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# Measuring the Service Quality of Services: TRADONIC SERVQUAL Model

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## Abstract

SERVQUAL and e-SERVQUAL have been considered as the most effective and powerful approach in evaluating the quality and gaps in the service delivered in traditional and electronic services respectively but, neither SERVQUAL nor e-SERVQUAL can measure the overall service quality of the firm as stated by Parasuraman, Zeithaml and Berry (1985) who put service quality as “the overall evaluation of a specific service firm that results from comparing the firm’s performance with the customer’s general expectations of how firms in that industry should perform”. Therefore, the present study aims to propose and test a new scale which can measure the overall service quality of the firm.

## Introduction

Services form a considerable part of the world economy, and the growth of the service sector has long been considered as an indicator of a country's economic progress. The service sector accounts for a significant proportion of GDP in most countries, including low-income and developing countries, where it frequently generates over 50 percent of GDP. For instance, services contributed 47 percent of growth in Sub-Saharan Africa over the period 2000-2005, while industry contributed 37 percent and agriculture only 16 percent (OECD, 2008). Thus, it becomes very important for the firms to pay more attention on the service and more precisely, the quality of service to be able to differentiate themselves from their competitors.

Given the importance of quality of service, a lot of attention has been paid on the ways and methods of measuring the quality of service and customer satisfaction. Service quality has its roots in the business and management field. Marketers realized that to retain customers, and to support market growth, they must provide high quality of service (Zeithaml, 2002; Dabholkar, Shephard and Thorpe, 2000). It is said that service quality is an important antecedent of consumer assessment of value, which in turn influences customer satisfaction, which then motivates loyalty (Babakus and Boller, 1992). There

has been much debate as to what constitute service quality and how its measures can be operationalized in various service industries, yet no consensus has been reached (Chowdhary and Prakash, 2007). Since service itself is a complex phenomenon, efforts to define service quality and its dimensions have been subjected to academic debate. One of the most cited and applied concept of service quality is by Parasuraman, Zeithaml and Berry (1985) who simply put it as: the overall evaluation of a specific service firm that results from comparing the firm's performance with the customer's general expectations of how firms in that industry should perform. They introduced SERVQUAL that has been considered as the most effective and powerful approach in evaluating the quality and gaps in the service delivered and the customer expectations in traditional services. The approach defines the service quality as "the discrepancy between a customer's expectations of a service and the customer's perception of the service offering" (Parasuraman, 1998). The SERVQUAL helps managers in determining the service quality gaps and prioritizing these gaps that needs to be focused on and allocating essential resources to fulfill them.

Though various grounds have been identified for criticizing the SERVQUAL methodology but as per the articles published in recent decade the process has gained great importance for identifying various quality gaps and thus helps in preparing various strategies for efficiently allocating resources and terminologies for attaining better customer satisfaction along with profit maximization. Over the years, there have been many adaptations of the original SERVQUAL model to meet the specific operational characteristics of the service industry (Dowell and Long, 1998; Walker, 1996; Getty and Thompson, 1994; Knutson et al., 1991). This has led to the evolution of terms such as LODGQUAL, LODGSERV, DINESERV and GROVQUAL. All of them individually have sought to develop and build over the more generic SERVQUAL methodology.

Last decade has seen numerous researchers developing and applying service quality models across different industries and countries (for example see Amin and Nasharuddin, 2013; 239). SERVQUAL has been applied in many sectors such as healthcare (Kilbourne, 2004; Lam, 1997; Headley and Miller, 1993; Carman, 1990); banking (Lam, 2002; Zhou, 2002; Mels et al., 1997); telecommunications (van der Wal, 2002); retail (Parasuraman et al., 1988); information technology (Jiang et al., 2000); and library services (Cook and Thompson, 2000).

Also, with the advancement in the technology services now can be offered electronically. These electronic services can be defined as, "interactive services that are delivered on the internet using advanced telecommunications, information, and multimedia technologies" (Boyer et al., 2002). Online services, including online banking services, are becoming an attractive alternative to visiting service outlets or phoning call centers for increasing number of customers (HR-Focus 2000). Some of the reasons for customers to prefer online services (as online banking services) are convenience (Meuter et al., 2000; Szymanski and Hise, 2000), feeling more in control of the service process (Bateson, 2000; Dabholkar, 1996) and avoiding human contact and saving time (Meuter et al., 2000; Dabholkar 1996). As far as online services are concerned, it is quite easier for customers to evaluate and compare the benefits of competing services (Santos, 2003). In addition, the switching costs are very low, that is why retaining the customer in the Internet space is of vital importance (Reichheld and Scheffer, 2000). With the introduction of electronic services methodology such as E-S-QUAL and E-RecS-QUAL (Zeithaml et al., 2000) have been implemented to measure the service quality of the electronic services. The SERVQUAL model measures the service quality of the traditional services offered at the service premises whereas the E-SERVQUAL model measures the service quality of the electronic services offered by the firm.

The business scenario is changing due to factors such as opening-up of markets, increased use of information technology, increased customer knowledge, use of electronic services, etc. (Sangeetha and Mahalingam, 2011). With these advancements it has become increasingly difficult to define the services offered in modern industries such as banking, retail, healthcare, etc. as purely electronic or traditional. The boundary between the traditional and electronic services has vanished and an overlap can be seen in both the services. Owing to this growing body of knowledge in service quality research (definition, modeling, measurement, data collection procedure, data analysis, etc.) and competitive business environment have necessitated a fresh understanding and outlook on SERVQUAL model (Amin and Nasharuddin, 2013; Guiry et al., 2013; Sangeetha and Mahalingam, 2011). This is increasingly visible in case of finance (banking), retail, hospitality, and healthcare sectors where the customers can avail the services electronically, traditionally or sometimes using both the channels.

Zeithaml, Parasuraman, and Malhotra (2002) stated that "A comparison of the way consumers evaluate service quality and electronic service quality reveals differences in

the role of expectations, number and nature of dimensions, and cognitive-emotional content. In addition, there seems to be a greater degree of consumer trade-offs and hence curvilinearity along e-SQ dimensions than in the case of SQ". Thus, it can be said that SERVQUAL can only be used to measure the service quality of traditional services whereas E-SERVQUAL can only be used to measure the service quality of electronic services. Therefore, none of them is said to measure the overall service quality of the firm which goes against Parasuraman, Zeithaml and Berry (1985) who put service quality as: the overall evaluation of a specific service firm that results from comparing the firm's performance with the customer's general expectations of how firms in that industry should perform. This reflects the need of a model which is capable of measuring the overall service quality of the firms' providing advancements in service delivery systems (where service delivery is not distinctly classified as purely traditional or electronic) such as in Banking, Retail, etc.

The chapter explains development of a new scale that can measure the overall service quality of the modern firms with new capabilities in service delivery system and also provides results from a pilot study. The purpose of the pilot study was to assess the validity and need of such scales by service organizations. The rest of the article is organized as follows: The next session provides a literature review of the SERVQUAL and E-SERVQUAL scale and the differences in the dimensions of both the scale and the motivation behind a new scale. The subsequent section discusses the constructs and dimensions of the proposed scale followed by the methodology and the future analysis. The last section discusses the findings of the study followed by conclusion.

## Literature background

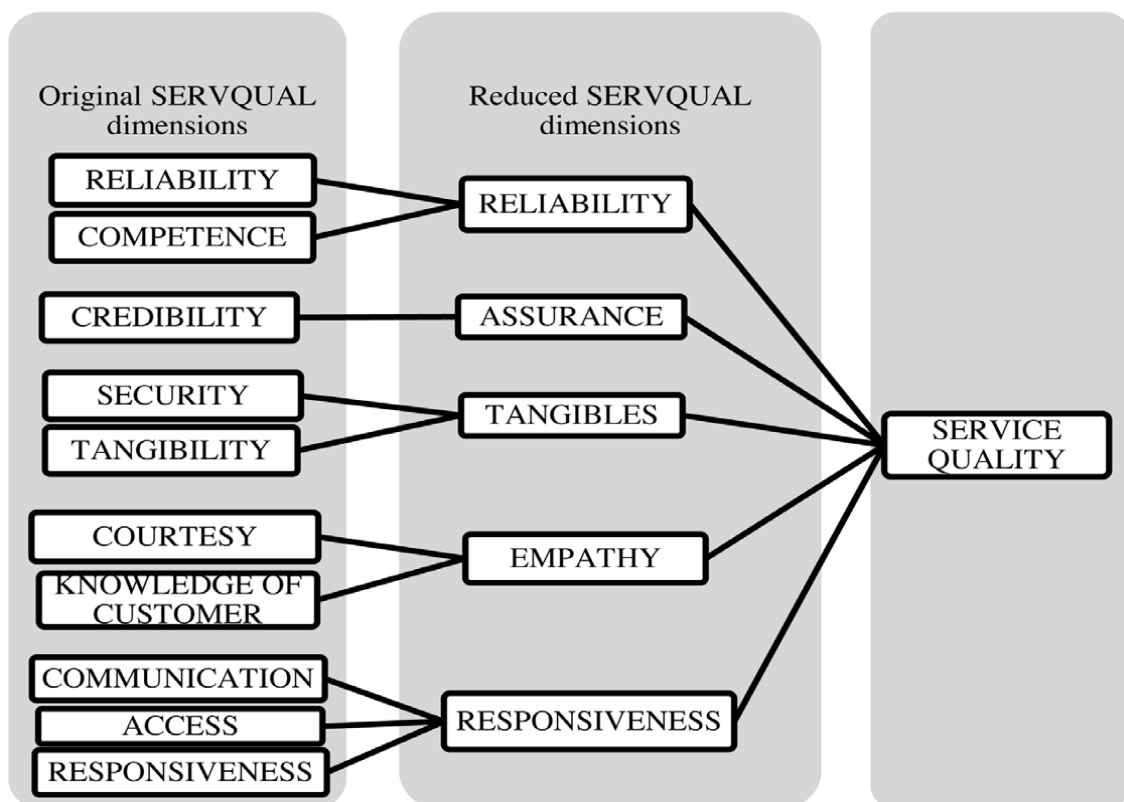
### The SERVQUAL model

The SERVQUAL model was first published in 1985 by A. Parasuraman, Valarie A. Zeithaml and Leonard L. Berry for measuring and managing service quality across a broad range of service categories. It was based on their definition of quality as 'difference between the expected and perceived performance'. The authors further conducted a qualitative study involving consumers views on service quality and elicited ten determinants of the service quality that focused more on the 'process' of service delivery and not on the 'output or technical' as defined by Gronross (1984). The scale consisted of 22 pairs of statements – measuring expectations of customers by asking each respondent to rate, on a 7-point scale, how essential each item is for an excellent service.

The second set of 22 identical statements ascertains the respondent's perception to the level of service given by the service provider. The difference between the ranked perception and the ranked expectations is calculated: the average score is the SERVQUAL overall service quality score. This model has been vigorously tested and improved upon (Parasuraman, et al., 2005; Parasuraman et al., 2004, 1994, 1993, 1991, 1990, 1988, 1985; Zeithaml, Parasuraman and Malhotra, 2002; Zeithaml, et al., 1996) as shown in Table 1. In 1988, the ten factors were collapsed to five dimensions as shown in Figure 1: Reliability, Assurance (competence, courtesy, credibility, and security), Tangibles, Empathy (access, communication, knowing the customer) and Responsiveness, better known as the R.A.T.E.R. dimensions, defined as:

1. Reliability: The ability to perform the promised service dependably and accurately.
2. Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence.
3. Tangibles: The appearance of physical facilities, equipment, personnel and communication materials.
4. Empathy: Care and individualized attention provided to customers.
5. Responsiveness: The willingness to help customers and provide prompt services.

Figure 1. Dimensions of SERVQUAL



Some of the notable attempts with SERVQUAL model to develop new quality measurement models and/or scales in various sectors are by Calabrese and Scoglio, 2012; Durvasula, et al., 2011; Baccarani et al., 2010; Urban, 2009; Chatterjee and Chatterjee, 2005; Gupta et al., 2005; Chiu and Lin, 2004; Getty and Getty, 2003; Luk and Layton, 2002; Brady and Cronin, 2001; Candido and Morris, 2000; Bennington and Cummane, 1998; and Lovelock, 1984. The SERVQUAL model has its own strengths and weaknesses. Strengths lie in its simplicity, its linearity and in the rationality of firm actions. The model limits itself in neglecting the systemic nature of firm and its environment (Mauri et al., 2013).

*Table 1: Evolution of SERVQUAL*

<b>SERVQUAL</b>	<b>Dimensions</b>
Conceptual model of SQ: the Gap Theory Model 1985	10 determinants of service quality <ul style="list-style-type: none"> <li>• Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Knowing customer needs, Tangibles</li> </ul>
SERVQUAL, 1988	5 R.A.T.E.R. dimensions were developed through factor analysis <ul style="list-style-type: none"> <li>• Reliability, Assurance, Tangibles, Empathy, Responsiveness,</li> <li>• Used a 7-point Likert type scale</li> </ul>
SERVQUAL, 1991	<ul style="list-style-type: none"> <li>• Dropped negative wording</li> <li>• Dropped the normative ‘should’ and replaced it with ‘would’</li> <li>• Allocated 100 points among the 5 dimensions on a 10-point scale</li> </ul>
SERVQUAL, 1993	Expectation component interpreted as : <ul style="list-style-type: none"> <li>• Adequate service</li> <li>• Desired service</li> <li>• Predicted service</li> </ul>
SERVQUAL, 1994	<ul style="list-style-type: none"> <li>• Reformatted 22 items to 21 items on a 9-point Likert-type scale</li> </ul>

	<ul style="list-style-type: none"> <li>• Included use of ‘no opinion’</li> <li>• Perception next to desired and adequate separately</li> </ul>
SERVQUAL, 1996	<ul style="list-style-type: none"> <li>• Developed a conceptual framework of both financial and behavioural consequences of service quality</li> </ul>

### Electronic service quality measurement

Electronic services can be defined as "those services that can be delivered electronically," (Javalgi, Martin, and Toddl, 2004) and similarly as "provision of services over electronic networks" (Rust and Kannan, 2003). Boyer, Hallowell and Roth (2002) used the definition, "interactive services that are delivered on the Internet using advanced telecommunications, information, and multimedia technologies." E-service has been regarded as having the potential not only to deliver strategic benefits, but also to enhance operational efficiency and profitability (Cronin, 2003). The first formal definition of Web site service quality, or e-SQ, was provided by Zeithaml, Parasuraman, and Malhotra (2000). In their terms, e-SQ can be defined as the extent to which a Web site facilitates efficient and effective shopping, purchasing, and delivery of products and services (Zeithaml et al. 2000). As can be observed in this definition, the meaning of service is comprehensive and includes both pre- and post-Web site service aspects.

e-SQ instrument is similar to the SERVQUAL scale, developed specifically for measuring online services (e-services) quality. The model has been developed in 2000 and tested and revised in 2002 by Parasuraman, Zeithaml and Malhotra who made an exploratory study on quality perceptions of customers as far as online shopping is concerned. During the research Parasuraman, Zeithaml and Malhotra (2002) observed that there were missing data on some items. After an analysis of these items, they concluded that they were all related to service recovery. That is why they separated those items to develop a separate e service recovery scale (E-RecS-QUAL). The rest of the items formed an e-core service quality scale (E-S-QUAL). The E-S-QUAL scale consists of 4 dimensions (refer Table 2) with 22 attributes and the E-RecS-QUAL consists of 3 dimensions (refer Table 3) with 11 attributes. After the development of these scales, they were empirically tested by using questionnaires distributed to sample of users of the most visited at that time web sites in the USA – amazon.com and walmart.com (Parasuraman, Zeithaml, and Malhotra, 2005).



*Table 2: E-S-QUAL SCALE (Parasuraman, Zeithaml, and Malhotra, 2005)*

<b>E-S-QUAL scale</b>	
<b>DIMENSION</b>	<b>DEFINITION</b>
Efficiency	The ease and speed of accessing and using the website
Fulfilment	The extent to which the site's promises about order delivery and item availability are fulfilled
System Availability	The correct technical functioning of the site
Privacy	The degree to which the site is safe and protects customer information

*Table 3: E-RecS-QUAL SCALE (Parasuraman, Zeithaml, and Malhotra, 2005)*

<b>E-RecS-QUAL</b>	
<b>DIMENSION</b>	<b>DEFINITION</b>
Responsiveness	Effective handling of problems and returns through the site
Compensation	The degree to which the site compensates the customers for problems
Contact	The availability of assistance through telephone or online representatives

Better e-service quality will enhance the relationship with customers and their satisfaction. So, the measurement of e-service quality is very important but it is a complex process due to the complex nature of services (Agrawal et al., 2014). A major contribution in measuring the e-service quality has been made by Parasuraman, Zeithaml, and Malhotra (2005). Over a period of time other researchers modified the e-service quality model and came up with models having differing dimensions (Table 4).

*Table 4: e-SERVQUAL Dimensions*

<b>Author(s)</b>	<b>Dimensions</b>
Dabholkar (1996)	Website designs, Reliability, Delivery, Ease- of-Use, Enjoyment and Control.
Zeithaml et al. (2000)	Efficiency, Reliability, Fulfilment, Privacy, Responsiveness, Compensation, and Contact.
Yoo and Douthu (2001)	Ease- of-Use, Aesthetic design, Processing speed, and Security.

Cox and Dale (2001)	Website appearance, Communication, Accessibility, Credibility, Understanding and Availability.
Jun and Cai (2001)	Website designs, Information, Ease- of-Use, Access, Courtesy, Responsiveness, and Reliability.
Yang (2001)	Website design, Security and Information.
Wolfenbarger and Gilly(2002, 2003)	Website design, Reliability, Security, and Customer Service.
Zeithaml et al. (2002)	Security, Communication, Reliability, Responsiveness and Delivery.
Madu and Madu (2002)	Performance, Features, Structure, Aesthetics, Reliability, Serviceability, Security and System integrity, Trust, Responsiveness, Service differentiation and customization, Web store police, Reputation, Assurance and Empathy.
Loiacono et al. (2002)	Information, Interactivity, Trust, Response time, Website design, Intuitiveness, Flow, Innovativeness, Integrated communication, Business process and substitutability.
Yang and Jun (2002)	Website design, Security, Reliability, Responsiveness, Accessibility and Customization.
Surjadaja et al. (2003)	Security, Interaction, Responsiveness, Information, Reliability, Delivery, and Customization.
Santos (2003)	Ease- of-Use, Appearance, Linkage, Structure, Content, Efficiency, Reliability, Communication, Security, Incentive and customer support.
Yang et al. (2003)	Responsiveness, Credibility, Ease- of-Use, Reliability, Convenience, Communication, Access, Competence, Courtesy, Personalization, Collaboration, Security and Aesthetics.
Yang et al. (2004)	Reliability, Responsiveness, Competence, Ease- of-Use, Security and Product portfolio.
Field et al. (2004)	Website design, Reliability, Security, and Customer service.
Kim and Stoel (2004)	Web appearance, Entertainment, Information, Transaction capability, Responsiveness and Trust.

Yang and Fang (2004)	Responsiveness, Reliability, Credibility, Competence, Access, Courtesy, Communication, Information, Responsiveness and Website design.
Gounaris et al. (2005)	Website design, Information, Trust, Responsiveness and Reputation.
Parasuraman et al. (2005)	Efficiency, Availability, Fulfilment, Privacy, Responsiveness, Compensation and Contact.
Lee and Lin (2005)	Website design, Reliability, Responsiveness, Trust and Personalization.
Kim et al. (2006)	Efficiency, Fulfilment, System availability, Privacy, Responsiveness, Compensation, Contact, Information and Graphic style.
Fassnacht and Koese (2006)	Graphic quality, Layout, Attractiveness of selection, Information, Ease- of-Use, Technical quality, Reliability, Functional benefit and Emotional benefit.
Cristobal et al. (2007)	Website design, Customer service, Assurance and Order management.
Sohn and Tadisina (2008)	Trust, Speed of delivery, Reliability, Ease- of-Use, Customized communication, Website content and Functionality

### Difference in traditional and electronic services

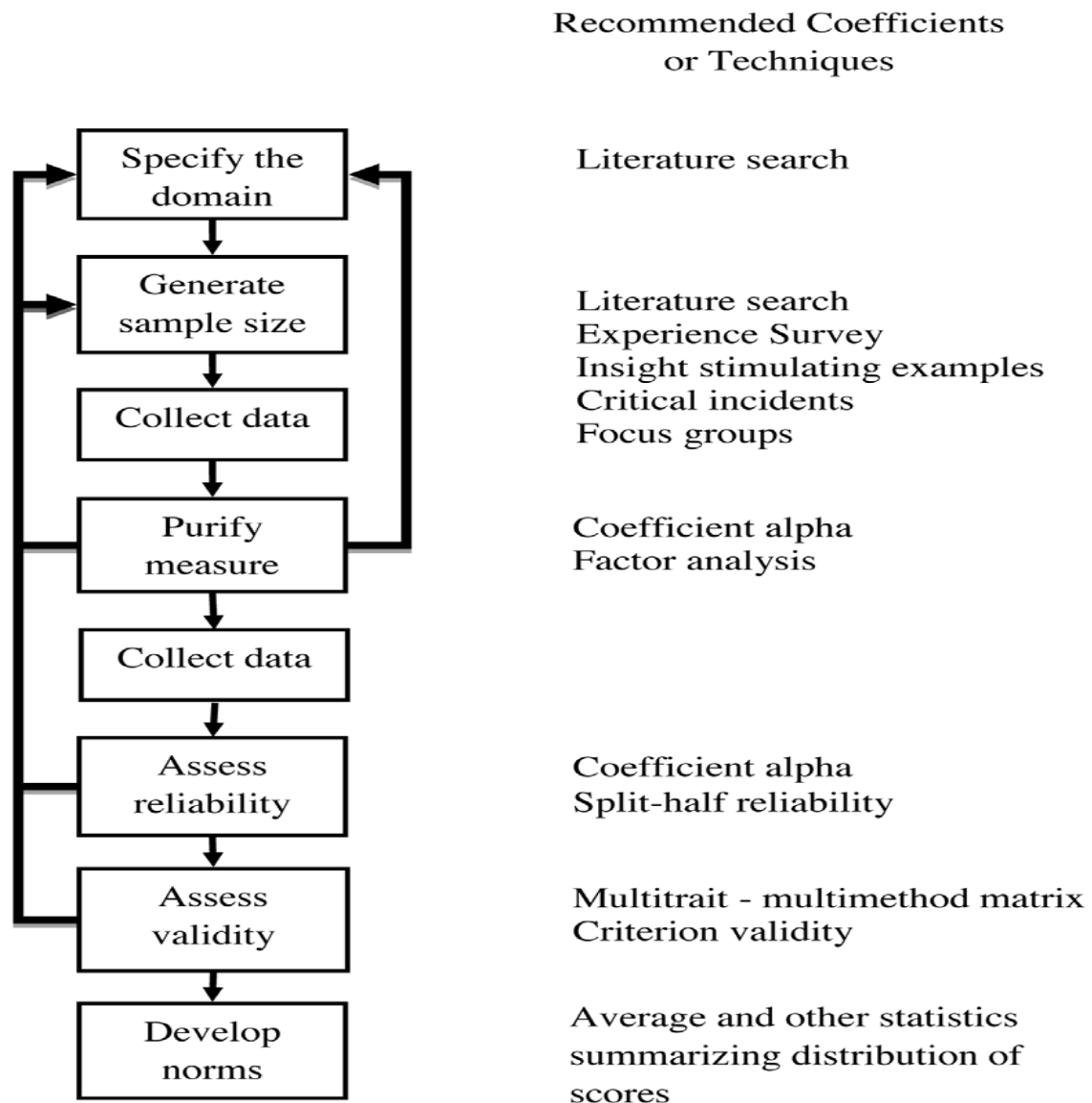
Traditional services and electronic services differ from each other in varying aspects (Surjadaja, Ghosh and Anthony, 2003) such as, in a traditional service, only people — the employees— are involved in the interface of the service encounter whereas in e-service, ICT or employees are involved in the interface, mediated by the Internet. Moreover, during an e-service encounter, the customers are restricted to hearing and viewing whereas, in traditional services, customers’ can- experience the service by using all their senses. Furthermore, traditional service is restricted by distance and opening hours, whereas e-service has substantially removed these barriers. Also, given the importance and advancements in information technology it has become increasingly difficult to define the services offered in modern industries such as banking, retail, healthcare, etc. as electronic or traditional. With these advancements the customer has more control and freedom over the way of getting served. In the last decade, the boundary

between the traditional and electronic services has vanished and an overlap can be seen in both the services.

## Methodology

The present study adopted eight steps of scale development paradigm suggested by Churchill (1979). These include specifying the domain of the construct, generating the sample of items, collecting data, purifying the measure, collecting further data, assessing scale reliability, assessing validity, and developing norms (Figure 2). The first four steps mentioned above are particularly relevant for conducting a pilot study which is the focus of this paper.

Figure 2. Suggested procedure for developing better measures (Churchill, 1979)



### Specifying domain of the construct

The literature shows that even after almost thirty years from its presentation, the SERVQUAL model still raises interest among scholars. It is also interesting to note that the wide-ranging literature on marketing covers the model in its original and revised versions. The versions are either adjustments or applications of the model but without invalidating its theoretical principles. Also, the E-SERVQUAL model has been widely accepted and its variants are just either addition or modification the dimensions. This shows the robustness of both the models. A rigorous literature review was done to cover all the dimensions mentioned in the literature to measure the service quality of both the traditional services and electronic services (Table 1 and 4). The proposed model integrates the dimensions of SERVQUAL and e-SERVQUAL and other dominant dimensions in the literature, with the relevant modifications and provides a methodology to measure the quality of services offered in present business scenario where both traditional and electronic services are offered at the same time. Also, some dimensions which are only attributed to electronic services are kept separate to measure the service quality efficiently.

Given the differences in the traditional and electronic services (Surjadjaja, Ghosh and Anthony, 2003) it is evident that personalization cannot be achieved in traditional services. Similarly, the efficiency of the site can only be attributed to the electronic services. But all the other dimensions such as responsiveness, reliability, aesthetics, contact, recognition and assurance can be linked to both traditional and electronic services.

### Generate sample of items

The emphasis at the early stage of item generation is to develop a set of items which tap each of the dimension of the construct at issue (Churchill, 1979). For this purpose, a questionnaire was developed after reviewing the prior research in the area of service quality measurement and electronic service quality measurement. All the dimensions and attributes mentioned in the questionnaire have been included in the literature listed in Table 1 and 4. The questionnaire was designed to measure the divergence between the expectations and perceptions (perceived quality) of customers who use the online as well as traditional services along the quality dimensions found in the E-SQ instrument, SERVQUAL instrument and the other modifications of these instruments. This is expected to help the managers evaluate the overall satisfaction of customers with the

services of the firm and to give an insight into the important quality dimensions that can be used to measure quality of services in general. For this purpose, the researchers have used a seven-point Likert Scale, ranging from “1=Very dissatisfied” to “7=Very satisfied”. The questionnaire contains 47 questions which measure the perceived quality of the customer. The questions are related to the banking industry as it offers both the traditional and electronic services. No double-barreled statements were noticed in the final questionnaire. The detailed questionnaire is provided in appendix.

### Collect the data

The questionnaire contained 47 questions that measured the perceived quality of the customer. The pilot data was collected from 44 respondents on the various dimensions of the proposed model. Respondents were selected based on their relationship with a bank and experience with its net banking services. Relationship with the bank varied from less than one year to more than 5 years. Experience with net banking varied from less than 1 to more than 3 years. In all there were 7 female and 33 male respondents. 18 respondents had an experience of 1 to 3 years with the net banking whereas 3 were having less than one year. Others 19 respondent had experience of more than 3 years with banking. There was no missing data as all the questions were star (compulsory) marked.

### Purify the measure

Factor analysis can be used to suggest dimensions. Factor analysis has the tendency to produce many more dimensions than can be conceptually identified, when applied before the purification stage as in this case. This is partly due to the garbage items which do not have a common core, but which do produce additional dimensions in the factor analysis (Churchill, 1979). In this case there were 8 dimensions identified with a total explained variance up to 81.28 percent with principal component extraction method and Promax rotation. Also, the component correlation matrix suggested that no two dimensions had high correlation.

### Findings

An exploratory pilot survey was conducted as the objective was to gain insights about new scales applicability in service organizations. This kind of survey helps to uncover or provide preliminary evidence of association among concepts. Further, it can help to explore the valid boundary of a theory (Forza, 2002).

The study used Structural Equation Modelling (SEM) in order to calculate the path linkages and check the fit of the model using AMOS SPSS 20. A second order scale was

developed to measure the latent constructs (proposed dimensions). We present the results from our pilot study (refer Table 5).

Figure 3. Proposed Integrated SERVQUAL model

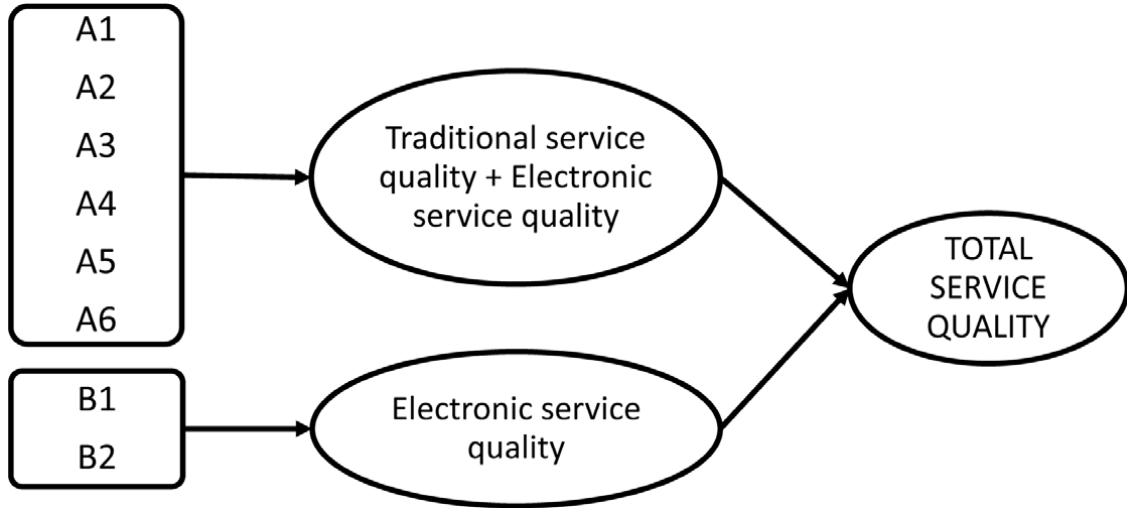


Table 5: Dimensions of Integrated SERVQUAL model

<b>INTEGRATED SERVQUAL MODEL</b>			
<b>Abbreviation</b>	<b>Dimensions</b>	<b>Definition</b>	<b>Factor loading</b>
A1	Reliability	The ability to perform the promised service dependably (Traditional) and correct technical functioning of site (Electronic).	.99
A2	Responsiveness	Willingness to serve customer (Traditional) and effective handling of problems through site (Electronic).	.97
A3	Assurance	Ability of employee to convey trust and confidence (Traditional) and privacy and security of customer information (Electronic).	.93

A4	Contact	Courtesy of the employees (Traditional) and availability online assistance through site (Electronic).	.86
A5	Recognition	Knowledge of employee about customer (Traditional) and recognition on site (Electronic).	.81
A6	Aesthetics	Appearance of physical appearances (Traditional) and site aesthetics (Electronic).	.80
B1	Efficiency	Ease and speed of accessing and using the website (Electronic).	.77
B2	Personalisation	The extent to which user can personalise the site according to his needs and fulfilment (Electronic).	.66

The factor loadings are greater than .7 which shows strong association between the first order and second order constructs. Personalization was found to have a relatively weaker factor loading which can be attributed to small sample size and large number of variables. The CMIN/DF value was found to be 1.78 which indicates good model fit. The loose fit of other indices such as RMR (root mean square residual) and GFI (goodness of fit indices) can be attributed to the small sample size.

## Conclusion and Future Research

Service quality is a key differentiator between firms and needs careful management. Precise measurement can help firms manage service quality better. Here to fore, SERVQUAL has been the key instrument to measure service quality. The SERVQUAL model measures the service quality of the traditional services offered at the service premises whereas the E-SERVQUAL model measures the service quality of the electronic services offered by the firm. However, none of them can be said to measure the overall service quality of the firm. Given the theoretical and practical deviations observed in services, a new measurement scale of service quality is needed, and is the key research goal of this study. We propose and test a model, following a highly cited scale



development paradigm given by Churchill (1979) which is capable of measuring the overall service quality of the firms representing the modern industries (where services cannot be differentiated purely traditional or electronic) such as Banking, Retail, hospitality etc. The model integrates the dimensions of SERVQUAL and E-SERVQUAL and other dominant dimensions in the literature, with the relevant modifications and provides a methodology to measure the quality of services offered in modern industries. We test the scale in banking scenario where both traditional and electronic services are offered at the same time.

The pilot test suggests that the proposed scale is capable of measuring the overall service quality of a modern firm whose services cannot be strictly classified as purely electronic or traditional. The model emerging from pilot survey supports our findings from literature and the relations that appeared weak will be further tested through large-scale survey. Qualitative cases will be done to include practitioner involvement in developing a scale having practical implications. The dimensions and the items will be refined according to the suggestions of the model. Data will be collected for the improved tool. The dimensions will be redefined on the basis of the new factor analysis with large data. Also, reliability and validity check will be done to make the model robust.

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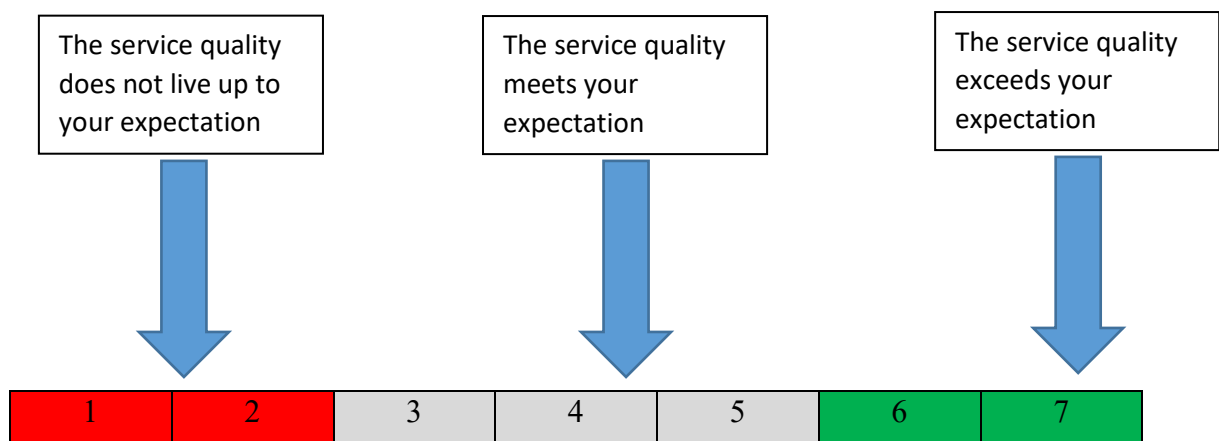
**APPENDIX**

**QUESTIONNAIRE**

Based on your experiences as a consumer of online and traditional banking services, please provide information on how you perceive the quality of the banking services you use in comparison to your expectations. Please circle the number of your choice.

If you do not use online banking services, please do not fill out the questionnaire!

Scale explanation:



Please provide the following information:

Name of your bank .....

Gender: Male  Female

Age:

.....

Occupation:

.....

Length of relationship with bank: <1 year

1-5 years

>5 years

Length of Internet Banking Use: < 1 year

1-3 years

> 3 years

Frequency of visiting the bank: .....

Frequency of Internet Banking: .....

Transactions: per month: .....

1. Employees of bank are always willing to help me.
2. Bank does tells me exactly when services will be performed.
3. Employees of the bank are always available on their desk to help the customers.
4. The bank gives prompt responses to my request by e-mail or other means.
5. The bank quickly resolves problems I encounter with my online transactions.
6. The bank take customer feedback seriously and is always up to resolve the complaints.
7. When bank promises to do something by a certain time, it does so.
8. The bank is dependable.
9. The bank delivers the services in promised time period.
10. The site launches and runs right away.
11. The site is always available for business.
12. The bank's website is always functional and I am able to finish my transaction without failure every time.
13. I can trust employees of the bank.
14. I feel safe in my transactions with bank's employees.
15. The bank does not misuse my personal information.
16. I have confidence in the bank's service.
17. I feel safe while doing online transactions with the bank.
18. The bank's website has high security level.

19. The bank's website is capable of keeping my details secure.
20. Employees of bank are polite.
21. I get support from the bank employees.
22. Employees of the bank always wear a smile on their face.
23. The bank is easily accessible by telephone.
24. The bank's website has customer service representatives' available Online.
25. I can always contact to the bank representatives for online assistance on website.
26. Employees of the bank know me.
27. Employees of bank give me personal attention.
28. Employees of bank know what my needs are.
29. The bank's website is able to recognize and remember my preferences.
30. The bank's website gives me suggestions on the basis of my previous transactions.
31. The bank's website remember my last login details and previous transactions.
32. Bank's physical facilities are visually appealing.
33. Bank has up to date equipments.
34. The banks' employee wear tidy clothes and are well groomed.
35. The website design is aesthetically attractive.
36. This bank's Web site design is innovative.
37. This bank's Web site does not have fine print that is difficult to read.
38. I am able to get on the site quickly.
39. It is quick to complete a transaction through the bank's website.
40. Using the bank's website does not require a lot of effort.
41. The organization and structure of online content is easy to follow.
42. I don't get lost on this bank's Web site.
43. I am able to customize the bank's website according to my need.
44. I have the option of changing the color and font size of the bank's website.
45. I am able to do all transactions through bank's website without going to bank.
46. I am able to add and remove the services offered on bank's website according to my use.
47. The bank's website provides all the services offered by bank.