

# **Service Quality To E-Service Quality: A Paradigm Shift**

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## **Abstract:**

The revolution in technology has completely transformed the way business organizations operate, serve and retain their customers. The new phenomenon of information technology has set in motion a new paradigm in the services sector for providing better services. Due to the intangibility of services, it has always been challenging to satisfy the customers, and hence to measure and rate the service quality. As the information technology has taken over most aspects of our life, the delivery of services has transformed from traditional to electronic channels making its quality even more challenging to measure and maintain. The service quality has now become e-service quality. The previously established models in service quality have been rendered less useful due to the varying nature of traditional services and e-services. This resulted in the need of either developing new scales or refining the old service quality scales to suit the e-channels of service delivery. The SERVQUAL and related scales were refined and scales like E-SQ, E-SQual-ERec-SQual were established for measuring electronic service quality in today's technology based era of service delivery. This paper aims to study the evolution of e-service quality and describes the transition of service quality to e-service quality.

## **Keywords**

Service Quality, E-service Quality, Information technology, SERVQUAL, E-SQual-ERec-SQual

## **1. Introduction:**

Service quality first attracted attention when services increasingly gained importance in the developed economies after 1960 (Juran and Godfrey, 1999). It began with the inclusion of the services around the product in the definition of the traditional product quality. Johnson et al. (1972) and Buffa (1976) gave the first two texts that emphasized the importance of the service operations in the services sector. Services hence gained much importance in that era. Services have been described by various well known scholars. Gronroos (2000), finds service to be a "process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems."

The differentiation between services and physical goods exists in many aspects, including intangibility and heterogeneity of services, inability of services to be stocked and transferred in terms of ownership, the production, distribution and consumption of services occurring simultaneously, services being produced in buyer-seller interactions and having the participation of customers in the process of their production. The last one being most crucial with regards to service quality as the perceived service quality of customers results from their interaction with the service production process. Hence, measuring the service quality has been challenging for the service providing organizations. Service quality is determined by perceptions and expectations (Parasuraman et al, 1985, 1988; Lewis and Mitchell, 1990). The early 1980's witnessed a high interest and enthusiasm in services, and the major recognition of the services sector was the pioneering work by Parasuraman et al. (1985). This period was followed by more testing of ideas regarding service quality which resulted in models like the ones proposed by Cronin and Taylor 1992, Mattson 1992, Teas 1993 etc.

## **2. Why e-SQ:**

Since electronic commerce began to proliferate all over the world, companies globally started to understand the importance of their presence on the electronic platforms of marketing in order to stay relevant and gain competitive edge in the technologically dominating era of markets and marketing. These organizations tried to increase their web presence and deliver their products and services through electronic channels and communicate more through the web

with their customers. In the initial stages of introduction of electronic channels of service delivery, low cost and web presence were considered enough to compete in the market, but soon the importance of service quality was realized and it became essential determinant of the success of this channel, but soon, it was clear that mere web presence and lowering of cost was not enough to survive and achieve the competitive advantage, but it was the electronic service quality that was of paramount importance to retain and gain customers and to build long term relationship with the customers in a virtual space, in absence of any physical encounters with them (Zeithaml et al 2005).

As e-service quality gained importance in the web space, this lead the manager and marketers to a few questions that needed to be answered in this regard, which were:

- a) Is the service quality and electronic service quality the same?
- b) Can the electronic service quality be measured with the help of service quality measuring scales and instruments?
- c) What new dimensions need to be added in order to compensate for the absence of a physical contact between the service provider and the customer in e-SQ?

While researching the above questions, some conclusions were drawn based on the literature available on electronic channels of service delivery and an understanding of electronic service quality. The detailed study of services and e-services reveals the varying nature of services and e-services. Services are mostly characterized by a face to face service encounter between the service provider and the customer and a physical place where the service creation and delivery takes place, while as in e-services there is no face to face encounter between the two parties involved but the service enquiry, order and delivery are done through an electronic medium. Thus, with the advent of electronic channels of service delivery, the characteristics of service and the delivery of service has changed drastically. Since, the characteristic of services and e-services vary therefore the dimensions which can be used to measure electronic service quality are bound to vary too. Hence the measuring scales for service quality previously used like the SERVQUAL were found to be insufficient to be applied to the electronic service quality measurement.

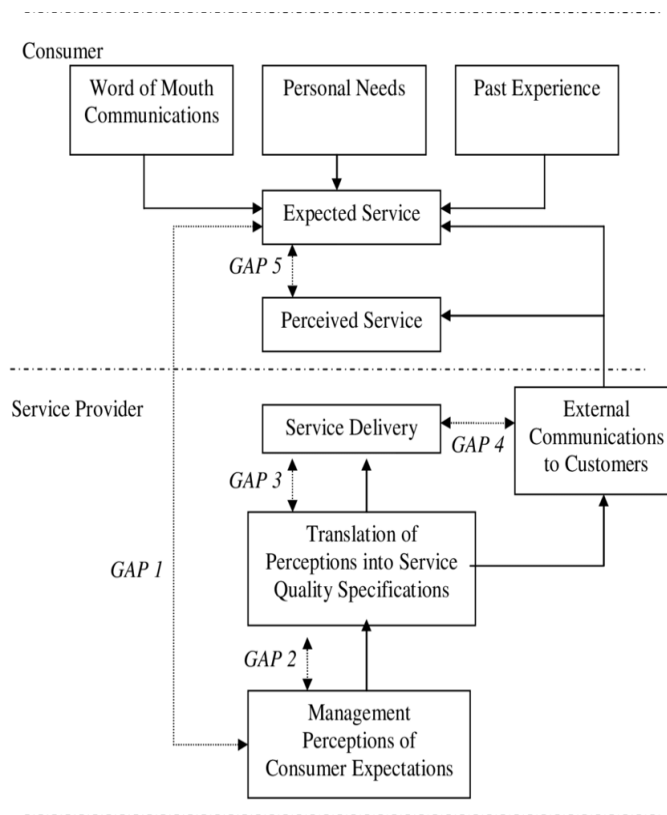
The dimensions used in the previous scales were framed in the context of the services which included the physical presence of the customer and the service provider at the place of service delivery, hence they needed to be reframed or some new dimensions needed to be added to the scale that could measure the service quality which depended completely on the electronic platform which the service providers used to deliver the service. This prompted researchers to study the field of electronic services and develop a scale for measurement of electronic service delivery, which resulted in the development of many measuring scales for e-service quality. These scales had different dimensions with items related to the electronic nature of series provided and delivered by the service providers.

The current study undertook an extant review of the literature regarding the e-service quality scales to understand how they differ from the previously existing service quality scales. It aims to study the transition of the service quality into e-service quality as the traditional services were replaced by e-services in many areas and platforms. The study provides a comprehensive review of literature to the researchers who intend to work further in this field and improve or establish new scales for measuring e-service quality.

### **3. Traditional Services Quality**

The global trend towards the service quality first started in the 1980s when businesses began realizing that quality of product was no more sufficient to sustain a competitive advantage (Van der Wal et al., 2002). In the same era service quality started to gain the importance as an important tool for differentiating services and gaining competitive advantage (Zeithaml et Al., 1996). Lewis and Booms, (1983) saw service quality as a measure of how well a delivered service matches the customers' expectations while as Gronroos, (1983) regards service quality as customer's perception of the difference between the expected and the actual service. Early scholarly writing on service quality suggested that service quality stems from a comparison of what customers feel a company should offer (their expectations) with the company's actual service performance (Zeithaml et. al., 2000). Gummesson (1979) happened to be among the earliest researchers who suggested the existence of a significant relation of service quality with trust and perceptions. Gronroos (1984) proposed the concept of "Total Perceived Service Quality" which defines the customer's perception of the difference among the expected service and the experienced service.

Researchers have largely adopted one of two conceptualizations about service quality. One, given by Gronroos (1982, 1984) who defined the service quality dimensions as consisting of functional and technical quality. Another pioneered by Parasuraman et al. (1988) who described the service quality with regards to service encounter characteristics. SERVQUAL scale was proposed by Parasuraman et al. (1988) for measuring consumers' perception of service quality. The dimensions included in the scale were, Tangibles (physical facilities, appearance of personnel and equipment), Reliability (ability to perform the promised service dependably and accurately), Responsiveness (willingness to help customers and provide prompt service), Assurance (ability of the organization's employees to inspire trust and confidence in the organization through their knowledge and courtesy), and Empathy (personalized attention given to customer). This scale which identified ten determinants of service process quality that were later refined into five dimensions commonly called as RATER, and as a result SERVQUAL model came into being (Parasuraman et al., 1988). Parasuraman et al. (1988; 1991) defined service quality as the difference between customer expectations of service to be received and perceptions of the service actually received. This approach to measuring service quality is popularly referred as "disconfirmation paradigm". Another model called the GAP model of service quality proposed by Parasuraman et al. (1985) focused on the quality gaps among various factors influencing the quality of offering. The various gaps explained by the model are: 1) Difference among consumers' expectation and management's perceptions of those expectations 2) Difference among management's perceptions of consumer's expectations and service quality specifications 3) Difference among service quality specifications and service actually delivered 4) Difference among service delivery and the communications to consumers about service delivery 5) Difference among consumer's expectation and perceived service.



**Figure 1:** GAP Model of Service Quality (Zeithaml, Parasuraman, & Berry, 1990)

In spite of the dominance of the latter description of service quality, no point of agreement has been reached regarding the most appropriate approach. Thus it's important that we examine the other definitions of service quality given by various scholars. Service quality, as defined by Bitner and Hubbert (1994) is the customer's impression of the relative superiority/inferiority of a service provider and its services. Researchers have made attempts towards measuring service quality and explaining how it is related to the overall performance of organizations. Gronroos (1982) identified

two kinds of service quality: “technical” regarding what the customer gets from a service and “functional” regarding how the service is delivered.

Measuring of service quality through the comparison of customers’ expectations and perceptions, as proposed by Parasuraman et al, of a given service has faced criticism. To the ones who oppose this approach, the measurement of only customers’ perceptions is more reliable. Cronin and Taylor, opposing SERVQUAL due to its limitations, developed the SERVPERF (1992). The SERVPERF model measures service quality solely based customers’ perceptions of a given service. Dabholkar, Shepherd and Thorpe (2000), suggested that the measurement of only perception of customers can help in evaluating their intention much better. All these findings lead to defining service quality as “an overall evaluation of service performance”. The expectation and perceptions based definition of service quality makes the multi dimensionality of service quality clear, which implies that the service quality is perceived differently by different people (Brady & Cronin, 2001).

Haywood and Farmers, (1988) Attribute service quality model states that a high quality is attained when organization is consistent in meeting its customer’s preferences and expectations. The model divides the services into 3 characteristics: physical facilities and processes; people’s behavior; and professional judgment. Various other variables were identified by Brogowicz et al. (1990), management of which can minimize the service gaps in organizations. The model, namely “synthesized model of service quality”, considers company image, external influences and traditional marketing activities as the variables affecting technical and functional quality expectations. Berkley and Guptas (1994) IT alignment model explains how usage of IT can lead to improvement of customer service aided with service quality dimensions including reliability, responsiveness, competence, access, communication, security and understanding the customer.

Sweeney et al. 1997 extended Gronroos’ model of service quality to reveal the importance of technical service quality towards product quality and value perceptions and its effect on tendency to buy. Value for money was the only construct considered for the model with very few number of items per construct.

## **4. Transition to E-Service Quality**

### **4.1. What is E-service quality?**

One of the basic definitions of e-service quality was given by Zeithaml and colleagues (2002). According to them, the e-service quality is a field where there is a possibility to provide efficient and effective services to users through electronic media. Parasuraman et al (2005) recorded in their study that the customers’ perceptions of e-service quality are very different as compared to other media, because of the varying opinions and perceptions of people about technology, its acceptance and application. Zeithaml defined e-service quality as ranges on which electronic media leads to the ease of efficient and effective shopping, purchasing and delivery of real products and services (Zeithaml et al., 2000). E-service quality according to Santos (2003) is the general perceptions, judgments and evaluation of customers about services that will provide from the electronic media.

E-service has gained a very important place in research among researchers and policy makers alike. E-services have been defined as a web-based services or interactive services that are delivered on the internet (Ghosh et al., 2004; Zeithaml et al., 2000). Rowley (2006) defined e-services as deeds, efforts, or performances whose delivery is mediated by information technology. Given the electronic characteristics of e-service quality which vary from traditional service quality ones, e-service quality is believed to have the potential to deliver strategic benefits along with enhancing operational efficiency and profitability (Cronin, 2003). According to Santos, (2003) e-service quality is the total assessment and judgment of customers regarding the service delivery electronically in the cybernetic marketplace. It has been realized by the service providers who offer e-services successfully that a major factor determining whether the e-services will succeed or fail, along with website presence and low price, is the electronic service quality (Yang, 2001; Zeithaml, 2002). What has further extended its significance is the easy comparison that the customers are benefitted with through internet, unlike the traditional channels. Thus, the expectations of customers who avail online services are higher than that of traditional services (Santos, 2003). In spite of the recognition of importance of high quality e-services there still exists a problem of defining online services, its determinants and its method of measurement. There are two commonly recognized approaches to study e-services which have been distinguished. The first one is understanding e-service quality based on the established theories of service quality (Gronroos, 2000; Zeithaml et Al., 2000) while as the other encourages studying it with the help of experimental research and by developing more advanced categories of e-services (Szymanski & Hise, 2000). According to Van Riel, Liljander and Jurriens (2001) the SERVQUAL scale has been tested on different e-services including web-based service, internet retail and electronic banking. However, some doubts are still prevalent regarding the suitability of SERVQUAL for

measurement of e-service quality. Parasuraman and Grewal (2000) believe that research is required to determine if the definition and importance of the SERVQUAL dimensions scale holds good when the interactions of customers take place technologically rather than manually. Since the SERVQUAL dimensions were established for traditional services many researchers propose that its items need refinement for being used in the online service context.

#### **4.2. Dimensions of e-SQ**

The most commonly used SQ scale has been the SERVQUAL scale, the dimensions of which were, Tangibles, Reliability, Responsiveness, Assurance and Empathy. This scale which identified ten determinants of service process quality that were later refined into five dimensions commonly called as RATER. Most of the dimensions used for e-service quality measurement have been derived from the SERVQUAL scale.

Zeithaml et al. (2000) studied e-service aided with four focus groups comprising of people who were experienced in online shopping. The study resulted in defining eleven e-service quality dimensions namely reliability, responsiveness, access, and flexibility, ease of navigation, efficiency, assurance/trust, security/privacy, price knowledge, site aesthetics and customization/personalization. Again in 2002, Zeithaml gave a refined version of the e-SQ model decreasing the e-service quality dimensions to seven. These dimensions were: efficiency, reliability, fulfillment, privacy, responsiveness, compensation, and contact. The dimensions efficiency, reliability, fulfillment, and privacy formed the core e-SQ for measuring the perceptions of customers regarding service quality by e-retailers. The remaining three dimensions viz responsiveness, compensation, and contact become relevant when online customers have questions or face problems. These dimensions constitute an e-SQ recovery scale. Parasuraman et al, (2005) extended their research to give a better and more refined and detailed scale for e-SQ. They conducted the analysis of the items of service quality present in the existing literature of e-SQ and conducted a series of iterations. This process of iterations resulted in the final scale, the latest in e-SQ field, consisting of 22 items on four dimensions namely efficiency, fulfillment, system availability, privacy which were called ES-QUAL(core scale), and the other three viz. responsiveness, compensation and contact were called E-RecS-QUAL(e-SQ recovery).

Yang (2001) proposed seven online service quality dimensions in alignment of the SERVQUAL scale namely, reliability, responsiveness, and access, ease of use, attentiveness, credibility and security. More researchers have proposed models and dimensions specifically for the electronic services. For example, to evaluate the service quality of the websites and e-services of numerous travel agencies, Kaynama and Black (2000) using SERVQUAL as a frame work, proposed seven quality dimensions which are: responsiveness, content and purpose (derived from reliability), accessibility, navigation, design and presentation (all derived from tangibles), background (assurance), and personalization and customization (derived from empathy).

Barnes and Vidgen (2001), established WebQual Index using SERVQUAL as a frame work. The index comprises of twenty four measurement items categorized under seven factors, framed specifically for measuring the e-service quality. The dimensions included in the WebQual Index are: tangibles (aesthetics, navigation), reliability (reliability, competence), responsiveness (responsiveness, access), assurance (credibility, security) and empathy (communication and understanding the individual). Another 15 dimensions for evaluating e-service quality were given by Madu and Madu (2002). They were performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security, trust, responsiveness, product differentiation, customization, web store policies, reputation, assurance and empathy.

Yang et al., (2004) established six dimensions of e-service quality which are reliability, responsiveness, and competence, ease of use, security and product range. Some service quality dimensions like reliability and responsiveness are applicable to both traditional and online delivery. Lee and Lin, (2005) believed trust to be the crucial attribute of e-service quality, succeeded by reliability, responsiveness, website design and personalization, Gilly (2002, 2003) found web site appearance, communication, accessibility, credibility, understanding and availability in online retailing as features of e-service quality. In 2004, Field, Heim, Sinha revealed web site design, reliability, security, and customer service as the determinants of e-service quality while as Kim et al (2006) identified nine e-service quality factors viz., efficiency, fulfillment, system availability, privacy, responsiveness, compensation, contact, information and graphic style in online retailing.

Yoo and Donthu (2001) conducted a study which resulted in a measurement instrument for e-service quality called SITEQUAL. The scale comprised of four dimensions which are ease of use, aesthetic design, processing speed, and security. Wolfenbarger and Gilly (2003) developed eTailQ. The items in the scale were classified under four factors namely web site design, reliability/fulfillment, privacy/security and customer service. Li and Suomi (2009) studied to understand how to evaluate e-service quality and concluded by proposition of eight dimensions of e-service quality, viz. website design, reliability, responsiveness, security, fulfillment, personalization, information and empathy.

Various other scales have been developed by researchers to evaluate Web sites. WebQual, a scale for rating Web sites on 12 dimensions was created by Lociacomo, Watson, and Goodhue (2000). The 12 dimensions were: informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow-emotional appeal, integrated communication, business processes, and substitutability. However, this scale's primary use is for Web site designers rather than for measurement of service quality. A nine-item SITEQUAL scale was developed by Yoo and Donthu (2001) for measuring site quality on four dimensions: ease of use, aesthetic design, processing speed, and security

Wolfenbarger and Gilly (2003) used online and offline focus groups and developed a 14-item scale called eTailQ. The scale contains four factors: *Web site design* (involving some attributes associated with design as well as an item dealing with personalization and another dealing with product selection), *reliability/fulfillment* (involving accurate representation of the product, on-time delivery, and accurate orders), *privacy/security* (feeling safe and trusting of the site), and *customer service* (combining interest in solving problems, willingness of personnel to help, and Prompt answers to inquiries).

Table 1 shows the in summarized form the transition of service quality into e-service quality

**Table 1-** Transition of Service Quality into E-Service Quality

Scale	Author	Dimensions
<b>Kano's Model</b>	Kano (1984)	Must be requirements, one dimensional requirements, attractive requirements, reverse quality.
<b>Perceived SQ</b>	Gronroos(1984)	Technical quality, functional quality
<b>SERVQUAL</b>	Parasuraman et al(1985,88)	Reliability, responsiveness, empathy, assurance, tangibility.
<b>SERVPERF</b>	Cronin and Taylor(1992)	Reliability, responsiveness, empathy, assurance, tangibility.



Scale	Author	Dimensions
<b>e-SQ and e-SERVQUAL</b>	Zeithaml, Parasuraman, Malhotra,(2000)	Information availability and content, ease of use or usability, privacy/security, graphic style, and reliability/fulfillment

<b>Site qual</b>	Yoo and Donthu (2001)	Ease of use, aesthetic design, processing speed, and security
<b>WebQual</b>	Lociacono, Watson and Goodhue(2002)	Informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow-emotional appeal, integrated communication, business processes, and substitutability
<b>eTailQ</b>	Wolfenbarger and Gilly (2003)	Web site design, reliability/fulfillment, privacy/security, customer service.
<b>E-S-QUAL AND E-Rec-SQUAL</b>	Parasuraman, Zeithaml, Malhotra(2005)	Efficiency, fulfillment, system availability, responsiveness, compensation and contact
<b>EGOSQ</b>	Agarwal et al;(2007)	Information, Interaction, Integration, Accessibility, Emotional engagement, Active service recovery, Assurance and Transference
<b>GIQUAL</b>	Tsoukatos and Rand (2004)	Responsiveness, Assurance, Empathy, Tangibles and Reliability
<b>SOFTWARE Quality</b>	Yang and Zhang (2009)	Completeness, Security, Adequacy, Simplicity, Self-descriptiveness, Functionality, Reliability, Facility, Efficiency etc.
<b>WEB-QUAL</b>	Barnes and Vidgen (2002)	Usability, Design, Information, Trust, Empathy

## **5. Conclusion:**

The introduction of internet as a service delivery channel has rendered traditional service quality measuring scales insufficient since the service delivery in electronic channels lacks people-customer encounters. As more and more people adopted e services, it became more important to adopt new strategies to keep up with the competition and deliver better e- services to the customers. Organizations faced problems in rating the e-service quality and so did the customers as there was no relevant scale or model of measuring e-service quality. This led to a lot of research in this area which resulted in the introduction of many e-SQ scales mostly adopted from SERVQUAL. Models like E-S-QUAL, WebQual, ES-QUAL-e-RECS-QUAL were developed which included the dimensions inherent to electronic channels like security, ease of use, privacy, site aesthetics etc., that suited the requirements of the e-services.

In spite of the development of many scales for measuring e-service quality, these scales and models need a regular updating because electronic service quality is purely technology based, and in the present era, technology changes very rapidly. What is new today, becomes obsolete in a very short span of time. Better platforms are introduced for electronically delivering the services every time in a short while. Thus, this field of study needs a regular check and improvement with the improvement in technology so that the new aspects of e-service channels are included for the measurement of e-service quality.

## **6. Directions for Future Research:**

The dimensions of e-SQ from various scales have been widely used as for measuring e-SQ. based on the detailed study of the scales established for e-SQ, we have also recognized some important dimensions that are of utmost importance for measuring and understanding the e-SQ. these dimensions are:

- a) Efficiency: The ease and speed of accessing and using the site. This dimension is important to encourage the user to use the electronic platform easily and more frequently and efficiently.
- b) Fulfillment: The extent to which the site's promises about order delivery and item availability are fulfilled. This dimension is important to create a reliable relationship between the service provider and the customer making a purchase online.
- c) System availability: The correct technical functioning of the site. This ensures that the service is available uninterrupted without any technical errors which might discourage users from using the e-service frequently.
- d) Privacy: The degree to which the site is safe and protects customer information. This is one of the most crucial dimension as it ensures that the information of the customer is protected especially the ones involving financial transactions. This dimension is essential to build a trust worthy relationship with the customers..
- e) Responsiveness: Effective handling of problems and returns through the site. Since an electronic transaction is the one where there is absence of a face to face encounter of the two parties, its essential that the online representative or electronically sent queries and feedback is promptly replied to. This encourages a customer to use e-services frequently as the fear of not being responded to in case of an incorrect or inaccurate delivery of service takes place.
- f) Website design: The degree of ease of navigating through and using the website. Which the site compensates customers for problems. This dimensions compensates for the absence of a physical evidence or ambience that is missing in an electronic space of buying and selling. It measures how well the content is organized and how visually pleasant is the website where the products are presented to the customers.
- g) Contact: The availability of assistance through telephone or online representatives. This is necessary in order to assure the customers that there are people available online who they can contact for help in case the need arises.

The above mentioned dimensions need to be tested and validated in context of e-services in the present technologically much advanced era of e-services. Most of the established scales used for e-SQ has been before 2010 and thus it's important to check if these dimensions are still relevant in today's era where the speed of internet is better than ever before and almost every state has an increasing users of internet, laptops and smart phones. The present research work is intended be taken forth by the authors to study the dimensions of e-service quality and attempt to frame a scale for measuring e-service quality with the most recent developments and new dimensions that have been most recently introduced in the technology based services.

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