality of internet banking: scale development and validation, *European Business Review*, 22(1), pp 5-24
- Hossain M. & Leo S. (2009), Customer perception on service quality in retail banking in Middle East: the case of Qatar, *International Journal of Islamic and Middle Eastern Finance and Management*, 2(4), pp 338-350
- Hussien M. I. & Aziz R. A.(2013), Investigating –banking service quality in one of the Egypt's banks: a stakeholder analysis, 25(5), pp 557-576
- Ibrahim H. & Najjar F. (2008), Assessing the effects of self-congruity, attitudes and customer satisfaction, trust, and loyalty in e-commerce setting: a cross cultural analysis, *Asia Pacific Journal of Marketing and Logistics*, 22(3), pp 351-371
- Jayawardhena C. (2004), Measurement of service quality in internet banking: the development of an instrument, *Journal of Marketing Management*, 20(1/2), pp 185-207
- Jun M. & Cai S. (2001), The key determinants of internet banking service quality: a content analysis, *International Journal of Bank Marketing*, 19(7), pp 276-91
- Joseph M. , McClure C.& Joseph B. (1999), Service quality in the banking sector: the impact of technology on service delivery, *International Journal of Bank Marketing*, 17/4, pp182-91
- Kalia P. (2017), Service quality scales in online retail: methodological issues, *International Journal of Operations and Production Management*, 37(5), 630-663.
- Karatepe O.M., Yavas U. & Babakus E. (2005), Measuring service quality of banks: scale development and validation, *Journal of Retailing & Consumer Services*, 12, pp 373-383
- Kim M., Kim J. & Lennon S.J. (2006), Online service attributes available on apparel retail web sites: an E-S-QUAL approach, *Managing Service Quality*,16(1), pp 51-77
- Khan M.S., Mahapatra S.S. & Sreekumar (2009), Service quality evaluation in internet banking: an empirical study in India, *International Journal Indian Culture and Business Management*, 2(1), pp 30-46
- Ladhari R. (2010), Developing e-service quality scales: a literature review, *Journal of Retailing and Consumer Review*, 17, pp 464-477
- Liao Z. & Cheung M.T. (2002), Internet- based e-banking and consumer attitudes: an empirical study, *Information & Management*, 39, pp 283-295
- Lin J.S. & Hsieh P. (2006), The role of technology readiness in customers' perception and adoption of self-service technologies, *International Journal of Service Industry Management*, 17(5), pp 497-517
- Lin J.S & Hsieh P. (2011), Assessing the self-service technology encounter: development and validation of SSTQUAL scale, *Journal of Retailing*, 87(2), pp 194-206
- Loonam M. & O'Loughlin D. (2008), Exploring e-service quality: a study of Irish online banking, *Marketing Intelligence & Planning*, 26(7), pp 759-780,
- Parsuraman, A.; Zeithamal, V.A., L. Berry (1985), A conceptual model of service quality and implications in future research, *Journal of Marketing*, 49(4), pp 41-50
- Parsuraman, A.; Zeithamal, V.A., L. Berry (1998), "SERVQUAL: a multiple item scale for measuring consumer perceptions of service quality, *Journal of Retailing*, 64(1), pp 12-40
- Parsuraman, A., Zeithamal, V.A., Malhotra, A. (2005), E-S-QUAL: A multiple-item Scale for Assessing Electronic Service Quality, *Journal of Service Research*, 7(3), 213-233.
- Pearson A., Tadisina S. & Griffin C. (2012), The role of e-service quality and information quality in creating perceived value: antecedents to web site loyalty, *Information Systems Management*, 29(3), pp 201-215
- Rod M., Ashill N.J., & Shao J., & Carruthers J.(2009), An examination of the relationship between service quality dimensions, overall internet banking service quality and customer satisfaction, a New Zealand study, *Marketing Intelligence & Planning*, 27(1), pp 103-126
- Santouridis I., Trivellas P. & Reklitis P. (2009), Internet service quality and customer satisfaction: examining internet banking in Greece, Total quality management & business excellence, 20(2), 223-39
- Siu N.Y.M. & Mou J.C.W.(2005), Measuring service quality in internet banking: the case of Hongkong, *Journal of International Consumer Marketing*, 17(4), pp 99-116

- Sohail M. & Shaikh N.M. (2008), Internet banking and quality of service perspectives from a developing nation in the Middle East, *Online Information Review*, 32(1), pp 58-72
- Szymanski D.M. & Hise R.T. (2000), E-satisfaction: an initial examination, *Journal of Retailing*, 76(3), pp 309-322.
- Marimon F., Yaya P. L. H., & Fa M.C.,(2012), Impact of e-Quality and service recovery on loyalty: a study of e-banking in Spain, *Total Quality Management*, 23(7), pp 769-787
- Malhotra, N.K. (2007), Marketing Research: an applied orientation, 5th edition, Prentice-hall of India Pvt. Ltd., Delhi.
- Mols N. (2000), The internet and service marketing-the case of Danish retail banking, *Internet Research: Electronic Networking Applications and Policy*. 10(1), pp 7-18.
- Wu Y.L., Tao Y.H. & Yang P.C. (2012), Learning from the past and present: measuring internet banking service quality, *Service Industry Journal*, 32(2), pp 1-31
- Wolfinbarger Mary & Gilly Mary C. (2003), "eTailQ: dimensionalizing, measuring and predicting etail quality", *Journal of Retailing*, 79(3), pp 183-198
- Yang Z. & Jun M. (2002), Consumer perception of E-service quality: from internet purchaser and non-purchaser perspectives, *Journal of Business Strategies*, 19(1), pp 19-41
- Yang Z., Jun M. & Peterson R. T. (2004), Measuring customer perceived online service quality: scale development and managerial implications, *International Journal of Operations & Production Management*, 24(11), pp 1149-1174
- Yoo B. & Donthu N. (2001), Developing and validating multidimensional consumer-based brand equity scale, *Journal of Business Research*, 52(1), pp 1-14
- Yoo, B. and Donthu N. (2001), Developing a scale to measure the perceived quality of an internet shopping site (SITEQUAL), *Quarterly Journal of Electronic Commerce*, 2(1), pp 31-47.
- Zavareh F. Beheshti, Ariff M. Shoki Md., Jusoh A., Zakuan N., &Bahari Z., (2012), E-service quality dimensions and their effects on e-customer satisfaction in internet banking services, *Social and Behavioral Sciences*, 40, pp 441-445
- Zeithaml V.A. & Bitner M.J. (1996), Services marketing, McGraw-Hill, New York, NY